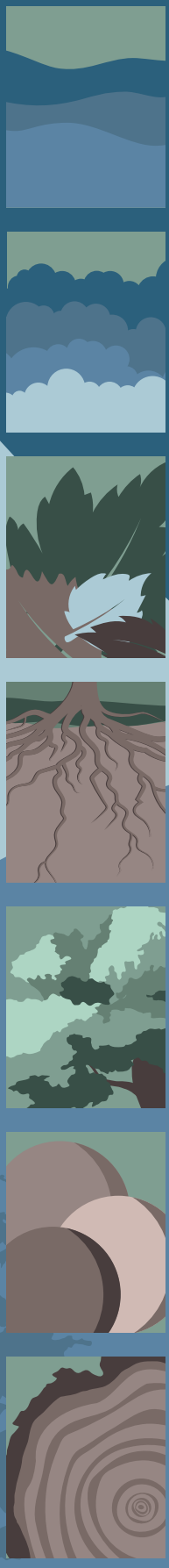
Learning as a Lifelong, Self-directed Process

A retrospective qualitative study of motivation and development among adult graduates of Sudbury-model schools



Christel Hartkamp-Bakker

Propositions accompanying the dissertation

1. Development in autonomy-rich, clearly structured learning environments, such as Sudbury schools, can be understood as a developmental arc from play, exploration and curiosity, through challenge and reflection, toward competence and ownership.
   [This dissertation]
2. The assumption that autonomy-rich learning environments necessarily hinder the development of the skills required to acquire complex knowledge is not supported by the findings of this dissertation.
   [This dissertation]
3. The combination of democratic participation, age-mixing, and non-evaluative relationships in Sudbury schools points to relational conditions for mentoring that remain insufficiently recognized in educational research.
   [This dissertation]
4. When autonomy is combined with relatedness and psychological safety, boredom can give rise to self-reflection and the internalization of motivation.
   [This dissertation]
5. It is not young people's capacity to develop without continuous external direction that requires evidence, but the reasons for adults' lack of trust in that capacity.
6. The future of education calls not for further standardization, but for a responsible ecosystem of educational approaches in which different developmental pathways are recognized as legitimate.
7. Many educational problems appear to be addressed through increased control, while they may in fact be caused by control.
8. Drawing general conclusions about human development from research conducted almost exclusively within conventional educational environments is like drawing conclusions about the natural behaviour of orcas from observations at SeaWorld.
   (after Carol Black, A Thousand Rivers).
9. The essence of wild camping is to seek out discomfort voluntarily and to assign it romantic meaning afterwards.
10. Spending extended periods of time in other cultures reveals that our shared humanity is often more fundamental than our cultural differences.

Learning as a Lifelong, Self-Directed Process

A Retrospective Qualitative Study of Motivation and Development Among Adult Graduates of Sudbury-Model Schools

Christel Alexandra Hartkamp-Bakker

Open Universiteit

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Learning as a Lifelong, Self-Directed Process

A Retrospective Qualitative Study of Motivation and Development
Among Adult Graduates of Sudbury-Model Schools

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For all young people who seek to develop themselves
beyond traditional education systems.

Preface

I could never have imagined that I would write another dissertation.

During an inspection visit in 2018, chief inspector Martin Uunk asked whether I might develop my work into a doctoral study. Although I had considered it before, I had never taken it seriously. I laughed and said, “But I am already a Doctor.” His argument, that a stronger scientific foundation for Democratic schools is needed, made me reconsider. I am grateful for his confidence and hope this work carries the significance he envisioned.

An external PhD can be a solitary process, requiring long periods of self-directed and intrinsically motivated work. At the same time, it is never completed alone. Exchange, discussion, and constructive feedback are essential. I would therefore like to thank everyone who contributed to this work.

I would first like to thank my supervisors, Rob Martens and Peter Gray, for their support, trust, and the freedom I was given to shape this process.

Rob, I especially valued the equality in our collaboration, which reflected the basic psychological needs described in Self-Determination Theory.

Peter, your work on the evolutionary foundations of human development has been a great source of inspiration to me as a geologist. Our many years of dialogue have been invaluable, and you have been an important scientific role model throughout this study.

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passed away in 2024), Pim Monquil, and many others, for their collegiality and feedback over the years.

Of course, I thank my family for their unwavering support. This period was not without difficulty, including a time of intensive caregiving for my aunt Ada van der Gaag. I remain deeply grateful to her and to my mother, Ria van der Gaag, for their lasting support of my choices in life and their belief in our children and in this form of education.

But above all, my husband Peter and our children Willemijn, Birgit, and Liselotte have been central to this journey. Willemijn, your early experiences helped shape my thinking; Birgit and Liselotte, your presence brought its own lessons. I hesitate to say that I am proud of how you have developed, as that would place your growth in relation to my judgment. That is not how I see it, and yet, I cannot deny the feeling.

Liselotte, thank you for your creative contributions to this dissertation, and Ollyn O'Neill for proofreading support of some of my publications.

Peter, your support has been essential, not only intellectually, but personally. I was deeply affected by your illness, and I am grateful that you have been there for me throughout this work.

Finally, I thank our dog, Ollie, for the many walks that brought moments of reflection and insight. I still miss you're playfull companionship every day.

Contents

CHAPTER 1 10
Framing the Study: Learning, Autonomy, and Play in Perspective

CHAPTER 2 34
How strongly do the concepts of play and intrinsic motivation overlap? A narrative review

CHAPTER 3 68
Synthesizing Participant Backgrounds and Schooling Paths: Patterns and Contextual Influences

CHAPTER 4 86
A Culture of Non-Judgment: Former Students' Perspectives on the Sudbury Model Schools' Justice System, Culture, and Relatedness

CHAPTER 5 132
True Choice and Taking Ownership of Life: A Qualitative Study into Self-Determination in Sudbury Model Schools

CHAPTER 6 160
Autonomy-Rich Schooling and Lifelong Self-Determination: Narratives of Reflective Agency in Sudbury School Graduates

CHAPTER 7 192
Autonomy, Participation, and Lifelong Learning: Graduates' Reflections from Sudbury Schools

CHAPTER 8 224
Discussion and Synthesis: Exploring Human Development as an Ecological Process

Samenvatting 278

Summary 292

Appendices 304

About the Author 340

CHAPTER 1

Framing the Study: Learning, Autonomy, and Play in Perspective

BACKGROUND AND RATIONALE

Contemporary societies are undergoing rapid cultural, technological, and ecological transformations that deeply influence how people live, work, and learn. Automation, artificial intelligence, and digitalization are reshaping professional life, and the kinds of knowledge and skills people need to thrive (Dondi et al., 2021; World Economic Forum, 2016, 2018). These developments demand adaptability, autonomy, creativity, and a willingness to learn continuously throughout life (Moravec, 2024). At the same time, public concern has grown about social cohesion, citizenship, and mental well-being, about how people can live meaningful, connected, and productive lives in the midst of accelerating change (Huppert, 2009; Ruggeri et al., 2020).

Education systems stand at the heart of this tension. While they are expected to prepare young people for an unpredictable future, many remain rooted in structures shaped by the efficiency thinking of the industrial age, influenced by Taylorian notions of control and standardization (Rogoff et al., 2012). Even as new pedagogical models emerge, the structural logic of schooling grounded in external evaluation and efficiency remains remarkably resilient, often at odds with what research identifies as the psychological conditions for curiosity, intrinsic motivation, and well-being (Michael Furlong et al., 2021; Ryan & Weinstein, 2009; Salmela-Aro, 2017; Zhao, 2017).

Across history, reformers have repeatedly questioned the assumption that knowledge must be transmitted through external control: from Socratic dialogues and Rousseau's vision of natural education to Pestalozzi's holistic pedagogy, Fröbel's play-based learning, and Dewey's experiential approach. Tolstoy's nineteenth-century experiments in free schooling, followed by early twentieth-century pioneers such as Ferrer, Boeke, and Neill, and alongside figures like Montessori and Steiner, extended reformist ideas into full educational models, several of which embedded learning within democratic or communal social life (Swartz, 2016). These ideals resurfaced in the free school movements of the 1960s and 1970s (Biancolli, 2015), culminating in new institutional experiments such as the Sudbury Valley School in Massachusetts, USA (founded 1968), which translated principles of trust and self-governance into a fully democratic school structure (Greenberg, 2007; Traxler, 2015).

In the decades since, renewed interest in learner autonomy and self-directed education has emerged across diverse contexts, visible in project-based learning and democratic schools internationally (Hecht & Ram, 2010). In the United States, this trend is reflected, for example, in the growing visibility of homeschooling and unschooling (Parkes, 2016; Riley, 2018; Williams, 2018) as well as renewed interest in Montessori education (Lillard,

2019). Despite their diversity, these approaches share a philosophical continuity: the view that curiosity, mastery, and responsibility are rooted in learners' inherent capacities for exploration, growth, and self-regulation, rather than being solely products of external rewards or prescriptive curricula. Contemporary psychological theories help clarify this orientation by explaining how such internally driven learning tendencies both are biologically grounded and environmentally supported.

This orientation resonates with Self-Determination Theory (SDT), which conceptualizes intrinsic motivation as "the inherent tendency to seek out novelty and challenges, to extend and exercise one's capacities, to explore, and to learn," while emphasizing the role of social contexts in supporting or undermining these tendencies (Ryan & Deci, 2000, p. 70). It also aligns with insights from Evolutionary Developmental Psychology (EDP), which conceptualizes humans' extended developmental period as an evolutionary adaptation to the unusually large amount of cognitive and social learning required for participation in complex cultures (Bjorklund, 2016; Blasi & Bjorklund, 2003; Geary, 2005). While SDT elucidates how social contexts support or thwart intrinsic motivation, EDP provides a complementary evolutionary lens that explains why such motivational tendencies exist at all. Both perspectives converge on the view that autonomy, competence, and relatedness are not merely psychological constructs but evolved, species-typical needs that have adaptive value for survival, cooperation, and lifelong learning (Deci & Ryan, 2000). Together, they offer a unified framework for understanding why humans are naturally inclined toward self-directed, exploratory learning and how educational environments can either nurture or suppress these fundamental capacities.

Because most educational research is conducted within conventional school systems, it tends to reflect and reinforce their underlying assumptions about grading, instruction, control, and assessment. This structural embeddedness constitutes a persistent epistemic blind spot, constraining how the field conceptualizes learning beyond formally organized and externally regulated settings. As a result, alternative assumptions, such as the possibility that children can meaningfully direct their own learning, remain empirically and theoretically underexamined (Gray, 2011a; Rogoff et al., 2016).

In recent years, SDT has not only deepened understanding of how autonomy, competence, and relatedness support learning, but has also developed into a critical and comparative psychology of education (Ryan & Deci, 2020). It enables evaluation of educational systems by its capacity to foster well-being, motivation, and personal

growth, rather than solely on performance outcomes (Deci et al., 2001; Deci & Ryan, 2008; Ryan & Deci, 2000). Yet, as Ryan and Deci (2020) note, there remain significant gaps between what SDT research reveals about need-supportive conditions and how most schools operate in practice. As these authors discussed, teachers often strive to support students' needs despite institutional and policy constraints that tend to thwart them, such as mandated curricula, grading requirements, and high-stakes testing. They therefore call for qualitative, context-sensitive research that explores how need-supportive environments are realized in everyday educational practice, especially within innovative educational settings beyond conventional school systems, and how these practices might inform broader systemic change.

EDP extends this evaluative lens by situating human learning within an evolutionary account of prolonged development, in which play, curiosity, and social learning emerge as central features of a species adapted for extensive cognitive and cultural acquisition (Bjorklund & Pellegrini, 2000; Bock, 2010; Pellegrini et al., 2007; Rogoff, 2003). In this dissertation, EDP is understood as a framework that draws upon evolutionary, sociocultural, and cultural–anthropological insights to conceptualize learning as an evolved developmental process enacted through participation, play, and engagement in social practices. From this perspective, the suppression of autonomy or play in schooling may not only diminish motivation but also interfere with fundamental developmental processes. Viewing learning as both an evolved and intrinsically motivated process thus invites a re-examination of educational environments from biological, psychological, and sociocultural standpoints alike. Within this broader view, debates persist about how far self-directed mechanisms can extend. Evolutionary theorists such as Geary (2004, 2005) distinguish between biologically primary skills, those acquired naturally through exploration and play, and secondary academic skills that are said to require explicit instruction. Others, including Gray (2011a, 2016), argue that curiosity-driven learning, when embedded in rich social and material environments, can support mastery in these more formal domains. This contrast underscores the importance of investigating autonomy-rich settings empirically; to understand how far self-directed processes can sustain complex learning and development across the life course.

This research project responds to these theoretical and empirical gaps through two complementary strands, one theoretical and one empirical.

The first, a narrative review, explores the conceptual and empirical overlap between play and intrinsic motivation when both are understood as internal states of mind rather than as observable behaviors. It argues that these states share a common

psychological and evolutionary basis, reflecting a natural human tendency toward exploratory, self-motivated activity. The review further considers how recognizing play and intrinsic motivation as deeply intertwined states can inform educational theory and practice, particularly regarding the long-term developmental significance of environments that sustain autonomy, curiosity, and social learning.

The second component, the empirical study presented in this dissertation, examines how adults educated in democratic, autonomy-rich schools organized comparably to the Sudbury model describe their learning, motivation, and development across their life trajectories. The Sudbury model, originating at the Sudbury Valley School in Massachusetts (founded 1968), is based on self-governance, equality between students and staff, and freedom of choice in learning (Ackoff & Greenberg, 2008; Greenberg, 2007). Democratic governance is enacted through school meetings in which students and staff hold equal voting rights on rules, policies, and the management of the school community. There is no prescribed curriculum, grading system, or age-based division. Learning understood within this model as emerging through participation in community life rather than through externally directed instruction. These schools operate on the premise that children can direct their own learning within a collectively governed educational environment. More detailed descriptions of the organizational practices and democratic processes of these schools are provided in Chapters 4 and 5.

Against this backdrop, democratic schools that operate comparably to the Sudbury model offer a unique case for studying autonomy-rich education. Their self-governing structures and absence of coercive assessment create conditions that are intended to allow intrinsic motivation and playful, curiosity-driven learning as naturally occurring phenomena rather than prescribed pedagogical methods. Examining how former students retrospectively describe these experiences enables systematic analysis of perceived long-term developmental effects, effects that are difficult to detect through short-term or exclusively quantitative measures.

Using a qualitative, reflexive thematic analysis (Braun & Clarke, 2006), the empirical component seeks to understand how former students describe their educational experiences in such settings, how they perceive autonomy, motivation, and personal growth, and how these insights may contribute to a broader rethinking of education as a space for human flourishing, adaptability, and meaning-making.

Throughout this dissertation, theoretical claims about development and motivation are presented as interpretive frameworks rather than causal explanations. References to influence, support, or development should be read as reflecting theoretical

propositions and participants' retrospective meaning-making, not as evidence of direct or deterministic effects.

CONCEPTUAL ANCHORS

Human learning can be viewed as both a biological adaptation and a psychological expression of motivation. Two complementary perspectives, EDP and SDT, provide the conceptual foundation for this thesis. EDP explains why humans evolved to learn through exploration and social participation, whereas SDT explains how such motivation is sustained or undermined within social contexts. Together, they help illuminate how play, curiosity, and autonomy form part of our evolved learning repertoire and remain vital to self-directed education today.

Evolutionary Developmental Psychology: Learning and Play as Adaptive Mechanisms

EDP seeks to explain human development through the lens of evolution, focusing on how our species' long period of childhood and social interdependence have shaped learning capacities (Bjorklund, 1997, 2016; Geary, 2005). From this perspective, learning is not primarily a product of formal instruction but an adaptive process that evolved to enable individuals to function effectively within complex social and ecological environments.

Children's extended period of immaturity is viewed as an evolutionary advantage that supports the focused acquisition of foundational competencies in early development (Bjorklund, 1978; Bjorklund & Ellis, 2014). A long childhood and adolescence are understood as evolutionary adaptations that extend opportunities for social learning, cultural transmission, and the gradual assumption of adult roles (Geary, 2005). Across development, learning is supported by evolved mechanisms such as exploration, play, observation, and participation, through which children and youth actively engage with their social and material worlds (Bjorklund, 2016; Gray, 2009; Lancy et al., 2010). Play provides an intrinsically rewarding way to experiment, negotiate social relationships, and develop cognitive and emotional skills necessary for adult life (Bjorklund & Pellegrini, 2000; Gray, 2012). From this viewpoint, play is not mere leisure, it is a mechanism for learning how to cooperate, self-regulate, and adapt to changing circumstances.

In addition, sociocultural and cultural–anthropological perspectives highlight that human learning evolved in contexts where children were active participants in their

communities, learning through observation, contribution, and shared activity (Gaskins & Paradise, 2010; Lancy et al., 2010; Niskač, 2013; Rogoff et al., 2012) and through play and exploration (Gray, 2011b, 2012; Lancy & Grove, 2011; Pellegrini et al., 2007; Pellegrini & Bjorklund, 2004). Such contexts contrast sharply with the modern schooling environment, where learning is often abstracted from meaningful participation and governed by external control. From an evolutionary standpoint, autonomy, exploration, and social connection are widely theorized as conditions under which human learning is supported.

Self-Determination Theory: Autonomy, Competence, and Relatedness

SDT offers a complementary psychological framework for understanding how social and environmental conditions support or hinder people's natural tendencies toward intrinsic motivation and growth (Deci & Ryan, 1985; Ryan & Deci, 2000). It posits that all humans share three basic psychological needs: autonomy (the experience of self-direction and volition), competence (a sense of mastery and effectiveness), and relatedness (connection and belonging with others). When these needs are supported, individuals tend to engage in activities out of genuine interest and enjoyment, rather than external pressure.

Intrinsic motivation is an inherent tendency to explore, seek novelty, and extend one's capacities for the sheer satisfaction of doing so (Ryan & Deci, 2000). Conversely, when environments are controlling, evaluative, or disconnected from personal meaning, motivation becomes extrinsically driven and fragile. In educational contexts, autonomy-supportive environments have been shown to foster deeper engagement, greater creativity, and higher psychological well-being (Deci et al., 1991; Niemiec & Ryan, 2009).

Integrating the Two Perspectives: Learning as an Evolved, Self-Motivated Process

Taken together, EDP and SDT portray learning both as an evolved human adaptation and a psychologically driven quest for autonomy and competence. Evolutionary perspectives explain why humans are intrinsically motivated to explore and master their environments; SDT explains how these motivations are sustained or undermined by social and environmental conditions.

In this integrated view, play, curiosity, and self-directed activity are the primary modes through which learning unfolds. Environments that support autonomy and authentic participation, such as those organized comparably to the Sudbury model, align closely with these evolutionary and psychological foundations (Gray, 2011a). They offer a living

context in which the human propensity to learn through choice, social interaction, and meaningful engagement can unfold without external coercion.

This conceptual synthesis underpins the qualitative exploration presented in this thesis: an inquiry into how learners educated under such conditions describe their long-term development, motivation, and sense of agency.

RESEARCH PROBLEM AND OBJECTIVES

Although education research has extensively examined motivation, learning, and engagement, much of this work remains embedded within conventional school systems characterized by external control and standardized assessment. As a result, we still know little about how learning unfolds in autonomy-rich environments where external structures are minimized and responsibility is shared among learners. This constitutes a significant empirical and theoretical gap, particularly given the centrality of well-being, motivation, and personal growth to both SDT and EDP. From these perspectives, basic psychological needs represent fundamental conditions for optimal motivation and development, yet their long-term realization in fully self-governing educational contexts remains underexplored.

In this study, the term *autonomy-rich* refers to contexts in which learners have substantial and sustained control over the direction, pacing, and organization of their activities. This use is distinct from the concept of autonomy-supportive environments in SDT, which concerns the degree to which social and institutional practices support learners' experience of volition and self-endorsement, regardless of the overall level of freedom afforded.

Democratic schools, and the Sudbury model in particular, exemplify such autonomy-rich environments and offer a rare opportunity to study these processes in their most unmediated form. Research on Sudbury-model schools remains limited and fragmented (Gray, 2011a; Traxler, 2015). Despite the pioneering work of Gray and Chanoff (1986), a systematic understanding of how individuals educated in these environments make sense of their learning, development, and later lives is largely absent from the scientific literature.

Aim of the Study

This dissertation addresses these gaps through a twofold approach. The first component, a narrative review, explores the relationship between play and intrinsic

motivation as self-directed, need-satisfying states of mind. The second, an empirical investigation, examines how adults educated in Sudbury-model schools describe their experiences of motivation, well-being, and learning across life trajectories. Using reflexive thematic analysis, the study explores how participants make sense of these experiences in relation to personal and motivational development, and how such accounts inform broader discussions of education, human flourishing, and lifelong adaptability.

RESEARCH QUESTIONS

The overarching question that guided this research was:

How do graduates make sense of their experiences of Sudbury schooling in relation to their adult lives?

This central question is further explored through the following sub-questions:

1. How do graduates reflect on their experiences of learning, social life, and daily participation within a Sudbury-model school ecology?
2. How do they perceive these experiences as shaping their motivation, development, and later life trajectories?
3. How are the core psychological needs for autonomy, competence, and relatedness reflected, supported, or challenged in their accounts?
4. What theoretical and practical insights do these experiences offer for rethinking educational design in ways that support human flourishing, self-determination, and intrinsically motivated forms of learning such as play?

These questions are not intended to guide individual chapters directly, but to orient the empirical and interpretive work as a whole, with insights emerging thematically across the empirical chapters and integrated in the final synthesis.

DESIGN OVERVIEW

Because this thesis follows an article-based structure, only a brief methodological overview is provided here; detailed procedures appear in the individual papers.

This dissertation employs a multi-method qualitative design integrating theoretical and empirical approaches to explore the long-term developmental effects of autonomy-rich, self-governing Sudbury-model schools. The design reflects the dual nature of the inquiry: to conceptually clarify mechanisms of intrinsic motivation and to empirically explore how these are experienced by alumni in their adult lives.

Theoretical Component

The first study is a narrative review examining the conceptual overlap between play and intrinsic motivation, drawing on psychology, evolutionary biology, neuroscience, and educational theory. This theoretical study provides the conceptual foundation for understanding learning, curiosity, and intrinsic engagement that informs the empirical analyses.

Empirical Component

The empirical research comprises four qualitative studies based on semi-structured interviews with fourteen adult alumni from eight Sudbury model schools in the Netherlands, Israel, and the United States (see overview table 1.1). The study was approved by the University Research Ethics Committee (cETO), Open University of the Netherlands (Approval No. U202103682).

Schools were selected through a multi-step screening process. An initial inventory was compiled of all schools known to exist at the time of the interviews, including both current and former institutions, with information on years of operation and student population. Schools that did not meet the criteria for producing eligible alumni were excluded. From the remaining institutions, a purposive selection of 13 schools was made based on comparability of educational model and institutional characteristics, informed by publicly available information. These schools were contacted to assess recruitment feasibility, after which five were excluded due to alumni language proficiency or alumni population characteristics not meeting the study criteria, resulting in the final sample.

Participants were recruited through school-appointed contact persons in accordance with ethical guidelines of the Open University Ethics Committee, with attention to diversity in gender, background, and post-school trajectories. To be eligible, participants must have (a) attended their school for ≥5 years and (b) accrued ≥5 years of post-school adult experience (few exceptions permitted). Schools nominated candidates varying in gender, background, and post-school trajectories to reduce selection bias. While this recruitment approach may have introduced some selection bias, diversity was

maximized by requesting contrasting gender, background, and post-school trajectories for participant nominations from each school.

Table 1.1

Overview of Participating Sudbury-Comparable Schools

	School	Number of Participants	Country	Funding details
	A	2	The Netherlands	Fully privately funded
	B	2	The Netherlands	Fully privately funded
	C	2	Israel	Partially government funded
	D	2	Israel	Fully government funded
	E	2	United States	Fully privately funded
	F	2	United States	Fully privately funded
	G	1	United States	Fully privately funded
	H	1	United States	Fully privately funded
Total:	8	14		

Note. Eight Sudbury-comparable schools from three countries were represented in the study. Funding details reflect the circumstances at the time of the interviews.

Fourteen graduates (5 identified as male; 9 as female) from eight Sudbury-model or comparably organized schools in the United States, Israel, and the Netherlands took part. Ages at interview ranged 20–40; age at entry ranged 5–16; tenure ranged 2–13+ years (median ≈ 7–8 years; see Chapter 4, Table 4.1 for details).

Interviews lasted between 60 and 90 minutes, conducted via Microsoft Teams, recorded, and transcribed using an intelligent verbatim method. Examples of the consent form, interview guide and short questionnaire are included in Appendices A–C.

Researcher Positionality and Reflexivity. The study acknowledges the researcher's active role in the co-construction of meaning. The researcher's prior familiarity with several participants and professional experience in democratic education informed, but did not determine, the interpretation of data. Reflexive journaling, peer debriefing,

and continuous dialogue with the co-author were used to monitor and articulate positional influences throughout the research process. A detailed account of researcher positionality and reflexive practice is provided in Appendix D.

Analytical Approach. Data were analyzed using reflexive thematic analysis within an interpretivist–constructivist framework. Coding and theme generation followed an iterative process of within- and cross-case comparison using ATLAS.ti, moving inductively and deductively between cases until thematic saturation was reached after eleven transcripts. Codes were refined and synthesized into higher-order themes that represented patterns of meaning across cultural contexts. Dutch excerpts were translated to English, with interpretive equivalence ensured through iterative review. Further detail on the analytic development and coding process, including code refinement and theme generation, is provided in Appendix E.

To enhance credibility and trustworthiness, the analysis incorporated member-checking, peer debriefing, and reflexive journaling. Detailed participant portraits were developed to provide thick description and contextual grounding for the themes. Appendix F documents the detailed coding of pre-enrolment dispositions and school-fit narratives across participants, which informs the analytic focus of Chapter 3. In addition, detailed participant profiles, including background characteristics and early educational dispositions, are presented in Appendix G and provide contextual grounding for the analyses in that chapter.

Integration of Components

The theoretical and empirical components are methodologically distinct but conceptually integrated. The theoretical review clarifies the motivational and developmental mechanisms underpinning learning, while the empirical studies illuminate how these mechanisms are experienced and interpreted across multiple Sudbury-model schools situated in different cultural and national contexts. Together, they provide a holistic understanding of how autonomy-rich, self-governing educational environments shape motivation, agency, and well-being over the life course.

STRUCTURE OF THE DISSERTATION

This dissertation is organized into seven chapters that together present a coherent exploration of autonomy-rich education through theoretical synthesis and empirical investigation.

Table 1.2.

Overview of manuscripts and their publication status

Chapter	Title / Focus	Data & Method	Main Contribution	Publication Status
2	How strongly do the concepts of play and intrinsic motivation overlap? A narrative review	Theoretical synthesis	Conceptual link between intrinsic motivation & play	Submitted; conference presentation accepted
4	Perspectives on the Justice System, Culture and Relatedness.	Interviews (n=14); Reflexive thematic analysis	Relatedness and belonging in the school community	Published
5	True Choice and Taking Ownership of Life.	Interviews (n=14); Reflexive thematic analysis	Long-term autonomy and self-determination	Published
6	Autonomy-Rich Schooling and Pathways of Reflection.	Interviews (n=14); Reflexive thematic analysis	Development of reflection, adaptability, identity, and motivation	In review, preprint available
7	Autonomy, Participation, and Lifelong Learning.	Interviews (n=14); Reflexive thematic analysis	Personal and inter-personal development through participation	Published

Table 1.2 provides an overview of manuscripts in the dissertation. All chapters are briefly described below.

Chapter 1 introduces the study's background, rationale, conceptual framework, and methodological orientation.

Chapter 2 presents the theoretical article, the narrative review, examining the conceptual overlap between play and intrinsic motivation through the lenses of SDT and EDP (see table 1.2).

Chapter 3 provides a descriptive overview of the participants and their schooling contexts, offering a bridge between the theoretical and empirical components.

Chapters 4–7 comprise four empirical articles based on interviews with graduates of Sudbury-model schools, focusing respectively on relatedness, autonomy, reflection, and long-term development (see table 1.2).

Chapter 8 offers an integrative synthesis of findings across the articles, relating them to broader theoretical perspectives, outlining practical implications, and identifying directions for future research.

Scope and Delimitations

This dissertation focuses on autonomy-rich education as exemplified by the Sudbury model. It integrates a theoretical (narrative review) and an empirical (interview-based) component, each with its own scope but grounded in a shared conceptual framework.

The theoretical component, a narrative review, synthesizes literature from psychology, evolutionary biology, neuroscience, and education to examine the conceptual and empirical overlap between play and intrinsic motivation. It is delimited by its interpretive rather than systematic nature and by its focus on theoretical coherence rather than exhaustive coverage. The review draws selectively on key works that illuminate the evolutionary, cognitive, and motivational mechanisms relevant to learning, rather than surveying the full breadth of play or motivation research.

The empirical component is based on qualitative interviews with fourteen graduates from eight Sudbury-model or comparable democratic schools in the Netherlands, Israel, and the United States. It is designed to examine how participants interpret and make sense of perceived long-term influences, rather than to establish causal relationships or produce statistically generalizable findings. The study focuses on participants' retrospective interpretations of their experiences within Sudbury-model contexts.

The theoretical scope of the entire dissertation is delimited to the intersection of SDT and EDP as explanatory frameworks. Other motivational or developmental theories are referenced only where directly relevant.

As in qualitative and interpretive traditions, the findings are context-dependent and reflect both participants' perspectives and the researcher's analytical lens. The goal is transferability rather than generalizability, to offer conceptual and experiential insights that may inform understanding of learning and development in other autonomy-supportive educational contexts.

SIGNIFICANCE AND CONTRIBUTION OF THE STUDY

This dissertation addresses an area of education that has received limited empirical attention and situates it within broader discussions of learning in a rapidly changing, technologically mediated society. In an era when organizations such as the OECD emphasize the need to rethink how teaching and learning are designed, this study contributes to that conversation by examining an educational model fundamentally different from conventional schooling. By exploring the lived experiences of alumni from Sudbury-model schools, the research provides rare insights into how educational experiences in highly self-governing contexts can be interpreted, through an SDT-and EDP informed analytic lens and their implications for longer-term development.

Theoretical Contribution

At the theoretical level, this dissertation integrates insights from SDT and EDP to advance understanding of how intrinsically motivated, self-directed learning environments can influence long-term human development. The theoretical literature review (Chapter 2) offers a novel conceptual synthesis showing that play and intrinsic motivation represent two expressions of the same underlying psychological and evolutionary mechanism. Both are characterized by spontaneous engagement, curiosity, and enjoyment of activity for its own sake.

By aligning SDT's motivational framework with EDP's evolutionary lens, the study reconceptualizes play and intrinsic motivation as adaptive, species-specific capacities central to human learning and mental health. It suggests that when educational environments suppress autonomy and opportunities for play-like engagement, they risk constraining or undermining curiosity, creativity, and emotional regulation, mirroring what both play researchers and SDT theorists describe as the pathology of deprivation.

This theoretical synthesis advances knowledge in three specific ways:

1. Unifying constructs – reconceptualizing play and intrinsic motivation as expressions of the same self-organizing, exploratory system, regulated by autonomy, competence, and relatedness;
2. Evolutionary grounding – situating intrinsic motivation and play as conceptually equivalent evolved adaptive mechanisms that support complex learning, creativity, and social development;
3. Educational implications – reframing educational design by proposing that deep learning depends on autonomy-supportive conditions that evoke a "playful"

cognitive–motivational state, thereby clarifying when and why play may function as an effective learning mechanism.

Together, these insights provide the conceptual foundation for interpreting the experiential accounts explored in the empirical chapters that follow.

Empirical Contribution

The four empirical studies that form the second part of this dissertation provide qualitative insight into how graduates of Sudbury-model schools retrospectively make sense of the long-term significance of their educational experiences. Using reflexive thematic analysis across 14 interviews with graduates from eight schools in the United States, Israel, and the Netherlands, the studies identify recurring patterns in how participants interpret the role of childhood autonomy, community participation, and self-directed learning in their later lives.

Key empirical contributions include:

1. Justice and relatedness: Participation in democratic justice systems was retrospectively interpreted as influential in shaping participants' sense of empathy, fairness, and community belonging, including educative relationships with adults;
2. Ownership and autonomy: Participants described prolonged exposure to genuine choice as contributing to enduring orientations toward self-direction, initiative, and personal responsibility;
3. Reflectivity and identity formation: Experiences of boredom and uncertainty were described as prompts for self-reflection, adaptability, and the ongoing construction of personal identity;
4. Learning through participation: Everyday involvement in school governance and peer-based activities was understood by participants as relevant for developing collaboration, problem-solving, and lifelong learning orientations.

Collectively, these findings illustrate how graduates experienced autonomy-rich education as a formative developmental context that shaped how they approached learning, relationships, and life choices over time. Rather than describing the direct transmission of specific skills, participants emphasized the enduring influence of early experiences of agency, trust, and exploratory freedom on their motivational orientations and sense of authorship in adulthood.

Synthesis Contribution

The integrative synthesis presented in this dissertation constitutes a distinct contribution beyond the individual empirical studies. Rather than introducing additional findings, the synthesis reinterprets participants' accounts through the combined lenses of SDT and EDP to articulate how autonomy-rich education functions as a developmental context over time. By integrating themes that were necessarily separated for analytic and publication purposes, the synthesis reveals a coherent developmental pattern in which agency, relatedness, identity formation, and learning orientation mutually reinforce one another. This integrative perspective reframes participants' experiences not as the accumulation of discrete competencies, but as the emergence of enduring motivational and relational orientations that shape how individuals engage with learning and life across contexts.

Methodological Contribution

Methodologically, this dissertation contributes to qualitative educational research through its application of reflexive thematic analysis within a cross-cultural, multi-site design. The approach balances depth of interpretation with contextual diversity, illustrating how shared meaning structures can be explored without ignoring individual or cultural nuance.

The reflexive stance adopted throughout, acknowledging the researcher's familiarity with the educational model and maintaining critical self-awareness, adds transparency and rigor. The use of iterative coding, member checking, and peer debriefing offers a robust model for future interpretive studies on long-term educational outcomes.

Practical and Societal Relevance

This work contributes to the re-envisioning of educational design from a long-term developmental perspective, emphasizing autonomy, participation, and psychological safety as foundational conditions for sustaining curiosity, intrinsic motivation, and lifelong engagement with learning. It emphasizes that intrinsic motivation and play constitute foundational adaptive capacities supporting deep learning, creativity, and psychological health, rather than processes that can be replicated through instrumental or externally imposed educational interventions. The findings invite reflection on how highly prescriptive, outcome-driven approaches to education may constrain exploratory forms of learning that participants described as significant in their own educational experiences.

By documenting how graduates reflect on their formative experiences in autonomy-rich Sudbury-model educational contexts, the study provides valuable insights for educators and policymakers seeking to cultivate environments that promote agency, intrinsic motivation, and emotional resilience. These qualities may be particularly relevant in contemporary societies characterized by rapid technological and social change.

Together, these contributions expand understanding of the role of autonomy and play-like engagement in fostering lifelong learning and well-being, illuminating how such processes form the evolutionary and motivational core of human potential.

SUMMARY AND TRANSITION

This introductory chapter situated the dissertation within the broader context of twenty-first-century societal transformation and highlighted the need for deeper understanding of how learning unfolds in contexts characterized by intrinsic motivation and self-direction. It outlined the theoretical grounding in SDT and EDP, formulated the central research aims, and described the qualitative, article-based design of the study.

The following chapter (Chapter 2) presents the narrative review, which explores the conceptual and empirical overlap between play and intrinsic motivation when both are understood as internal states of mind. This theoretical synthesis establishes a broader lens for understanding the psychological and evolutionary bases of autonomy, curiosity, and self-direction.

Chapter 3 then introduces the participants and their social contexts, providing a descriptive foundation for the empirical articles that follow (Chapters 4–7). This contextual chapter bridges the conceptual insights of the narrative review with the lived experiences explored in the empirical analyses, grounding the study's later findings in the everyday realities of those educated in Sudbury-model schools.

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CHAPTER 2

How strongly do the concepts of play and intrinsic motivation overlap? A narrative review

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ABSTRACT

This narrative review explores the overlap between play and intrinsic motivation, with a focus on educational contexts. While many intuitively suspect these constructs intersect, their theoretical frameworks largely developed separately. Intrinsic motivation is central to self-determination theory, commonly applied in education, whereas play is often viewed more narrowly, especially as actions of young children or as serious games in education. Attempts to use play to address motivational challenges in education have shown mixed results. This article examines the scope of intrinsic motivation and play by exploring their functional, biological, neurological, conceptual, and historical commonalities, suggesting that they share a substantial overlap that is not always made explicit in educational theory and practice. Recognizing this overlap may help clarify why certain educational approaches succeed or fail and may inform more autonomy-supportive responses to motivational challenges in education.

Play & Intrinsic Motivation

Problem

Education faces a motivation crisis
Rising student boredom, weak engagement compared to free play, and mixed results from gamification.

Core tension: Why does play naturally motivate, but school often does not?

GAP

Play and intrinsic motivation have been studied separately, leaving their relationship theoretically unclear and educational applications conceptually underdeveloped.

How are play and intrinsic motivation actually related?

Central question:
To what extend do play and intrinsic motivation conceptually overlap?



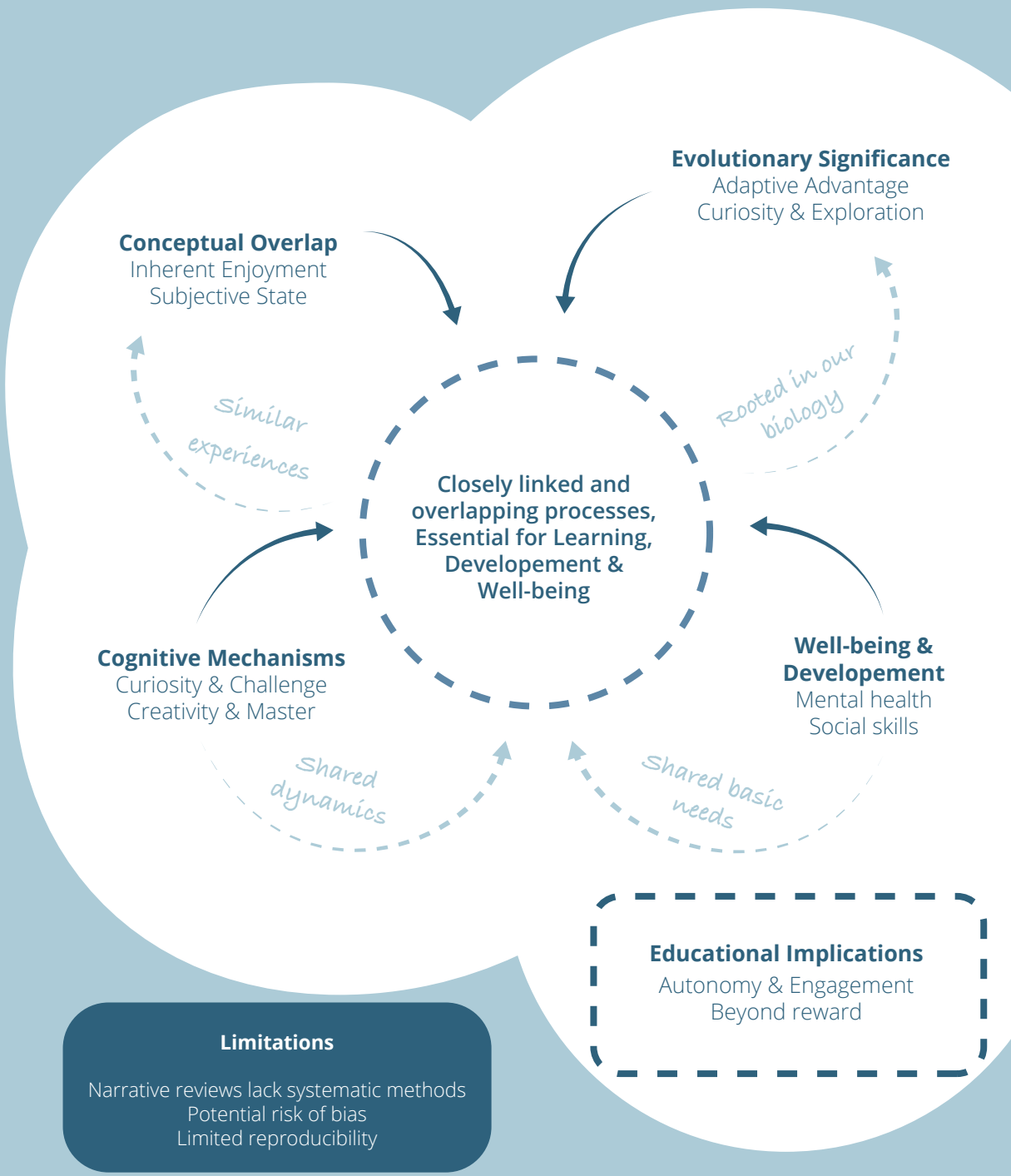
Examined through functional, biological, neurological, conceptual and historical perspectives.

Methodology

Narrative review
Theory building exploration

Main insight

Play and intrinsic motivation reflect a shared psychological system



Limitations

Narrative reviews lack systematic methods
Potential risk of bias
Limited reproducibility

INTRODUCTION

Motivational problems have long posed a challenge in education. Boredom is widespread and appears to be increasing (e.g., Nettinga et al., 2024; Schwartze et al., 2024; Weybright et al., 2020). Educators often seek ways to replicate in school settings the strong motivation that young people display during free play. The idea that students might show the same enthusiasm for academic tasks as they do for activities such as video games is appealing. Consequently, the use of (computer) games in education has expanded rapidly (Boyle et al., 2016; Ke, 2016; King & Howard, 2016; Song et al., 2025; Zosh et al., 2017). Interest in game-based learning and "serious games" among researchers is also growing (Guan et al., 2024).

However, the outcomes of gamification, often defined as the use of game elements in non-game contexts (Song et al., 2025), have frequently been disappointing (Vartiainen et al., 2024). Mekler et al. (2017) suggested that these limited effects may result from insufficient integration of motivational theories such as Self-Determination Theory (SDT; Ryan & Deci, 2000a). This raises the question of what it actually means to employ games in a "non-game context." There appears to be no clear consensus on what games and play are: "The diversity of definitions makes the classification of game elements extremely difficult" (Celestini, 2020, p. 2).

So, instead of focusing on proof-of-concept studies ("Can games support learning?") and media comparison analyses ("Are games better than other media for learning?"), emphasis should shift "to cognitive-consequences and value-added studies exploring how theoretically driven design decisions influence situated learning outcomes for the broad diversity of learners within and beyond our classrooms" (Clark et al., 2016, p. 120). Although gamification research has expanded substantially, the underlying motivational mechanisms have only recently received more focused empirical attention. This situation resembles other persistent debates in educational science, such as the opposition between direct and inquiry-based instruction, which are frequently driven by conceptual misunderstandings (e.g., De Jong et al., 2023; Zhao, 2017).

The concept of play is often insufficiently theorized. Several scholars have noted that, despite widespread references to the motivational appeal of games, motivational theories are rarely applied systematically to game-based learning (Guan, 2024; Ryan et al., 2006; Skene et al., 2022; van der Meij et al., 2017; Pavlas et al., 2012).

Although play is difficult to define, its motivating quality is widely acknowledged. Educators often assume that game elements are inherently enjoyable and therefore

integrate them into learning environments (Skene et al., 2022). However, such elements are frequently imposed as mandatory activities or used instrumentally as rewards. According to SDT, these practices reflect controlled motivation, which conflicts with the defining characteristics of play as freely chosen and independent of external pressure (Gray, 2009). If play and intrinsic motivation are indeed closely related, this tension presents a fundamental challenge for play-based learning, particularly within non-play institutional settings that impose external learning goals (Vartiainen et al., 2024).

Against this background, the present narrative review examines whether the modest effectiveness of gamification reflects a misunderstanding of the relationship between play and intrinsic motivation. Rather than conducting a meta-analysis, the review aims to develop a theoretical and functional understanding of how play and intrinsic motivation interact and whether violations of basic psychological needs may undermine the educational potential of play. Central to this inquiry is the question of whether play and intrinsic motivation can be considered conceptually equivalent.

INTRINSIC MOTIVATION

SDT (Ryan & Deci, 2020; Vansteenkiste et al., 2020) is one of the most influential frameworks for understanding human motivation. The theory proposes that motivation differs primarily in how it is regulated, rather than simply in how much motivation a person has. Ryan and Deci (2017) distinguish between controlled and autonomous forms of motivation, which lie along a continuum from externally regulated behavior to fully intrinsic motivation. Autonomous motivation is characterized by a sense of volition and personal endorsement of one's actions, whereas controlled motivation is driven by external demands or internal pressures (Ryan et al., 2016). As motivation becomes more autonomous, it is typically associated with greater persistence, engagement, and psychological well-being.

Intrinsic motivation refers to engaging in an activity because it is inherently interesting or enjoyable, while extrinsic motivation involves acting to obtain separable outcomes, regardless of whether regulation is externally imposed or internally endorsed (Ryan & Deci, 2000b). Intrinsic motivation is internal and experiential, whereas extrinsic motivation is often associated with obligations, material rewards, or social recognition (Deci et al., 1974).

A substantial body of research shows that intrinsic motivation is associated with more adaptive outcomes than extrinsic motivation, including better performance,

persistence, and creativity (Deci & Ryan, 1991), higher self-esteem (Deci & Ryan, 1995), greater vitality (Nix et al., 1999), reduced aggression and controlling behavior, and enhanced well-being (Kasser & Ryan, 1996). In educational contexts, intrinsic motivation is linked to deeper learning and improved conceptual understanding (Becker et al., 2010; Benware & Deci, 1984) and supports active learning processes that involve constructing knowledge (Yannier et al., 2021). Nevertheless, intrinsic academic motivation tends to decline during adolescence (Gnambs & Hanfstingl, 2016).

SDT conceptualizes intrinsic motivation as a natural tendency toward curiosity, exploration, and the development of competence (Ryan & Deci, 2000b). It emerges when individuals anticipate learning, discovery, and mastery, which generate feelings of interest, enjoyment, and competence satisfaction (Lee & Reeve, 2017). Importantly, intrinsic and extrinsic motivation often undermine rather than complement each other. Empirical studies show that introducing external rewards or pressures can reduce interest and spontaneous engagement in activities that were initially intrinsically motivating (Di Domenico & Ryan, 2017).

According to SDT, intrinsic motivation is supported by the satisfaction of three basic psychological needs: autonomy, competence, and relatedness (Ryan & Deci, 2017). Autonomy involves acting with a sense of volition, competence refers to feeling effective in optimally challenging activities, and relatedness reflects feeling connected and valued by others. When these needs are satisfied, individuals engage more willingly, learn more deeply, and sustain motivation over time.

In sum, intrinsic motivation is an innate state associated with curiosity, imagination, and exploration. When motivation becomes predominantly extrinsic, deep-level processing may be hindered (Becker et al., 2010; De Naeghel et al., 2012). Beyond its effects on learning outcomes, intrinsic motivation is also linked to psychological resilience and well-being, whereas low-quality motivation and academic boredom are associated with diminished well-being and problematic behaviors (Pfattheicher et al., 2023; Schwartze et al., 2021). Although intrinsic motivation cannot be imposed, educational environments that support autonomy, competence, and relatedness can foster deep learning and promote students' long-term psychological growth and mental health (Ryan & Deci, 2006, 2017, 2020).

WHAT IS PLAY?

While SDT and its core concepts are well established and clearly defined, the definition of play is far less widely accepted and lacks consensus. Consequently, educators and educational researchers frequently rely on intuitive, lay definitions. Children often immerse themselves in play, alone or with others, driven by enjoyment and intrinsic interest. Many researchers and educators therefore regard play as a meaningful context for learning and exploration (e.g., Baek & Touati, 2017; Burson & Castelli, 2022). However, the widespread perception of play as recreational rather than serious can hinder its educational recognition and application (Parker et al., 2022).

A defining characteristic of play is the high level of persistence it elicits. Children often engage for extended periods, tolerate failure, adapt strategies, and explore alternatives. Contemporary forms of play, particularly video games, which represent one of the fastest-growing forms of recreation, clearly demonstrate these features (Lobel et al., 2017; Ryan et al., 2006). Even seemingly passive activities, such as watching TikTok videos, can be considered forms of play and are frequently marked by sustained engagement (Boffone, 2022). In contrast, many school contexts fail to evoke comparable motivational intensity. Learning is often shaped by extrinsic demands and experienced as obligation rather than interest, resulting in limited effort. As Gray (2020) observed, schoolwork is commonly perceived as work rather than play.

Despite being intuitively recognizable, play is complex and difficult to define. Scholars have repeatedly noted that play remains poorly understood within educational and anthropological research (Hamayon et al., 2016; Paterson, 2020). Methodologically, play is also challenging to study, as its spontaneous and voluntary nature resists experimental control (Gray, 2015; Johnson, 2015). Once play becomes controlled or even imposed, it risks losing its defining characteristics.

Play is therefore often described as paradoxical. It is readily identifiable yet difficult to define due to its many forms. One frequently noted paradox is that play is both free and structured. Although play involves rules, these rules are voluntarily accepted and do not undermine the experience of freedom (Gray, 2009; King & Howard, 2016). Similarly, rewards within play, such as scores or points, are meaningful only within the play context and therefore cannot be considered truly extrinsic. Play also involves an awareness that the activity is both real and not real at the same time, allowing for imagination and experimentation (Huizinga, 1955).

Because play can take countless forms, ranging from overt activities such as sports, video games, and dance to more internal experiences such as daydreaming or passive observation, its defining feature cannot be reduced to outward behavior alone. Instead, understanding play requires attention to the mental state or mode of engagement it evokes rather than to its external appearance.

This view of play as a unifying experiential orientation rather than a collection of discrete activities has been emphasized by theorists such as Vygotsky, Piaget, and Dewey (Gray, 2015; Van der Meij et al., 2017). A foundational articulation of this perspective was provided by Johan Huizinga (1955) in Homo Ludens, a work that continues to shape contemporary theories of play. Although play is still sometimes dismissed as trivial (Baek & Touati, 2017), Huizinga demonstrated its fundamental importance for learning, development, and culture.

As noted by Gray (2015), scholars of human play broadly agree that play is characterized not by a single defining feature, but by a constellation of motivational and experiential characteristics, which can be present to varying degrees. An activity may thus be considered playful depending on the extent to which it is self-chosen, intrinsically motivated, imaginative, guided by flexible rules, and conducted in a relatively non-stressed state of mind. Drawing on this perspective, and building on classic and contemporary play theory, we highlight seven recurring characteristics of play:

1. *Voluntariness.* Play is typically entered into freely and sustained by choice rather than obligation. Participants opt in voluntarily and may disengage when they wish, a feature long emphasized in classic accounts of play (Huizinga, 1955; Gray, 2015). This voluntariness aligns closely with SDT's emphasis on autonomy as a core driver of intrinsic motivation, a connection illustrated in studies of digital gaming where participation is largely self-chosen (Ryan et al., 2006).
2. *Intrinsic Enjoyment.* Play is commonly accompanied by enjoyment, interest, and often humor, even when it involves challenge or temporary frustration. Engagement is valued for its own sake rather than for external rewards or outcomes. From an SDT perspective, such enjoyment reflects intrinsic motivation, which has been shown to characterize many forms of play, including digital games.
3. *Self-Initiated and Sustained Engagement.* Play is initiated and maintained by the player. Engagement typically continues as long as the activity remains interesting or enjoyable and tends to end naturally when fatigue, boredom, or competing interests arise. This self-regulation of engagement contributes to the persistence often observed in play contexts (Gray, 2015).

4. *Limited External Instrumentality.* Play is not primarily oriented toward external utility or predetermined outcomes. Its purpose is embedded within the activity itself, and its consequences are often symbolic, exploratory, or open-ended rather than directly instrumental (Huizinga, 1955). While play can yield developmental or learning benefits, these outcomes are usually not the player's explicit motive at the moment of engagement.
5. *Imagination and Role Adoption.* Play frequently involves imagination, pretense, or the temporary adoption of roles, allowing players to explore alternative identities, perspectives, and social relationships. This imaginative dimension has been emphasized across classic and developmental theories of play (Groos, 1901; Vygotsky, 1978) and remains central in many contemporary play forms, including digital and social play.
6. *Psychological Safety and Low Stakes.* Although play may include challenge, uncertainty, or simulated risk, it is typically experienced as psychologically safe. Players can experiment, fail, and try again without strong external pressure for efficiency, evaluation, or correctness. This low-stakes play context supports exploration, creativity, and learning through trial and error (Gray, 2015).
7. *Temporal and Spatial Framing.* Play is usually bounded in time and space. Players recognize when they are "in play" and when play begins and ends, and the activity is often structured by explicit or implicit rules that create a distinct frame separate from ordinary life (Huizinga, 1955). These boundaries help sustain immersion while also allowing players to exit the play context without lasting consequences.

From the characteristics outlined above, it becomes clear that play is far more prevalent in human behavior than is often assumed (Huizinga, 1955; Martens, 2019; Pavlas, 2012). As Huizinga (1955) emphasized, play is not defined by specific outward behavior but by a playful attitude or mode of engagement, which makes it difficult to observe directly. Playful engagement can therefore occur during activities such as listening to music, chatting with colleagues, or watching a film. It frequently involves perceiving meanings that are not literally present, such as imagining hidden motives, personifying objects, or envisioning unreal scenarios. Imagination is thus almost always involved, as play entails mental simulation, perspective-taking, and hypothesis formation (Johnson, 2015).

Play often includes self-imposed challenges. Enjoyment arises from engaging with uncertainty and difficulty, as illustrated by the desire to solve a mystery while avoiding spoilers when watching a film. The focus lies on the process rather than the outcome, and interest tends to diminish when challenges become either too easy or too difficult.

Play is also closely linked to creativity and novelty-seeking, expressed in a wide range of activities including art, music, science, sports, and everyday problem solving (Russ, 2014; Singer et al., 2006).

Although play may appear individual, it is predominantly social. Activities such as reading or listening to music involve implicit social interaction, whether with an author, performer, or imagined audience. Play often includes spectators, shared norms, and moral evaluations related to fairness, cooperation, and justice. This social dimension makes play a powerful driver of physical, cognitive, and socio-emotional development. For example, a systematic review by Ardoin and Bowers (2020) showed that play-based, nature-rich educational approaches support exploration, self-confidence, social connection, and cognitive development in young children.

Importantly, play is not confined to early childhood. As Huizinga (1955) noted, its core characteristics extend to art, performance, and adult life more broadly. Linguistic usage reflects this continuity, as people speak of playing an instrument, playing a role, or attending a play. Across the lifespan, play is associated with enjoyment, creativity, connectedness, exploration, and outcomes that often hold little value beyond the activity itself.

Play and exploration are distinct but closely related modes of engagement. While exploration primarily supports information gathering, play facilitates social learning and skill development within a low-stakes, intrinsically motivated context (Gray, 2015). In practice, playful activities frequently incorporate exploratory elements such as experimenting, testing assumptions, and discovering how systems or narratives function. Imagination plays a central role, supported by a playful frame that signals the activity as not fully real. This framing allows individuals to tolerate uncertainty and engage in trial and error without serious consequences.

Central to play is the presence of such a play frame, which separates the activity from ordinary life and creates psychological safety (Huizinga, 1955; Pellis & Pellis, 2007). Within this frame, mistakes are permitted, risk is reduced, and exploratory behavior is encouraged. Although play is rarely pursued with learning as an explicit goal, it often results in enhanced well-being, openness, and social engagement, similar to the effects associated with intrinsic motivation (Lester & Russell, 2008; Whitebread et al., 2012).

This leads us to an interim conclusion: namely, that when we study the concepts of intrinsic motivation and play in their full scope, it becomes evident that they share a significantly stronger resemblance to one another than when examined in an isolated

context. For instance, within the context of educational science, emphasis is placed on the cognitive performance enhancements that intrinsic motivation yields, particularly in fostering deep learning. More broadly, SDT is also applied in more clinical or therapeutic contexts, where greater attention is directed toward mental aspects such as well-being (e.g., Schaefer & Drewes, 2011). But the essence lies in the fact that both the learning and exploratory dimensions, as well as their positive effects on mental well-being, are closely associated with intrinsic motivation. When we further establish that play is better understood as a mode of engagement rather than a specific visible form, the significant overlap between these two concepts becomes even more evident. Both phenomena involve experiential states that promote well-being, foster open and social behavior, facilitate connection and enjoyment, and can contribute to exploration, learning, and understanding. Notably, neither play nor intrinsic motivation can be externally enforced. Additionally, both share a strong dimension of social connectedness, in which trust and mutual care are critical. Furthermore, they consistently involve a level of challenge-seeking comparable to the zone of proximal development: precisely the point where a task or play is neither too easy nor too difficult.

THEMES OF OVERLAP

In the following section, we will explore, through five themes, if further evidence can be added to support the proposition that play and intrinsic motivation share a profound overlap that is demonstrable biologically, historically and functionally.

The Adaptive Function of Play and Intrinsic Motivation

Certainly, play is undeniably a biological mechanism, and to comprehend why it occurs, biological explanations are essential. Ernst Mayr, in 1951, proposed that biology involves two distinct enterprises that pose different questions. "Functional biologists" focus on "proximate questions," examining structures and mechanisms and how they work. On the other hand, "evolutionary biologists" address "ultimate questions," exploring why organisms are the way they are (Nesse, 2018). Niko Tinbergen expanded this distinction in 1963 into "Tinbergen's Four Questions": causation, ontogeny, evolution, and survival value, commonly referred to as mechanism, ontogeny, phylogeny, and adaptive significance. The last two are ultimate, with questions such as "How did the behavior evolve in the species?" and "What function or survival value does the behavior serve?"

In motivational and play science, neuropsychologists examine the brain mechanisms underlying motivation, such as the seek and play area or the reward system, which appears to correlate genetically with educational performance (e.g., Cesarini & Visscher, 2017) and describe how play develops during aging, the ontogeny. This approach allows researchers to investigate both the immediate mechanisms and the broader evolutionary context that contribute to the phenomenon of play.

Examining task characteristics is a valuable approach to predict task motivation (as a mechanism), as demonstrated by de Brabander & Martens (2014). For instance, a child triggered by a Playmobil figure that plays for hours, involves visible and immediate explanations (causation). As the child ages his play behavior evolves towards play that sometimes even resembles scientific research. Shifting the focus to "zooming out" leads to the two ultimate questions: how does play confer a selective advantage, and how did it develop and evolve in human history?

It is evident that play behavior is crucial for intelligent animals to capitalize on the substantial adaptive gains their intelligence offers: it is about learning. Complex behaviors, such as hunting techniques, are often too intricate to yield a direct or extrinsic benefit. The same applies to curiosity where very often discoveries may not necessarily lead to an immediate, practical outcome, and even if there is a result, the timing of its utility remains uncertain. Play, in this context, prepares for potential future responses by fostering an inner urge for certain behaviors. This is evident, for instance, when young animals explore their environment.

Following curiosity, which can give rise to creativity, is inherently characterized by uncertainty about outcomes. The result of such engagement is unknown, and there is no assurance of a tangible or significant payoff. In these situations, so the reward lies in the process of learning and discovery itself. Thus this intrinsic reward is essential, particularly in the absence of external incentives. The process, rather than the outcome, holds intrinsic value.

Smaldino et al. (2019) examined how play varies across animal species, focusing on both its complexity and persistence across the lifespan. They showed that species differ considerably in the complexity of their play behavior, with some displaying highly intricate and socially embedded forms, while others exhibit simpler patterns. Species also vary in how long play persists, as in some it is limited to juveniles, whereas in others, including humans, it continues into adulthood (Pellegrini et al., 2007). Humans, in particular, often retain play behavior into old age.

Tolman's (1948) classic maze study with rats illustrates the functional distinction between goal-directed behavior and exploratory activity. Hungry rats moved directly toward food, whereas satiated rats explored the maze without immediate reward. Tolman described this as latent learning, in which knowledge acquired through exploration is not immediately applied but can later prove adaptive, for instance in navigating efficiently under pressure. Such exploration can be understood as a functional component of play in rats, serving to familiarize individuals with their environment and offering potential future advantages. Even relatively simple forms of play thus serve an adaptive function, often distal or latent rather than immediately observable (Gray & Bjorklund, 2014; Pellegrini et al., 2007; Whitebread et al., 2012). If play behavior becomes more complex, it still offers important adaptive advantages, as it evolved independently in various species. Complex social play must therefore provide a strong evolutionary advantage, similar to simpler forms. Children dance with friends, and dolphins swim in shapes or jump in synchronized, coordinated ways. In other words, species with large brains seem to need play. Complex social play must have a crucial function (Smaldino et al., 2019). There is evidence that experiencing complex play, such as play fight requiring reciprocal social exchanges, refines social-cognitive skills and changes neural mechanisms underlying these rules (Pellis & Pellis, 2007). Complex play contributes to social development by encouraging mental engagement. Playing stimulates growth, learning, and development (Gray, 2015; Pellegrini et al., 2007; Whitebread et al., 2012). Moreover, the social nature of play fulfils a crucial role: truly understanding something often requires seeing it from another's perspective.

When examining play from a phylogenetic perspective—that is, by asking about the evolutionary history of the mechanisms underlying play—it becomes apparent that play behavior has developed independently in several intelligent species. Ravens, dolphins, and humans, despite their divergent evolutionary paths, all exhibit similar forms of play.

Play has likely played an important role in the evolutionary history of Homo sapiens (Whitebread et al., 2012). As noted earlier, artistic activities are often characterized by playful modes of engagement. For instance, flutes made from the bones of lammergeiers discovered at the Hohle Fels site in Germany, also dating back more than 30,000 years, point to playful and music-related activities in early human history (Conard et al., 2009). In addition, archaeological research increasingly documents indications that children engaged in play during deep evolutionary history, suggesting that play was omnipresent across age groups (Högberg, 2008; Nowell, 2021).

Several scholars argue that play was crucial for human evolution because it supported creativity and skill development. Riede et al. (2018) and Pellegrini et al. (2007) suggest that playful engagement facilitated the invention and mastery of complex tools, such as the bow and arrow, as well as the acquisition of skills required for challenging and risky hunting practices.

As discussed earlier, play and intrinsic motivation show strikingly similar patterns of engagement, developmental conditions, and outcomes. Both involve active exploration, curiosity, and the playful exercise of skills, and both contribute to learning and the development of competence (Ryan et al., 2016). These parallels support the view that play and intrinsic motivation are evolved features of human behavior with deep evolutionary roots and significant adaptive value. Recognizing this shared evolutionary background invites further examination of their common biological foundations. As Ryan and Deci (2000a) argued, intrinsic motivation reflects a fundamental human tendency toward novelty seeking, challenge, exploration, and learning, highlighting its central role in human development.

Biological Mechanisms Suggest a Strong Overlap Between Play and Intrinsic Motivation

Not only do play and intrinsic motivation share core phenomenological characteristics, they also seem to rely on highly similar neurobiological mechanisms. Affective neuroscience suggests that intrinsic motivation is rooted in ancient mammalian systems that regulate exploration and play (Di Domenico & Ryan, 2017).

Both learning and play are closely associated with the dopamine system, which is influenced by genetic variation related to learning capacity and neural plasticity (Achterberg et al., 2015; Pearson-Fuhrhop et al., 2013). Brain regions such as the prefrontal cortex, basal ganglia, and limbic system interact with dopaminergic processes to sustain engagement in rewarding, curiosity-driven activities. Neuroscientific research consistently points to overlapping neural circuitry underlying play and intrinsic motivation, with play often regarded as a prototypical form of intrinsically motivated behavior (Panksepp, 1998, 2015).

Evidence from oxytocin research further supports this overlap. Studies show that oxytocin enhances playful social interaction, including increased stimulation during father–child play (Naber et al., 2010), early mother–infant social games (Markova, 2018), and maternal neural responses during free play with infants (Strathearn et al., 2009). These effects are associated with activation in dopaminergic reward-related brain

regions, including the hypothalamus, ventral striatum, and pituitary-related systems. Such regions are implicated in both oxytocinergic and dopamine-mediated reward processing and are also central to intrinsic motivation (Di Domenico & Ryan, 2017; Naber et al., 2010). Neuroimaging studies further indicate that diverse pleasurable activities activate remarkably similar neural circuits, suggesting a shared neural foundation for reward and enjoyment (Berridge et al., 2015).

Importantly, dysregulation of the oxytocin system has been linked to psychopathological dimensions and behavioral problems across diagnostic categories (Torres et al., 2022). The evolutionary depth of these systems is supported by comparative research showing that oxytocin enhances play motivation in dogs (Romero et al., 2015) and that reduced play behavior in rats is associated with diminished oxytocin receptor binding in the amygdala (Bertelsen et al., 2017). Together, these findings reinforce the view that play and intrinsic motivation are grounded in shared, evolutionarily ancient neurobiological systems.

Also, the relationship between social motivation and oxytocin is increasingly understood (Gordon et al., 2011; Love, 2014). When the dopamine system is artificially activated, via electrical or chemical stimulation, both humans and animals engage in eager exploration of their environment and show signs of interest and curiosity. Panksepp (1998) referred to this as the SEEK system.

Kaplan and Oudeyer (2007) proposed an evolutionary and mechanistic account of intrinsic motivation and play. They argued that the emergence of cortical columns, which are relatively recent in evolutionary terms, coincided with the development of intrinsically motivated behavior, primarily observed in mammals. According to their model, intrinsic motivation evolved on top of older systems that regulate behavior through extrinsic rewards linked to basic physiological needs.

A key evolutionary transition occurred with the development of cortical circuits capable of monitoring learning progress. This enabled the brain to generate internal reward signals, independent of immediate external outcomes. Such internally generated rewards promote exploration, skill acquisition, and sustained engagement, forming a self-updating value system that adapts with experience (Kaplan & Oudeyer, 2007). In humans, the expansion of the cortex likely co-evolved with cultural complexity, mutually reinforcing increasingly sophisticated forms of learning and exploration.

This framework aligns closely with the defining characteristics of both play and intrinsic motivation, namely their self-rewarding nature. In both cases, the reward does not

originate externally but arises from the activity itself. Learning, exploration, and skill development thus become rewarding processes in their own right.

Taken together, these insights suggest that play and intrinsic motivation rely on highly similar biological and neurological mechanisms. Both promote exploration and learning in the absence of tangible external rewards, with increased adaptivity constituting the ultimate payoff. This capacity for self-directed learning has provided a substantial evolutionary advantage, supported by growing evidence regarding its biological and mechanistic foundations.

Overlap in Cognitive Processes: Predictive Processing

Predictive processing frameworks propose that the brain continuously generates predictions and tests them against sensory input in order to minimize prediction errors (Friston, 2010). From this perspective, play can be understood as a low-risk context in which these predictive mechanisms are calibrated. For example, when a child plays with a ball, expectations about its movement are implicitly tested and adjusted, illustrating learning through exploration. Intrinsic motivation sustains this process, as enjoyment arises from refining one's predictions.

Neuroscientific research supports the idea that such play-like construction and rapid testing of mental models lies at the core of understanding (Clark, 2013; Rao & Ballard, 1999). Prediction and inference are central to cognitive activities such as listening to stories and reading comprehension, where meaning is actively constructed rather than passively received (Bowyer-Crane & Snowling, 2011; Freed & Cain, 2016; Sternberg et al., 1982). Predictive processing also applies to physical action, as the brain simulates expected sensory outcomes even before movements are executed (Clark, 2013). Although conceptually elegant, this continuous reduction of prediction error is a complex process that remains only partly understood (Pelt et al., 2016).

Kaplan and Oudeyer (2007) argued that developmental learning sequences originate from an internal drive to explore, investigate, and make sense of the environment. The authors linked this impulse to intrinsic motivation, proposing that enjoyment arises when individuals actively seek challenges and reduce prediction errors, thereby increasing understanding. Such dynamics are clearly present in play, where uncertainty is valued and outcomes are not sought prematurely.

Viewed from this perspective, play and intrinsic motivation strongly overlap in their capacity to initiate a continuous cycle of hypothesis generation, prediction, and feedback. This cycle forms the foundation of deep learning and understanding,

highlighting the close functional relationship between playful engagement, intrinsic motivation, and cognitive development (Friston, 2010).

Historical Overlap

Historically, there is a substantial overlap between the concepts of play and intrinsic motivation, as the latter emerged directly from early research on play. Di Domenico and Ryan (2017) noted that long before Deci's (1971) experiments on intrinsic motivation in humans, Harlow (1950) documented similar phenomena in rhesus monkeys. These primates persistently engaged with mechanical puzzles without external rewards, and their spontaneous exploratory behavior decreased once rewards were introduced. Harlow used the term intrinsic motivation to describe this reward-independent engagement, highlighting the close link between play and motivation from the outset.

Not only the early use of the term intrinsic motivation (Griffin & Harlow, 1966), but also the concept of self-determination has roots in play theory. The German educator and play theorist Friedrich Fröbel (1887) introduced the notion of Selbstbestimmung in his work on play pedagogy, later translated as self-determination. Influenced by Pestalozzi, Fröbel described children as active, creative, self-determined, and playful beings who develop from within. His ideas laid the foundation for the kindergarten movement, which originally emphasized self-determination through play-based education.

Overall, historical perspectives reinforce the close relationship between play and intrinsic motivation. Groos' early studies of animal play (1898) and human play (1901) proposed that juvenile play serves a preparatory function by enabling the acquisition of skills needed in adulthood. This evolutionary view of play as having delayed adaptive benefits was later integrated into developmental theories by Piaget (1952) and Vygotsky (1967), both of whom emphasized the central role of play in cognitive and social development.

Overlap in Measurement

Finally, the measurement of intrinsic motivation and play also reveals substantial overlap (Pavlas et al., 2012). Because both constructs are primarily understood as internal states, research typically focuses on subjective experience rather than overt behavior during activities. Accordingly, both play and intrinsic motivation are most often assessed using self-report measures. In both domains, the defining experiential components are enjoyment and interest. Measures of game experience demonstrate strong similarities to intrinsic motivation and show negative associations with external regulation and amotivation (Pavlas et al., 2012). Moreover, outcome measures

overlap considerably, as both play and intrinsic motivation are associated with inquiry, persistence, and experiences of joy and pleasure. This convergence is also evident in the exploration of additional psychological needs, such as novelty, as captured by instruments like the Novelty Need Satisfaction Scale (González-Cutre et al., 2016).

Intrinsic motivation has been measured across a range of contexts (Ryan & Deci, 2000b). While most instruments assess subjective motivational states, some include behavioral or observational indicators. In addition, displayed enjoyment, particularly Duchenne smiles, has been identified as a nonverbal indicator of intrinsic motivation (Cheng et al., 2020; Gunnery & Ruben, 2016

Despite the growing interest in play research, validated instruments specifically designed to measure play or playfulness remain relatively scarce. Nevertheless, existing tools such as the Play Experience Scale demonstrate strong conceptual and empirical overlap with measures of intrinsic motivation, further supporting the close relationship between these constructs (Pavlas et al., 2012).

DISCUSSION AND CONCLUSIONS

This narrative review demonstrates a strong conceptual and empirical relationship between intrinsic motivation and play, suggesting that they reflect closely related underlying processes rather than a single, identical construct. Free play emerges spontaneously, is enjoyed for its own sake, and is not driven by external rewards, closely paralleling the defining characteristics of intrinsically motivated behavior. Within SDT, intrinsic motivation is defined as engagement in activities for inherent satisfaction (Ryan & Deci, 2000a). Similarly, in play, rewards have little significance beyond the process or activity itself. Evolutionary and mechanistic perspectives further clarify how this system may have developed and how it functions.

Play is frequently poorly defined, leading research and practice to emphasize its observable forms, such as games or simulations, rather than its core nature as a subjective mode of engagement (Pavlas et al., 2012). Conceptualizing play as an experiential state rather than a specific activity highlights its close alignment with intrinsic motivation.

This synthesis aligns with the view that play and intrinsic motivation share a common functional core with substantial evolutionary significance (Nesse, 2018). Learning complex skills often lacks immediate external rewards, which may explain why intrinsic

motivation is central to human learning. Moreover, human learning is deeply social. Acquiring language and cultural knowledge requires understanding others' intentions and engaging in continuous perspective-taking, a process that appears central to both play and intrinsic motivation in a socially learning species. As Ryan et al. (2021) state, "When intrinsically motivated, people curiously engage their internal and external environments, reflecting an inherent inclination toward learning and mastery. When free to do so, they seek out intrinsically motivated activities, as evidenced in the way people spend leisure time pursuing such activities as games, travel, sport, or reading" (p. 99). This capacity is biologically rooted and appears to confer a strong evolutionary advantage. As Ryan et al. (2021) further note, "These human capacities for autonomy and integrity and vulnerabilities for defensiveness and psychopathology are neither mystical nor merely subjective; they are indeed rooted in our biology and adaptive histories" (p. 97).

Creativity depends on synthesizing novel outcomes from previous knowledge, often without foreknowledge of results. Here, the logic of play and intrinsic motivation as a shared state of mind becomes evident: deep learning depends on the curiosity characteristic of both. Cognitively, substantial overlap exists between them. Intrinsic motivation requires a sense of competence, as does play, which is most effective when neither too easy nor too difficult. Play often involves creating uncertainty, such as a die roll or not wanting spoilers, mirroring what is essential for deep understanding: making inferences and predictions (Friston, 2010).

Animals that are unable to exhibit natural behaviors often develop mental health problems such as stereotypies, depression-like symptoms, or aggression (Mason & Latham, 2004), highlighting the importance of environments that support species-specific behaviors. Humans show similar patterns of ill-being when deprived of intrinsic motivation or opportunities for play. Play deprivation in humans has been associated with increased anxiety and depression, reduced emotional regulation (Gray, 2011), impaired social skills, aggression (Pellis & Pellis, 2007), and diminished creativity and cognitive flexibility (Bateson & Martin, 2013). It may also negatively affect physical health and overall well-being (Burdette & Whitaker, 2005). Similarly, a lack of intrinsic motivation has been linked to increased anxiety and depression, reduced task engagement, poorer performance, diminished creativity, and impaired socio-emotional functioning (Ryan & Deci, 2017; Deci & Ryan, 2000). Thus, a prolonged absence of play or intrinsic motivation appears to be "unnatural" and is associated with psychological ill-being. As Ryan et al. (2016) state: "Indeed, we see continuity in the basic psychological needs for autonomy, competence, and relatedness across people's personality differences,

developmental epochs, and cultures, suggesting that thwarting of these basic needs, especially when severe, is a critical component of psychopathology and more normative or transitory maladjustment" (p. 426). Play researchers express a similar concern: "Play, especially social play with other children, serves a variety of developmental functions, all of which promote children's mental health. In the absence of such play, children fail to acquire the social and emotional skills that are essential for healthy psychological development" (Gray, 2011, p. 458).

Not surprisingly, in addition to exploring the substantial conceptual overlap and its adaptive significance, this narrative review also revealed strong parallels between play and intrinsic motivation from historical, cognitive, biological, and measurement perspectives. Given the strength of the conceptual, evolutionary, and psychological overlap, we propose that play and intrinsic motivation, when primarily understood as states of mind, are not just closely related, but may, in fact, be based on overlapping underlying mechanisms.

Implications

In educational science, play is often ill defined and used in ways that are not intrinsically motivating. Having seen that play is much more than for instance a video game, but that play scholars even think that science or literature essentially are a form of play, makes it easy to imagine that more often than we think, some form of play is pursued in education. Seen this way it may even be the "hidden motor" behind didactical approaches such as problem-based learning (PBL), inquiry learning, and discovery learning. These curiosity-driven and challenge-seeking methods rely on a playful state of mind often described as intrinsic motivation (Zhao, 2017). But problem-based learning does not work properly if a student is not interested in the problem at hand (Wijnia et al., 2024). However, intrinsic motivation and play can never be mandatory, making them difficult to implement in educational contexts where required outcomes, content, and goals are predefined. Gamification is often seen as the use of game elements in such "non-game contexts". This reflects a narrow focus on educational outcomes, limited to what is easily measurable and externally imposed. "It is fair to say that there is a tendency to favor outcomes such as literacy and numeracy development, where there are well-established means of assessing student progress, rather than the broader skills associated with learning through play" (Parker et al., 2022). Another risk of the use of game elements in non-game contexts is that this impedes a prerequisite for games and play, namely that true play is, according to play scholars, always on a voluntary base. Indeed there is debate concerning how much guidance and choice benefit

learning. Findings from this review suggest that children often receive less choice than conceptually needed to cultivate agency, motivation, and curiosity (Skene et al., 2022, p. 1177). In other words, there is likely a blind spot regarding the effects of play, as it tends to evade the controlled conditions typical in for instance direct instruction research. Moreover, the benefits of play-enhanced intrinsic motivation are often long-term, while educational research typically focuses on short-term outcomes measured over hours or weeks (e.g., Costa et al., 2022; De Jong et al., 2023; Ryan & Deci, 2017).

This suggests a need for a broader view, through combining insights from play research and SDT. As Skene et al. (2022) noted: "The benefits of guided play features may therefore be intuitive and be used instrumentally across several areas to maximize learning opportunities, despite studies not explicitly considering the conceptual basis for why this might be developmentally valuable. Many of the studies which looked to improve socioemotional outcomes, for example, intuitively used features of guided play. This may indicate a field of child development where guided play can be tested more explicitly in future research" (p. 1178).

Recognizing the overlap between play and intrinsic motivation deepens our understanding of the strong parallels between the effects of play deprivation and the thwarting of basic psychological needs, as described in Self-Determination Theory (SDT). This insight is directly relevant to educational debates, including discussions surrounding direct instruction. One potential risk of direct instruction lies in the undermining of autonomy, which may have long-term adverse consequences. Zhao (2017) cautions that an excessive focus on short-term cognitive outcomes can lead to unintended side effects, such as diminished mental well-being due to heightened external pressure and reduced opportunities for play and intrinsic motivation (cf. Ryan & Deci, 2020).

Conversely, adopting a broader educational perspective that integrates diverse learning outcomes across longer time frames may clarify the benefits of autonomy-supportive approaches, such as problem-based learning (PBL). Supporting this view, a recent second-order meta-analysis by Kocoglu and Kanadli (2025) found that PBL positively affects not only cognitive outcomes but also students' affective learning outcomes. Recognizing that many educational methods implicitly incorporate elements of play may therefore help explain their potential long-term impact.

Similarly, understanding the basic psychological needs outlined in SDT may shed light on why some implementations of serious gaming in education as 'a non-game context' fail to meet expectations. Exploring the relationship between play and intrinsic

motivation thus holds important practical implications for educational design and instructional practice.

Future Research

The described overlap between play and intrinsic motivation can inform discussions about basic psychological needs within SDT. For instance, some researchers have explored whether the three basic needs should be expanded (Vansteenkiste, Ryan, & Soenens, 2020), and notably, such proposals often concern aspects that are closely linked to play. For example, González-Cutre et al. (2016) proposed adding a fourth basic need, "novelty," which, as we have shown, is a typical characteristic of play. Fairness is another feature of play, involving an empathy-based evaluation of justice and equity ("fair play"). Prentice et al. (2019) proposed this as an additional need, termed "morality," reflected in common play activities such as storytelling, as stories often convey moral meaning.

We conducted a narrative review offering a broad overview of the existing literature, which is well suited to exploring complex topics such as the full meaning of play and its relation to intrinsic motivation. Many researchers have emphasized this need (e.g., Guan, 2024; Hamayon et al., 2016; Mekler et al., 2017; Pavlas et al., 2012; Ryan et al., 2006; Skene et al., 2022; Vartiainen et al., 2024). However, unlike meta-analyses, narrative reviews lack systematic methods, which increases the risk of bias and limits reproducibility. Future research should therefore empirically test whether the implementation of play in educational contexts functions differently when SDT insights are explicitly applied, and under what conditions, thereby preventing the misuse of play in ways that do not constitute genuine play (Paterson, 2020).

Conclusion

Play and intrinsic motivation show substantial overlap in both their preconditions and outcomes. Their adaptive functions appear closely aligned, and this narrative synthesis of biological, neurological, cognitive, empirical, and historical perspectives supports this view. Play can therefore be understood as a highly crystallized expression of intrinsic motivation. Both constructs refer to an internal process, state of mind, or mode of engagement that can manifest in countless observable forms and relies on similar supportive conditions to flourish, particularly in "non-game" educational contexts.

Declaration of generative AI and AI-assisted technologies in the manuscript preparation process

During the preparation of this work the author(s) used ChatGPT (GPT-5.3) in order to assist with language refinement. After using this tool/service, the authors reviewed and edited the content as needed and take full responsibility for the content of the published article.

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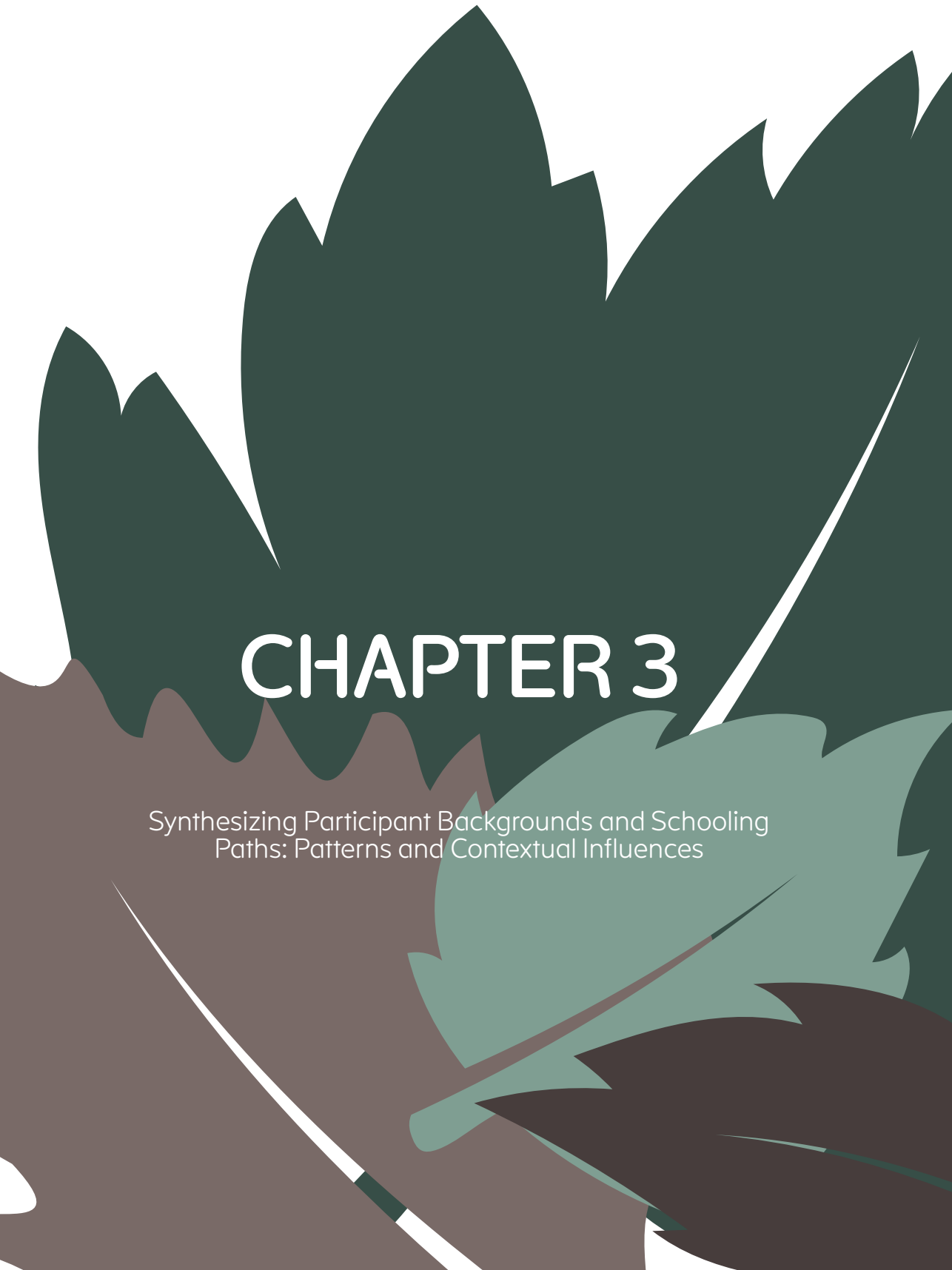
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CHAPTER 3

Synthesizing Participant Backgrounds and Schooling Paths: Patterns and Contextual Influences

ABSTRACT

This chapter situates participants within their broader social, familial, and educational contexts to provide a descriptive foundation for subsequent analyses. Drawing on interviews with fourteen adult alumni from eight Sudbury-model schools in the Netherlands, Israel, and the United States, it synthesizes participants' developmental backgrounds, pathways into self-directed schooling, and post-school trajectories. The chapter examines participants' pre-enrolment dispositions, early adjustment experiences, phases of engagement within autonomy-rich educational environments, and the ecological influences of family, community, and broader social contexts.

Findings indicate that participants entered Sudbury-model schools with diverse prior experiences, ranging from psychological distress and school disengagement to adequate adjustment or early immersion without prior schooling. Across accounts, the transition into self-directed education was characterized by an initial period of emotional decompression and adaptation, followed by progressive engagement in exploratory, social, and goal-oriented activities. Participants described developmental trajectories marked by increasing autonomy, self-directed learning, and identity formation.

Family environments were largely autonomy-supportive and played a significant role in enabling and sustaining participation in alternative education, while external skepticism from extended social networks often prompted processes of reflection and internalization. Participants' adult outcomes suggest generally stable life trajectories, continued engagement in self-directed pursuits, and sustained endorsement of their educational experiences, alongside support for educational plurality rather than universal prescriptions.

Overall, the chapter highlights the heterogeneity of participants' backgrounds and experiences while identifying common developmental patterns associated with autonomy-rich schooling. These contextual insights provide an empirical and interpretive foundation for the thematic analyses that follow, informing the examination of learning, personal development, and interpersonal outcomes in subsequent chapters.

Participants Backgrounds, Contexts and Schooling Trajectory

Study Context

8 Sudbury schools
14 Alumni participants
3 Countries

Ecological Context

Wider social context
Skepticism / expectations

Home
autonomy supportive

Sudbury School
Democratic
Non-coercive

variety in home situations

Many participants experienced pressure

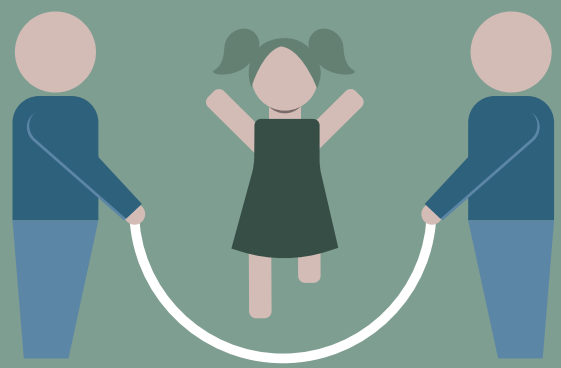
Participant Diversity at Entry

- Distress / Anxiety
- Boredom / Disengagement
- Autonomy-seeking
- High energy / Mismatch
- Adequte fit
- Early entry ("lifers")

Transition & Adjustment

Decompression
Relief + Uncertainty
Identity recalibration

Early Phase: Intense play



Methodology

- Qualitative exploratory design
- Semi-structured interviews
- Inductive thematic analysis
- Reflexive & positional inquiry
- Theoretical lens: SDT

Interpreted developmental trajectory

Play → Engagement → Self-direction

Often through alternative admission routes, self-study, or portfolio-based entry

Interest Development

Emerging Goals & Career Paths



Later phase: Increasingly Intentional Engagement

Through boredom

Post-school trajectories

Careers through higher education, vocational training or experiential learning





Active in (outdoor)sports, arts, crafts, music etc.

Active social life, including community-oriented or civic activities



Descriptive Foundation for Chapters 4 - 7

Chapter 4 - Roots
Culture & Relatedness



Chapter 5 - Tree tops
Choice & Ownership



Chapter 6 - Branches
Personal Growth & Identity



Chapter 7 - Fruits
Adult Outcomes (Personal and interpersonal development)



Limitations

No systematic information on economic status / education parents.
Potential bias from parental involvement

PARTICIPANT OVERVIEW AND CONTEXTUAL SUMMARY

This section provides an overview of the participants' demographic profiles and schooling contexts. The study involved fourteen adult alumni from eight Sudbury-model schools located in the Netherlands, Israel, and the United States, who self-identified their preferred pronouns as nine she/her (female) and five he/him (male). Participants varied in age and life stage at the time of interview, offering a wide lens on post-school trajectories. All names used are pseudonyms.

All had spent multiple years in their respective Sudbury model schools. Lillian, Jessica, and Rachel entered the school at a very young age with no meaningful prior schooling experience, and Philip enrolled after only a brief period, just a few months, at another school. In practice, all four completed their entire schooling within a Sudbury context. Such cases are commonly referred to as *lifers*[1]. Andrew entered at the age of seven and explained that he had already started learning to read and write at his previous school, though commented that it was likely not yet proficiently. Given that his formal education had only just begun, Andrew could arguably also be considered a lifer. Claire, Helen, and Leo started at age ten and Beth at age eleven. Four started at the beginning of their secondary school years: Ella, Marcia, and Suzanne joined at age twelve, and Ted at age thirteen. Stephen was an exception: he enrolled at age sixteen and attended the school for only two years. An overview of the demographic and educational background of participants is presented in Chapter 4, table 4.1.

PRE-ENROLMENT DISPOSITIONS AND SUDBURY SCHOOLING PATHWAYS

Early Dispositions and School Choice

Participants' descriptions of their pre-enrollment dispositions reveal a wide range of personalities and prior school experiences. While they were not asked to label themselves, recurring patterns were discerned through thematic reading of their narratives about why they or their parents sought alternative schooling.

Except for Lillian, Jessica, and Rachel, all participants had prior experiences in conventional schooling. Table 3.1 summarizes the primary reasons reported for

1 The term "*lifer*" is an informal expression used within Sudbury school communities to describe students whose schooling took place predominantly within a Sudbury context. It is used here for descriptive purposes only.

transferring to the Sudbury school, based on participants' retrospective accounts. Four participants described frustration or boredom with their previous mainstream schools, which they experienced as overly restrictive or insufficiently engaging, prompting their parents to seek an alternative. One of these cases was analytically coded as non-compliant, reflecting a reported tendency to resist or challenge hierarchical structures; this is represented in the table under preference for autonomy or conflict with hierarchical environments.

Two participants entered the school following social or emotional difficulties in conventional settings, including experiences of exclusion or school-related anxiety. A further group transferred despite coping adequately in mainstream education. In these cases, the move was not primarily driven by the students' own desire for autonomy or trust; rather, a sibling—typically a brother—had encountered difficulties in conventional schooling. The sibling had already enrolled in the Sudbury school, after which parents offered the participants the opportunity to attend as well. Finally, two participants retrospectively described themselves as highly energetic and struggling with the behavioral expectations of conventional classrooms which contributed to the decision to transfer.

Table 3.1

Self-Reported Pre-Enrolment Dispositions and School-Fit Narratives (N = 14)

Category	Description	n
Psychological distress / low academic self-concept	Experiences of bullying, self-harm, or negative academic self-perceptions before transfer	2
Non-compliant	Preference for autonomy or conflict with hierarchical environments	1
High activity / novelty-seeking	Descriptions of high energy, restlessness, or sensation-seeking influencing school fit	2
School disengagement / boredom	Reports of low motivation or lack of challenge in previous schooling	3
Adequate fit	Descriptions of coping well or doing fine without major issues	3
Early entry	No comparable prior school experience	3

Note. The full coded table and participant profiles are provided in appendices F and G, respectively.

These data suggest that participants arrived at their Sudbury-model schools with varied dispositions, ranging from disengagement and distress in traditional schooling to strong agency or early immersion without prior comparison. This variation provided a diverse foundation for examining how autonomy-rich environments interact with individual histories and dispositions (see Chapters 5–7 for analytical integration).

These descriptive categories resonate with existing educational and developmental literature that distinguishes between autonomy-oriented, compliance-oriented, and disengaged patterns of school participation (e.g. Deci & Ryan, 2000; Skinner et al., 2009), though in this study they are used purely as retrospective, participant-derived descriptors rather than diagnostic labels.

Early Transitions and Initial Adjustments

The first phase after entering the Sudbury-model schools was often described as a period of decompression and reorientation. Participants recalled that, after leaving environments shaped by hierarchy and constant evaluation, they needed time to adapt to the absence of imposed structures. The freedom to make decisions about their own activities, once a desired feature, initially created both relief and uncertainty.

Those participants that struggled at their previous schools described an early sense of relief following their transition, which they interpreted as coinciding with a reduction in emotional or behavioral difficulties from prior schooling. Leo, who had struggled with restlessness and learning diagnoses, described the experience of not being treated as a problem to be fixed: adults "were not looking at what was wrong with me… they actually let me be me." A defining moment came when he organized a school-wide commemoration and insisted on reading aloud despite his dyslexia. "Nobody laughed," he recalled, "they just waited." For him, this was the first time that being respected replaced being corrected. Stephen, who had experienced burnout and loss of confidence in his previous school, similarly remembered that "the pressure suddenly disappeared," allowing him to "come back to myself and think about what I wanted." His family interpreted these changes as a recovery of well-being and self-belief. Claire noted that her "overall energy to do anything at all" returned once she entered the new school, an effect she herself associated with the absence of external pressure.

Additionally, those participants that didn't seem to have negative experiences with their previous schools also described an initial period of adaptation. Ella, who had performed well in her former school, initially tried to reproduce familiar routines–creating classes and projects until she adjusted to the school's self-directed rhythm. Helen, who had

previously defined herself as a compliant and "very good student," recalled that at first "no one tells you what to do, so you start thinking for yourself."

Others emphasized social or emotional belonging as the central shift. Beth, who had struggled with bullying and low self-esteem, described how she "immediately had friends" and how that circle of peers "are still my support system." Ted, once reserved and socially anxious, found that mixed-age interaction "forced [him] to socialize" and learn to manage differences constructively. For Suzanne, the most powerful change was relational rather than structural: "You are taken seriously as a human being," she said, contrasting this with the condescension she felt in conventional schooling.

Taken together, these accounts portray the initial adjustment phase as a process of emotional recalibration and identity reconstruction. Participants described how relief, respect, and belonging replaced anxiety, compliance, and disengagement. The early months and years in the school can be interpreted, based on participants' accounts, as a psychological transition phase, one in which participants relearned how to trust themselves and others before moving toward the more self-initiated and goal-oriented activities that characterized later phases of their school life. These accounts may be read alongside SDT, which has demonstrated associations between autonomy-supportive educational contexts and greater psychological well-being and engagement compared to controlling environments (Deci & Ryan, 2000; Niemiec & Ryan, 2009). Participants' descriptions of their transition echo elements of this distinction.

Phases of Engagement in School Life

Across interviews, all participants described similar developmental arcs within the school. For the lifers, the early years were typically characterized by exploration and unstructured play, "a lot of playing games and hanging around," as Philip recalled. Similarly, Rachel said, "I think that until I was about ten, I just played all day, hard," and also Jessica recalled mainly playing till around the age of 10. Those who entered later also described an initial phase of open play and leisure, like Claire said how she started to "play a lot" or as Ted reflected: "Definitely the first two years, I probably spent at least 75% of my day, probably more, playing video games."

The middle years often involved experimentation with a wider range of activities. After a period of boredom, Claire noted becoming "a little more aware of what you are doing, instead of doing everything because you can." Others recalled becoming increasingly engaged with the school's structure and opportunities. Leo described how, "I started going to committees and I started doing photography in the school and ceramics and

video, and we got a computer." Similarly, Beth remembered, "I was watching history videos. I was reading about pop culture and stuff like that or what is happening in the news."

In the later years, participants reported greater focus on self-chosen projects and career preparation. Stephen shared, "After I got bored, I just tried a lot of topics and saw what I liked and then I continued to dive into that." Participants often described these explorations as influential in later career directions. Leo, for example, explained how his profession became "a career I actually started from the school." Others described using this time to prepare for paths in dance, childcare, or academic fields such as law and political science, which related back to deepened interests developed in the school. As Philip reflected, how his job within government and his study-direction emerged "from working in the democracy system back in [this] model school."

This progression from open play and exploration to goal-oriented engagement echoes the developmental perspectives outlined in the theoretical chapter, where intrinsic motivation and play are viewed as expressions of the same adaptive system to support a developmental process. Participants' accounts illustrate ways in which they experienced processes consistent with self-determination across childhood and adolescence within such environments. This developmental trajectory also aligns with the adaptive learning processes described in EDP and SDT and leads into the three major thematic sections of Chapter 7, which illustrate how self-directed participation in school life were described by participants as contributing to learning, personal development, and interpersonal capacities.

Similar trajectories linking play, intrinsic motivation, and later goal-directed engagement have been discussed in both SDT and evolutionary-developmental perspectives on learning (Bjorklund & Pellegrini, 2000; Deci & Ryan, 2000; Gray, 2013). This pattern also bears resemblance to stage-based models of interest development that describe a progression from situational engagement to more sustained, self-maintained interests (Hidi & Renninger, 2006).

HOME, FAMILY, AND COMMUNITY INFLUENCES

The organization of this section reflects an ecological understanding of development, in which individual experiences are situated within interrelated familial, educational, and societal contexts (Bronfenbrenner, 1993). This framework is used here descriptively, as a heuristic for organizing participants' accounts, rather than as an analytic model.

Family Composition and Home Environment

Eleven participants grew up in multi-child households, often with one or more siblings who also attended the same Sudbury-model school, while three grew up as only children. In three cases, siblings remained in conventional education, offering a contrast that one participant described as a source of mild tension.

Family structures were diverse: while most lived with both parents, three participants grew up in single-parent or blended families. All participants except one described some form of parental involvement in or support for their educational experiences. While the nature of this involvement varied, from philosophical alignment with the school's ethos to more pragmatic support, Beth uniquely described a lack of alignment and support at home, noting that the values practiced at school could not be sustained in her family context. Rachel's reflection captured how her home environment aligned with the values of the school, hearing "very consistent, similar messages, that my interests were important and that I should trust my instincts."

Parental support most often took the form of non-intrusive trust. Parents provided emotional and logistical backing but rarely imposed expectations about academic performance or time use. As Jessica reflected, "They wanted us to take the lead on our own education and just be there to support if we needed." Even participants who experienced mild parental pressure toward the end of their schooling described it as pragmatic rather than coercive, linked to financial or practical concerns rather than disagreement with the model itself. As Lillian explained, "They would kind of push me a little to do something, but they didn't really care what it was. ... They didn't have super high expectations or were overly involved, and I think that was helpful."

All in all, participants' stories revealed home environments that were largely autonomy-supportive (Deci & Ryan, 2000), even in cases where mild parental pressure or pragmatic orientations toward schooling were described.

Seven participants reported parental involvement in the establishment or operation of their school. Three participants described one or both parents as founders of the school. Four additional participants reported that one or both parents worked as staff at the school; among these, three specified that the staffing involvement was limited to a few years during their early time at the school, while one did not specify the duration. From an analytic perspective, this proximity could be understood as having the potential to blur boundaries between home and school life, while also possibly

fostering greater commitment to the school's principles. The potential for bias arising from this closeness was anticipated and is discussed more extensively in Chapter 4.

Socio-Economic and Educational Background of Parents

Detailed information about parental occupations and educational backgrounds was not systematically collected. Nevertheless, three participants mentioned their parents' professional activities in passing. These accounts suggested family backgrounds linked to independently operated enterprises and forms of self-employment. One participant further noted that the parents had no formal higher education but had acquired the skills required for their work informally. Beyond these remarks, no additional information is available regarding the parents' economic circumstances or educational attainment.

The limited and uneven nature of these disclosures introduces interpretive uncertainty and constitutes a limitation of the study. Because parental socioeconomic and educational backgrounds were not systematically examined, any inferences drawn from incidental references risk overrepresenting a small and potentially unrepresentative subset of families. This absence of comprehensive data may obscure underlying patterns of advantage or constraint and limits the extent to which parental background can be meaningfully related to participants' educational experiences or trajectories.

This limitation is particularly relevant when considered alongside the funding structures of the schools involved (see Table 1.1). At the time of the interviews, the schools in the Netherlands and the United States operated as privately funded institutions, whereas in Israel one school was fully government funded and the other partially government funded. It may therefore be inferred that, at least in the Dutch and U.S. contexts, families required a certain level of socioeconomic resources to access and sustain participation in these schools. However, the absence of detailed data on parental income, education, or class position precludes firm conclusions about the extent or nature of such economic selectivity.

At the same time, participants' accounts suggest that what united families across contexts was not solely, or even primarily, economic status, but a shared openness to non-conventional educational approaches and a commitment to finding environments in which their children could thrive. This ideological alignment appeared to function as an important enabling factor in the decision to choose and remain within a Sudbury-model school. While socioeconomic and educational background may have shaped the

conditions under which such choices were possible, these factors alone do not fully account for families' motivations or participants' developmental experiences.

Influence of Extended Family, Friends, and the Wider Community

All participants consistently described their immediate families as supportive, yet eleven of them encountered skepticisms from relatives, friends, or the broader community. Grandparents, neighbors, and peers sometimes voiced skepticism about whether students were actually learning or expressed doubts about their future prospects. As Rachel recalled, people would challenge her directly, telling her, "You'll never learn how to read," which she described as having a lasting impact in childhood. Similarly, four participants noted that their grandparents questioned the value of the school; Claire recalled being asked repeatedly, "Did you learn anything?" or "Shouldn't you be doing something?", interactions she experienced as difficult and undermining.

Such external judgments often prompted feelings of defensiveness or insecurity during childhood, but in retrospect participants described these experiences as formative. They reported learning to articulate and defend their educational choices, which in turn strengthened their sense of agency and self-confidence. Philip recalled being frequently confronted with disbelief and pressure from others, "You need to study," or "How will you go to university?", adding that these challenges ultimately motivated him to "show them."

Lillian similarly reflected that ongoing skepticism produced both motivation and anxiety. She described a persistent fear of "not knowing how to be in the world," which pushed her to prove her capability and the validity of this form of education, even while leaving a lingering internalized doubt about future success.

Three participants described feeling supported by peers within the school community. As Jessica summarized, "We all, who were there, believed that it worked... we supported each other in that, which was helpful." Similar sentiments were echoed by the other participants, who emphasized shared experiences and mutual understanding among peers. Within the schools, this sense of relatedness appeared to buffer students against external skepticism and helped sustain their confidence in the educational model.

Viewed through the lens of SDT, these accounts suggest processes of internalization in which external doubt and pressure were gradually transformed into personally endorsed motivations, facilitated by supportive social relationships (Ryan & Deci, 2017). The social ecology surrounding the schools was often ambivalent, supportive at

home, skeptical beyond it, but navigating this tension became part of students' broader developmental learning and identity formation.

At the same time, this pattern points to a limitation of the present study. Because the sample consists solely of individuals for whom this educational trajectory was sustained, it remains unclear how similar forms of skepticism may have affected students who lacked comparable peer support or for whom internalization did not occur. The findings therefore cannot speak to cases in which external pressure may have undermined engagement or contributed to disengagement. This asymmetry highlights the need for future research examining a wider range of student trajectories within non-normative educational contexts.

POST-SCHOOL TRAJECTORIES AND CURRENT LIFE SITUATIONS

At the time of the interviews, participants reported leading generally stable and engaged adult lives. Except for the youngest one, who lived still in her parents' house, all were financially independent and involved in creative, technical, or socially oriented work. Six were in relationships. Six had completed or were pursuing higher education, often through alternative admission routes, self-study, or portfolio-based entry. Others had built careers through vocational training or experiential learning (discussed further in Chapter 7).

Participants' leisure activities displayed substantial continuity with the values and practices emphasized during their schooling. Ten participants reported regular engagement in outdoor or physical activities, including hiking, walking, climbing, skating, running, or camping. Creative and self-directed pursuits were also common: half of the group (7 participants) described involvement in arts, crafts, music, or personal projects such as painting, photography, playing an instrument, or working on technological or maker-oriented projects.

Social connectedness featured prominently across accounts. Eleven participants described spending their free time with friends, partners, family members, or local social networks, often combining social interaction with shared activities such as sports, meals, or cultural events. Six participants were actively involved in community-oriented or civic activities, including grassroots activism, mutual aid initiatives, volunteering, or continued participation in Sudbury-model schools through governance, committees, or practical support roles.

At the same time, a quieter and more home-oriented lifestyle was also evident. Half of the participants described enjoying time spent at home, watching television, engaging in household projects, or simply relaxing with partners or pets. A small number explicitly identified themselves as "homebodies," emphasizing solitary or low-intensity activities alongside social or community engagement.

From their responses, eight of the fourteen participants described a strong interest in reading, either as an activity they currently enjoy or one they frequently engaged in during their school years. This finding is noteworthy in light of international reports of declining reading engagement and proficiency among school-aged populations (e.g., OECD/PISA), as those participants described sustained voluntary engagement with reading in the absence of externally imposed reading requirements.

Taken together, these patterns suggest a wide range of post-school leisure orientations, combining active and reflective pursuits, social and solitary practices, and sustained forms of self-directed learning and civic involvement. This diversity underscores both continuity with school values, such as autonomy, intrinsic motivation, and community participation, and individual variation in how these values are enacted in everyday life (see Chapter 6 for integration of these findings).

EDUCATIONAL SATISFACTION AND INTERGENERATIONAL CONSIDERATIONS

All participants reported satisfaction with their educational background and indicated that they would choose the same type of school again. For most, this response was immediate and unequivocal. As Leo put it, "Yes, definitely," while Claire responded simply, "Yes, certainly," and Ella remarked, "Oh, totally." Two participants extended this affirmation by reflecting on timing and hindsight. Stephen noted that, in retrospect, he would have preferred to enter this type of school earlier rather than only after encountering difficulties in mainstream education. Similarly, Andrew emphasized that although he might have allocated his time differently in certain years, his overall assessment remained unchanged: "I would absolutely want to be there again."

Several participants reflected on whether they would choose a similar educational model for their own children, often framing this question in terms of choice, context, and individual fit rather than as a straightforward endorsement. Eleven participants indicated that they would be open to, or supportive of, offering their children the

opportunity to attend a Sudbury-model school. However, this support was frequently qualified.

For many, parental endorsement was explicitly tied to the principle of children's autonomy. Seven participants emphasized that, while they would make such a school available to their children, the final decision should rest with the child. Several of them described this as an extension of the values they themselves had experienced, valuing freedom, self-direction, and responsiveness to individual needs. Others highlighted developmental considerations, suggesting that such an environment might be well suited for some children or life stages but not necessarily for all.

Practical and structural constraints also featured prominently. Three participants noted that access to this type of schooling depends on factors such as geographic availability, school size, and social acceptance. Two expressed concerns about the emotional demands placed on very young children in small or marginal educational settings, while two others questioned whether their families should have to relocate or establish new schools in order to access such options.

A smaller number of participants expressed more ambivalent or critical positions. One participant explicitly chose not to have children, citing dissatisfaction with existing educational systems and a reluctance to impose conformity on future generations. Two others suggested hybrid or staged approaches, such as combining mainstream or home-based education with later access to alternative models.

Across these varied responses, a shared theme emerged: support for educational plurality rather than a single "best" model. Participants consistently resisted universal prescriptions, instead emphasizing flexibility, context, and individual difference. As Jessica succinctly captured, "different models work for different people."

SUMMARY

Overall, the participants' diverse early dispositions, varied routes into schooling, autonomy-supportive family environments, and heterogeneous post-school trajectories highlight the wide range of personality types and life contexts represented in the cohort. Across participants' narratives, a common pattern was described in which an initial period of emotional decompression was followed by increasingly intentional, self-directed engagement, alongside later learning, personal growth, and emerging career paths. The findings further indicate that participants negotiated external skepticism

while establishing stable, self-chosen adult lives aligned with values they associated with their Sudbury schooling and their individual backgrounds. These contextual insights provide an important foundation for interpreting the empirical chapters that follow and for the integrative discussion at the conclusion of the dissertation.

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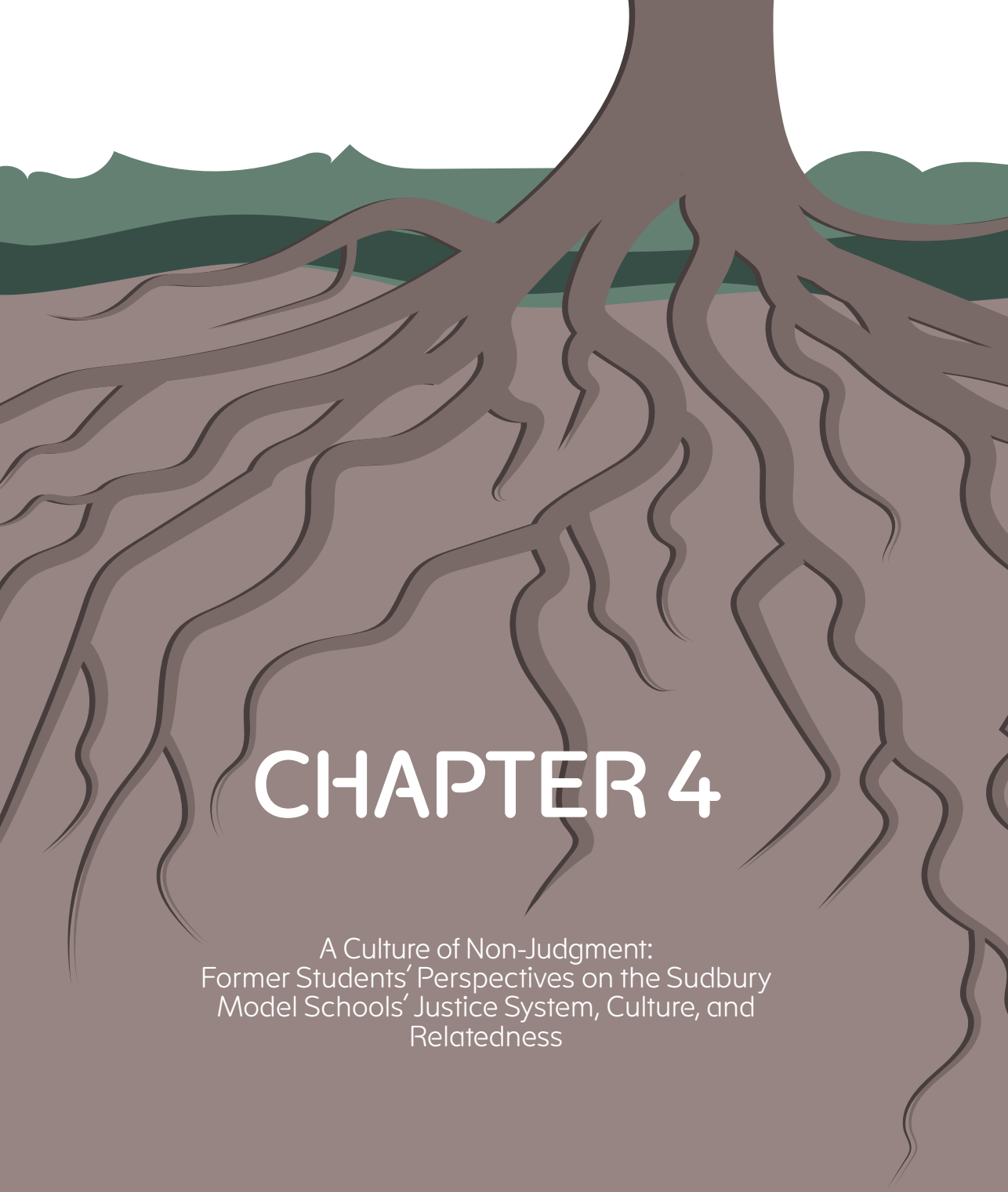
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CHAPTER 4

A Culture of Non-Judgment: Former Students' Perspectives on the Sudbury Model Schools' Justice System, Culture, and Relatedness

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ABSTRACT

This qualitative study explores the experiences of 14 adults who attended Sudbury model schools in the Netherlands, Israel, and the U.S. These schools emphasize student autonomy, egalitarian relationships, and minimal hierarchy. Using thematic analysis and open-ended questions, the study examines how the justice system, school culture, and staff roles supported students' psychological needs for autonomy, competence, and relatedness, drawing on Self-Determination Theory (SDT: Deci & Ryan, 2000). Findings highlight how the justice system fostered inclusivity, mutual respect, and internalization of community norms, contributing to a culture that discouraged bullying and promoted belonging. Staff were viewed as trusted mentors rather than authority figures, reinforcing autonomy and competence. The study offers a nuanced counterpoint to critiques that SDE models reproduce neoliberal subjectivities, showing how autonomy embedded in relational safety can foster inclusion. These insights contribute to educational change debates by illustrating how non-hierarchical models can enhance student well-being and reimagine authority in schools.

A Culture of Non-Judgment: Former Students' Perspectives on the Sudbury Model Schools' Justice System, Culture, and Relatedness

Study Context

8 Sudbury schools
14 Alumni participants
3 Countries



Relevant context characteristics

- Student autonomy
- Mixed ages (K12 + adults)
- Egalitarian governance
- Equal status students & adults

Justice System (Restorative, Egalitarian)

Fair, structured, non-judgmental
Peer-led committee
Equal access to justice

Internalization of norms based on voluntary participation

Basic human needs

IPLOC

Autonomy

Voluntary participation, Internalization

Competence

Responsibility, Voice in governance

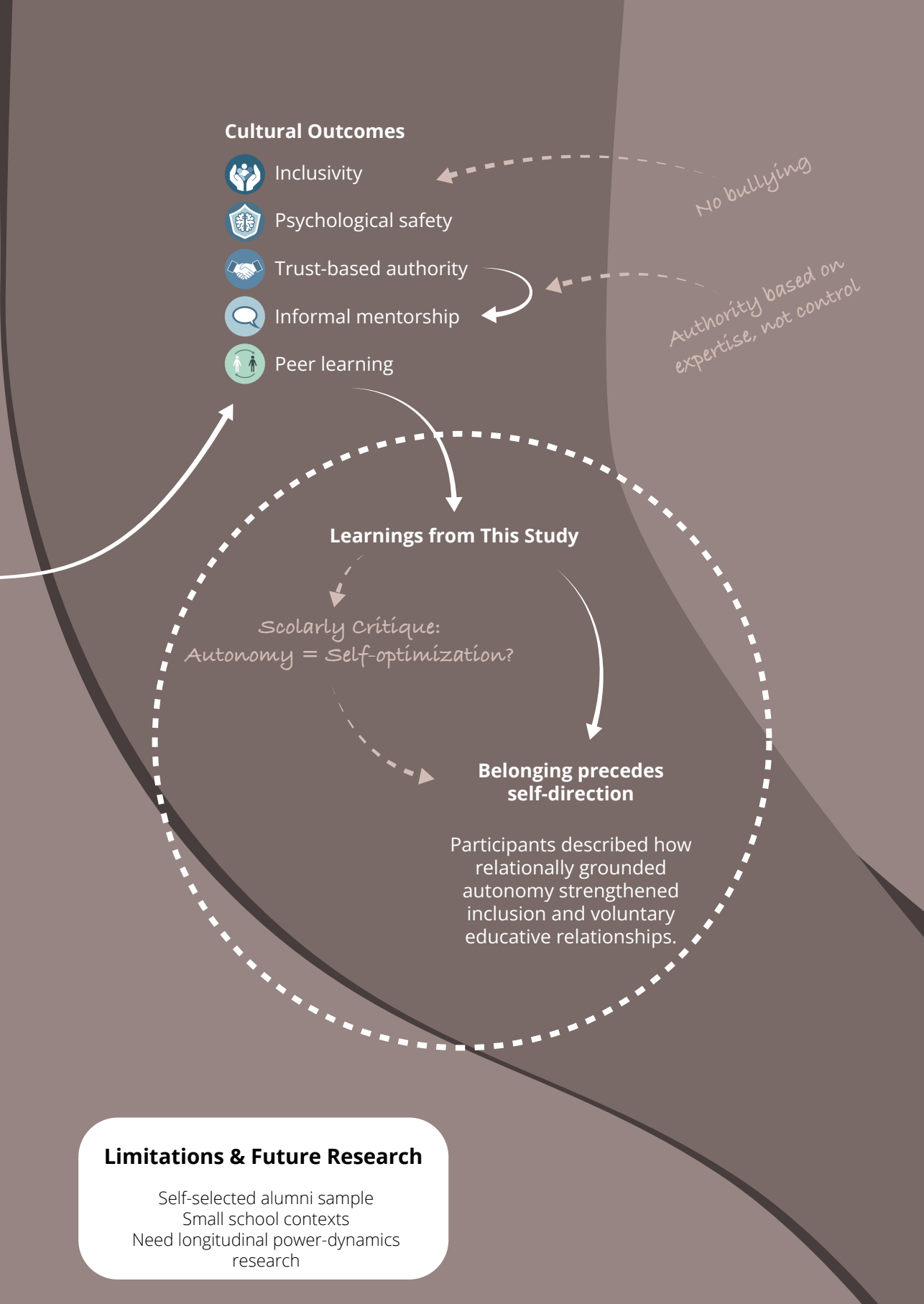
Relatedness

Belonging, Mutual respect

SDT

Methodology

- Qualitative exploratory design
- Semi-structured interviews
- Inductive thematic analysis
- Reflexive & positional inquiry
- Theoretical lens: SDT


Cultural Outcomes
Inclusivity
Psychological safety
Trust-based authority
Informal mentorship
Peer learning
No bullying
Authority based on expertise, not control
Learnings from This Study
Scolarly Critique:
Autonomy = Self-optimization?
Belonging precedes self-direction
Participants described how relationally grounded autonomy strengthened inclusion and voluntary educative relationships.
Limitations & Future Research
Self-selected alumni sample
Small school contexts
Need longitudinal power-dynamics research

INTRODUCTION

Deci and Ryan (2000), based on Self-Determination Theory (SDT), argued that intrinsic motivation is more likely to flourish in contexts where there is a secure relational base. SDT identified relatedness, autonomy, and competence as fundamental psychological needs essential for well-being (Deci & Ryan, 2000; Ryan & Deci, 2000b, 2017). Autonomy means feeling in control of your own actions and seeing yourself as the source of your behavior. Competence is the need to feel capable and effective in interacting with your environment. Relatedness is the desire to feel connected to others and to have a sense of belonging with both individuals and your community. According to SDT, competence is closely linked to autonomy and thrives in environments that provide security and relatedness. This interplay is essential for the development of autonomous forms of motivation. Collectively, these needs underpin personal growth and contribute to overall psychological well-being (Deci & Ryan, 2000; Ryan & Deci, 2000b, 2017). The idea is that when individuals feel emotionally connected and supported by others, it promotes a sense of security and belonging. When it comes to relatedness with regard to school-age children in education (typically ages 4 to 18) [1], most SDT research focused on the hierarchical dependency dynamics between teacher and student, even in the more progressive schools (e.g. Deci & Ryan, 2008a, 2012; Ryan et al., 2021; Ryan & Lynch, 2003). Relatedness is often presented in these studies as the result of the degree of autonomy support given by teachers. However, the extent to which teachers can support autonomy in these settings is limited by mandatory school programs and national curriculum requirements, which inherently restrict the scope for self-determination and may influence relatedness.

Because little is known about autonomy and relatedness in other educational settings this study investigated how these dynamics function outside conventional schooling structures. We looked at the experiences of 14 graduates from a total of eight Sudbury model schools spread across three countries. Sudbury schools, a type of democratic education for school-aged children of all ages, offer *Self-Directed Education* (SDE) defined by Gray (2023) as, "allowing the child to take charge of all his education" (p. 2). This study centers on three interrelated themes: experiences with the schools' justice system, with adults who work in these schools, and with the broader school culture. In the context of this study, we refer to culture as the way people interact with one another. This study is part of a larger qualitative research project using thematic analysis (Braun

1 Because the compulsory school ages vary by country, we more generally refer to the school-age groups from kindergarten (usually ages 4–6) through 12th grade (ages 17–18). It includes all years of formal education before students enter higher education.

& Clarke, 2006, 2021) to explore the long-term effects of Sudbury schools on these graduates' lives.

This study examined whether the Sudbury model schools' justice systems, as part of their organizational structure, influenced school culture and students' sense of relatedness—including with adult staff. It is worth noting that the language used within Sudbury model schools often mirrors terminology from the broader societal 'justice system.' Given critiques raised by contemporary political movements—such as Black Lives Matter and decarceration activism—that challenge the fairness and equity of such systems, this terminology warrants critical reflection. While the present study adopts the language used by the schools themselves, future research may consider interrogating these terms and the assumptions they carry. Still, it is fair to say that Sudbury schools offer novel insights into relational dynamics, particularly in student-adult interactions, due to their unique structure that supports a fully age-mixed educational environment, encompassing all school-age groups and adult staff.

The article opens with background on Sudbury model schools, then explores relatedness in human behavior, education, and legal systems. It examines student–adult relationships in schools and their impact on teachers' roles, followed by the methodology. Findings highlight how legal systems, adult roles, and school culture support autonomy, competence, and relatedness. The study concludes with a discussion linking the results to existing literature.

RESEARCH BACKGROUND

Schools without Hierarchy: Sudbury Model Schools

While Dewey (1903) is recognized for his democratic principles in education, democratic schools, particularly those following the Sudbury model, took these ideas to a more radical, student-centered level (Traxler, 2015). Sudbury model schools do not offer a set curriculum, leaving the choice of curriculum up to the student to pursue a course of study that is appropriate for the individual. In these schools, students have an equal say in school organization, including the justice system, alongside adults. Daily practices emphasize students' freedom of action and choice, with adults holding no special decision-making power, either in governance or personal student matters. This structure creates a unique dynamic between adults and students aged 4 to 18, distinct from other school systems, including many democratic ones.

Globally, schools similar in philosophy and organization to the Sudbury Valley School in Massachusetts emphasized self-government and individual autonomy within an age-mixed community that is in support of competence and personal development (Gray et al., 2021; Gray & Feldman, 2004; Rietmulder, 2019). This age-mix is characterized by the free association of people of K-12 ages and adults, in the building of the school and its premises (Ackoff & Greenberg, 2008; Rietmulder, 2019). While not all identify as Sudbury schools, they share core principles such as the freedom for students to communicate, form friendships, and choose how to spend their time. Hartkamp-Bakker and Martens (2024) found that in the social context of Sudbury model schools, the culture of non-interference with personal choices (culture of respect) influenced students focusing attention on an internal locus of causality of motivation for life choices, which ultimately resulted in taking ownership of their lives. Particularly, emphasis was placed on true choice and its effect on autonomy and competence.

Riley (2016), emphasized that when relatedness is nurtured—especially in non-traditional learning environments—it can enhance a learner's autonomy and competence as well. Her research suggests that strong, trusting relationships within learning communities, including those outside conventional schooling structures, are essential for supporting internal motivation and psychological growth. Despite limited research on Sudbury model schools, their practices align with the basic needs outlined in SDT, warranting further exploration. Understanding how the justice system in these schools influences adult roles, school culture, and relationships could deepen our knowledge of relatedness from an SDT perspective. Specifically, this inquiry could shed light on how power and control dynamics might impact relatedness and a broader school culture.

Adult status in Sudbury model schools.

In Sudbury model schools, adults who work in the school, including teachers, are called staff. In these schools "everyone is both teacher and student" (Gray et al., 2021, p. 6). The role of staff in a Sudbury Model School is to act as facilitators, mentors, role model and equal participants in the democratic community, supporting students' self-directed learning and the overall functioning of the school without imposing authority (Gray et al., 2021; Traxler, 2015). Staff and students share organizational roles, such as clerkships, filled through annual elections. Staff avoid initiating activities with specific educational goals for the students because this could undermine students' motivation and agency, which does not mean that they do not engage in or initiate activities (Gray et al., 2021; Von Duyke, 2013).

The justice system in Sudbury model schools.

A defining feature of Sudbury model schools is their justice system, which includes a Judicial Committee (JC) composed of a representative selection of the school community (Ackoff & Greenberg, 2008; Feldman, 2001; Gray et al., 2021; Harmsen, 2020; Rietmulder, 2019). This system, alongside the school meeting, helps manage social dynamics, resolve conflicts, and engage in democratic processes. Both students and staff have equal say, fostering community and shared responsibility (Gray et al., 2021).

The JC operates on the belief that people of all ages can make ethical decisions and understand right from wrong (Greenberg, 2007). While there is evidence that young people are capable of ethical decision-making, particularly in familiar or straightforward contexts (e.g. Haidt & Joseph, 2007; Killen & Smetana, 2015; Piaget, 1948), critics argue that they benefit from scaffolding, mentorship, and social frameworks to refine their reasoning (e.g. Curren, 2020; Curren & Ryan, 2020) or lack the neurological basis to consistently make ethical decisions, especially under pressure or in complex situations (e.g. Arain et al., 2013; Blakemore, 2012). Research found that by prioritizing dialogue and resolution over punishment, a practice similar to Restorative Justice (RJ) approaches, the JC played a crucial role in promoting accountability and awareness of justice (Feldman, 2001; Harmsen, 2020). According to Feldman (2001) the role of the JC was not to teach, but to facilitate a process in which students and staff together address violations of democratically established community norms.

The culture in Sudbury model schools.

Greenberg (2016) suggested that culture is a unique and defining characteristic of a Sudbury Model School, distinctly tied to this type of educational environment. While he explained that culture emerges from a rich tapestry of themes developed over the school's history, he also highlighted how culture in general can be observed in the way shared values are consistently embodied in daily practices and actions. Hartkamp-Bakker and Martens (2024), identified a culture of non-interference as a key theme emerging from their data, highlighting how this culture fostered an environment where students could take ownership of their lives and choices. While RJ literature highlights its role in fostering a respectful, safe and tolerant culture in schools (e.g. Archibold, 2014; Sandwick et al., 2019; Vaandering, 2014), there is a notable lack of research exploring effects of the JC on the culture and relatedness within Sudbury model schools.

Freedom, privilege, and the limits of autonomy in SDE.

Serious attention must be given to both the strengths and potential limitations of the Sudbury model of schooling. While its emphasis on student autonomy, democratic governance, and non-hierarchical relationships presents a compelling alternative to traditional education, it is essential to critically examine the assumptions that underpin this approach. Wilson (2015, 2016, 2017) has argued that certain elements of the model may reflect neoliberal ideologies, particularly its strong focus on individual choice and personal responsibility. Tougas (2024) similarly warns that SDE contexts can reproduce neoliberal subjectivity unless there is a conscious effort to resist and disrupt such frameworks. Her work prompts important questions about how truly liberatory SDE contexts can be, and under what conditions it supports collective well-being rather than individualistic self-optimization. Proponents of SDE models and Sudbury schools emphasize that its commitment to individual autonomy does not preclude social cohesion. On the contrary, they argue that the strong sense of community and interconnectedness within these schools plays a crucial role in fostering social bonding alongside individual development (Ackoff & Greenberg, 2008; Gray et al., 2021; Gray & Feldman, 2004; Rietmulder, 2019). Hill (2018) adds an important dimension of critique by exploring how Sudbury Valley and other SDE environments can unintentionally reproduce privilege, particularly in terms of race, class, and cultural capital. Her work challenges the notion that freedom is experienced equally by all students, pointing out that access to self-direction may be shaped by prior experiences, social positioning, and unspoken norms within these communities. Taken together, these perspectives highlight the importance of studying SDE models like Sudbury schools more closely—not only to understand their transformative potential, but also to critically examine the social dynamics and structural conditions that shape who is truly empowered by them. SDT, as a humanistic-psychological theory, offers a particularly powerful lens for this work, as it is grounded in the idea that the psychological basic needs for autonomy, competence, and relatedness are universal across cultures (Ryan et al., 2006; Ryan & Deci, 2017). It repeatedly emphasizes that autonomy is not about individualism or selfishness, but about experiencing a sense of volition and connection within meaningful relationships—making it especially well-suited to assess both the promises and limitations of educational models that claim to prioritize freedom.

Relatedness: A Closer Look

In SDT, relatedness refers to the basic psychological human need to feel a sense of connection and belonging with others, also defined as a "sense of belongingness

and connectedness with persons, a group, or a culture" (Ryan & Deci, 2000a, p. 64). It involves experiencing oneself as cared for within a social context. In educational settings, relatedness is supported when students feel understood, respected, and emotionally connected to peers and adults. This sense of connection has been linked to increased intrinsic motivation, engagement, and emotional well-being in various settings and irrespective of ethnic or cultural differences (Ryan & Deci, 2017).

Relatedness and norm internalization. External regulation through punishment and reward can significantly influence behavior, as behaviorist studies showed, but SDT claimed this type of motivation is unsustainable and can harm psychological development (Ryan & Deci, 2000b, 2017). SDT emphasized that healthy psychological development is linked to the degree in which autonomy, competence, and relatedness are supported (Ryan, 1995; Ryan & Deci, 2017). Deci and Ryan (2000) argue that from an evolutionary perspective, the human need for relatedness—our "tendencies to cohere with one's group, feel connection, and internalize group values to coordinate with others" (p. 253)—has been crucial for the success of hunter-gatherer societies. This drive to belong to social groups is central to human behavior (Rogoff, 2003).

The human complex social interactions, especially among non-relatives, depend on shared norms that enable peaceful coexistence (Boehm, 2012). SDT emphasized that capacities for social integration and autonomous self-regulation allow individuals to engage meaningfully in social networks while preserving their values and independence (Ryan & Deci, 2017). According to them, these capacities are essential for building healthy relationships, participating in social networks, and adapting to the demands of social life while staying true to one's own values and objectives. Autonomy plays a critical role in behavioral adaptation, allowing individuals to voluntarily comply with duties or norms (Ryan & Deci, 2019). This voluntariness is driven by the value placed on behaviors by significant others (Ryan & Deci, 2000a), fostering a "motivational basis for internalization" (Deci & Ryan, 2000, p. 253). Apparently, SDT attaches value to the degree of personal choice to agree with the group norm. In fact, it emphasizes the choice to be part of a group or community as a key factor in internalization based on intrinsic motivation. Thus, relatedness leads to behavior changes rooted in the desire to belong, we therefore continue to explore how in general school justice systems might support these socialization processes through relatedness.

Relatedness support by schools' justice systems. Justice systems have historically relied on punishment and external regulation to enforce social norms (Boehm, 2012; Buckholtz & Marois, 2012). Country or state justice systems are often viewed as sys-

tems of injustice, criticized for neglecting victims, lacking fairness and transparency, and failing to effectively address crime (Gabbay, 2005). In response to these concerns, a shift toward more humane RJ models has emerged, acknowledging the limitations of exclusionary penalties and aiming to repair harm through inclusive, community-based processes. RJ practices began to be implemented in schools primarily in the 1990s and early 2000s (Blood & Thorsborne, 2005), gaining traction as part of a broader movement to address the harms of zero-tolerance policies and exclusionary discipline (like suspensions and expulsions), especially in the U.S., Canada, the UK, Australia, and New Zealand (McCluskey et al., 2008). In schools, RJ aims to foster inclusivity, safety, and connectedness, strengthening students' sense of relatedness (Sandwick et al., 2019). RJ in schools often involves disciplinary meetings where students participate in decision-making. Research suggests that when students have a voice, they are more likely to perceive rules and authority as fair (Tyler, 2006).

RJ integrates firm normative structures with compassionate support (Wachtel & McCold, 2001), emphasizing fairness, condemning actions rather than individuals, and involving all parties in conflict resolution (Preston & O'Connell, 2005). It balances structure (fair rules and treatment of violations) with support (being heard, respected, and cared for), fostering trust and cooperation even in disciplinary contexts (Gregory & Cornell, 2009). In schools, RJ promotes a relationship-centered, non-punitive approach, where restorative sanctions are collaboratively determined and framed as logical outcomes rather than punishments (Darling-Hammond et al., 2020). However, while RJ encourages inclusive and participatory justice, it does not explicitly address the hierarchical relationship between students and adults. While participation fosters trust and legitimacy, authority remains adult-controlled. Even when restorative sanctions involve dialogue, the authority to enforce consequences typically remains with adults, reinforcing existing power structures.

While RJ models are increasingly implemented in conventional school systems, existing research largely focuses on contexts where adult authority remains central. Less is known about how justice is practiced in radically non-hierarchical environments, such as Sudbury model school settings, where students and staff are positioned as equals. In addition, the connection between SDT research and RJ practices remains underexplored, which is remarkable given that support for autonomy, competence, and relatedness is essential in fostering behavioral change. Studies by Power and Hart (2005) and Youssef (2024) highlight the role of psychological need satisfaction in constructive discipline and rehabilitation, yet these are typically situated within adult-led

frameworks. This raises important questions about how justice practices grounded in SDT might function in educational settings that reject traditional hierarchies altogether.

Another model, Kohlberg's Just Community approach (Kohlberg, 1986) similarly promoted student participation in disciplinary decisions (Oser et al., 2008; Power, 2002). However, it has been criticized for treating moral development as a predetermined outcome, reducing the democratic process to a means rather than an end (Feldman, 2001; Power, 2002). Moreover, it assumes that students' moral development is best shaped by educational authorities, reinforcing that structured hierarchy is needed (Curren, 2020). Curren and Ryan (2020) argued, based on SDT, that moral motivation in education develops best within autonomy-supportive environments, emphasizing the role of teachers in providing autonomy-supportive coaching to promote moral reflection and judgment. Feldman (2001), though, suggested that moral development can emerge outside traditional power structures in a moral community such as a democratic school.

Neither model, RJ nor the Just Community approach, examines the effect on relationships between students and adults in schools, focusing primarily on moral development and inclusivity. This leads us to examine further how relatedness is generally defined across different settings, with a focus on school-aged children and teenagers in relation to significant adults.

How relatedness is defined in various settings. Ryan and Deci (2017) highlighted that most school systems worldwide are control-based, with few reforms focused on supporting students' basic needs in all levels of the system. Many theorists argued that compulsory education, both in terms of attendance and the internal control exerted within schools, hinders personal development and trust in relationships (e.g. Baumeister & Leary, 1995; Freire, 2005; Illich, 1971; Ryan & Lynch, 2003).

Teacher-directed environments dominate educational systems, and consequently, SDT research often focuses on relatedness within these authority-driven relationships (e.g. Deci & Ryan, 2008a, 2012; Ryan et al., 2021; Ryan & Lynch, 2003). Teachers not only provide expertise but also wield supervisory power over students' behavior and achievements to meet the mandatory school requirements. This dynamic applies to almost all conventional schools, including the more progressive or democratic ones where power tends to be more hidden. Any form of power exerted over students—including covert influence such as conditional regard—is known to undermine their need for autonomy (Assor et al., 2004; Kanat-Maymon et al., 2016). So are other forms of hidden power that aim to push young people in the direction of desired behavior

when it comes to meeting expectations about school achievements (Ryan et al., 2021; Van Der Kaap-Deeder et al., 2016).

Research consistently showed that relatedness positively affects motivation and engagement in educational settings (Deci et al., 1991; Furrer & Skinner, 2003; Watkins, 2005; Wentzel et al., 2004; Yazzie-Mintz & McCormick, 2012). Schools that fostered a sense of belonging through positive peer and teacher interactions enhanced relatedness (Anderman & Anderman, 1999; Salmela-Aro, 2017; Wentzel et al., 2004). When students feel respected and cared for by teachers, their sense of relatedness improves, which can foster better acceptance of classroom norms (Ryan & Deci, 2000a). In adult authority-based environments, however, students may still behave in ways that are focused on gaining approval or a higher grade. This type of motivation is also known as introjection, when behavior is driven by, for example, the desire to please another (Ryan et al., 2021).

More generally, Ryan and Deci (2017) argued that humans have evolved to seek intimate, trusting relationships. Relationships that are self-chosen and formed in this way are thought to be highly autonomy supportive. Indeed, research on partner relationships showed that supporting each other's autonomy strengthens bonds, fostering more equal and successful relationships (Deci et al., 2006; Kluwer et al., 2020; Ryan et al., 2021). From these studies, it appears that equality in relationships seems to be an important factor. Research on basic need support between young people and adults in circumstances other than the teacher-student dynamic in schools is limited. A study by Assor et al. (2021) focused on relationships of teenagers with significant adults, such as parents. These authors revealed how autonomy support was interpreted by them as feeling respected, having the freedom to make their own decisions, explore different perspectives, and pursue different paths. This autonomy-support was found to strengthen their sense of competence and relatedness. These relationships appeared trustful and caring, free from control or coercion, as was also emphasized in research into partner relationships.

Given the authority dynamics between a teacher and a student that are common in most educational settings, we argue that this may affect the educative relationship between them. A teacher commonly has both a directive and evaluative role as well as a mentor/coach role. The latter role is particularly common in more progressive, child-centered educational models. To better understand the effect of these power dynamics, we further examined the implications in the teacher's role as a mentor/coach.

Implications of relatedness in the teacher's role as mentor/coach. Although the scope and purpose of mentoring and coaching differ (Viera, 2021), we hereby focus more broadly on the role of authority and relatedness in these type of interactions. In general, mentoring or peer coaching requires a non-evaluative and nonjudgmental relationship (Mullen, 2017). Research across various settings indicated that combining the roles of supervisor and mentor/coach is challenging, as the supervisory role can negatively impact the conditions needed for successful mentoring or coaching (e.g. Carr et al., 2017; Gallacher, 1997; Hudson, 2013; Mullen & Klimaitis, 2021; Scandura, 1998; Tepper, 1995). For example, in the workplace, where managers hold the power to evaluate or terminate employees, this dynamic may impact the effectiveness of positive guidance or coaching, particularly when it involves subordinate groups (Ragins, 1997; Ragins & Scandura, 1997). Individuals in dependency relationships may hesitate to speak openly due to fears of judgment or missed opportunities, a condition that hinders effective coaching or mentoring (Mullen & Klimaitis, 2021; Tepper, 1995). This power dynamic is comparable to the position of a teacher in relation to a student regarding his school performance and behavior. However, there is limited scientific understanding of how such dynamics affect the mentor or coaching role in educational settings. Sudbury model schools provide an alternative environment in which to investigate these dynamics, as they intentionally avoid traditional hierarchies in adult–student relationships.

THE RESEARCH AIM

This study aims to explore how the unique context of Sudbury model schools affected former students' experiences through the lens of SDT, with attention to the support of the three basic needs for autonomy, competence, and relatedness. As a focused subset of a larger project on the long-term effects of Sudbury schooling on graduates' lives, this research employs thematic analysis of open-ended responses to examine how three key elements — the schools' justice system, the role of staff, and culture — interact to shape those experiences.

RESEARCH DESIGN

The study presented here examines the corresponding experiences with the justice system, the role of adults, and culture from 14 graduates from eight different Sudbury

model schools in three countries, The Netherlands, Israel and the USA. The research made use of thematic analysis with a reflexive approach (Braun & Clarke, 2006, 2021). The following sections describe the methods used for data collection, participant selection, and analysis that led to the selection of the subset presented here.

Data Collection Procedures

The study focused on finding graduates from several Sudbury model and comparably organized schools in multiple countries. Only schools with an organizational structure and operational approach comparable to that of the Sudbury Valley School were selected, acknowledging that not all identify as Sudbury schools or use the name. A list of candidate schools was compiled through Google and Facebook searches, with their websites or informational pages reviewed for insights into internal organization and founding dates. Out of a pool of 55 schools across 13 countries, most of which were in the United States, contact was established with 15 schools from four countries that had been in existence long enough, allowing for participants who had left the school five or more years ago. Ultimately, eight schools participated in the study: six from the United States, two from Israel, and two from the Netherlands. The assumption was that bringing together experiences from several comparably organized schools from different countries would minimize individual school or country specific effects on the findings.

Prior to the study, ethical approval was obtained from the University ethics committee, including approval for privacy assurance through consent forms, anonymization of data and storage. The selection of participants was delegated to a designated contact person within each school, with the stipulation that participants must have attended the school for a minimum of five years and have accumulated a minimum of five years of post-school experience as an adult. A few exceptions to these criteria were allowed. To limit potential selection bias, each school was tasked with selecting two different individuals based on gender, background, school experience, and subsequent educational or career paths. A total of 14 participants were interviewed. From Israel, the Netherlands and from two schools in the US, two participants per school contributed, the remaining two schools in the US only provided one participant. To mitigate any potential bias, standardized interview guides were used, and coding and analysis of data was based on commonalities in answers of various participants. In addition, fellow researchers were used at various stages to assess and provide feedback on the research plan and its implementation.

Semi-structured interviews were conducted in virtual meetings using Microsoft Teams in 2021. An interview guide with open-ended questions was used to guide the interviews (Kvale, 2007). Each interview lasted between 60 and 90 minutes and consisted of five parts that explored different aspects. In part one they were asked about their current situation in terms of work, passions and status and was intended to get to know the person better. Part two focused on their history regarding the reason for choosing the school to better map out their personal situation when they were young. Part three was about their experience with elements of their Sudbury model schools during their school years, such as its structure, culture, activities and staff, and its effects on them. Part four questioned their after-school experience and adult-life history and possible perceived impacts of the school. Part five asked for an overall reflection on what the school had meant to them. Audio recordings of each interview has been archived for analysis.

Transcripts of the interviews were anonymized (all names used in this study are pseudonyms) and documented by hand using an intelligent verbatim method (Bailey, 2008), capturing the meaning of what has been said, while still leaving room to accentuate relevant emotions or interruptions. The transcripts were then subjected to member checking by sending them to participants for validation (Mero-Jaffe, 2011).

Participants

An overview of participants and relevant data is presented in table 4.1. The data are presented in a way that ensures anonymity, preventing direct identification of individuals or schools. We deliberately chose Germanic-Anglo names for all participants to avoid associations with specific countries or schools and to enhance readability for an international audience.

Table 4.1

Demographic and Educational Background of Participants.

Name	Age	Pronouns	Prior School	Sudbury Yrs	School Size Then	Graduated
Andrew	35+	He/Him	Till age 7	11	20–35 —› 36–50	10+ years ago
Beth	20-24	She/Her	Till age 11	6	51–80	0- 3 years ago
Claire	25-29	She/Her	Till age 10	8	20–35	10+ years ago

Name	Age	Pronouns	Prior School	Sudbury Yrs	School Size Then	Graduated
Ella	30-34	She/Her	Till age 12	6	36–50 —› 51–80	10+ years ago
Helen	25-29	She/Her	Till age 10	6	<20 —› 51–80	6–10 years ago
Jessica	30-34	She/Her	No	12	20–35	10+ years ago
Leo	25-29	He/Him	Till age 10	8	51–80 —› >80	6–10 years ago
Lillian	20-24	She/Her	No	11	20–35 —› >80	3–5 years ago
Marcia	35+	She/Her	Till age 12	5	51–80	10+ years ago
Philip	25-29	He/Him	Till age 6	12	51–80	10+ years ago
Rachel	35+	She/Her	No	14	20–35	10+ years ago
Suzanne	25-29	She/Her	Till age 12	4.5	<20 —› 20–35	6–10 years ago
Stephen	25-29	He/Him	Till age 15/16	2	<20	6–10 years ago
Ted	25-29	He/Him	Till age 13	5	20–35	3–5 years ago

Note. This table presents participant pseudonyms, age ranges, gender pronouns, prior conventional schooling years, duration of attendance at a Sudbury school, approximate school size during their time of attendance and estimated time since graduation. Pronouns are abbreviated (e.g., "He/Him" instead of "He/Him/His") for brevity.

Among the 14 participants, five used he/him/his pronouns and nine used she/her/hers, with none opting for they/them/theirs. Participants ranged in age from about 20 to 40 years. The time since leaving school varied from over ten years to approximately five years, with one participant, Beth, having left just a year prior. The length of time spent at the schools also varied: three attended throughout their entire childhood, two from around age six or seven, and eight joined between ages eight and 13. One participant, Stephen, attended for only two years, starting at age 16, while others attended for at least around five years.

While detailed information about participants' ethnic backgrounds was not collected, two participants disclosed being children of at least one immigrant parent, and one identified as belonging to an ethnic minority through her maternal heritage.

The schools themselves differed in size during the participants' time in the school, with estimates ranging from fewer than 20 to more than 80 students. Some experienced fluctuations in student numbers during their attendance, reflecting the growth of the school in the years they were there.

It is important to note the personal relationships some participants had with staff. Claire, Ella, and Marcia mentioned having parents who were founders of their school, with Claire and Marcia's parents serving as staff members. Andrew, Rachel, Helen, and Jessica mentioned that they had a parent who worked part-time as staff at the school. However, the parents of Andrew and Rachel only held these positions for a short number of years while they were still young students. The remaining seven participants did not have parents as staff or founders. It was anticipated that the family-tie could cause a bias, therefore more attention was given to look for similar experiences between multiple participants with diverse backgrounds.

Researcher Positionality

The first author had prior familiarity with four of the participants. One was a close relative, and three were former students encountered during the author's previous work and school visits. Of these three, one was a former student from the school where the author was employed at the time, while the other two were students met briefly during visits to other schools operating under similar educational models. These prior connections were limited in depth and duration, and no personal relationships were maintained beyond those initial encounters. They did, however, help to establish initial rapport during the interviews. Professional boundaries were observed throughout the research process, and reflexivity was maintained to support analytical rigor and minimize potential bias. The author's employment at a school operating under a similar model provided additional contextual understanding, which was used carefully and critically in the interpretation of findings.

Data Analysis Procedure and Selection of Findings

The purpose of the research was to explore shared experiences of these 14 graduates. The thematic analysis focused on identifying recurring meanings in the interviews and focused on identifying similar meanings in the responses of multiple individuals. The analysis proceeded in two phases. Initially, transcripts were coded using Atlas.ti analysis software, assigning codes to similar meanings in the transcripts both in-case and across-cases. Open-coding was used that represented the meaning as expressed by the participants (Charmaz, 2006) to bring together similar types of content. Each

time a new transcription was completed it was added and the process of assigning codes, comparing meanings and adding codes was repeated as an iterative process. The coding process was both inductive and informed by the executive researcher's contextual knowledge of Sudbury Model Schools, which allowed for the identification of nuanced patterns in the data. Themes were refined iteratively through a process of constant comparison, ensuring that they accurately represented participants' experiences while remaining sensitive to the interpretive lens of the researcher. Throughout the process of coding and interpretation, the work was regularly critically evaluated by fellow researchers to ensure that the interpretation remained grounded in the data. Saturation of codes was reached after 11 cases.

In the second phase, the coded fragments were grouped into themes, refined and organized into a coherent framework. In addition, it was in this phase that quotes from Dutch participants were translated into English. Translating text potentially adds a subjective layer to qualitative data (Temple & Young, 2004), and translated it as close as possible to the original meaning. For the sake of presentation of the data, themes that seemed related were grouped together. In this study we report three groups of findings that appear intertwined, part 1) experiences with the justice system in the schools, part 2) experiences with the status of adults in the schools, and part 3) experiences with culture. Each part will be followed by a brief discussion, followed by general discussion binding all parts together.

FINDINGS PART 1 – THE ROLE OF THE SCHOOLS' JUSTICE SYSTEM

All participants referenced the role of a disciplinary meeting, typically called the JC, and its impact on them during the interviews. Their answers frequently referred to the JC, particularly to questions about the organizational structure of the schools, the effects of that structure on them, and the challenges they faced in school.

The Most Important One [Committee], Though, Is the Judicial Committee

Seven participants provided more detailed accounts of the function of the JC in their schools and confirmed high similarity in the organizational structure between their schools. Claire and Ted emphasized the JC's significance, with Ted describing it as, "the most important one [committee]," responsible for handling rule violations established by the school meeting. Jessica and Beth characterized the JC as a court-like body where both students and staff participated equally. According to Jessica, "if anybody had an

issue or anyone saw a law being broken, they could fill out a complaint form and send it to the JC."

The process within the JC followed formal steps, as explained by Helen, Beth, and Jessica, including hearings where the complainant, defendant, and witnesses presented their cases before a decision was made. Jessica described due process:

> If they felt a rule was broken, the person would be charged with that rule and then given a chance to plead guilty or not guilty. If they pled guilty, they'd get a sentence. Then they had a chance to either accept or appeal the sentence.

Sentences, typically tied to the violated rule, served as reminders to follow school regulations, as noted by Helen, Jessica, and Beth. Across the seven participants, a key theme emerged: the JC's primary function was to maintain a safe environment by ensuring equal access to justice and a fair trial for all involved, facilitated by a peer-led committee.

The Judicial Committee and Students' Sense of Ownership for the Culture.

Eight participants identified the JC as a culture-defining element of their schools. A common theme in their responses was the emphasis on equal accountability—regardless of personal relationships—which helped shape interpersonal dynamics and, in turn, the overall school culture. Four participants highlighted the willingness to file complaints, even against friends, as a key part of taking ownership of the school's culture. The process of peer-led rule enforcement fostered a collective responsibility for maintaining the community's standards. Additionally, participants noted that the JC's focus was not on blame (*non-judgmental*), but on responsibility, which promoted acceptance of both the disciplinary process and personal accountability. The next two themes surfaced in the findings as important in establishing culture.

JC is reflecting appropriate behavior. Stephen and Beth described the JC as teaching boundaries and accountability, with Stephen stating, "I have been able to learn a part of my own accountability, that actions can also have consequences." Leo explained that the JC "is reflecting appropriate behavior" and provides insight into "what the community wants to see from you" in terms of behavior. This process helped students develop a sense of ownership over the school culture according to Leo, Ella, Rachel, Jessica, and Beth. Rachel elaborated on this by describing how peer involvement in the JC made students feel a greater responsibility for the community:

> They would be exposed to this process of peers … talking about it in a respectful and fair way … I think the fact that they felt they were a part of the Judicial Committee made them feel much greater ownership for the culture and for the school.

Rachel, along with Stephen and Leo, also emphasized that the JC was *non-judgmental* and focused on understanding behavior rather than assigning blame. As Leo noted, "we're not trying to point fingers, we're trying to understand what's going on." Jessica added that seeing both sides of the JC process—as a defendant and evaluator—helped students accept the system and understand its fairness: "You feel you're part of that process … it makes more sense."

Beth explained that the practice of filing complaints against staff and friends was common, noting, "We write up staff, staff write up students, friends write up friends and it's okay." To write up or bring someone up are terms used in these schools for filing a complaint for the JC (Greenberg, 1987). Claire pointed out that holding friends accountable could be difficult but ultimately beneficial to the culture: "In order to have a fair system, your friends must hold you accountable … it just brings a better culture, but it's not always easy." Both point to the equality in this environment, where adults and students have equal power when it comes to creating a good culture.

Ella, Ted, and Beth highlighted that taking responsibility for behavior and ownership of the culture was an inevitable result of the *clear structure* of the JC. Ted described the process as one where "you have to sort out all those interpersonal things" due to the system's clarity. However, participants acknowledged that this process could be challenging, particularly for newcomers.

People getting their head wrapped around JC is important in the culture. New students, especially those transitioning from traditional schools, often struggled to adjust to the JC process. Andrew observed that new students came with a mindset of "you never rat on your friends, adults are the bad guy, authority is the bad guy," but over time, they began to embrace the accountability that the JC fostered. He described the importance of students understanding the JC for the school's culture: "I think people getting their head wrapped around JC is important in the culture of the school."

Ella, Ted, and Beth similarly noted that younger students might initially resist the system but eventually came to accept it as part of their progress. As Beth explained:

> Sometimes the younger students still get upset … But as they get older … it doesn't mean you are a bad person … it just means you made a mistake and that is okay. You just have the opportunity to fix it.

These participants indicated that the JC was important in the transformation processes that were needed to embrace and help maintain the culture. Although not referenced here, we assume that it may also influence newcomers' experience of a different form of relational dynamic with adults in these schools, as adults were an integral part of the culture.

Brief Discussion

The participants indicate that the structure and organization of the schools, including the JC disciplinary process, create a clear and predictable environment. Participants emphasized that punitive measures in the JC were often directly related to the rule violation, consistent with RJ principles, where sanctions are meaningful and aim to repair harm (O'Connell, 2004). The JC process focused on discussing incidents and accepting responsibility, which participants perceived as fair, an essential component of RJ (Gregory & Cornell, 2009).

The formal nature of the JC structure provided a predictable environment where everyone knew what to expect, contributing to a sense of safety. When a process is seen as predictable, fair, and just, participants are more likely to accept the outcomes. A predictable structure supports autonomy and competence, as noted by Ryan and Deci (2020), and corresponds with the work of Hartkamp-Bakker and Martens (2024), who emphasized that a clear, transparent structure in these schools supports autonomy.

Participants also stressed the importance of the JC in fostering ownership of the school culture, respect, and tolerance, while minimizing dependency between students and staff in rule enforcement. Both groups held each other equally accountable for upholding democratically determined rules, leading to the internalization of community norms. Without a higher authority enforcing order, students, including friends, learned to report one another to the JC, reflecting a sense of responsibility for their environment and community well-being.

This internalization of norms, supported by the democratic and fair JC process, fostered respect for boundaries and relationships in the community, which aligns with findings by Harmsen (2020). However, participants noted that this transformation was often difficult, especially for newcomers unfamiliar with holding friends accountable or viewing adults as peers. This transformation that newcomers experienced, according

to participants, appeared to be related to a shift from a focus on external motivations (external perceived locus of causality, or EPLOC) to more autonomous behavior driven by an internal perceived locus of causality (IPLOC) as defined by Ryan and Connell (1989).

It must be noted that in the study by Gray et al. (2021) not all former students experienced the processes in the JC in their school as fair and just. Whether processes in JC led to successful internalization and integration for all newcomers or if JC was always experienced as fair is beyond the scope of this study.

FINDINGS PART 2 – THE STATUS OF ADULTS IN THE SCHOOL COMMUNITY

Adults in the Sudbury model schools, including those trained as teacher, have specific roles and are hired to fulfill designated functions. During the interviews, participants were asked about their perceptions of staff, the impact staff had on their lives, and any challenges they faced in relation to staff. All participants identified several roles that staff played, shaping their status within the schools. Two overarching categories of staff roles emerged: staff as unequal and staff as equal.

The perception of staff as unequal was noted by 12 participants in two main aspects: a) their role in running the school, including safeguarding the community (*safeguard*), where they held unequal responsibility (*unequal in responsibility*), and b) their role as a resource for students, serving as a more experienced and knowledgeable person from whom students could seek help (*unequal in experience*).

Furthermore, 10 participants referred to staff as equal, particularly regarding decision-making and rights, where staff and students held *equal status*. The following sections will explore these themes in detail.

They Clearly Had Some Responsibilities to Keep the School Running

Claire, Helen, Andrew, Ted, Jessica, and Lillian noted that staff had key responsibilities in running the school, which made them unequal in terms of responsibility (*unequal in responsibility*). Claire described staff as integral members of the community who fulfilled necessary tasks, stating, "Staff members were really just as much a part of your community … they clearly had some responsibilities within the school to keep the school running." Andrew highlighted how staff worked "silently in the background," managing things that would not happen without them, while Jessica referred to them

as the "backbone" of the school. Ted and Lillian also mentioned specific tasks staff performed, such as administrative work, finances, managing parents, and maintaining the building.

These accounts suggest that while staff were deeply integrated into the community, they carried a greater share of responsibility for the school's operational functions. However, the impact of these roles seemed minimal to students at the time. Andrew, for example, noted that at age 12, he had little awareness of what staff did during the school day. This perception aligns with Gray et al. (2021), who also identified "unequal in responsibility" as a theme, albeit minimally, referring to staff as "effective administrators."

Additionally, Helen, Philip, Jessica, and Lillian described staff as casually overseeing the general well-being of the students, ensuring safety without constant supervision (*safeguard*). Helen explained, "They walked around once in a while to make sure everything was going well," and Philip added, "[They] watch over you … even though it's not officially mentioned, but they're there to supervise."

These responsibilities, while critical to the functioning of the school, did not appear to create a power imbalance or negatively affect student-staff relationships. The participants described staff as integral to the community, and their unequal responsibility did not interfere with their relationships with students or contribute to a sense of authority over students.

They Were People You Could Go to With Questions, Kind of Mentor, Role Model

The participants consistently characterized staff as *unequal in experience*, highlighting their roles as "wiser," "advisers," "role models," and "mentors." Staff members were primarily described as *tools* for students, readily available for help, advice, or conversation. Honest, nonjudgmental feedback was crucial to the participants' education, and the diversity of the staff was valued in providing different perspectives.

Stephen's description captures this role: "They were people you could go to with questions, kind of mentor, role model. Someone you could talk to if you had a problem." Similarly, eleven other participants referred to staff as approachable resources (*a tool*). Leo described staff as "friends and mentors" and appreciated their non-judgmental attitude, which allowed for a good connection. Claire and Ella both emphasized that staff were always available to help bridge gaps, with Claire stating, "If you want something that you don't quite know how to proceed with … they are always there to ask for help."

Beyond seeking advice, some participants, like Suzanne and Rachel, mentioned observing staff as role models. Rachel explained, "Just witnessing them, observing them … they were my main models for what adults are like." Others, such as Ted and Suzanne, valued having meaningful conversations with staff, as Ted noted, "You're just talking to [staff] like a friend or acquaintance, a peer … there's a lot of knowledge that can be gained just from talking to them."

A key theme across the interviews was that staff did not take over students' responsibilities but facilitated self-determination. Leo explained that staff helped guide students by "leading them to the fork in the road and then letting them go to which path they want." This approach was echoed by Claire, who emphasized that although students could seek help, "it doesn't mean they're going to do it for you."

Participants admired and respected staff for their role in their personal development but made it clear that this relationship involved no power over their choices, unlike traditional school environments. The staff's availability, non-judgmental attitude, and reluctance to take over responsibility fostered students' autonomy and competency. Ted summarized their availability well: "The bulk of their time was really spent very available to students." Ella reflected on staff as "educational figures in the most real sense," underscoring their significant influence on her.

Participants also noted that while staff were more experienced and knowledgeable, they exerted no power over their decisions. Lillian recognized staff as having authority due to their age and experience but clarified that they were "overly cautious … of being a power figure," indicating that authority in experience did not translate into decisive power.

These findings align with those from Gray et al. (2021), where staff were frequently described as "facilitators" and "mentors," roles essential in supporting students' development without undermining their autonomy. The "leading to the fork" and "not doing it for you" approach of staff—like Maria Montessori's pedagogical tools—allowed students to take ownership of their learning and decision-making, further supporting self-determination.

Everything I Have to Do; They Have to Do. Everything They Can Do, I Can Do

Ten participants elaborated on the concept of *equal status* between staff and students within the aged-mixed school community. They emphasized that staff had no special

privileges and were bound by the same rules as students, participating equally in the community and activities.

Claire, Suzanne, and Stephen noted little distinction between staff and students, with Marcia adding that she didn't feel the need to look up to staff, and Andrew and Beth expressing a sense of equality in their treatment. Philip described this equality by saying, "Everything I have to do; they have to do. Everything they can do, I can do. They are part of the community; they're an inseparable part."

This sense of equality extended to activities, with Helen, Andrew, and Suzanne describing how staff participated in games and activities just like the students. Helen shared, "Sometimes we would go outside to play a game, and a staff member could join in just as well as students."

Claire and Jessica discussed how this system ensured that staff had no more rights than students, with Jessica stating, "The staff are not exempt from any of the rules that the students have to follow." Similarly, Leo highlighted the equal voting power staff had in decision-making processes, explaining that while staff could offer their opinions, they could not dictate outcomes, "They [the staff members] have an equal vote in the committee [JC] … He could give his opinion … but he can't determine what needs to be done."

This equal status reflected a unique dynamic in which staff and students shared the same rights and responsibilities, ensuring that there was no power imbalance in decision-making, rule enforcement, or day-to-day interactions within the school.

They [The Staff] Were Huge Influences, They Felt Like Extended Family

Seven participants described their relationships with school staff as akin to additional parents or family, reflecting a deep *emotional bond*. They emphasized the significant influence staff had on their formative years and, for some, continue to have on their lives today. Ella, who became emotional with tears in her eyes when she said "They mean so much to me … the staff were and are my friends and additional parents." Similarly, Philip, Marcia, Andrew, Jessica, and Beth also referred to staff as parental figures or likened them to family.

Lillian expressed admiration and respect for the staff, while Ella, Marcia, and Jessica highlighted the significance of staff in their lives. Knowing them well on a personal level was mentioned by Lillian to have been important in building friendly relationships. Ella reflected on the significance of the staff's role,

> In that kind of situation, we were all together in the same environment with all ages, these are the people with the best tools … to put into words that are helpful things that they see, and they really would do that for us all the time.

This comment underscores the role of staff as experienced mentors (*unequal in experience*), who provided expert feedback as a result of the equal relationship with the student (*equal status*).

Jessica and Marcia mentioned that the staff remains important in their lives. Jessica explained, "They were huge influences, they felt like extended family … I could definitely reach out to any of them at any point." This ongoing emotional connection was also shared by Ella, Philip, Marcia, Andrew, Jessica, and Beth, who remained in contact with staff members. Additionally, Leo, Andrew, Ted, and Jessica are still involved with their schools, supporting them in various ways.

Their accounts reflected a high level of appreciation and relatedness toward the adults in the schools. The staff is seen as valuable, supportive persons who have had a lasting impact, continuing to provide guidance and connection well beyond the participants' school years.

Brief Discussion

From the interviews, it was inferred that the equal status of staff in terms of rights and voting within the community helps maintain equality in power structures at the school. Staff are integral members of the community, sharing in decision-making processes like the JC without supervisory authority over students' behavior or performance, as is common in conventional schools. This framework facilitates the creation of bonds based on trust, akin to peer relationships. While inequality exists in any relationship, the disparity here is based on experience and knowledge rather than power or supremacy.

A key feature of these schools is that educative relationships, including those with staff, are voluntary and can be ended at any time, an option not available in many other educational settings. This voluntary nature forms a foundational aspect of relatedness between students and staff. Staff participate in decision-making as part of the age-mixed community but do not exert control; instead, their influence comes through sharing their experience and wisdom. Their equal voting status ensures they do not have power over students, which enhances their role as mentors, coaches, and role models. This non-judgmental stance, combined with their respect for student autonomy by not taking over responsibility, supports both autonomy and competence development

in students. It also promotes relatedness, because of the equality relationship that supports the acceptance of their role as mentor/coach.

None of the participants reported experiencing informal power structures or feeling marginalized, in contrast to the unequal power dynamics uncovered in a Sudbury model school by Wilson (2015). Also research by Von Duyke (2013) into a different type of democratic school, revealed that the founders and staff held dominant (religious) views, which subtly influenced and steered students toward a particular way of thinking. According to Von Duyke, this judgmental attitude undermined students' autonomy and agency, creating a hidden agenda within the perceived freedom of the school. Nonetheless, most studies, including those by Gray et al. (2021) and Morrison (2024), have suggested that staff in most democratic schools, including Sudbury model schools, are generally mindful of their unequal power position and the risks of being judgmental, carefully avoiding directive behavior. This aligns with participants' reflections in this study, where staff were seen as approachable and respectful of students' autonomy.

FINDINGS PART 3 – EXPERIENCES WITH CULTURE AND EFFECTS

In response to questions about the school culture, its impact, and any challenges encountered, two key themes emerged: a non-judgmental culture and a home-like culture. These themes were closely intertwined with the roles of the justice system and the status of adults within the schools, indicating that the non-judgmental and home-like aspects were integral to how the schools functioned and how relationships were formed.

It Was a Culture of Non-Judgment … It Was an Environment of Acceptance

Seven participants described their school culture as "open," "open-minded," "pleasant," "inviting," or "respectful," directly linking it to a non-judgmental environment. They felt valued, accepted, and free to express themselves without fear of judgment, which positively influenced their self-concept and self-esteem. This non-judgmental culture fostered social engagement, inclusiveness, and personal development, with several participants noting the absence of bullying, discrimination, or exclusion. Ella introduced the concept of a non-judgmental culture by stating, "I think it was a real culture of non-judgment in a way that is totally significant in my life … It was an environment of acceptance. It wasn't a place where people are trying to condemn each other." This

highlights the central role that acceptance and lack of judgment played in shaping her experience within the school community.

Effect on social engagement and interconnectedness. Ella, Helen, Stephen, and Beth emphasized how the non-judgmental culture encouraged social involvement and interaction without limitations based on age, background, or interests. The openness facilitated group activities, initiative-taking, and collaboration. Helen described how initiating an activity would naturally bring together like-minded individuals, saying, "then you would attract those people who were interested in that as well." Suzanne highlighted the impact of this culture, contrasting it with clique formation, saying, "This was just, 'I have a cool idea, come on, do you want to join in?'" This reflects the open and collaborative environment of the school, where students could freely pursue their interests and connect with others who shared similar passions.

Effect on inclusiveness. Ella, Beth, Helen and Suzanne mentioned that the non-judgmental culture reduced bullying, exclusion, and discrimination. Ella and Beth contrasted their school's environment with broader societal and conventional school cultures, with Ella stating that her brother, who attended a Sudbury model school from the beginning, "didn't grow up with bullying and cliques." Beth and Suzanne described how race or appearance did not affect friendships or social dynamics. Beth talked about how being of different race did not play a role in friendships. Helen emphasized, "It didn't matter what you looked like, what you wore. We were all allowed to do our own thing." This atmosphere of respect and tolerance allowed students to be themselves without judgment based on appearance, background, or imperfections.

Effect on self-concept and self-esteem. Beth, Jessica, and Leo discussed how the non-judgmental culture improved their self-concept and self-esteem. Beth, who struggled with confidence before attending the school, explained, "I feel I'm a lot better off going there and having that kind of no judgment." Jessica mentioned that feeling valued taught her to speak up and share her opinions, "It taught me that I'm valuable and that my voice matters even if I don't know all the answers."

Leo, who had been labeled with dyslexia in his previous school, experienced acceptance at his new school. He recalled a powerful moment when he wasn't judged for his poor reading skills during an event he helped organize, saying, "Nobody tried to help me, nobody laughed at me … They let me be me and that was a very powerful moment for me." This acceptance fostered his self-esteem and competence, giving him the courage to show his vulnerability.

These accounts illustrate the profound impact of a non-judgmental culture on social interaction, inclusiveness, and personal development, with participants highlighting how this environment allowed them to thrive both socially and personally.

You Can Best Describe the Overall Culture as Very Family-Like

Nine participants described the school culture using terms like "intimate," "inclusive," "family-like," and "feeling safe," reflecting a strong sense of security within the community. Leo, Rachel, and Jessica likened the school culture to that of a large family, with Claire calling it an intimate culture. Claire elaborated on this by stating,

> I think you can best describe the overall culture as very family-like. Everyone knows each other … There is a lot of respect … Of course, it sometimes clashes, but you have that everywhere, you have that in your family too.

Jessica similarly noted, "It really did feel like a family in a sense that we had to work out our problems." Leo emphasized the dynamic of living with different age groups, saying, "The culture is like a big family … sometimes that little brother annoys you, but in the end you're still a family." Claire also mentioned that this mixture of ages contributed to a sense of inclusivity.

Marcia and Rachel expressed how the familial culture made them feel safe. Rachel, who had been at the school since she was four, explained, "I felt very, very safe and comfortable at school. I think that meant that I did a lot of exploration because I felt so at home." This sense of security allowed her to explore, ask questions, and try new things without fear, said, "I wasn't afraid to ask questions or to try something new or to be vulnerable in some way".

Overall, the participants emphasized that the mix of ages and the intimate, family-like atmosphere fostered a culture of tolerance and emotional bonding, which contributed to their sense of safety and supported self-directed competency development.

Brief Discussion

Participants described a non-judgmental culture in their schools as a culture where they felt accepted and valued, regardless of personal attributes, appearance, background, or skills. This lack of criticism fostered an atmosphere of openness and understanding, contributing to what could broadly be considered a safe environment. The sense of safety allowed individuals to express themselves freely, without fear of rejection or discrimination. Some participants noted that this culture positively impacted their

self-concept and self-esteem, with some mentioning lasting effects that extended into their later lives. Leo's experience illustrates this: when he attempted to read aloud and was not judged or assisted, it reinforced his sense of autonomy and competence, contributing to his feeling of belonging.

The non-judgmental culture also facilitated social engagement and strong relatedness, encouraging shared activities and interactions. In addition to this, participants described a family- or home-like culture, which was marked by mutual respect and tolerance, particularly in the context of the school's age-mixed environment. This sense of belonging further supported their ability to show vulnerability, to try new things, and to ask questions without fear of judgement.

In sum, the non-judgmental and home-like culture promoted a sense of agency, and together, it supported their need for autonomy, competence, and relatedness.

GENERAL DISCUSSION

As part of a broader explorative research into the effects of Sudbury Model Schools on the later lives of former students, this study investigated three themes of findings, focusing on effects of a justice system on culture and relationships in Sudbury model schools. Specifically, we focused in this study on the constructs of autonomy and relatedness, analyzing the ways in which these elements interacted to strengthen one another. This inquiry is revisited and further elaborated upon in light of the findings.

The three themes of findings from this study, which examined the experiences of 14 participants from eight Sudbury model schools across three countries, were strongly interconnected. Participants consistently described adults as integral to the mixed-age community, yet their role was defined by unequal responsibility for critical school matters and overall well-being, rather than authority. While adults were part of the inclusive, home-like culture, their influence was not dominant. Their authority derived solely from their knowledge and experience, without unequal decision-making power.

The justice system in these schools played a pivotal role in shaping the non-judgmental and safe culture, reinforcing equality between adults and students who were integral part of the culture. It ensured that adults had no more power than students in decision-making processes, which helped maintain an environment where autonomy, competence, and relatedness is equally supported for all members of the community. These findings illustrate how autonomy and relatedness, as emphasized by SDT,

mutually reinforce each other. The non-hierarchical relationships within the community allowed for a high degree of autonomy for students, while also strengthening social bonds and relatedness among all members.

Fostering Inclusivity and Self-Determination: The Role of a Non-Judgmental Culture and Justice System in Sudbury Model Schools

Participants emphasized the justice system's role in fostering inclusivity and non-judgment, where staff and students collaboratively determined resolutions. The formal, structured, and fair nature of this system aligned with RJ practices literature, which highlights the importance of clear rules and fairness for positive outcomes (Gregory & Cornell, 2009; Preston & O'Connell, 2005). Participants valued the justice system's focus on relatedness, emphasizing meaningful resolutions over blame. This approach reinforced that while behavior may need change, individuals are not inherently bad.

Blame can lead to extrinsic motivation driven by shame (Deci & Ryan, 2008b). whereas RJ practices promote internalization of values through identification and integration, more autonomous aspects of SDT's motivational continuum (Deci & Ryan, 2008b; Ryan & Deci, 2000a, 2017). According to SDT, people modify behavior to satisfy competence and relatedness needs, with internalization arising sometimes solely from a desire to belong (Deci & Ryan, 2000). Participants echoed this, describing the justice system as fostering belonging, where adherence to social norms was motivated by a desire to be part of the community.

Younger students and those transitioning from traditional schools initially struggled to adapt, often resisting authority as the result of an ingrained focus on external control (EPLOC: Deci & Ryan, 1985; Ryan & Connell, 1989). Over time, as they shifted toward autonomous motivation (with an IPLOC), adhering to norms became natural. Reporting peers and adults for rule violations was part of this transition, reflecting a more internalized sense of responsibility and acceptance of equal relationships with adults. Whether this shift is typical or always successful warrants further research.

Findings suggest that the justice system's structure and fairness supported students' needs for competence, autonomy, and relatedness. Engaging with the system fostered a non-judgmental culture, essential for inclusivity and preventing bullying or discrimination, creating a safe environment where students felt valued and respected.

This culture of non-judgment was deeply tied to relatedness, extending across students and adults. In turn, this strengthened autonomy, competence, and self-concept, aligning with Ryan and Deci's (1987, 2017) findings that self-determination enhances

intrinsic motivation, trust, and well-being. By removing traditional power dynamics, the justice system fostered fairness while allowing autonomy and relatedness to thrive. This study supports SDT's framework, demonstrating that autonomy and social connection coexist in these schools, shaping a supportive and empowering learning environment.

Equal Authority and Informal Mentorship: Understanding Adult-Student Relationships

In Sudbury model schools, adults are considered equal to students in decision-making, rights, and obligations. Participants highlighted the justice system's role in neutralizing adult authority over behavior, emphasizing the shared responsibility for community norms. Adults were viewed as integral to the community, with authority based on experience and knowledge. The absence of a power hierarchy fostered trust and openness to feedback.

A defining feature of adult roles was their approachability and availability. They spent time engaging in conversations, offering guidance, and modeling behavior, enabling informal, observation-based learning. This non-interference approach, where adults were accessible but left initiative to students, was seen as essential in fostering autonomy and competence (Hartkamp-Bakker & Martens, 2024). Similar findings from anthropology suggest learner-initiated learning occurs through role models and everyday interactions (Lave, 1996, 2011; Lave & Wenger, 1991; Morelli, 2012; Paradise & Rogoff, 2009; Rogoff, 2003, 2016).

Participants emphasized that feeling safe and free from judgment was crucial for showing vulnerability and asking questions. The equal status of adults, who did not judge students' behavior or competence, made it easier for students to seek help. Adults acted as mentors, coaches, and role models, providing knowledge and guidance when needed. Ryan et al. (2006) found that individuals in need are more likely to seek support from autonomy-supportive rather than controlling figures.

Unlike formal mentoring programs, mentoring in Sudbury schools emerges organically, aligning with Ragins' (1997, p. 493) concept of "informally developed, voluntary mentoring relationships". These student-initiated connections, built on trust and empathy, tend to be more effective (Inzer & Crawford, 2005; Schwartz & Rhodes, 2016). Research on youth mentoring highlighted the importance of nonjudgmental, nonevaluative relationships centered on mutual trust and support (Rhodes, 2005; Schwartz & Rhodes, 2016).

Findings suggest that the justice system enables adults to maintain authority based on expertise rather than control, fostering trust and approachability in student-adult interactions.

Voluntary and Equal Relationships: Promoting Autonomy, Competence, and Relatedness

Access to diverse role models was crucial for learning and seeking expertise aligned with participants' needs. They emphasized having true choice in selecting mentors, coaches, or role models in the age-mixed environment. Research has shown that the diverse community within these schools, including peers, played a key role in modeling and scaffolding learning (Gray & Feldman, 2004; Vygotsky, 1978). We suggest that the equal standing of adults and students supported basic psychological needs through voluntary, trust-based relationships, reinforcing autonomy and competence.

This study distinguishes between authority based on expertise and authority based on control. The latter may disrupt key educational relationships, particularly when adults serve as mentors and role models. Beyond fostering inclusivity and belonging, the justice system in schools without an imposed program, mitigated power imbalances by eliminating the need for adults to evaluate students, allowing for genuine, voluntary relationships. While grades and performance pressures in conventional programs are known to undermine psychological well-being (Ryan & Deci, 2017, 2020; Ryan & Weinstein, 2009), this study also highlights their role in hindering voluntary, trust-based relationships deemed necessary for self-determination in education.

Neoliberal Critiques

These findings offer important nuance to critiques by Wilson (2015, 2016, 2017) and Hill (2018), who argue that SDE models, including Sudbury schools, risk reproducing neoliberal subjectivities by emphasizing individual responsibility and choice. Rather than being expected to constantly improve or perform, students were accepted as they were, fostering a sense of psychological safety that stood in contrast to performance-driven or competitive cultures. This rejection of conditional worth directly counters the formation of neoliberal subjectivity, which is rooted in individual self-optimization and constant comparison. Reports of bullying or discrimination were notably absent, and social norms were shaped not through imposed authority but through mutual accountability and shared values. In this context, autonomy was not framed as personal achievement or independence from others, but as the freedom to participate authentically within a supportive and equal community, which is central to SDT (Ryan

& Deci, 2017). This interdependence counters the neoliberal emphasis on self-optimization by emphasizing relational autonomy, mutual responsibility, and emotional safety as preconditions for growth.

Moreover, Hill's (2018) concern about the reproduction of privilege in SDE settings is acknowledged through participants' descriptions of initial struggles among students transitioning from conventional systems. These accounts point to the unequal internalization of community norms depending on prior schooling experiences—suggesting that Sudbury environments may not offer equal psychological entry points for all students. Yet the justice system's design—rooted in fairness, non-judgment, and equality—appeared to buffer these inequalities by giving all members a voice and reinforcing inclusion over competition or performance. At the same time, it is important to acknowledge that this study reflects the perspectives of those who remained in and looked back positively on their time at their Sudbury model school. We do not have accounts from those who may have opted out, struggled more deeply, or had less positive experiences—leaving open the question of how well these systems serve all students, particularly those who do not find belonging within them.

More generally, as Tougas (2024) reminds us, neoliberal values are deeply embedded in Western societies, shaping institutions, relationships, and individual aspirations in subtle and pervasive ways. It would be naïve to suggest that students are untouched by these influences. Sudbury model schools do not claim to offer a utopia removed from society, but rather a space where young people can practice navigating adult life—including its contradictions—in a more intentional, reflective, and egalitarian way (see also Hartkamp-Bakker & Martens, 2024).

In this sense, the findings challenge simplified views of SDE as inherently neoliberal. Instead, they underscore the need to distinguish between autonomy as framed within SDT—relational, needs-based, and psychologically supportive—and autonomy as a neoliberal ideal of individual self-management. These distinctions point to a pressing need for further research that interrogates how different educational contexts operationalize autonomy, and under what conditions it becomes empowering rather than exclusionary.

LIMITATIONS AND IMPLICATIONS OF THE STUDY

The findings indicate that the justice system of Sudbury model schools had important effects on participants' psychological well-being by promoting a culture of inclusivity,

non-judgment, and self-direction, alongside fostering equitable relationships. While mentoring was not a primary focus of this study, these elements align with conditions identified in other research as supportive of effective mentoring relationships. The study contributes to discussions on educational change and the successful implementation of RJ models in schools by showing how non-hierarchical approaches can support inclusive, self-directed learning environments. The findings offer a nuanced counterpoint to critiques that Sudbury and other SDE models reproduce neoliberal subjectivities, highlighting how autonomy, when embedded in relational safety and mutual accountability, can foster inclusion rather than self-optimization.

As a limitation, we argue that this study's sample likely reflects more positive or "successful" cases from Sudbury model schools, as participants self-selected into the research. However, since the focus was not on outcomes but on understanding the schools' organizational context and its perceived effects, this does not compromise the validity of the findings. Participants came from eight different schools across several countries, offering diverse perspectives that support the exploratory aims of the study. Future research could intentionally seek a broader range of experiences—including more critical or ambivalent voices—to deepen understanding of how different students engage with and are affected by these educational environments.

Another limitation is that participants attended relatively small schools (see Table 1), much smaller than conventional schools but comparable or even much larger in size to typical classrooms. Additionally, five participants had a parent on staff, at least for some years, potentially influencing their emotional bonds with staff. While small school size and parental involvement may have contributed to a family-like sense of security and belonging, participants predominantly attributed these feelings to a culture of respect and non-judgment, reinforced by the justice system. This perspective was shared across participants, regardless of school size or parental ties. One participant without a family connection to staff credited the small school size for fostering friendly relationships, while two with family ties noted that knowing staff through their parents enhanced these bonds. Thus, while school size and family relationships may have played a role, they were assumed not the primary factors in shaping students' sense of belonging and safety, nor the way they experienced the relationships with significant adults in the school.

Additionally, further research should also explore how school justice systems shape power dynamics over time. Longitudinal studies on student-adult relationships and decision-making could reveal whether shared rights and responsibilities create lasting

shifts in authority perceptions. Examining former students' navigation of power structures in higher education and the workforce could clarify the long-term effects of egalitarian education. Addressing these areas would enhance understanding of how democratic schools foster autonomy, competence, and relatedness, informing broader educational reform.

Ultimately, the study offers valuable insights for rethinking authority in schools, promoting trust-based governance, and supporting psychological well-being—while also inviting a more nuanced view of alternative educational approaches.

COMPETING INTERESTS AND FUNDING

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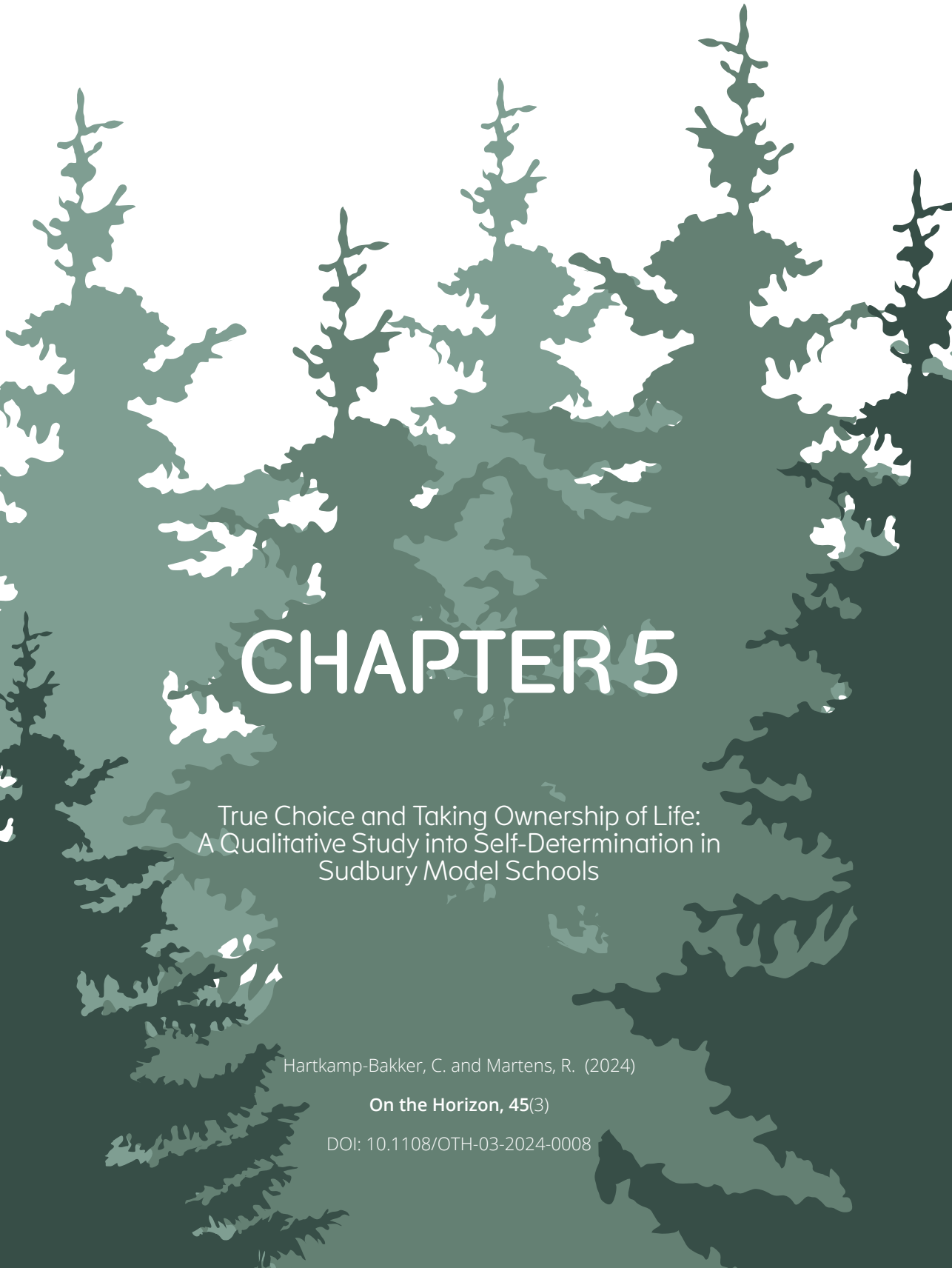
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CHAPTER 5

True Choice and Taking Ownership of Life: A Qualitative Study into Self-Determination in Sudbury Model Schools

Hartkamp-Bakker, C. and Martens, R. (2024)

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ABSTRACT

Purpose – To present the experiences with self-determination and taking ownership of life in Sudbury model schools that allow students true choice. **Design/methodology/approach** – This qualitative study used a thematic analysis methodology. Semi-structured interviews were analyzed and corresponding meanings thematized from 14 adult participants from eight different democratic schools in the Netherlands, Israel, and the U.S.A. These schools were structured in accordance with the Sudbury model and offered students real choice in the curriculum program. Self-Determination Theory (SDT) is used as a lens to interpret the findings. **Findings** – The findings suggest that an organizational structure that supports own responsibility in an absence of an imposed program and a culture of no-interference creates conditions for taking ownership of life and choices (self-determination) and encompasses taking ownership of learning, education, and one's future. Taking ownership of one's life seems to be related to strongly internally oriented processes with an internal locus of causality, to find their own motivation and taking responsibility for choices, behavior, and consequences in a SDT need supportive social context. **Research limitations/implications** – This study is part of a larger research that addressed multiple facets of their experiences with their schools to understand the longer-term effects these schools had on the adult lives of participants. This limits the scope of this paper to only explore the conditions that led to the mental state of 'taking ownership of one's life'. **Originality/value** – Conditions that can lead to long-term self-determination of one's life and future in a school setting is an unexplored area of research.

True Choice and Taking Ownership of Life: A Qualitative Study into Self-Determination in Sudbury Model Schools

Study Context

8 Sudbury schools
14 Alumni participants
3 Countries



Relevant context characteristics

- Clear, predictable structure
- Democratic governance
- No imposed curriculum
- Equal status students & adults

Culture of No-interference

Freedom over use of time
Volitional engagement
Self-paced development

Responsibility cannot be externalized

IPLOC

Basic human needs

Autonomy

Self-determination

Competence

Freedom to practice,
Scaffolded learning

SDT

Relatedness

Belonging,
Mutual respect

Methodology

- Qualitative exploratory design
- Semi-structured interviews
- Inductive thematic analysis
- Reflexive & positional inquiry
- Theoretical lens: SDT

Participants described



Psychological processes

Motivation comes from within
Awareness of personal responsibility
Acceptance of consequences
Distinct from docility / will-to-please

TAKING OWNERSHIP OF LIFE

Process experienced as difficult
Well-being fluctuates
Relatedness provides protection



Developmental Outcome

Ownership of education
Ownership of future
Seeing oneself as life protagonist



Perceived relevance in adulthood

Mature self-determination
Life-defining choices
Enduring internal motivation

Learnings from this Study

Participants described:
Democratic structure +
true choice + no interference

→ Need-supportive environment (SDT)
→ Internal locus of causality
→ Long-term ownership of life

Limitations & Future Research

Self-selected alumni sample
Limited focus
Needs broader focused research

INTRODUCTION

> "To recognize that 'I am the one who chooses' and 'I am the one who determines the value of an experience for me' is both an invigorating and a frightening realization." - Carl R. Rogers (1961, p. 122)

This article presents an exploration of findings that emerged from a larger research using Thematic Analysis (TA) with a reflexive approach (Braun and Clarke, 2006, 2021) into experiences and effects on the adult lives of 14 participants who attended Sudbury model or similarly organized democratic schools (hereafter called Sudbury model schools). These type of schools offer a place for Self-Directed Education (SDE: Gray, 2023): education that derives from the self-chosen activities and life experiences of the learner.

One element with long-term consequences that emerged from this analysis was taking one's life into one's own hands. Participants believed that they learned to accept that they are the protagonists of their lives. This perspective seems related to having an unusually broad spectrum of choices about how they spend their time, forcing them to ask themselves, "What do I value?" How would I most like to spend my time?" This led us to wonder what the relationship is between having a true choice environment, which even includes the choice to "do nothing", in the school experience of K-12 (children aged 4 to 18) and the phenomenon of taking ownership of one's life.

The findings presented here reveal central themes about how real life and democracy in these schools lead to taking responsibility daily and ultimately to taking ownership of life, which was sometimes experienced as overwhelming. These school environments contrast sharply with conventional school environments where 'voice and choice' often means that teachers allow students to choose from a selected set of options or within a specified timeframe. In education, there is a continuum between a rigid structure in the strictest conventional schools, to a more flexible and student-oriented structure in progressive schools, to complete freedom of choice within a democratic structure of, among others, Sudbury model schools. How this type of freedom works out in the long term and the importance of feeling related to the community in these schools has never been properly investigated. The Self-Determination Theory (SDT: Ryan and Deci, 2017), provides tools to gain an understanding of these environments from a motivational point of view. SDT studies people's natural tendencies toward motivation and growth and the importance of environments supporting three basic psychological needs—autonomy, competence, and relatedness—as opposed to undermining them.

Therefore, in this study we present the perspectives of the participants, and then investigate whether there may be connections between true choice, self-determination and taking ownership. Choice is a concept closely related to autonomy and self-determination (Reeve, Nix and Hamm, 2003; e.g. Katz and Assor, 2007; Ryan and Deci, 2017), but seems to have received little scholarly attention in SDT recently.

First, this article explores the literature on choice within the theoretical framework of SDT, examining different aspects of choice and decision making and the relationship with the three basic needs, autonomy, competence, and relatedness. We then define what is meant by taking ownership of one's life and differentiate ownership from internal locus of control and internal locus of causality. We explore what taking ownership means in relation to choice in conventional school settings. Next, we describe the range of choice inherent in Sudbury model schools. Then we present the participant comments and analyze the data to postulate a relationship between true choice and taking ownership in these schools. Finally, confluences with or divergences from SDT based on the unique, unexplored setting of these type of Sudbury model schools are explored.

THEORY AND PREVIOUS RESEARCH

SDT and conditions for choice

SDT is a metatheory that describes the effects at the psychological level of factors that influence human well-being by satisfying or undermining three fundamental needs, namely autonomy, competence, and relatedness. Ryan and Deci (2017) describe choice as central to the concept of autonomy. Deci and Ryan (1985a) clarified what constitutes true choice, stating:

> "a behavior is truly chosen only if the person could seriously consider not doing it. The inflexibility of a person having to do a behavior and not being able to seriously consider other options suggests that the behavior does not represent true choice, even if it was decided on" (p. 155).

Building upon this definition, Reeve et al. (2003) refer to the concept of an action choice, a choice which includes considering not to act. They conclude that "'capacity to choose' has much to do with an internally locused and volitional sense of causality but little to do with the attributional experience of deciding between options" (p. 388).

In other words, true choice is about the action or ability to make one's own decisions based on an internal locus of causality and from voluntariness (Deci and Ryan, 1985b; Ryan and Connell, 1989).

Environments characterized by the absence of external pressure, in which personal goals and choices are respected, are optimal for autonomy (Ryan and Deci, 2000; Deci and Ryan, 2008). A clear distinction is made between choice and decision making (Ryan and Deci, 2017). Decision making is about selecting between options, also called option choice (Reeve, Nix and Hamm, 2003). Often, studies that present themselves as choice-related study forms of decision making or choosing between options. From these studies we know that having a choice is not in itself a motivation-enhancing factor unless choice has value for the person himself (Katz and Assor, 2007). Further, choosing between too many options or making choices that do not match someone's competency level can lead to reduced motivation or stress. So, to meet the need for competence, choices should not be too complex, too easy, or too difficult, but should still involve a challenge, i.e. within the zone of proximal development (Vygotsky, 1997).

Moreover, to be effective for motivation or internalization, choices, including those presented as options, must correspond to one's own interests, will, goals, preferences, ambitions, and/or values (Deci and Ryan, 1991; Reeve, Nix and Hamm, 2003; Katz and Assor, 2007). In addition, conditions in which choices are made should meet circumstances involving good relationships with people significant to that person (Ryan and Deci, 2017). They highlighted the misconception that autonomy is more about independence than interdependence when it comes to decision-making. They showed that relatedness is as important as autonomy when making choices. They both play an important role in maintaining a sense of autonomy and agency. Also, when it comes to carrying out family or societal duties, relatedness is essential in allowing the sense of one's own will and choice for internalization. In short, it is not choice that determines the quality of motivation, but the degree to which the three basic needs are satisfied in relation to choices.

How is taking ownership of one's life defined?

The word *ownership* is frequently used in relation to material possessions, but taking ownership of one's life seems to be an undefined but commonly used concept. Although often used interchangeably, ownership and responsibility are not the same. Ownership is about possessing and controlling something, whereas responsibility is about fulfilling obligations and being accountable for one's actions. An Internet search for "taking ownership of your life" yielded many returns that dealt with taking responsibility and

control in work and life situations, in contrast with a tendency to blame outside forces for being stuck in unfavorable circumstances. These descriptions seem to be related to the concept of *locus of control* by Rotter (1966), which reflects the extent to which people feel they have control over a situation or behavior as opposed to feeling like a victim. Accepting responsibility instead of blaming other people or circumstances and being goal-oriented are aspects that define self-directedness (e.g. Kose, 2003; Toit-Brits, 2022). The locus of control concept only describes whether someone feels in control (motivated) in contrast to a state of amotivation or passivity, without considering the source and associated quality of the motivation (Ryan and Deci, 2017). The question is whether taking ownership of one's life could not be better described from the continuum of motivation as defined by SDT because this theory incorporates the quality of motivation and the associated *perceived locus of causality* (PLOC: Ryan and Connell, 1989). Taking ownership of one's life assumes an internal PLOC which is about seeing oneself as the source of initiating and regulating behavior out of one's own will and approval (Ryan and Deci, 2017).

How student choice and taking ownership is limited in conventional schools

Carl Rogers, a forefather of humanistic psychology, emphasized people's conscious understanding of themselves and the capacity to make choices on a path to self-actualization. Taking life into one's own hands is uncharted research territory in the context of schools. When ownership is referred to in a conventional school context, it is mostly related to learning. Even where ownership of learning has been discussed in educational research, it does not appear to be clearly defined and is often used as a slogan or synonymous with participation, involvement or engagement (Wiley, 2009).

We wonder to what extent choice can truly be given in the context of conventional schools, because the student ultimately must meet all kinds of imposed curriculum requirements, such as tests, exams, or final objectives. Yet, taking ownership in a conventional school context generally appears to be associated with creating opportunities to explore interests, set goals, and pursue and sustain ambitions and goals (Conley and French, 2014). It includes participation "through discussions, choice, responsibility and decision-making" and it "emphasizes the students' real actions of choice and control" (Enghag and Niedderer, 2008, p. 631). It promotes students' sense of ownership of their education "by including students in school decision-making processes, by ensuring that students have the opportunity to express their opinions about the way schools are run, and by creating school communities that are symbiotic"

(Scott, 2010, p. 36). More recently, Toit-Brits (2022) theorized how ownership of learning is enhanced by nurturing a sense of belonging, in addition to creating opportunities for personalized learning and participation, and supporting a sense of accountability and self-discipline through the promotion of self-advocacy skills. From these descriptions we postulate that taking ownership of learning or education can be nourished by belongingness and participation in one's own environment and by creating opportunities for following one's own interests and setting one's own goals, and that it involves true choice by the students. Thus, the extent to which a student can influence his/her education and set goals appears to be an important factor. However, we also postulate that choice and influence in decision-making will not transcend the goal of completing tasks or assignments and obtaining degrees within a predetermined curriculum.

Many of the SDT-related studies regarding decisions or choices are conducted in schools under these conditions and focus on the short term, on option choices and their direct effect on motivation for tasks or assignments. Achieving goals laid down in the curriculum is usually mandatory and controlled by means of rewards or punishments, conditions that potentially undermine the natural tendencies towards motivation and growth (Ryan and Deci, 2020). Ryan and Deci (2017) emphasize that schools should be more than learning factories, schools should "shape the development of the whole child, affecting intellectual outcomes as well as motivation, self-concept, and the validity and integrity of self-development" (p. 353). They underscore the long-term objective of SDT that "capabilities for engagement and self-regulation will likely be more serviceable in subsequent life than any particular facts learned in the schools" (p. 353). We assume that taking ownership of one's life encompasses choices that have to do with longer-term objectives, with giving direction to one's life and accepting circumstances that are instrumental in achieving that goal (Deci and Ryan, 2000). Long-term effects of true choice, as defined by SDT, regarding education are difficult to investigate under conventional conditions that do not provide true choice. Because this study focused on a school environment without the imposed curriculum requirements, we can investigate more deeply how true choice circumstances may lead to self-determination of students and the effects that this may hold.

Choice as part of the daily practice in Sudbury model schools

Long before Ryan and Deci advocated the importance of autonomy and warned about the undermining effects of rewards and punishments on the healthy psychological development of students, there were educational reformers such as Fröbel, Ferrer and

Dewey, who came to similar conclusions and designed forms of education in which the autonomy of the student was more central. Pedagogues such as Ferrer, Tolstoy, A.S. Neill and Greenberg, were founders of what are now called democratic schools (Swartz, 2016). Although SDT seems to offer every reason to study these types of schools, they have rarely been the subject of attention in educational studies.

The most radical democratic school model that allows children the freedom to play and explore freely and use their inherent tendencies to learn is the Sudbury model, which rejects a predetermined curriculum and imposed lessons (Ellis, 2013). The Sudbury model refers to the Sudbury Valley School, a day school for children aged 4 to 18 (K-12) in Massachusetts, USA that has existed since 1968. Sudbury model schools aim to place responsibility on the student to determine his or her learning path and future, including whether to obtain diplomas. Learning happens through self-motivation and self-regulation and through evaluation by self-criticism (Rosenberg, 1973) driven by a free interaction with people of all ages (Gray and Feldman, 1999, 2004). The foundational assumptions of this model closely align with SDT-defined human needs for autonomy, competence and relatedness (Ackoff and Greenberg, 2008), underpinning a philosophical framework and foundation that enables children to experience a high level of autonomy through free association with people of all ages and unfettered educational/developmental freedom (Greenberg, 2016). Daily, these students decide for themselves how to spend their time and with whom, even to the point that they can choose to do nothing at all. The philosophy is that boredom is sometimes necessary to delve into one's own motivation to find a purpose, instead of being distracted by programs offered.

Treating children as fully equal to adults is perhaps the most controversial starting point from which this school is built, as Greenberg (2016) writes: "They are fully equal: not partially equal, not almost equal, not gradually more and more equal as they grow older" (p. 53). Typically, a Sudbury model school is characterized by the absence of authoritarian hierarchical structures, including subtle inequalities that manipulate or entice students into adult-preferred (learning) activities (Traxler, 2015; Greenberg, 2016). Adults in these environments are role models of effective behavior, knowledge and interaction and thus provide a source of learning (Ackoff and Greenberg, 2008; Rietmulder, 2019). If students want to take lessons, they can choose to organize that. There are not many schools that allow children and adolescents this level of choice and control over their life.

How are Sudbury model schools organized?

A consequence of the foundational principles as described in the previous section is that "the school is organized as a participatory democracy in which adults and students of all ages have equal rights, responsibilities and freedoms" (Feldman, 2001, p. 4). Feldman argues that the democratic community sets the boundaries (rules) to protect the school and to prevent people from interfering with each other's activities (norms for living together and to protect individual freedom). Students have an equal say in all decision-making bodies as adults do over all aspects of the organization of the school. In addition to control over the budget and school rules, students can also use their voice in performance reviews and in annual elections to determine whether employees can stay on next year (Feldman, 2001; Greenberg, 2016).

Globally, there are about fifty schools that share common characteristics, whether or not they explicitly identify themselves as a 'Sudbury school' (Gray, Riley and Curry-Knight, 2021). Common organizational structures include a school meeting and a judicial committee in which students have equal voice. In addition, these schools describe other committees and school meeting-appointed positions with executive responsibilities to deal with the daily business of running the institution. To carry out shared interests or activities such as excursions, woodworking, cooking or making music that require management of space, money or resources, there are sub-associations that are managed as independent bodies, sometimes by students unaided. For a more elaborate description of the context see Ackoff and Greenberg (2008), Feldman (2001), Gray et al. (2021) and Gray and Chanoff (1986).

METHODOLOGY OF THE PRESENT STUDY

The here presented study is exploring findings that relate to taking ownership of life and forms part of a larger qualitative research using TA with an reflexive approach (Braun and Clarke, 2006, 2021). The methods of data selection and analysis presented below mainly describe those of the entire study and how the sample presented here was selected.

Data collection procedure

We sought graduates from multiple Sudbury model or comparably organized schools from various countries, thereby minimizing individual school effects and effects of specific country-related culture on the findings. From a total of 55 schools in 13

countries, 15 schools had operated long enough to provide a possible population of alumni that could meet the requirements for this research and were contacted. From this group, eight schools in three countries (USA, Israel, and the Netherlands) finally participated in this study.

The candidate selection process was delegated to a school contact person. Our requirement was that participants had attended the school for at least five years and had also gained at least five years of experience in adult life. We accepted two deviations from this requirement. To minimize potential selection bias, each school was asked to select two dissimilar types of individuals for the study: people of different genders, backgrounds, experiences in school and with different educational and career paths after school. Fourteen participants took part in the interviews. From the eight schools, six schools in all three countries provided two participants and an additional two schools in the US provided one participant.

As part of the procedure approved by the ethical commission of the Open university, signed consent forms were collected of all participants before the interview. Semi-structured interviews based on a pre-prepared interview guide in Dutch and English (Kvale, 2007) were conducted online using VOIP technology (Microsoft Teams) and audio recordings were archived. Each interview lasted between 60 to 90 minutes. Several open questions prompted the participants to recall certain memories about aspects of their schools and the perceived effects on their lives. Transcripts were anonymized and noted down using an intelligent verbatim method (Bailey, 2008), focusing on the essence of what was said with annotations where relevant emotions or interruptions were involved. Capital letters were used when a word was pronounced with more emphasis. Transcripts were sent to the participant for member checking as part of data validation (Mero-Jaffe, 2011).

Who are the Participants?

Out of the 14 participants, five persons identified themselves with masculine gender (he/him/his) and nine with feminine gender (she/her/hers); other pronouns were not chosen. The age range of the participants was diverse; the oldest participants were 35 to 40 years old and the youngest were between 20 and 24 years old. Consequently, the number of years that passed since they left their school also differed, from longer than ten years to around five years, except for Beth, who left the school more than one year before the interview (the names used for the participants are pseudonyms). Three of them attended the school during their whole childhood and two others almost from the beginning, from the age of six and seven. Three came to the school at the age of

ten, one at the age of 11, three at the age of 12 and one at the age of 13. Stephen was an exception, having started at age 16 and only experiencing the school for two years. The participants from the eight schools confirmed by the way they talked about the organizational structure that they had experienced very comparable contexts.

Data analysis procedure and the selection of the in this study presented set of findings

The main objective of the larger research, of which this study is a derivative, concerned corresponding experiences of aspects related to school experiences and effects on the adult lives of 14 graduates from eight Sudbury model schools in three countries. In analyzing the interviews, we used TA with a reflexive approach, in which we mainly looked for corresponding meanings in answers and did not limit ourselves to answers to specific questions. We were aware of how our own knowledge and background, namely being familiar with this type of education, on the one hand is important for generating themes, but on the other hand posed a risk of coding too selectively. We have been reflective by always asking ourselves the question, "what exactly do the participants say and to what extent can the meaning between different quotes be compared?"

The analysis was carried out in two phases. In the first phase, we focused on coding similar meanings in the transcripts using Atlas.ti analysis software. In the meantime, more interviews were conducted and transcribed, making coding and comparing meanings an iterative process until no new codes surfaced after 11 cases. Atlas.ti gave the opportunity to combine codes and analyze groups of quotes in code combinations which helped build themes. In the second phase, these groups of quotes around a similar theme were then brought together in a word document. They were again critically examined, and sometimes moved under a more appropriate theme. In this phase, quotes from the Dutch participants were translated into English close to the original meaning and expressions. Translation remains a subjective step in qualitative research because translation itself is an interpretation of the translator (Temple and Young, 2004), but it is necessary to present findings. Quotes were reduced to the essence of the meaning it contained and digressions and overly personal and/or case-specific parts were excluded. Themes that revealed an interrelationship were selected for further interpretation. One such group of themes that appear to be related to taking ownership of life have been selected to present here in this study.

FINDINGS

This section presents the four themes with an interrelationship to taking ownership of your life. These themes are 1) how the school was aiming at mimicking adult life and taking responsibility, 2) how the structure of the schools facilitated equal rights and responsibilities for all its members, 3) how the culture of non-interference (respect for personal choices) supported an agentive, inquisitive attitude and 4) how this structure and culture ultimately led to taking ownership of your life. We will elaborate below on those themes and use quotations to reveal how we landed on these themes.

"This school [is] as an experience of life beginning already"

When participants talked about what the school had meant for them, four participants spoke generally about how the school's philosophy aimed at providing a place that mimics adult life (*building life experience)*. Helen, Ella, and Leo referred to the fact that the school offered a place where they could practice aspects of adult life. Leo explained, "it's a demo-life. You live life in the community and then you go out READY, knowing how to live it." Ella referred to the school as "real life" and said, "this school [is] as an experience of life beginning already." Helen explained the school as, "It is actually a small society in itself." In relation to this, Helen highlighted the aspect of own responsibility as a purpose of the school to take initiative and prepare oneself to enter society as an adult. She said, "It is really focused on your own responsibility to be able to do what is interesting for you so that you can prepare to enter society as an adult." In fact, Lillian explained the absence of an imposed program as, "I also think that [this model] sometimes more than being a school, is the absence of a school." Lillian refers to how the experiences she had and the interactions she had with the people at the school affected her, "just that life, that is what really was the influence." This demo life at school meant for Leo that he could try out different things and explore his strengths and weaknesses; "it gave me that experience of trying to be in all kinds of stuff, building myself, failing, succeeding, realizing what I'm good at and less good."

The participants emphasized that school in a general sense was a place to practice adult life and gain life experience. In some excerpts, they make a connection to the school as a place to explore and take initiative, to develop personal skills by trial and error and become aware of one's competencies to prepare for adult life. Also, some referred to gaining experience by living life in a community or small society, emphasizing a social dimension of learning about adult life. From these answers we can postulate that in essence the school is aimed at taking control of life and development in a social context that functions as a breeding ground for real life.

"The democratic structure was a means of figuring out how to coexist with people"

In answers about their experiences with the structure of their schools, six participants described the organizational structure in terms of clear and predictable (*clear structure)* and facilitating equal rights and responsibilities for all its members, students, and adults (*equal status in the community*).

Claire, Helen, Stephen, and Lillian signified that the structure was clear and transparent: a predictable environment. Claire said, "The structure and organization of the school is actually very clear." A clear and transparent structure is also what Helen and Stephen refer to when they explain that there was a rule book with all the rules and how, in Helen's words, "It was just clear to everyone what the rules were, … no matter how old you were, everyone had to abide by the same rules and have the same rights." Lillian said that meetings were structured places to talk about things that were going on in the school. They all seemed to refer to a similar phenomenon of a well-defined, transparent, and predictable structure in the organization of the schools that facilitated an equal status between all people in their schools.

The school was referred to as a "democratic school" or "a democracy" by Stephen, Jessica, Lillian, Helen, and Andrew. By their descriptions, the democratic principle of what Lillian called "one man one vote" is comparable to a participatory or direct democracy. Jessica clarified the equal status of all people in the school, "everyone from the youngest student all the way up to the staff members have one vote and they use that vote to determine how the school is run." Andrew highlighted that an equal vote doesn't automatically mean an equal voice in the school. He referred to the fact that "people have an opportunity to have an equal voice. … Some people are much more charismatic and able to get their point across than others, and that is something that people grow into a bit." He explained that equal status does not mean equal degree of influence and that people can learn from each other. Lillian explained how the democratic self-governing structure of the school was a means of aligning a group of people and is not an end. She said, "The democratic structure, more than imposing an order or imposing some philosophy or structure, was more a means of figuring out how to coexist with people."

From these findings, we assume that opportunities to participate in one's own environment increases the sense of ownership and personal responsibility for the values and norms of the school community that are important for building a culture of respect for others. The descriptions suggest that the clear, transparent, and democratic

structure was a tool to figure out how to live together with the diversity of people in the school and supported equal status in the community. As Feldman (2001) stressed, clarity about community norms (a clear structure) and being equally responsible for the welfare of the community (equal status) are means to learn how to live together.

"If I wanted to do something, I had to do it"

Six participants spoke of a *culture of no interference* with their activities when referring to the general atmosphere. This culture can also be described as one of respect for personal choices. In their view, this culture was important for *taking initiative* and promoting their *curiosity*.

Suzanne, Ted, Philip, and Jessica referred to the culture in terms of no interference with choices. Ted explained how the freedom to choose what to do and not have anyone interfere with it was part of the culture:

> Everybody is free to do what they want on an individual basis. Nobody is going to tell you what to do. That was a pretty integral part of the culture, and that definitely had a big influence on me. Because it was all to me if I wanted to do something, I had to do it. If somebody else wanted to do something, they had to do it.

Suzanne makes a connection with this freedom to choose and being responsible as follows, "One of the greatest aspects is freedom, the freedom to choose. The freedom to be responsible, too." Suzanne explained how the freedom to choose what you do is almost naturally linked to taking responsibility. She describes how the choice of activities entailed a responsibility to, for example, tidy up, be on time or other responsibilities that were consequences of the choice. Like Ted and Suzanne, also Helen, Marcia, and Jessica stated that the effect of this kind of freedom was that they had to take an active role, alone or with others, in creating their daily pastimes. According to Jessica, the organization offered a lot of opportunities that one could choose to be active in as well, like in committees and corporations. Jessica explained further how the freedom to choose was connected to the freedom to quit and divert into another direction based on her own curiosity. She said:

> If I decided I didn't want to do that anymore, I had the space to be able to decide that for myself and take a different path based on what I was interested in, what I wanted to learn at the time.

Helen and Marcia pointed to the aspect of increased curiosity as an effect of this freedom. Marcia, who was a good and compliant student in her previous school, said: "It gave me [a message] back not only to do what people expect me to do. Really to do what I wanted to do. It gave me back [my] curiosity." Also, Helen reflected on how she was doing well in her previous school and always did what she was told. Once she started at a Sudbury model school, she remembered that because no one told her what to do, "You have to think for yourself, 'What do I want to do now?'" She also noticed that the other students were more inquisitive and asked "'why' questions", which encouraged her to ask questions and look for answers herself. These two participants together with Jessica made a connection between curiosity and learning. As Marcia elaborated, now that she is an adult, her curiosity made that when she must learn something new, she enjoys it to the fullest.

The culture of no interference with personal motivations or choices is about respect for each other's autonomy. It seemed to evoke an active attitude towards self-determination by means of taking initiative and undertaking activities and promoting curiosity and self-direction. The curious, agentive attitude seems to function as a prerequisite for personal development and learning. In this sense, the culture of no interference appears to support competence. The culture of no interference in their daily activities at school ensured that they learned to focus strongly on their own motivation and felt the responsibility to make their own choices and accept the consequences. This experience on a daily basis could we describe as part of the school curriculum, about which Greenberg et al. (2005) wrote that students are expected to be responsible for their lives and their communities from the moment they enter school.

"It sent me the message that ultimately, I am the owner of my life"

Regarding whether there were things hard or challenging about the structure, six of the participants spoke about the challenge of having to hold responsibility and accountability for your own life and education and the process of building a sense of ownership of their life (*taking ownership*). They here mention the structure as *a tool* to learn not to place responsibility outside of themselves (*beyond own control*) and develop a sense of ownership. Under conventional educational circumstances, with the structure of a school it is commonly meant the program and time schedule, also called a structured day. In the context of these schools, participants speak about an underlying structure, a clear organizational structure that supports the equal status between people in the school. This difference is best expressed in an answer by Jessica who explained:

> The most challenging thing is that there is underlying structure that we talked about earlier, but there's not a structured day. As a student, you get to decide what your day is. If you're a little kid, that's usually pretty easy. Kids just do whatever they want anyway, but as you get older and start to get bored with all the stuff you did as a kid, it's up to you to decide what direction you want to take, where you want to go today, what you want to do today, what you want to learn, what you want to focus on. Sometimes that's very overwhelming, because there are a lot of options and you're never told what to do.

Jessica mentioned that structuring her own day was not always easy, and sometimes was overwhelming, especially when she grew older. Also, other participants talked in more detail about the challenge of having to deal with structuring their daily life at school.

Claire explained that the process of taking ownership for the structure of the school was difficult; "The hard part is that you have to find out that you are responsible for it yourself." According to her, the "well-defined and clear" structure, referring to the rules that are the same for everyone (*equal status*), is *a tool* for learning to focus on one's own responsibility. She went on to say that putting control outside of oneself makes it difficult; "you can have a lot of resistance to it, but if you like to place it outside of yourself … [you're] making it SUPER hard for yourself." Lilian explained that the organizational structure of the school can sometimes be difficult in "natural ways" as *a tool*. She highlighted how one could blame external forces for "feeling stuck and bored," but how ultimately the structure supported a process to understand that it was her own choice and that no restrictions were placed on her. She concludes, "That could be very challenging to feel the weight of your own life at a young age, but ultimately definitely beneficial."

Having to structure her days, Ella said, "it might sound easier in some ways, but I think it is much harder." She continued, "I would also see this with my friends that went to other schools that it is very convenient to have somebody else to blame" and explains how being responsible for all aspects of life and there is no one else to blame is hard for a kid. She points out that the school environment offers that challenge and at the same time the safety to learn to deal with it:

> When you're genuinely responsible for decisions in your life and for the way your day-to-day looks, and for the way your relationships look,

> there's always so much blaming you can do and that is HEAVY. That can be really, really difficult for kids to handle. Again, it's an environment where you can be challenged in that way and feel protected still and not fall apart. So, I think that's an amazing thing about it, but it was VERY challenging.

She continued by giving an example of her experience preparing for exams she chose to do and explains how difficult it was to deal with taking ownership. She referred to the fact that no one took her by the hand and that she had to do it herself: "Nobody gave me a schedule. Nobody was going to say this year we do these subjects, and this is when you start studying, just nothing. You have to do all of it." It was up to her how she would succeed; it was not beyond her control. Leo said, "I want to say everything is challenging. The question [is] how you go to this challenge." The process behind structuring his days was expressed by him as "It's not served on a platter to you. You need to work for it. So, it makes it hard."

Rachel echoed building ownership of life as hard, saying that she at times would have liked to have some direct guidance or instruction by adults. She said, "I think at times I sort of craved having an adult tell me what I needed to be doing and learning." The heaviness of having to deal with overseeing her decisions all the time made her sometimes wish for a break while she was in school. When asked what these experiences meant for her, Rachel continued by saying, "I certainly think it sent me the message that ultimately, I am the owner of my life." Here she pointed out that the experience of being responsible to structure her day was hard though important to the process of focusing on herself as an actor in taking ownership for decisions about her life, saying "Ultimately, I truly felt that it was my job to decide and to decide well." She further explained how this structure contrasted environments in which children are told that they can make their own decisions but in the meantime adults verbally or nonverbally steer the children's decisions in a direction the adults deem desirable.

From what the participants experienced, achieving a state of taking ownership was a challenging process. They also talked about how the structure supported this process, not actively, but as an instrument to achieve this state. By the structure in this section, they emphasize especially the fact that there was no structured day, but an underlying structure that supported the inward directed process of understanding their own responsibility in directing their life. It is the organizational structure of the school that facilitates the equal status of individuals necessary for a culture without interference of personal choices.

DISCUSSION

The group of themes presented in this study focused on long-term consequences on taking ownership of life and forms part of a larger research into experiences of graduates with Sudbury model schools. The presented findings give us an insight into the role of the structure on self-determination, the support of the need for autonomy, competence, and relatedness, as well as SDT conditions that lead to taking ownership of life in these schools.

The role of structure in these schools

The findings show that overarchingly, the schools are structured in such a way that they allow young people responsibility to practice and prepare for adult life. This goal, preparing for life as an adult, was achieved at these schools by giving students a far-reaching autonomy in decisions both about their lives and within their communities. Structure is an aspect that is in support of self-determination, in contrast to control (Ryan and Deci, 2020). These authors argue that controlling conditions negatively influence motivation, but that these conditions should not be confused with structure. They explain that structure, as is usually provided in schools, provides frameworks within which one can experience competency satisfaction. When participants in this study talked about structure, they mainly referred to 1) a clear, predictable structure that provided equal status between the people, both students and adults and 2) a democratic structure to organize coexistence with the variety of people in the school. This structure sets boundaries that determine personal autonomy as well as the relationship with one's own (social) environment. Some participants reported that the structure was experienced as a tool that effectively made them realize that they could not pass on the responsibility to external forces. By expressing not being able to place responsibility beyond themselves, they emphasized the intrinsically oriented nature of how they perceived taking ownership. Essentially, it shows how they experienced the causality of their motivations coming from within themselves, pointing to an internal perceived locus of causality (e.g. Deci and Ryan, 1985b; Ryan and Connell, 1989).

The support for the need of autonomy and competence

The findings show that choice in these schools also means that someone can choose to stop doing something or choose something else, which determines the degree of agency these students have. This type of freedom to choose is described by Deci and Ryan (1985a) as "true choice," which is an important condition for self-determination. The findings showed that the opportunity to freely choose how to spend their time

generated an active and inquisitive attitude and facilitated conditions for competence development. It is this phenomenon that these schools refer to as freedom: the fact that one can determine the use of one's time (self-determination) and accept the consequences of choices (personal responsibility). In this context, Ella spoke about how preparing for exams was hard. Taking the exams was not a goal that was imposed on her as an obligation; she was able to choose to do so out of her own will. For autonomous motivation and self-determination, volitional conditions are important (Deci and Ryan, 2000; Ryan and Deci, 2000, 2020).

The culture of respect for personal choices (*no interference*) in an age-mixed community forms the social context that supports autonomy, competence, and relatedness through free interaction. Gray and Feldman (2004) revealed how the age-mixed environment is competency supportive, as individuals can communicate freely and find peers, not necessarily of the same age, to learn from through Vygotsky-style scaffolding and mutual teaching.

The support for the need of relatedness

Taking a long-term retrospective stance, these findings show that participants found the process of taking ownership of their lives in school challenging or difficult. It suggests that feelings of well-being may have fluctuated during their time at this school, as participants referred to this process as difficult or hard. The study by Reis et al. (2000) demonstrates that feelings of well-being are not expected to be constant, but relatedness plays an important supportive role. Similarly, Toit-Brits (2022) referred to the importance of a sense of belonging to a sense of ownership for learning in conventional schools. Reis et al. (2000) suggest that participation in enjoyable social activities leads to greater feelings of well-being than just feelings of closeness and connection with others. They reported that feelings of being understood and accepted and being able to talk about matters that are meaningful with others, as well as being able to interact freely with others and do fun things together, was important in feeling a connection with others. These conditions that support relatedness seem to correspond to the environment that Sudbury model schools offer: the free interaction between people of all ages, the free choice to undertake joint activities, the extent to which they have a say and can speak about things that are important for them and in which they learn to take others into account. It seems to correspond with the finding that because the process of taking ownership took place in a context that the participant felt connected to, they felt protected.

Conditions for taking ownership of life

While the participants talked about a culture of no interference in defining daily pastimes, when referencing taking ownership of one's life they referred to support from the underlying school structure. Both themes appear to be linked, although the former theme describes more short-term effects in the school as provoking an agentive and curious attitude that appears to function as a prerequisite for personal development (competency support). The theme of ownership emphasizes a deeper and longer-lasting psychological effect of the awareness of one's own responsibility in life-defining choices. Reference was made to the sometimes-overwhelming nature of this type of decision making, but none spoke about negative side-effects of this experience.

The findings suggest that the fundamental principles of self-responsibility in an absence of an imposed program and the culture of no-interference creates conditions for taking ownership of life and choices (self-determination), which encompasses taking ownership of learning, education, and one's future. From this research we theorize that the far-reaching autonomy that these participants experienced at a young age during their school years, having real choice over their daily activities within the structure of these schools, has led to the understanding that they are the protagonists of their lives. In their answers, taking ownership of life seems to be related to strongly internally oriented processes of finding their own motivation and taking responsibility for choices, behavior, and consequences. Deci and Ryan (2000) have extensively described the importance of finding one's own motivation in pursuing goals. If we consider that young people are often sensitive to the expectations of others or the outside world, not interfering with choices could serve as a pedagogical means to get to their own core, to get to know themselves first and foremost and secondly, to make mindful self-defined choices. We must note that these choices are never free from outside influences; we reject the idea that choices are made in pure isolation. The only thing these participants made clear is that they see themselves as the source for making well-considered choices. Young people of school age are usually faced with a lot of external guidance, no matter how well-intentioned it is. Under these circumstances it can be very difficult to learn to distinguish between behavior based on one's own motivation or behavior that results from docility or a will-to-please. What the context of these Sudbury model schools create is an environment in which young people, by being confronted every day with true choices at their own level of competence, grow towards a more 'mature' state of being and an awareness of their own responsibility in shaping their lives, with everything that entails.

Limitations and suggestions for further research

The scope of what could be presented here is limited to findings related to 'taking ownership of life." How this ownership of life has affected them in their adult lives is room for another investigation, as well as its connection with other factors such as the role of the community, the role of staff, the personal characteristics of the participants and their home situation on the satisfaction of basic needs. More research into these other factors and how they interrelate will be necessary to understand the effects of these types of schools, which is the scope for the entire research. In addition, qualitative research naturally focuses on understanding the experiences of a small group of people under certain circumstances. More research, including quantitative research, is needed to explore the scope of these experiences, including beyond these types of schools. We believe that the far-reaching autonomy combined with personal responsibility at the age of primary school to 18 years deserves more attention from the scientific field to better understand human development under non-compulsory conditions, especially by studies based on SDT, which potentially can influence educational choices in the future. In other words, Sudbury model and other democratic schools, although until now seldomly scientifically studied, could make an unexpectedly strong contribution to the understanding of basic need satisfaction that is central to SDT, one of the most important motivational theories in education.

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CHAPTER 6

Autonomy-Rich Schooling and Lifelong Self-Determination: Narratives of Reflective Agency in Sudbury School Graduates

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ABSTRACT

This qualitative study examines how experiences of autonomy-rich schooling are interpreted by graduates in relation to their learning trajectories, identity development, and sense of agency across the life course. Drawing on interviews with 14 adult graduates of Sudbury model schools—educational environments characterized by high levels of learner autonomy and self-direction—the study explores how participants make meaning of their schooling in light of their subsequent educational, professional, and personal pathways. Interviews were analyzed using reflexive thematic analysis.

The analysis identified themes of boredom, reflective practices, flexible approaches to learning, and a sustained orientation toward self-directed engagement grounded in personal values. Participants frequently described early experiences of boredom and unstructured time as prompting reflection and internal questioning, which they retrospectively understood as contributing to the development of self-directed motivation, decision-making, and identity. These processes were often described as ongoing in adulthood, shaping how participants approached learning and life choices.

Interpreted through Self-Determination Theory as a sensitizing framework, the findings point to processes of internalization and the gradual development of autonomous forms of self-regulation. Rather than establishing causal relationships, the study offers insight into how individuals interpret and integrate experiences of autonomy, boredom, and self-direction into their evolving sense of self and agency. The study contributes to discussions on the role of educational experience in lifelong learning and the development of self-directed agency.

Autonomy-Rich Schooling and Lifelong Self-Determination: Narratives of Reflective Agency in Sudbury School Graduates

Study Context

8 Sudbury schools
14 Alumni participants
3 Countries



Relevant contextual characteristics

- Student autonomy
- No imposed curriculum or schedules

Key Experience

Boredom as a developmental signal

Responsibility for self-directed activity

Internal questioning "What do I want to do?"

Boredom experiences as constructive

Autonomy does not become isolation

Basic human needs

Autonomy

Self-exploration

Competence

Experimentation and mastery through self-directed activity

SDT

Relatedness

Community belonging

Methodology

- Qualitative exploratory design
- Semi-structured interviews
- Inductive thematic analysis
- Reflexive & positional inquiry
- Theoretical lens: SDT


Participants described
Became routine practice at a young age
Psychological processes
Reflective habits/Self-monitoring
Flexible approaches to decisions and learning
Confidence in independent learning
Alignment of choiced with personal values
New challenges trigger further reflection
Values Alignment
Perceived relevance in adulthood
Personal agency
Value-driven educational & career choices
Adaptability & lifelong learning
Participants' Adult Life Contexts
Diverse careers and life paths
Ongoing learning and creative pursuits
Community and civic engagement
Accounts resonate with motivation theories (STD, Self-efficacy, Growth-oriented learning
Learnings from this Study
Graduates described Sudbury-model schooling as:
Fostering reflective habits
Flexible learning approaches
Value-driven agency
Perceived as relevant across adult life
Limitations & Future Research
Small qualitative sample (N=14)
Retrospective self-reports
Possible selection effects
More research on role of relatedness

INTRODUCTION

Human motivation plays a central role in educational engagement and personal development. At the same time, how individuals come to experience themselves as agents in their own lives—and how such experiences are shaped through educational contexts—remains a central question for understanding human development. Self-Determination Theory (SDT: Deci & Ryan, 2000; Ryan & Deci, 2017) proposes that motivation is shaped by the satisfaction of three basic psychological needs: autonomy, competence, and relatedness. Autonomy refers to the experience of volition and self-endorsement in one's actions, competence concerns feeling effective in interacting with the environment, and relatedness involves experiencing meaningful connections and a sense of belonging with others. Educational environments vary in the extent to which they support or constrain these needs, with implications for students' engagement, well-being, and long-term motivational development (Ryan & Weinstein, 2009).

While much research on motivation has focused on processes within formal schooling, less attention has been given to how dispositions such as agency, self-direction, and reflective capacity endure beyond institutional contexts and shape individuals' approaches to learning and life over time. In particular, relatively little is known about how individuals make sense of these experiences in retrospect and how they become integrated into ongoing narratives of self and development. This raises questions about how educational environments may contribute to the development of such enduring orientations and how these continue to influence individuals beyond formal education.

Conventional schooling structures are often characterized by prescribed curricula, schedules, and assessment systems that limit opportunities for autonomous decision-making. Research grounded in SDT suggests that environments perceived as autonomy-supportive tend to foster higher levels of intrinsic motivation and psychological well-being (Ryan & Deci, 2017). In contrast, environments characterized by strong external control have been associated with disengagement and boredom (van Hooft & van Hooff, 2018). Within this broader discussion, alternative educational models that emphasize learner autonomy have attracted increasing scholarly attention.

One example is the Sudbury model school, first established with the founding of the Sudbury Valley School in 1968 in Framingham, Massachusetts (Ackoff & Greenberg, 2008; Greenberg, 2007). Schools working according to this model typically operate without a prescribed curriculum and allow students to determine how they spend their time. Governance is organized democratically, with students and staff participating in school meetings responsible for decision-making related to rules, budgeting, and

staffing (Traxler, 2015). In these settings, learning activities are largely self-directed and participation in structured instruction is voluntary. Rather than focusing solely on institutional characteristics, such environments can also be understood as lived contexts in which individuals encounter extended periods of unstructured time, responsibility, and decision-making. These conditions may shape not only what individuals do, but how they come to understand themselves as agents in relation to their actions.

Advocates of Sudbury schooling suggest that such environments may foster self-direction, responsibility, and intrinsic motivation. However, empirical research examining these claims remains limited. Much of the existing literature consists of descriptive accounts or philosophical discussions of the model rather than systematic investigation of students' retrospective meaning-making or longer-term developmental outcomes.

One frequently discussed aspect of Sudbury schooling is the experience of boredom arising from the absence of imposed curricular activities. From a phenomenological perspective, boredom may represent a disruption of habitual engagement that invites reflection on meaning, direction, and personal priorities. Proponents suggest that periods of unstructured time may encourage reflection, exploration, and self-directed engagement. Previous research suggests that such experiences may contribute to taking ownership of one's life (Hartkamp-Bakker & Martens, 2024). Yet the emotional and motivational role of boredom in highly autonomous educational environments has received relatively little empirical attention.

The present study explores how graduates from Sudbury model schools interpret their schooling experiences in relation to their subsequent learning trajectories, identity development, and orientations toward lifelong learning. Rather than treating these experiences as fixed outcomes of schooling, the study approaches them as processes of meaning-making through which individuals interpret and integrate past experiences into their ongoing lives. Drawing on SDT as a conceptual lens, the study examines how participants describe experiences of autonomy, boredom, and self-direction during their schooling and how they interpret the influence of these experiences on their later motivational development.

The study addresses the following research questions:

- How do Sudbury school graduates describe their experiences of boredom and unstructured time during their schooling?
- How do graduates interpret these experiences in retrospect?

» How do participants perceive these experiences in relation to their later motivation, reflective habits, identity development, and sense of agency?

By examining retrospective accounts of Sudbury graduates, this study aims to contribute to lifelong learning debates on how early educational environments shape enduring capacities for self-directed learning, identity formation, and agency across the life course.

Self-Determination Theory and Educational Contexts

SDT provides a widely used framework for understanding motivation in educational settings (Ryan & Deci, 2017, 2020). In this study, SDT is used as a sensitizing framework to interpret how participants describe their experiences of motivation, agency, and self-regulation, rather than as a model to be tested directly. According to SDT, human motivation exists along a continuum ranging from amotivation to intrinsic motivation. Intrinsic motivation refers to engagement in activities for their inherent interest or enjoyment, whereas extrinsic motivation involves engagement driven by external outcomes or pressures. Forms of extrinsic motivation can become more autonomous when individuals internalize the value of an activity and integrate it with their sense of self.

SDT proposes that motivation is shaped by the extent to which environments support individuals' basic psychological needs for autonomy, competence, and relatedness. Educational environments differ in the extent to which they support these needs. Autonomy-supportive contexts tend to encourage exploration, initiative, and intrinsic motivation, whereas environments characterized by strong external control may undermine motivation and engagement (Ryan & Deci, 2017). From this theoretical perspective, environments that afford high levels of autonomy—when accompanied by support for competence and relatedness—may be expected to support the development of self-directed learning and reflective agency beyond formal education.

Autonomy and Sudbury Model School Environments

Within the broader field of educational research, several alternative schooling models emphasize greater learner autonomy and self-directed learning. Among these are democratic schools and other forms of self-directed education in which students exercise substantial control over their learning activities and daily routines (Gray, 2023).

Sudbury model schools represent one example of such an educational approach. Originating with the Sudbury Valley School in the United States, these schools typically

operate without a prescribed curriculum, mandatory classes, grades, or standardized testing (Ackoff & Greenberg, 2008; Greenberg, 2007). Students determine how to spend their time and may pursue activities individually or collaboratively. Staff members generally act as facilitators or mentors rather than traditional instructors.

Governance in Sudbury schools is organized democratically through school meetings in which students and staff have equal voting rights. These meetings are responsible for decisions related to rules, school operations, and staffing. Within this structure, students participate directly in institutional decision-making processes, which may contribute to experiences of agency and responsibility. In addition, Sudbury schools operate peer-led judicial committees that address rule violations and conflicts within the school community. These committees are responsible for maintaining a safe environment by ensuring equal access to justice and fair procedures for all members of the school. Together, these governance structures provide a shared institutional framework within which students exercise autonomy and participate in maintaining the social order of the school, while also creating conditions that support ongoing negotiation of roles, responsibilities, and participation (Ackoff & Greenberg, 2008; Hartkamp-Bakker & Martens, 2026a; Traxler, 2015). These practices may be understood not only as institutional arrangements, but as contexts in which individuals encounter and negotiate questions of responsibility, participation, and self-direction in everyday life.

Although Sudbury schools have attracted interest within discussions of learner autonomy and democratic education, systematic empirical research examining student experiences within these environments remains limited. Much of the existing literature consists of descriptive accounts or philosophical discussions of the model's principles.

Boredom and Motivational Processes

Boredom has traditionally been conceptualized as a negative psychological state associated with disengagement, dissatisfaction, and lack of stimulation (Eastwood et al., 2012; Iso-Ahola & Weissinger, 1990). In educational contexts, boredom is often linked to environments in which individuals perceive limited autonomy or meaning in their activities (van Hooft & van Hooff, 2018).

However, recent research suggests that boredom may also serve adaptive motivational functions. Bench and Lench (2019) argue that boredom can signal a lack of meaningful engagement and prompt individuals to seek alternative activities that better satisfy their psychological needs. In this sense, boredom may not only indicate a lack of

engagement but also open a space for individuals to re-evaluate their situation and reorient their actions.

In educational environments characterized by substantial autonomy, boredom may therefore play a different role than in highly structured settings. Some accounts of democratic schooling suggest that periods of unstructured time can encourage reflection, exploration, and the development of self-directed interests. Nevertheless, empirical evidence examining how individuals experience and respond to boredom in such contexts remains limited.

Research on democratic schooling provides some preliminary insights. Studies of alternative educational environments suggest that unstructured time may support emotional regulation, reflection, and self-directed engagement when it occurs within supportive social contexts characterized by mutual respect and autonomy (Lees, 2017). These findings highlight the potential importance of relational and contextual factors in shaping how individuals experience and respond to boredom.

Reflective Processes, Identity Development, and Motivation

Processes of self-awareness and reflection may play an important role in the development of self-directed motivation. Research suggests that individuals' awareness of their values, interests, and emotional responses can influence how they interpret experiences and make decisions about future actions (Brown & Ryan, 2003; Morin, 2005, 2018). Reflective processes may therefore contribute to the development of personally meaningful goals and a stronger sense of agency. Such processes may play a central role in how individuals come to understand themselves as agents capable of directing their own lives.

Within the SDT framework, motivational development is closely linked to the internalization of values and the integration of goals into one's sense of self (Deci & Ryan, 2000; Ryan et al., 2021). When individuals pursue goals that are aligned with their intrinsic values, they are more likely to experience sustained engagement, persistence, and well-being.

Early engagement with personally meaningful activities has also been associated with later identity development and life satisfaction (Burrow & Hill, 2011). However, the processes through which individuals develop such engagement in highly autonomous educational environments remain insufficiently understood.

The Complex Role of Autonomy in Education

While autonomy-supportive environments in SDT are associated with positive motivational and developmental outcomes, this concept is analytically distinct from autonomy-rich educational environments that emphasize high levels of learner self-direction and choice. The role of such autonomy-rich approaches in education remains a subject of debate. Some scholars have argued that highly autonomy-rich educational models may present challenges related to structure, guidance, and collective responsibility (Wilson, 2016). More broadly, critics have also raised concerns that educational approaches emphasizing individual choice and self-direction may unintentionally align with wider discourses of individual responsibility associated with neoliberal educational reforms (Hill, 2018; Tougas, 2024). Understanding how individuals experience and navigate such environments therefore requires attention not only to their potential benefits, but also to the tensions and critiques that surround autonomy-rich educational approaches.

Research Gap

Despite increasing interest in self-directed education and democratic schooling, empirical research examining the lived experiences of students in these environments remains limited. In particular, there is limited insight into how individuals interpret and integrate experiences of autonomy, boredom, and self-direction into their broader life narratives and sense of self over time.

To address this gap, the present study investigates the retrospective accounts of Sudbury model school graduates, focusing on how they describe the role of autonomy, boredom, and reflective processes in their educational experiences and subsequent personal development and evolving sense of self.

METHODOLOGY

Research Design

This study forms part of a broader qualitative research project examining the long-term experiences of graduates from Sudbury model schools. The overarching research question guiding the larger project was: How do graduates make sense of their experiences of Sudbury schooling in relation to their adult lives? The present article focuses specifically on participants' reflections on experiences of autonomy, boredom,

and self-direction and how these were perceived to influence their later motivation and sense of agency.

A qualitative design was adopted to explore how participants made sense of their schooling experiences in relation to later life. Data were analyzed using reflexive thematic analysis following Braun and Clarke (2006, 2021), allowing for the interpretation of recurring patterns of meaning across participants' retrospective accounts. SDT served as a sensitizing conceptual framework during interpretation, rather than as a predetermined coding scheme.

The data presented here are drawn from interviews with 14 graduates from Sudbury model schools located in the Netherlands, Israel, and the United States.

Site Selection and Participant Recruitment

Schools were identified through an initial mapping of 55 schools in 13 countries describing themselves as Sudbury schools or operating comparably. Schools were included if they had been operating long enough to have graduates with several years of post-school experience, shared core Sudbury operational principles (no prescribed curriculum, voluntary participation, and democratic governance), and used a language accessible to the researcher.

Based on these criteria, eight schools agreed to participate in the study, six in the USA, two in Israel, and two in the Netherlands. Each school designated a contact person who distributed an invitation to eligible graduates. Ethical approval for the study was obtained from the University Ethics Committee, and all participants provided informed consent prior to participation. The contact persons were instructed to select participants of varying genders, backgrounds, school experiences, and career paths to minimize selection bias. In addition, participants were required to have attended the school for at least five years and to have a minimum of five years of post-school experience to allow reflection on longer-term outcomes, with a few exceptions allowed. Participants contacted the researcher directly and were informed about the aims of the study, the voluntary nature of participation, and the procedures for data anonymization.

Participants

The final sample consisted of 14 graduates aged approximately 20 to 40 years at the time of the interviews. Participants had attended their respective schools for periods ranging from five years to their entire childhood, with one participant attending for two years.

Participants also differed in their relationships to the schools. Seven participants had parents who had been involved in the school as founders or staff members at some point, while the remaining seven reported no familial involvement with the school. The schools themselves varied in size during the participants' attendance, with student populations ranging from approximately 20 to more than 80 students.

To protect participants' identities, all names used in the findings are pseudonyms. In sections describing participants' current life contexts, identifying details were intentionally aggregated (e.g., referring to numbers of participants rather than individuals) to reduce the risk of indirect identification.

Data Collection

Data were collected through semi-structured interviews conducted in 2021 using Microsoft Teams. Interviews lasted between 60 and 90 minutes. The interview guide included questions about participants' reasons for attending the school, experiences of daily life and school culture, reflections on autonomy and decision-making, experiences of unstructured time and boredom, and perceptions of how their schooling influenced later life experiences.

All interviews were audio-recorded and transcribed using an intelligent verbatim transcription approach (Bailey, 2008), which captures the meaning of spoken language while removing minor repetitions and filler words. Transcripts were anonymized and returned to participants for review to allow corrections or clarifications where necessary.

Positionality

The primary researcher has professional experience working as a staff member in Sudbury model schools. This background provided familiarity with the educational context but also required attention to potential bias during data collection and analysis. Four participants were previously known to the researcher: one was a close relative and three were former students encountered through earlier professional interactions. Although these connections facilitated initial rapport, professional boundaries were maintained throughout the research process.

To support reflexivity, analytic decisions and emerging interpretations were discussed with collaborating researchers who were not affiliated with Sudbury schools, and reflexive notes were maintained during data analysis. Given the researcher's prior

involvement in Sudbury model schools, reflexivity was treated as an ongoing part of the research process rather than a discrete procedural step.

Data Analysis

Data were analyzed using reflexive thematic analysis (Braun & Clarke, 2006, 2021). Analysis began with repeated readings of the transcripts to develop familiarity with the data. Initial codes were then generated to capture meaningful segments of text related to participants' experiences of autonomy, boredom, and self-direction. Coding was conducted using Atlas.ti software.

During theme development, particular attention was given to meanings that recurred across participants from different schools and national contexts. In practice, themes were typically developed when similar interpretations were expressed by at least three participants who had attended different schools, often across at least two countries. In subsequent stages of analysis, related codes were grouped into broader candidate themes. These themes were reviewed and refined through iterative comparison with the full dataset to ensure that they accurately represented participants' narratives and captured shared patterns across cases. In later stages of analysis, subsequent interviews contributed further nuance and depth to existing themes rather than substantially altering the developing thematic structure.

Interviews conducted in Dutch were translated into English by the researcher for reporting purposes. Particular care was taken to retain the intended meaning of participants' statements during translation (Temple & Young, 2004).

Trustworthiness

Several strategies were used to enhance the trustworthiness of the study. Participants were given the opportunity to review their transcripts to confirm accuracy. Reflexive thematic analysis involved iterative engagement with the data and continual refinement of interpretations. In addition, analytic discussions with collaborating researchers provided opportunities to reflect critically on coding decisions and theme development. Particular attention was given to distinguishing participants' retrospective interpretations from claims about causal educational effects.

FINDINGS

Participants' Life Contexts

Before presenting the thematic findings, a brief overview of participants' life contexts at the time of interview is provided. These descriptions situate the themes that follow by illustrating the professional trajectories, personal routines, and social commitments within which participants made sense of their schooling experiences and life choices.

To protect participants' identities, all names used in the findings are pseudonyms. Because the sample is small and some professional trajectories could potentially identify individuals within their school communities, descriptions of participants' current life contexts are presented in aggregated form rather than linking specific individuals to particular professions.

Employment Situations. Participants' employment situations reflected a wide range of professional fields and work arrangements. At the time of the interviews, participants were employed in areas including technology and cybersecurity, education and the arts, healthcare and caregiving, law, public administration, and small business management. Several participants combined multiple roles, freelance work, or part-time employment, reflecting diverse pathways into adulthood.

The largest occupational group was in technology-related fields, with four participants working in areas such as IT consultancy, cybersecurity testing, endpoint support, and data protection analysis. These roles ranged from independent consulting to managerial positions within specialized companies. For two, their interest in IT started while in school, the found their interest in this field later.

Three participants were engaged in creative or educational professions, including dance performance and instruction, photojournalism, and work in alternative education settings. For these individuals, professional activities were closely connected to long-standing personal interests and commitments already while in school.

Three participants had experience in healthcare or caregiving fields, including maternity care, administrative work in psychiatric services, and family therapy. Interest in working with people originated from working in the age-mixed environment of the school. One participant with a background in therapy was temporarily outside paid employment while caring for young children and volunteering in a democratic school.

Two other participants worked in fields such as human rights law, public administration combined with university studies in political science and history, or administrative roles

in family businesses and philanthropic organizations. Both chose these direction on basis of working in the democratic system of the school.

Several participants described flexible or transitional work arrangements. Approximately four participants combined freelance or part-time employment with other professional pursuits, and two participants were actively engaged in further education or re-skilling, including preparation for the GED and independent training in 3D design. These trajectories often involved ongoing exploration of career directions alongside practical economic considerations.

Personal Lives and Interests. Outside of work and study, participants described active personal lives shaped by creative, social, and community-oriented activities.

Many participants (10 of 14) regularly engaged in physical or outdoor activities such as hiking, cycling, climbing, horseback riding, skateboarding, or dance. These pursuits were often described as important sources of well-being and personal balance, and in some cases involved shared activities within local communities.

Creative practices were also common. At least nine participants reported engaging in activities such as painting, woodworking, leather crafting, music, or photography. For some individuals these practices remained hobbies, while for others they were connected to professional or entrepreneurial activities.

Social relationships played a central role in participants' daily lives. Nearly all participants described spending regular time with friends, partners, or family through activities such as cooking together, playing games, attending festivals, or informal gatherings.

Several participants were also involved in forms of civic engagement. Approximately half reported participating in volunteering, activism, or community initiatives, including youth leadership programs, feminist translation projects, democratic school governance, and grassroots organizing.

In addition, some participants described ongoing informal learning activities, such as language study, reading, or exploring topics of personal interest. Others reported engaging in hands-on projects such as technology tinkering, home maintenance, or self-directed learning projects.

These diverse professional and personal contexts provide background for understanding how participants reflected on their schooling experiences during the interviews, and how these reflections were embedded in their ongoing lives and sense of self. Many of these reflections centered on how students navigated the freedom to

structure their own time, including the challenges and opportunities associated with periods of boredom.

Experiences of Boredom

Boredom was one of the most frequently discussed aspects of participants' experiences at school. Thirteen of the 14 participants mentioned boredom when describing how they spent their time or when reflecting on challenging aspects of their schooling.

Participants often described boredom as an initial difficulty associated with the responsibility of structuring their own time in the absence of externally imposed schedules or activities.

Boredom as a challenge. Five participants described boredom as uncomfortable or difficult, particularly during their early experiences at school. Helen recalled the challenge of organizing her own daily activities, "You had to think for yourself. That is of course not always easy."

Suzanne described realizing that responsibility for structuring time rested entirely with the student, "If I don't do anything, nothing will happen. No one is coming to entertain me, and no one is coming to determine for me what I'm going to do… That was definitely difficult." Similarly, Marcia reflected on the emotional experience of boredom, "It's kind of scary… to be really bored. This was difficult."

These accounts suggest that the absence of externally structured activities initially created uncertainty, requiring participants to confront the responsibility of directing their own time and actions.

Boredom and Exploration. While participants described boredom as challenging, 13 participants reported that these experiences prompted them to reflect on their interests and seek out activities. Andrew explained, "I feel like, not constant, but occasional boredom is critical in growth and figuring out what it is you want to do with yourself and what excites you in the world." Suzanne similarly described boredom as part of a process that eventually led to action, "There will come a point when you get bored. So bored that you're going to do something."

Several participants described boredom as triggering internal questioning about interests or goals. Helen described how boredom triggered asking herself, "What do I want? … What do I want in a few years?" Philip reflected that boredom sometimes encouraged him to try new activities, "Maybe it pushed me to achieve stuff, to do something, to not be bored… maybe brought me to doing stuff I wouldn't do otherwise."

Contemporary Challenges. Two participants also noted that digital technologies sometimes altered the experience of boredom. Andrew observed, "It's really hard to be bored when you have a smartphone in your pocket. It's really easy to pass time in a completely meaningless way." Beth, the youngest participant, described becoming aware of how screen time could influence her use of time, "There are days where I literally just did nothing but be on my phone… It's my personal thing that I get on to myself about productivity."

Overall, participants described boredom both as a challenge and as a condition that sometimes prompted reflection, exploration, or changes in activity.

Reflective Habits in Decision-Making

Another recurring theme in participants' accounts, closely connected to feelings of boredom and uncertainty arising from their experiences with unstructured time, concerned the development of reflective habits and approaches to decision-making. Eight participants described regularly reflecting on their choices and evaluating whether their activities aligned with their interests or values. Claire explained, "I do think that a kind of general reflection process has been learned… I try very hard to think about the choices that I make in my personal life and in my work." Helen similarly described spending time reflecting on personal priorities, "You can spend a lot of time on what you want, what you find important, what kind of person you are."

Some participants reported that this form of reflection had become a routine part of their decision-making. Rachel described regularly reassessing situations when something felt unsatisfactory, "If I feel uncomfortable… I need to sit down and examine this and come up with a new plan." Leo described applying similar reflections when considering job opportunities, "Really asking myself every time before I take a job: 'Do I really want to do this?'"

Three participants explicitly contrasted their reflective habits with those of peers from more conventional educational backgrounds, suggesting that they perceived these practices as developing earlier in their own lives.

Flexible Mindsets in Approaching Life Challenges. Nine participants described approaching decisions with a sense that multiple options were possible. Ella explained, "If I don't like the way things are, I actually am in an agentive position to think about them and do something differently." Rachel described a similar sense of personal influence over life direction, "I have control… I have the power to make my life be one that is satisfying." Ted described applying this perspective to everyday situations, "If there's

something that I don't like, I can find ways to make that better."

These accounts suggest that many participants approached decisions with an underlying sense of agency, viewing their circumstances as open to revision and change.

Confidence in Learning New Skills. A related theme concerned participants' confidence in their ability to learn independently, often described as an openness to experimentation and learning through action. Five participants explicitly described strong confidence in their ability to learn new skills or navigate unfamiliar situations.

Ella explained, "I don't end with what I have now, and if I am simply drawn to something, that is a good enough start." Stephen described approaching unfamiliar tasks without excessive concern, "I didn't totally freak out when I had to learn something new." Lillian similarly emphasized experimentation as part of learning, "Anything I want to learn, I can just go do it... I might mess up at first."

Perceived Effects on Motivation, Life Choices, and Identity

Participants also reflected on how their schooling influenced their motivations, educational choices, and sense of self.

Understanding Personal Preferences. Six participants described making educational or career decisions based on their preferred ways of learning. Claire explained, "It had more of an effect on what kind of course I went to... on why I picked it very specifically." Suzanne described selecting programs that matched her learning preferences, "I only selected courses that suit me." Ted chose an alternative route, "Just based on the experience I had at [the school], I thought that I could probably figure out whatever job I wanted to do without needing college."

Others described quitting programs that did not align with their interests. Like how Ella described leaving a music program because it did not match her expectations about how she wanted to learn, "I just felt like I was doing technical work... I hated it."

Values and Life Priorities. Nine participants emphasized the importance of personal values in shaping their life choices. Rachel reflected, "I need to try my best to be happy... and that affected how I chose my career." Leo similarly emphasized the importance of enjoyment and meaning in work, "You can work, you can make money, but not enjoying it... it's not worth it." Philip explained that his motivation for pursuing a second academic study came from genuine interest, "not because I want a career in it, or I need to."

Perseverance and Ownership

Six participants linked persistence in pursuing goals to the sense that their decisions were self-chosen. Philip remarked how his experience from school supported the realization, "You are there [course program] not because you need to, but because you want to." Helen described this relationship between choice and persistence, "Because you chose it yourself, you just do it... and you adapt." Rachel described how experience in school with working through difficult tasks, "... helped me get used to doing tedious and boring things... to get to a larger goal."

Identity and Self-Concept. Ten participants described their schooling as influential in shaping aspects of their identity and confidence, often in ways that were difficult to separate from their broader sense of self. For example, Ted stated, "It probably influenced just about every aspect of the person I am today." Lillian similarly remarked, "I wouldn't really be who I am without it," or Philip said, "I think it did a lot to build who I am today in a good way." Claire, moved to tears, said "I think I really wouldn't be where I am now or the person I am today if I hadn't gone to this school."

At the same time, several participants noted the difficulty of determining the extent to which their schooling influenced their later lives. Claire noted that it was difficult to determine the school's influence because she had no basis for comparison. Suzanne reflected, "I have no idea where I would have been if I hadn't had it." Andrew and Lillian, who attended from a very young age, acknowledged the school's deep but inseparable role in their development: "This is just what I've known."

Taken together, these findings illustrate how participants described navigating autonomy, decision-making, and personal development during and after their schooling. Rather than presenting fixed outcomes, participants' accounts reflect ongoing processes of interpreting and integrating their experiences into their lives. While participants often attributed aspects of their motivation, reflection, and identity to their educational experiences, they also acknowledged the complexity of disentangling these influences from other factors in their lives.

GENERAL DISCUSSION

This study explored how graduates of Sudbury model schools reflect on their educational experiences and interpret these experiences in relation to their subsequent learning trajectories, identity development, and sense of agency across

the life course. In these environments, participants were expected to manage their time, navigate boredom, and make decisions with real consequences. Participants' accounts highlighted several psychological processes—including navigating boredom, developing reflective habits, adopting flexible approaches to decision-making and learning, and aligning life choices with personal values—which are consistent with the processes of self-growth described by Jain et al. (2015). They also described increasing confidence in their ability to initiate, direct, and sustain their own learning over time, suggesting experiences consistent with the development of competence. Within SDT, such confidence is closely linked to more autonomous forms of regulation, which have been associated with deeper engagement and more effective learning, particularly in contexts with fewer external constraints (Ryan & Connell, 1989). In contrast, more controlled forms of regulation have been shown to relate less consistently to adaptive competence beliefs, highlighting the importance of autonomy-supportive conditions for the development of self-directed learning.

The contextual descriptions of participants' adult lives also provide an important backdrop for interpreting these psychological themes. Participants' professional and personal trajectories were diverse, ranging from careers in technology, healthcare, law, and education to freelance and transitional pathways that combined work, caregiving, and ongoing learning. Many participants described active personal lives involving creative practices, civic engagement, and continued skill development. These life contexts illustrate how reflective habits, flexible mindsets, and value-driven decision-making are enacted in adulthood, as part of broader processes of learning and identity formation beyond formal education.

Boredom as a Catalyst for Self-Directed Action

One of the most striking findings concerned participants' experiences of boredom during their schooling. Thirteen of the fourteen participants described boredom as a recurring aspect of their time in school, often linked to the responsibility of structuring their own daily activities in the absence of externally imposed curricula.

Participants frequently described boredom as uncomfortable at first, but also as a condition that prompted reflection and exploration. Several described asking themselves questions such as "What do I want to do?" or "What should I do next?" when confronted with periods of inactivity. Boredom appeared less as a passive state and more as a trigger for internal dialogue and self-directed decision-making.

The experience of boredom described by participants echoes research on unstructured time in a comparable alternative educational setting. Lees (2017), argued that moments of "not doing much" in democratic schools such as Summerhill can create space for reflection, emotional regulation, and personal initiative. Participants' accounts in this study suggest similar dynamics: boredom was often remembered as a challenging but potentially generative experience that encouraged self-directed action.

Two participants pointed to the potential influence of digital technologies—particularly smartphones and social media—on experiences of boredom. While one questioned whether such technologies might limit opportunities for constructive boredom, another described feelings of dissatisfaction after a day spent on her phone. This latter account did not reflect boredom as such, but rather a retrospective awareness of unfulfilling time use, suggesting that reflection may still emerge even in the absence of boredom. Overall, unstructured time was consistently associated with the development of reflective habits and self-monitoring.

Reflective Habits and the Development of Self-Monitoring

Closely related to experiences of unstructured time and boredom, a recurring theme in participants' narratives was the development of reflective habits. Eight participants described regularly evaluating their decisions and questioning whether their actions aligned with their interests, values, or long-term goals. Several explicitly linked moments of boredom to this process, noting that periods of inactivity prompted them to reconsider their priorities and next steps. Over time, such reflection was described as becoming a routine aspect of adult decision-making.

These accounts point to the development of ongoing self-monitoring of personal choices and circumstances. Participants described pausing to reassess career decisions, reconsider situations that felt unsatisfactory, and reflect on their priorities before committing to new directions.

From a SDT perspective, these reflective practices can be understood as part of the process of internalization and the development of an internal perceived locus of causality (Ryan & Connell, 1989). To the extent that individuals experience themselves as the origin of their actions, they are more likely to regulate their behavior in accordance with internalized values rather than external contingencies. In this sense, the reflective habits described by participants may support a shift toward more autonomous forms of self-regulation.

Participants' descriptions of inner questioning also resemble what Morin (2018) conceptualizes as inner speech or self-talk, which plays a role in self-awareness and decision-making. Through such internal dialogue, individuals can evaluate their actions, align behavior with personal values, and adapt to changing circumstances.

Although causal relationships cannot be established, these findings suggest that educational environments placing responsibility for decision-making on learners may support the development of reflective habits into adulthood.

Flexible Mindsets in Decision-Making and Learning

Beyond reflection, many participants described broader attitudes toward life challenges characterized by flexibility, initiative, and confidence in their ability to adapt. These accounts appeared in two forms: flexible approaches to life decisions and confidence in learning new skills.

Nine participants described approaching life decisions with the expectation that change and adaptation were possible. Participants spoke about the ability to reconsider choices, redirect their careers, or reshape their circumstances when situations no longer aligned with their values. Rather than viewing decisions as fixed or irreversible, many described their lives as open to revision.

In addition, five participants described strong confidence in their ability to learn independently. Several participants expressed the belief that new skills could be acquired when needed, even without formal instruction. Learning was often described as an exploratory process involving experimentation and trial and error.

These attitudes resemble elements of Bandura's (1997) concept of self-efficacy concept of self-efficacy and research on growth mindset (Dweck, 1986; Dweck & Yeager, 2019), while also reflecting, from an SDT perspective, the development of perceived competence alongside more autonomous forms of motivation (Deci & Ryan, 2000; Ryan & Deci, 2017).

However, participants' descriptions suggest that persistence was often grounded in personal meaning rather than in abstract ideals of effort or productivity. Their willingness to persevere through difficulty appeared closely tied to the sense that their goals were self-chosen and personally meaningful.

Motivation, Identity, and Value-Driven Life Choices

Participants also described ways in which their schooling appeared to influence their motivations, career decisions, and sense of self. Many participants reported making

educational and professional choices based on their interests, preferred learning styles, or broader life values that had already begun to develop during their time in school (Hartkamp-Bakker & Martens, 2026b).

For example, several participants described leaving educational programs or career paths that did not align with their expectations or values. Others described pursuing careers or studies motivated by curiosity, passion, or personal meaning rather than by external expectations.

These accounts align with research on self-concordant goals, which suggests that individuals who pursue goals aligned with their internal values tend to experience higher levels of motivation and well-being (Sheldon & Elliot, 1999). Within SDT, such patterns are associated with integrated motivation, in which behavior is guided by personally endorsed values rather than external rewards or pressures (Deci & Ryan, 2000).

Participants' narratives also suggested a deeper sense of inner clarity regarding their personal values and life direction. Several described making decisions by reflecting on what felt meaningful or consistent with their sense of self. This orientation resembles what Rogers (1961) described as the organismic valuing process, in which individuals rely on an internal evaluative compass to guide choices toward personally meaningful goals rather than externally imposed expectations. Interpreted through the lens of SDT, such descriptions are consistent with the concept of eudaimonic well-being, which emphasizes acting in accordance with internal values and authentic interests (Ryan et al., 2008; Ryan & Deci, 2001; Ryan & Martela, 2016).

At the same time, it is important to emphasize that such alignment cannot be assumed to emerge automatically from autonomy alone. Research suggests that when autonomy is not accompanied by adequate social or emotional support, highly unstructured environments may also produce uncertainty or anxiety for some learners (Vansteenkiste et al., 2004).

In addition, participants' narratives highlight the complexity of interpreting long-term educational influences. While many participants described their schooling as shaping aspects of their identity or confidence, several also acknowledged the difficulty of determining the extent to which these outcomes could be attributed to their schooling alone. As some participants noted that it was difficult to assess the school's influence without any basis for comparison, since they had no experience of a different educational environment.

Autonomy, Relatedness, and the Complexity of Self-Directed Education

Although autonomy and competence were central in participants' narratives, relatedness—one of SDT's three basic psychological needs—did not appear to play a direct role in these findings. This aligns with SDT research suggesting that, while essential, relatedness may operate more distally in supporting intrinsic motivation (Deci & Ryan, 2000). At the same time, autonomy-support is understood to function most effectively when embedded in relationships that provide trust, safety, and recognition (Ryan & Deci, 2001). This is reflected in research on Sudbury model schools, where organizational structures may foster close staff–student relationships that support autonomous learning (Hartkamp-Bakker & Martens, 2026a), and in findings that relatedness can play a role in coping with boredom in democratic school settings (Lees, 2017).

From this perspective, the limited visibility of relatedness may reflect its background or enabling function rather than its absence. This interpretation is supported by Kraftl (2013) who argues that alternative learning environments can foster deep personal growth, provided adequate relational support is present. As Ryan (1991) suggests, individuation can be understood not as something that occurs apart from others, but rather in relation to them.

At the same time, critical perspectives raise questions about the broader implications of autonomy-rich models. Wilson (2016), for example, argues that a strong emphasis on individual self-actualization may risk privileging personal development over engagement with wider social and political concerns.

The accounts in this study, however, complicate this critique. While participants frequently described strong orientations toward self-direction and personal responsibility, many also reported active involvement in community initiatives, volunteering, creative collaboration, and civic engagement. These findings suggest that the forms of self-knowledge cultivated in such environments may not be purely individualistic but can coexist with—and potentially support—relational and social commitments. Rather than standing in opposition, autonomy and relatedness may thus be more dynamically intertwined than such critiques assume.

Integrating the Findings: Development Across the Life Course

Taken together, the findings suggest a possible developmental sequence through which early experiences of autonomy may contribute to enduring orientations toward self-directed learning, reflective agency, and adaptive engagement across the life course.

Experiences of boredom in the absence of externally imposed structure often prompted internal questioning about interests, goals, and priorities. These reflections appeared to support the development of self-evaluative habits that helped participants align their actions with personal values. Over time, such reflective practices were frequently described alongside more flexible approaches to decision-making and learning, including confidence in exploring new directions and adapting to change. Interpreted through SDT, this sequence may reflect a gradual transition from heteronomous to autonomous regulation, as individuals come to experience themselves as the origin of their actions and regulate behavior in accordance with internalized values rather than external pressures (Deci & Ryan, 2000; Ryan & Deci, 2017).

Participants' diverse professional trajectories and personal pursuits illustrate how the psychological patterns identified in the findings may be enacted in adulthood. Participants described pathways involving ongoing learning, creative engagement, and value-driven decision-making. These patterns of aligning decisions with personal values and sense of self highlight how early educational experiences may contribute to the formation of enduring orientations that guide learning and decision-making across the life course. While such patterns cannot be attributed solely to their schooling experiences, they provide insight into how autonomy-rich educational environments may interact with broader life trajectories.

Limitations

The findings of this study should be interpreted considering several limitations related to its design and scope. First, the analysis is based on participants' retrospective accounts of their schooling experiences and their perceived influence on later life trajectories. These narratives reflect participants' interpretations rather than direct evidence of causal relationships, and are likely shaped by their current identities, perspectives, and life circumstances. Several participants also noted the difficulty of disentangling the specific impact of their schooling from other influences, underscoring the interpretive challenges inherent in retrospective research.

Second, the study draws on a relatively small sample (N = 14), consisting of graduates from Sudbury model schools. While the inclusion of participants from multiple schools across different countries introduces some variation in context, the findings reflect the perspectives of a particular group and cannot be assumed to represent all students in self-directed educational environments more broadly.

Third, the possibility of selection effects should be considered. Individuals who choose to attend or remain in highly self-directed educational settings may already be predisposed to value autonomy, reflection, or non-traditional learning pathways. In addition, those who opted to participate in this study may be more inclined to reflect positively on their experiences. These factors make it difficult to determine the extent to which the patterns described here are attributable to the educational environment itself rather than to characteristics of the individuals who selected into it.

Fourth, the retrospective nature of the study introduces potential limitations related to memory and narrative construction. In some cases, participants reflected on experiences that occurred more than a decade earlier. While such accounts offer valuable long-term perspectives, they may also be influenced by selective recall, post hoc reasoning, or reinterpretations shaped by subsequent experiences.

Fifth, although autonomy and intrinsic motivation emerged as central themes, the role of relatedness was less explicitly reflected in participants' accounts. Given its established importance within Self-Determination Theory, this limited visibility suggests that relatedness may operate more implicitly or in the background, and points to an important area for further research.

Finally, causal interpretations should be approached with caution. Although participants frequently linked their educational experiences to later attitudes, behaviors, and life choices, these developmental trajectories are likely shaped by multiple interacting factors, including personal dispositions, family context, and broader sociocultural influences, rather than schooling alone.

Implications for Lifelong Learning and Educational Practice

Despite these limitations, the findings offer insight into how autonomy-rich educational environments may shape learners' developmental trajectories and ongoing engagement with learning. Participants' accounts suggest that environments allowing students to structure their own time and make meaningful decisions may support the development of reflective habits, value-driven motivation, and adaptive approaches to learning.

While highly autonomy-rich educational models such as Sudbury schools may not be feasible or appropriate in all contexts, the findings raise broader questions about how elements of autonomy-rich practices might be incorporated into more conventional educational systems. Opportunities for student choice and self-directed exploration may contribute to the development of self-regulation, intrinsic motivation, and

adaptability—qualities that are increasingly emphasized in contemporary discussions of educational reform.

The findings also invite reflection on some prevailing assumptions within mainstream schooling. Participants frequently described early experiences of autonomy, self-reflection, and value-driven decision-making, and several contrasted these experiences with peers who began questioning their educational or career paths only years after leaving school. While such comparisons should be interpreted cautiously, they resonate with research suggesting that highly standardized and externally regulated learning environments may sometimes undermine intrinsic motivation by prioritizing compliance over self-determination (Deci et al., 1991; Ryan et al., 2021; Ryan & Deci, 2017). From a humanistic perspective, Rogers (1961) similarly warned that excessive external control can distance individuals from their internal guidance systems.

More broadly, the study contributes to ongoing debates about the goals of education by suggesting that experiences emphasizing agency, reflection, and authentic engagement may shape how individuals approach learning, decision-making, and participation across the life course.

Future research could further investigate the mechanisms through which autonomy-rich educational environments influence psychological development and life trajectories. Comparative studies across cultural contexts, educational models, or socioeconomic settings may provide deeper insight into how autonomy, relatedness, and competence interact in shaping long-term educational outcomes. Such research would contribute to a more nuanced understanding of how educational systems can support both individual development and broader social engagement.

Taken together, these findings invite renewed consideration of how educational systems might incorporate greater opportunities for autonomy and self-directed learning, while remaining attentive to the diverse needs of learners and contexts.

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CHAPTER 7

Autonomy, Participation, and Lifelong Learning: Graduates' Reflections from Sudbury Schools

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ABSTRACT

Background: This study investigates how radically self-directed, democratic learning environments may relate to long-term development through autonomy and participation. **Purpose:** The research examines how everyday participation in community life within Sudbury schools is perceived by graduates as informing their personal, social, and professional capacities that persist into adulthood. **Method:** Drawing on cross-cultural interviews with fourteen alumni from Sudbury schools in the Netherlands, Israel, and the United States, reflexive thematic analysis was used to explore graduates' retrospective narratives of learning and development. **Findings:** Learning was described as developing through authentic engagement in meaningful activity, shared responsibility, and informal interactions with peers and adults—conditions that resonate with core principles of experiential education. Graduates described cultivating initiative, self-regulation, civic and organizational literacy, and confidence in communication. **Implications:** By situating Sudbury schooling within traditions of experiential education, Self-Determination Theory, and Evolutionary Developmental Psychology, this study suggests potential long-term associations between democratic participation, learner autonomy, and graduates' reported developmental outcomes on learning, social development, and civic engagement. The findings suggest that educational pathways can be reimagined beyond formal instruction and standardized progression to foster lifelong adaptability, resilience, and social responsibility.

SIGNIFICANCE OF THE RESEARCH

This study shows that graduates of Sudbury schools described carrying forward adaptability, initiative, and civic responsibility that they associated with their experiences of democratic participation and learner autonomy. These findings suggest that education systems can be reimagined to support lifelong learning and social engagement beyond the vlimits of formal instruction and standardized progression.



Autonomy, Participation and Lifelong learning: Graduates' Reflection from Sudbury Schools

Study Context

8 Sudbury schools
14 Alumni participants
3 Countries



Relevant context characteristics

- Student autonomy
- No imposed curriculum
- Democratic governance
- Age-mixed community

Everyday Participation in School Life

Meaningful activities and projects

Shared responsibility in community life

Informal interaction with peers and adults

Participation in governance

Situated in age-mixed, diverse community

Basic human needs

Autonomy

Self-determined participation

Competence

Experiential and adaptive learning

Relatedness

Tolerance

SDT

Methodology

- Qualitative exploratory design
- Semi-structured interviews
- Inductive thematic analysis
- Reflexive & positional inquiry
- Theoretical lens:
  Experiential education, SDT, EDP, Sociocultural learning

Participants described

Learning from real life challenges

Learning Processes

Experiential "Learning by doing"
Self-directed exploration
Informal and situated learning
Reflection through participation

Scholarly Debate amongst EDP theorists:
Explicit instruction required
vs.
Meaningful engagement and intrinsic motivation

Reported Capacities in Adult Life

Initiative and self-regulation
Communication and collaboration skills
Civic and organizational literacy
Adaptability and confidence in learning

Pathways to Complex Knowledge

Self-directed learning and sustained interest
Non-traditional routes to higher education
Initial adaptation to academic routines

Learnings from this Study

Graduates described how everyday participation in democratic school communities supported initiative, civic literacy, and adaptable learning strategies that persisted into adulthood

Limitations & Future Research

Small qualitative sample (N=14)
Retrospective self-reports
Possible selection effects
Broader and longitudinal research

INTRODUCTION

A central challenge for education today is preparing learners not only to acquire knowledge but also to sustain motivation, adapt to uncertainty, and participate effectively in diverse communities across the lifespan. The structures of mass schooling, shaped historically by processes of bureaucratization and global convergence (Boli et al., 1985; Meyer et al., 1992), established systems organized around standardized curricula and external control. While these arrangements achieved efficiency and comparability, their legacy continues in many contemporary contexts, where prescriptive instruction and external rewards have been argued to constrain autonomy (Deci et al., 2001) and limit opportunities for meaningful participation—capacities increasingly recognized as essential for today's dynamic and unpredictable world (Moravec, 2024). Such approaches have been critiqued for potentially limiting opportunities to cultivate developmental capacities that matter for lifelong growth: initiative, self-regulation, civic responsibility, and the ability to find purpose in unstructured situations.

Against this backdrop, alternative educational traditions have emphasized learning through autonomy, responsibility, and active participation. Sudbury schools provide a particularly distinctive model. Organized around complete learner autonomy, democratic governance, and mixed-age community life, they operate without imposed curricula, classes, or assessments (Greenberg, 1987; Traxler, 2015). Everyday participation in decision-making, self-chosen activity, and community responsibility is treated as both the medium and the content of education. Although conceptually significant, these schools have received relatively little empirical attention compared with other alternative models and systematic research on their long-term developmental impact remains especially limited.

This study addresses that gap by examining graduates' reflections from Sudbury schools in the Netherlands, Israel, and the United States. Through reflexive thematic analysis of interviews with fourteen graduates, it explores how graduates perceived autonomy and participation as influencing their enduring personal, social, and professional capacities. Framed by experiential education scholarship and informed by psychological and evolutionary perspectives, the findings extend current understandings of how radically learner-driven environments foster lifelong adaptability, resilience, and civic engagement.

Theoretical Foundations: Experiential, Motivational, and Evolutionary Perspectives

Experiential education traditions emphasize that learning develops through direct engagement in meaningful activity and reflection on that activity. Dewey (1997) argued that education should be rooted in authentic experiences, while Kolb (1984) conceptualized learning as a cyclical process of action and reflection that produces transferable capacities. From this perspective, participation and responsibility are not peripheral but central to education, in contrast to systems that rely on external control.

Self-Determination Theory (SDT) adds a complementary motivational perspective by explaining how autonomy, competence, and relatedness operate as universal psychological needs that support optimal functioning and learning (Deci & Ryan, 2000; Ryan & Deci, 2017). Autonomy refers to experiencing a sense of choice and volition in one's actions, competence to feeling effective and capable in one's pursuits, and relatedness to feeling connected to and valued by others. When these needs are fulfilled through genuine choice, opportunities for mastery, and supportive relationships, individuals may develop intrinsic motivation, persistence, and self-regulation (Niemiec & Ryan, 2009; Reeve & Assor, 2011). Conversely, when educational contexts rely on external control, surveillance, or rigid instruction, these needs are thwarted, resulting in disengagement, compliance, or superficial learning (Deci et al., 2001; Deci & Ryan, 2000). From an experiential education standpoint, SDT clarifies why environments that minimize external pressures and cultivate learner autonomy, competence, and social connection have been associated with promoting deeper and more enduring engagement with learning.

Evolutionary Developmental Psychology complements both traditions by situating self-directed and participatory learning in the broader arc of human evolution. Research suggests that children evolved to learn through observation, play, and participation in community life rather than through extended formal instruction (Gray, 2015; Lancy, 2016; Rogoff, 2003). In small-scale, egalitarian societies, children develop skills by engaging in real tasks within their communities, supported by mixed-age interactions and voluntary cooperation (Gaskins & Paradise, 2010; MacDonald, 2010; Rogoff, 2015). From an evolutionary developmental perspective, modern educational ecologies that emphasize autonomy, responsibility, and participation align more closely with our species' developmental heritage. This view resonates with Lave and Wenger's (1991) theory of situated learning, in which knowledge is acquired through legitimate participation in shared social practices rather than through decontextualized

instruction. The four-phase model of interest development (Hidi & Renninger, 2006) adds a complementary insight by highlighting how repeated engagement supports the deepening of learners' interests and knowledge over time.

Debates on Structured Instruction and Self-Directed Education

A long-standing debate concerns whether highly autonomous environments can adequately support the development of advanced knowledge and skills. One line of argument holds that complex, biologically secondary domains such as literacy and mathematics do not emerge naturally and therefore require systematic, explicit teaching; without such instruction, learners risk being unprepared for the demands of modern societies (Geary, 2005, 2008; Sweller, 2008). Others question this assumption, pointing to evidence that learners can acquire sophisticated abilities when they are motivated and when the knowledge becomes meaningful in context. From this perspective, learning is best supported through autonomy, engagement, and participation in authentic practices, rather than through uniform instructional routines (Ellis, 2008; Gray, 2016; Lancy, 2016).

Debates about the role of adults in self-directed environments are related but somewhat distinct. Here, the disagreement is less about whether learners should direct their own education and more about how much support adults should provide along the way. Some emphasize guided participation, in which adults scaffold learning within shared activity (Matusov, 2023; Matusov & Rogoff, 2002). Others, including Sudbury educators, minimize adult interventions to preserve full learner autonomy (Ackoff & Greenberg, 2008; Traxler, 2015). Comparable tensions are also evident in outdoor and experiential education, where facilitators must balance the provision of safety and structure with the developmental value of autonomy and risk-taking (Arvanitis et al., 2024; Stan, 2009).

Self-directed learning has been a central concept in adult education since Knowles' (1975) influential definition of learners taking initiative in diagnosing needs, setting goals, and evaluating outcomes. Later theorists elaborated self-directed learning as both a learner disposition and a structured process, typically exercised within teacher-designed curricula and tied to external standards (Brookfield, 1985; Garrison, 1997). Adaptations of self-directed learning in schools often overlap with constructs such as self-regulated learning (Bolhuis, 2003; Zimmerman, 2002). In the light of this debate, it is important to distinguish self-directed learning from the broader notion of Self-Directed Education, as articulated by Gray (2023). Whereas self-directed learning generally refers to learner initiative exercised within externally defined learning frameworks, Self-Directed Education, as practiced in Sudbury schools and other democratic education

settings, entails autonomy at the level of what, how, and even whether to engage in formal study. While both emphasize initiative, Self-Directed Education represents a more radical commitment to trusting learners' capacity to shape their own development.

Sudbury Schools as Radical Experiential Contexts

Founded with Sudbury Valley School in Massachusetts in the late 1960s and now established internationally, Sudbury schools are defined by three core features: (1) complete learner autonomy, where students decide individually how to use their time without imposed curricula, classes, or assessments; (2) democratic governance, where students and staff participate equally in the school governance; and (3) mixed-age community life, enabling informal mentorship, collaboration, and peer modeling (Gray et al., 2021; Gray & Chanoff, 1986; Greenberg, 1987). Sudbury schools emphasize age-mixing (Gray & Feldman, 2004), which goes beyond the 'multiage' arrangements described in the broader literature (Kolstad & McFadden, 1998; Pratt, 1986), by encompassing interaction across the entire K–12 span together with adults in a shared community. In this sense, Sudbury schools represent radical instantiations of experiential education: everyday participation in self-chosen activities, governance, and community life becomes the curriculum itself. Authentic responsibilities and real consequences align with SDT's emphasis on autonomy and relatedness while also reflecting the evolutionary dynamics of learning through participation described in social theories of learning (Lave & Wenger, 1991; Rogoff, 2003).

Although conceptually significant, Sudbury schools have received limited empirical attention compared with other alternative models (Traxler, 2015). Existing studies have provided insights into governance, motivation, and student agency (e.g. Berg & Corpus, 2013; Gray et al., 2021; Von Duyke, 2013), but systematic, cross-site, and long-term perspectives remain scarce.

This study builds on that limited body of work by drawing on graduates from eight Sudbury schools in three countries. Focusing on Sudbury as a shared organizational model allows us to examine how common experiences of autonomy, responsibility, and community participation are taken up across different cultural settings. While the local implementation of democratic practices and community norms inevitably varies, the underlying principles of Sudbury schooling provide a coherent basis for cross-site comparison. By foregrounding graduates' reflections, the study contributes a broader empirical basis for understanding how radically participatory schooling shapes personal, social, and professional development over time.

METHOD

Design

This study addressed the overarching research question: How do graduates make sense of their experiences of Sudbury schooling in relation to their adult lives? Reflecting the scope of this manuscript within the larger project, the present article reports on the subset of findings relating specifically to in-school learning processes and their developmental significance; these analytic boundaries shaped the thematic structure presented in the Results. The study design followed reflexive thematic analysis as outlined by Braun and Clarke (2006, 2021), which emphasizes the researcher's active role in meaning-making and transparency throughout the analytic process. Reflexive thematic analysis was well suited to this inquiry, as the goal was to capture diverse graduate perspectives and illuminate shared patterns of experience across cultural contexts.

Researcher positionality and reflexivity

The study is grounded in a constructivist epistemology, viewing knowledge as co-constructed through dialogical interaction. The first author entered the research as a former Sudbury staff member with professional experience in democratic education and prior familiarity with four participants (one a relative, three former students). These connections facilitated rapport and richer narratives but also required careful attention to avoid over-interpretation and to anchor analysis in participants' own words. To support this reflexive process, the author arranged a formal consultation with an expert in qualitative research, in addition to engaging in regular critical-peer discussions. Reflexive journaling, discussions with critical peers, and iterative feedback loops supported the integrity of the process. Participants were treated as experts on their own experiences, and the author's commitments and prior knowledge were continually examined as part of the analytic process.

Participants

Fourteen adult graduates from eight Sudbury schools in three counties participated. The sample consisted of two schools in the Netherlands, two in Israel, and four in the United States; of the four U.S. schools, two contributed only one participant each. The term graduates here refers to those who completed their Sudbury schooling before transitioning to adult life or higher education, regardless of whether they received a formal diploma. Although not all schools identified formally as Sudbury, they shared core features of the model: absence of a prescribed curriculum, fully mixed-age

communities, and similarity in democratic governance. Focusing on schools with a shared organizational structure allowed exploration of common experiences across diverse cultural contexts while preserving comparability.

Schools were selected from an initial pool of 55 across 13 countries, with eligibility based on organizational comparability, language accessibility, and a minimum of ten years of operation. Eight schools met these criteria and agreed to participate.

To support diversity within the sample, each school was asked to nominate two graduates who varied in gender, level of engagement, and post-school trajectories. Participants were generally required to have attended for at least five years and to have a minimum of five years of post-school experience. Two exceptions were included: one participant had attended only two years beginning at age 16, and another had extensive school experience but had graduated only a year before the interview.

Table 7.1

Overview of Participant Sample (Aggregated Summary).

Category	N
Total participants	14
Countries represented	Netherlands (4), Israel (4), United States (6)
Participating schools	8 total (United States: 4; Netherlands: 2; Israel: 2)*
Participants per school	Most contributed 2; two U.S. schools contributed 1
Gender identity	9 women, 5 men
Age ranges	20–24 (2); 25–29 (7); 30–34 (2); ≥35 (3)
Attendance duration	0–5 (1); 6–10 (5); 11–15 (8)
Lifers (attended from early childhood through graduation)	5

Note. Values are presented in aggregated form to protect participant anonymity. *See text for school selection criteria.

In total, nine participants identified with she/her pronouns and five with he/him pronouns. Ages ranged from the early twenties to over forty and included both lifers who attended from early childhood through graduation and shorter-term students. All participants were assigned pseudonyms, and identifying details were aggregated to protect confidentiality given the small and close-knit nature of Sudbury school communities. A summary of the sample is provided in Table 7.1.

Materials

Data were collected using a semi-structured interview guide. The guide included open-ended questions covering five domains: (1) current life context, (2) entry into the school, (3) in-school experiences, (4) post-school transitions, and (5) overall reflections. Prompts were designed to elicit narrative accounts rather than fixed responses (Kvale, 2007).

Procedure

Interviews were conducted virtually via Microsoft Teams in 2021, lasting 60–90 minutes. All interviews were audio-recorded, transcribed verbatim, and anonymized. Pseudonyms were assigned, and transcripts were returned to graduates for member-checking (Mero-Jaffe, 2011). Informed consent was obtained prior to participation. Ethical approval was granted by the University Research Ethics Committee. All interviews, transcriptions, and subsequent analytic work were conducted by the first author.

Analytic Strategy

Analysis followed Braun and Clarke's (2021) reflexive, iterative approach. All coding, memo-writing, and development of the conceptual model were carried out by the first author, in line with reflexive thematic analysis's emphasis on a single, actively interpreting analyst rather than interchangeable coders. Coding was conducted in Atlas.ti, beginning with inductive codes developed through close reading of transcripts (Charmaz, 2006). Initial codes were closely tied to participants' phrasing and were treated as provisional. As analysis progressed, codes were revised through iterative comparison within and across cases. Codes were revised through iterative comparison, and related codes were grouped thematically. Thematic grouping involved clustering related codes into higher-order conceptual categories that connected participants' experiences of school structures, processes, and culture with the meanings they constructed about their later-life trajectories. To ensure that reported themes reflected cross-contextual patterns rather than isolated accounts, each theme was represented by quotations from at least three different participants, drawn from at least three schools in at least two countries. Any mention of how many participants contributed to a theme is intended only to illustrate the diversity of accounts supporting it, rather than to imply the strength, weight, or statistical importance of a theme, in keeping with the principles of reflexive thematic analysis.

Rigor was ensured through transparency, reflexive engagement, and sustained analytic attention rather than inter-coder reliability statistics. The first author maintained a detailed audit trail in ATLAS.ti, including code comments, analytic memos, co-occurrence notes, and evolving code lists that documented shifts in analytic thinking over time. Developing codes and early thematic patterns were discussed with critical peers and the supervisor, who provided conceptual feedback and posed reflexive questions that helped interrogate assumptions and alternative readings. Talking through the analytic process and demonstrating coding decisions supported clarity, coherence, and defensibility of the interpretations within a reflexive thematic analysis framework. Themes were retained if they spanned multiple schools, appeared in at least three interviews, and represented more than one national context. This combination of transparency, reflexive engagement, and critical dialogue provided a robustness check on the analytic decisions.

Dutch quotations were translated with attention to tone and nuance (Temple & Young, 2004). Illustrative quotes were lightly edited for readability. All Dutch–English translations were produced by the first author, who is fluent in both languages; when wording was ambiguous, translations were reviewed against the original in consultation with bilingual colleagues to preserve participants' intended meaning.

RESULTS

This section presents findings from interviews with fourteen Sudbury school graduates; all participant names used are pseudonyms. The results are organized into an overview of participant trajectories, followed by three major thematic sections that illustrate how self-directed participation in school life shaped learning, personal development, and interpersonal capacities.

Participant Overview

Graduates in this study pursued a wide variety of post-school pathways, often entering higher education or the labor market through alternative, non-diploma-based routes. Of the 14 participants, five accessed university-level study through preparatory years, entrance exams, or portfolio-based admissions. Another three enrolled in higher vocational or professional training programs. The remaining six transitioned directly into work, typically combining self-directed learning, short specialist courses, or informal apprenticeships with on-the-job experience.

Across these trajectories, four participants built careers in technology and computing—most commonly in IT and cybersecurity. One entered this field through university study, while the others did so through a mix of self-directed learning, short professional courses, and direct workplace opportunities. Three participants moved into health, psychology, and care professions, accessing these pathways through vocational entrance tests, applied training programs, and, in one case, through college followed by university study. Two participants pursued law and public service, entering university either through a preparatory year or via entry examinations, sometimes following substantial prior work experience; one of these participants later undertook a second university degree in history purely out of personal interest. Creative fields also featured prominently: three participants developed careers in arts, media, and design—two through self-training, internships, and short courses, and one through attendance at a vocational school—often combining these pathways with freelance work. Finally, two participants established careers in business, retail, and financial administration, one drawing on family enterprise experience and the other on international work experience to advance professionally.

Taken together, these trajectories highlight the diverse ways in which participants carried forward competencies shaped during everyday participation in school life, a process explored in the themes that follow.

Learning by Doing: How Daily Experiences Forge Lifelong Skills

Learning Through Daily Activity: A Continuous Process. Across the interviews, all participants emphasized that learning was a constant, largely unconscious process embedded in everyday experience. Claire described how "learning actually happens all the time in the background," while Helen reflected that "you don't always realize that you are learning something at that moment." For Leo, "every experience you have in school is a learning experience," and Andrew summarized: "For me, it's learning by doing. I think that is what still continues to be true for me in my life."

Participants noted that skills often emerged through activities that felt meaningful rather than through explicit instruction. Rachel explained, "I didn't really take classes... I was in pursuit of things that were satisfying to me, and the process of getting to those things meant learning a lot," describing how skills emerged through meaningful activity rather than explicit instruction.

Six participants who had started their schooling at a young age recalled developing literacy and numeracy informally, through reading, writing school paperwork, or

engaging in hobbies. Jessica said she "picked up grammar and sentence structure… just from reading a lot," while Philip described learning "to write and read, to deal with all the paperwork the school has." Andrew recalled that "things like arithmetic have always come incredibly naturally to me," while Helen and Marcia described how everyday activities like cooking or being outdoors helped them learn basic skills, including math.

Among participants for whom English was not a first language, this language was often learned independently, driven by personal interests. Suzanne shared how she improved her English by watching films and reading the same book in two languages and Phillip learned it from playing games. Two others pursued Spanish, Korean or German out of cultural curiosity or necessity. These accounts echo SDT's emphasis on autonomy and intrinsic motivation, where skills develop as byproducts of meaningful pursuits rather than imposed tasks.

Student-Led Projects and Hands-On Learning. All 14 participants recalled voluntary projects — camping trips, theater productions, or fundraising efforts — that required initiative, planning, and collaboration. These were not assignments but student-led undertakings. Leo explained, "I liked to take charge of stuff… producing the school plays, making a pamphlet, and raising money with ads." Alumni from different schools described camping and hiking trips as opportunities to practice budgeting, organizing, and fundraising. Marcia recalled helping plan five-day camping trips, Andrew recalled how "There was a lot of planning and fundraising that went into those trips." Also, Beth recounted budgeting organizing a museum visit, "I did all the research myself… how much money to ask from the school."

Graduates also highlighted how these projects fostered collaboration and shared leadership. Rachel described writing policies and training procedures in committees, while Ella reflected on producing a play without adult oversight: "We did all of it: choosing roles, rehearsing, building the set, making costumes, doing makeup, and invitations." Suzanne recalled, "cooking with everyone, building a restaurant for people from outside."

In sum, alumni accounts reveal that voluntary projects served as a nexus where basic academic skills, organizational competence, and civic dispositions were cultivated simultaneously. Far from being peripheral, participants' accounts illustrated how they experienced these challenges as meaningful contexts for learning, which exemplify how experiential challenges in community settings may function as rich pedagogical contexts that advance both individual agency and collective responsibility.

Governance Roles and Community Responsibility. Ten participants described taking on governance roles — clerks, chairs, committee members — as formative experiences. The judicial committee, a peer-run body for discipline and conflict resolution, and the School Meeting, where staff and students voted on rules and policies, served as the primary platforms for participation, alongside a range of other committees. Although these tasks were undertaken voluntarily, they were not casual commitments and often demanded sustained daily effort.

Ella was elected chair of the School Meeting at the age of twelve, a position she held for two years, while Leo chaired meetings at sixteen and recalled the responsibility of 'sit[ting] still for two hours and lead[ing] a meeting.' Helen described chairing the Judicial Committee, noting that sessions could last anywhere from fifteen minutes to several hours.

For many, these roles were both demanding and rewarding. Beth and Andrew emphasized enjoying the judicial committee process, while Claire highlighted learning responsibility for collective decisions: "It was important to take responsibility for things you don't necessarily like, not for yourself, but for the greater good." Andrew reflected that he especially enjoyed refining rules to ensure fairness and consistency.

Others likened governance to running a real organization: Suzanne described balancing the school's budget, Leo and Suzanne recalled participating in staff hiring and review, and Ted highlighted the difficulty of balancing individual freedom with community needs. As Lillian said that they regularly discussed, 'What do we value more: the individual or the community?'

Participants described governance roles as supporting their sense of civic responsibility but also their organizational literacy and moral reasoning, often through the demanding, sometimes long hours of collective work in judicial committee that students like Helen recalled.

Broadening Perspectives Through Age-Diverse Interactions. Four participants emphasized how mixed-age interactions shaped their learning. Leo recalled conversations across age groups that challenged him to hear new viewpoints. Helen and Suzanne valued listening to younger children, while Andrew explained that he learned to "argue in a legalese manner" by observing peers, developing structured reasoning and an ability to separate arguments from personal relationships.

The school culture of dialogue reinforced respect for differing perspectives. Suzanne recalled, "We also had very deep and sensible and philosophical discussions on an

almost daily basis, and everyone came from a different background, everyone just respected each other's point of view."

Alongside perspective-taking, participants emphasized how these experiences sharpened their thinking. Leo spoke of "trying to look at things in a different way, trying to think out of the box," while Suzanne noted, "The greater your ability to see different perspectives, the more opportunities you have to solve problems in different ways." Helen contrasted her learning to rote schooling: "Maybe she can learn and cram very well, but maybe I have learned to think," and Andrew added, "I would never have to cram for tests... That was never part of my world."

These reflections suggest that democratic dialogue not only broadened perspectives but also cultivated metacognitive awareness and flexible reasoning.

Collective Voice and Empowerment. Eight participants described empowerment through co-creating school structures and having a genuine voice within them. Ella explained, "We were part of creating it. It never felt arbitrarily restrictive because we helped build the system." Stephen recalled realizing his agency through influencing rules, while Marcia described the "power to protect things I believe in." Andrew emphasized, "there were a lot of things that we got to be a part of, which was very exciting." Three participants explicitly traced these experiences into adulthood. Helen linked her confidence in voicing opinions later in life to her school experiences, while Jessica noted that having the same voice as a staff member from a young age "carried over into my life beyond school."

Taken together, these accounts suggest that their schooling offered more than symbolic participation. Participants experienced themselves as co-authors of their institutional world, giving them practice in negotiating rules, voicing perspectives, and taking responsibility for collective outcomes. For some, this became a foundation for confidence and agency in later life, indicating how early, authentic participation can leave a lasting imprint on civic identity and the sense of one's own voice as legitimate in wider society.

Personal Skills in Adult Life

General Preparedness for Adult Life. Five participants spoke in very general terms about feeling well prepared for adult life. Rachel noted, "None of it was particularly difficult for me. I pretty much feel normal," while Ella asserted, she was "no less prepared... and in many ways much better." Lillian emphasized financial independence and happiness as markers of readiness, while others reflected that no schooling could

fully prepare one for adulthood's unpredictability.

Together, these reflections suggest that participants understood preparedness less as mastery of specific skills than as a general sense of resilience, confidence, and orientation toward adulthood.

Independent Learning and Adaptability. Eight participants emphasized learning how to learn as one of the most valuable outcomes. Helen explained, "You have to make your own schedule, learn for yourself and see for yourself how you get the right information." Andrew highlighted his practice of "self-learning" (independent study without formal instruction) as especially useful in college, while Ted described it as "probably one of the single most important skills."

Taken together, these accounts suggest that participants saw adaptability and the capacity to direct their own learning as enduring strengths, equipping them to navigate new environments and challenges beyond school.

Preparation for Further Education and Work. Eight participants felt on par with mainstream peers. Helen remarked, "I am not behind others who have completed [a mainstream] school," while Ella said, "I went to university, and I was fine." Ted reflected, "Even though I didn't have any formal classes… that didn't affect me negatively." Philip, who entered a one-year prep program, described condensing twelve years of learning into one year as "quite easy." Andrew emphasized being more prepared to apply theory in practice than peers trained to memorize definitions.

Five did face transitional challenges. Jessica recalled, "I definitely did not schedule myself that tightly when I was at [my school]," while Philip admitted, "Was I prepared for it? Honestly, no. It hit me hard… I didn't know how to study." Yet these struggles were temporary, and none reported long-term disadvantages.

Overall, participants' accounts indicated that while the transition to further education or work sometimes involved short-term adjustment, their schooling ultimately left them well equipped to succeed alongside — and at times ahead of — their mainstream peers.

Initiative, Time Management and Self-Discipline. Seven participants emphasized that their schooling cultivated initiative and responsibility by requiring them to act without constant direction. Andrew recalled that not being "babied and told exactly what to do" prepared him to handle college independently, while Claire noted she had been "trained to figure out what I have to do," a quality she later found valued in the

workplace. Helen similarly described being praised for noticing and completing tasks without supervision.

Time management was seen as integral to this independence. Beth explained how freedoms such as leaving campus were balanced with accountability to return for duties, which helped her learn to organize her time effectively. Stephen linked the Judicial Committee's consequences for neglected chores to learning self-discipline, while Ted reflected that even unstructured leisure, such as gaming, sharpened his sense of how to allocate time wisely.

Together, these accounts suggest that initiative and self-discipline were not simply taught but embedded in daily routines through freedom, responsibility, and accountability. Participants connected these experiences to later success in education and work, where anticipating tasks, managing competing demands, and following through on commitments were seen as defining strengths.

Navigating Bureaucracies and Meetings. Seven participants described how Sudbury governance prepared them to engage with bureaucratic and decision-making systems in adult life. Leo recalled that governance roles taught him "what strings to pull" in navigating procedures, while Ella explained that familiarity with rules made rigid institutions less intimidating. Lillian observed that her Sudbury school "can be very bureaucratic in a way, but it's also very flexible," a dynamic she later recognized in the corporate world, where "everything is actually a lot more flexible if you are just able to work with people and kind of push for what you want." Not all reflections were unambiguously positive. Philip noted that the egalitarian culture left him resistant to near-peer authority, making it difficult at times to accept hierarchical structures. His account suggests that Sudbury schools can foster not only adaptability but also skepticism toward imposed authority.

Three participants also pointed to how school meetings, often run with formal procedures such as Robert's Rules of Order, provided enduring reference points for collective decision-making. Claire contrasted the clarity and efficiency of school meetings with the lengthy and unfocused ones she later encountered at work, while Ted recalled feeling at ease in adult meetings that used similar procedures. Lillian added that exposure to recurring rhetorical strategies and factions gave her confidence to participate critically. These reflections suggest that regular practice with structured debate contributed to a familiarity with meeting dynamics that graduates carried into adult life.

Together, participants described their Sudbury schools as environments in which they developed transferable capacities for navigating bureaucracies and collective processes — combining procedural fluency, expectations of efficiency, and critical awareness — while also shaping how graduates evaluated and, at times, resisted authority.

Interpersonal Skills in Adult Life

Communication and Dialogue. Seven participants described how the school's participatory environment shaped both listening and speaking. Helen noted that learning to hear different views taught her to justify advice in her professional work, so people follow "not because I say so, but [because of] the why." Suzanne stressed that she had learned to "really listen," while Marcia said she continued to talk to people as equals. Together, these reflections point to how practices of listening, explaining clearly, and speaking respectfully became communicative skills that participants saw as directly useful in their working lives.

Others highlighted adaptability and rapport-building. Jessica described using skills of reading people and adjusting her communication in both leadership and customer service roles. Ted felt the school helped him move beyond shyness toward "more meaningful interactions," while Lillian linked her comfort with strangers to its culture of acceptance. Beth pointed to staff and judicial committees as models of respectful dialogue that still shape her communication. Collectively, participants saw habits of listening, adapting, and engaging as equals as central to their adult effectiveness in social and professional life.

Egalitarian Relationships. Six participants described how seeing adults as equals in school gave them confidence across hierarchies. Andrew recalled that staff were "members of the community," which shaped how he later related to professors and colleagues. Helen said she could approach anyone, "just another human being," while Suzanne felt at ease with older peers in training as long as she was judged "as a person."

Others stressed how this outlook benefited education and work. Jessica found professors approachable and took initiative where peers waited passively, and later improved rapport with bosses by treating them "as people." Leo recalled gaining confidence to contact organizational leaders, while Lillian linked her ease in disagreeing with her boss to seeing adults simply as people. Together, participants highlighted egalitarian relationships as preparation for engaging confidently with authority in adult life.

Collaboration Across Differences. Five participants emphasized learning to work

with people of different ages, backgrounds, and personalities in the school's age-mixed community. Rachel explained that "they weren't people I chose... and I had to work with them," which she saw as preparation for adult life where "you interact with all kinds of people, and you don't choose who they are." Ted similarly noted that being "forced to interact with a variety of different people, a variety of different ages, a variety of different backgrounds and knowledge" helped him overcome shyness and prepared him for later life. Leo compared this directly to the workplace, where one must cooperate even with those "you don't like."

Others highlighted how the age-mixed environment informed their professional practice. Marcia described learning to support others' visions in organizations while still holding to her own ideas. Helen and Rachel both connected their experiences of respecting difference at school to their current health and welfare work, where adapting to families' varied values and circumstances requires sensitivity and compassion. Collectively, participants saw collaboration in a diverse, age-mixed community as preparation for adult environments where difference and interdependence are inescapable.

Expressive Confidence and Respect. Nine participants emphasized that their school experience gave them confidence to voice opinions and navigate disagreements. Andrew explained, "I always feel empowered to speak up and share my feelings and opinion," while Leo highlighted the importance of "talking respectfully and getting your point through, even though you disagree ... understanding to disagree." Others echoed that the school's debate culture normalized respectful disagreement, strengthened their rhetoric, and helped them develop a confident voice.

Seven participants also reflected that being treated as capable individuals shaped their expectations of mutual respect in later life. Suzanne recalled that adult conversations often felt more meaningful than peer interactions, and Jessica and Beth noted being seen as unusually mature by outsiders. Beth attributed her ease with adults to the school, saying she could "get along with adults so well," while Leo recalled that colleagues respected him because they "didn't treat me like a kid." Not all experiences were seamless, however: Claire described frustration when, after having a normal conversation, others began treating her as less competent once they discovered her age — a sharp contrast to the respect she had grown used to at school.

Taken together, these accounts suggest that the school's culture of open debate and mutual respect fostered expressive confidence and shaped enduring expectations

of being taken seriously, even if such expectations were not always met beyond the school.

DISCUSSION

This study explored how graduates of Sudbury schools perceived the long-term impact of their self-directed education. Fourteen graduates from eight schools in the Netherlands, Israel, and the United States described how their schooling shaped learning, identity, and participation in adult life. Across accounts, learning, personal development, and social functioning were not separate domains but part of a holistic ecology of participation: skills, dispositions, and values co-emerged through immersion in a democratic community. The findings are interpreted here through the lenses of experiential education, Evolutionary Developmental Psychology, SDT, and sociocultural perspectives.

Situated and Informal Learning Processes

Participants consistently described learning as an embedded, often unconscious process — "learning by doing" (Andrew) through projects, daily activities, and dialogue. This echoes theories of experiential (Kolb, 1984), situated (Lave & Wenger, 1991), and sociocultural learning (Rogoff, 2003). Their accounts resonate with evolutionary developmental perspectives suggesting that human cognition develops in ecologically valid contexts of shared activity (Bjorklund & Ellis, 2014; Lancy et al., 2010). In this sense, Sudbury schools did not simply permit informal learning — they institutionalized it, treating daily life and governance as the curriculum. Crucially, participants' understood such everyday, self-directed experiences as supporting not only intrinsic motivation but also agency, leadership, and a sense of responsibility for the collective, echoing evolutionary developmental, situated and sociocultural assertions that civic and social skills emerge naturally from meaningful participation.

Autonomy, Self-Direction, and Agency

The absence of imposed curricula required students to manage their own time, develop initiative, and learn how to learn. Participants emphasized that these habits later supported adaptability and confidence in unfamiliar tasks. From an SDT perspective, their accounts illustrate how autonomy-supportive contexts foster intrinsic motivation and internalized responsibility (Ryan & Deci, 2017). Although some described transitional struggles when adapting to conventional routines, these were experienced

as temporary rather than long-term disadvantages. Overall, participants described initiative, self-regulation, and reflective learning strategies as enduring strengths and linked the autonomy of their schooling to later adaptability.

Governance as Pedagogy

Participation in governance — budgeting, conflict resolution, hiring, chairing meetings — was described as formative rather than symbolic. Students saw these roles as demanding, rewarding, and educational, supporting Greenberg's (2016) claim that democracy constitutes education itself. From an evolutionary perspective, such responsibilities echo ancestral contexts where children contributed to real community tasks (Gaskins & Paradise, 2010; Rogoff, 2003). Graduates emphasized that these activities cultivated civic literacy, moral reasoning, and organizational competence, while also sharpening awareness of bureaucratic systems. Participants described governance as an important context for their learning in which they learned to lead, negotiate, and participate responsibly in collective life.

Balancing Freedom and Collective Responsibility

Beyond governance, participants reflected on the broader tension between individual autonomy and community obligations. Some celebrated how responsibility emerged naturally within freedom; others noted inefficiencies or frustrations. Philip's resistance to hierarchical authority illustrates how democratic schooling can foster both adaptability and skepticism toward imposed structures. These reflections align with SDT's view that autonomy flourishes within supportive, interdependent relationships (Deci & Ryan, 2000) and with evolutionary developmental perspectives highlighting cooperation as an adaptive skill in small communities (Tomasello, 2019). Rather than resolving this tension, Sudbury schools functioned as micro-societies where it was continuously lived and negotiated. In this sense, freedom and responsibility were not oppositional but mutually constitutive, which participants experienced as contexts in which they developed the dispositions needed to navigate complex adult environments.

Complex Knowledge and Pathways of Learning

Participants reported acquiring literacy, numeracy, and languages through self-motivated activities, and most transitioned into higher education or professional fields without lasting difficulty. What stands out in their narratives about their life-paths is not only the diversity of pathways but also the resourcefulness with which participants accessed opportunities. Almost none graduated in the traditional manner based on a diploma earned through curricular final exams. Instead, entrance exams, preparatory

years, portfolio-based admissions, vocational tests, and work experience often substituted for conventional school-leaving qualifications. Many emphasized the role of self-study, passion, and flexibility in shaping their trajectories. Collectively, their accounts demonstrated how meaningful professional specialization and sustained careers can develop through non-traditional routes into higher education and employment. While some initially struggled with academic routines, none felt permanently disadvantaged.

The four-phase model of interest development (Hidi & Renninger, 2006) offers a useful complement to these accounts. Their framework emphasizes how interest and knowledge deepen when learners have opportunities for repeated engagement and growing familiarity with meaningful tasks. Participants' descriptions of spending extended periods on self-chosen activities, following lines of curiosity, and developing expertise through practice align with the kinds of environmental supports that facilitate the transition from situational to more sustained forms of interest. Taken together, the model reinforces the broader idea evident in graduate narratives: that deepening knowledge and engagement can emerge organically when learners are free to pursue domains they find meaningful.

The participants' reflections question the assumption that formal instruction is the only pathway to complex knowledge and align with evidence that self-directed educational contexts can support robust outcomes (Gray & Chanoff, 1986; Gray & Riley, 2015; Morrison, 2022). This finding connects to an ongoing debate about how learners engage with complex domains: some argue that such knowledge must be mastered through explicit teaching because it does not arise naturally and is essential for participation in modern societies (Geary, 2008; Sweller, 2008). Others highlight the role of motivation, emotion, and meaningful engagement, suggesting that learners pursue complex knowledge effectively when it becomes relevant in their lives (Ellis, 2008; Gray, 2016; Lancy, 2016). Ellis's critique of Geary is especially relevant here: rather than viewing formal instruction as necessary to override folk modules, he emphasizes that learning develops adaptively through cultural context and intrinsic motivation. Graduate accounts lend weight to this latter perspective, showing how they perceived informal, self-motivated pathways as adequate preparation for their later engagement with complex academic and work demands.

The Role of Adults

Although staff were not acting as teachers, participants emphasized that adults mattered — as models of respect, anchors of culture, and co-participants in governance. Their role aligns with Rogoff's (2003) notion of guided participation: adults did not impose,

but they shaped the cultural ecology in which learning unfolded. This highlights that this type of education is not about the absence of adults, but about the quality of their involvement. Distinguishing between self-directed learning and Self-Directed Education clarifies this point. Self-directed learning often takes place within teacher-designed curricula, while Self-Directed Education, as in Sudbury schools, grants self-governance over what, how, and even whether to engage in formal study (Gray, 2023). Graduates accounts underscore that this self-directedness was not isolation, but interdependence within an egalitarian culture of respect.

Limitations of the Present Study

This qualitative inquiry relied on a small, self-selected sample of fourteen graduates and retrospective accounts of their schooling. Participants who chose to take part may have held particularly positive or reflective attitudes toward their Sudbury experiences, which could have shaped the tone and content of their narratives. The first author also had prior relationships with four participants (one a relative and three former students); although reflexive practices were used to attend to potential influence, this familiarity may have shaped participation and therefore represents an additional limitation in terms of sample bias.

The study's intent, however, was not to assess the relative effectiveness of Sudbury schools but to identify common developmental processes emerging within this model. The research could not systematically account for differences in family background, socioeconomic status, or length of attendance, all of which likely influenced participants' trajectories. In addition, participants were drawn from three Western, Educated, Industrialized, Rich, and Democratic (WEIRD) contexts (the Netherlands, Israel, and the United States); although no marked cultural differences emerged, the design was not optimized to examine cultural variability. These factors limit the transferability rather than the credibility of the findings.

Implications for Education

Taken together, these findings suggest that Sudbury schools create developmental conditions where autonomy, participation, and community responsibility intertwine. Graduates described carrying forward dispositions of initiative, civic engagement, and relational maturity. The consistency across Dutch, Israeli, and U.S. participants hints that these dynamics may extend beyond specific national contexts, possibly reflecting the universality of SDT's basic psychological needs (Ryan & Deci, 2017). By showing how governance, autonomy, and age-mixed interaction serve as enduring developmental

contexts, this study contributes to rethinking educational pathways beyond formal instruction and standardized progression.

Future Research

Future investigations could extend these findings through longitudinal designs that trace developmental outcomes over time, include more culturally diverse sites, and incorporate family or peer perspectives. Comparative work with other learner-directed or democratic models would clarify which elements of autonomy and participation most strongly support lifelong learning and civic engagement.

STATEMENTS AND DECLARATIONS

Ethical approval

The study was approved by the University Research Ethics Committee, under approval number U202103682.

Consent to participate and publish

All participants provided written informed consent to participate in the study and for the publication of anonymized data. Personal identifiers were removed to protect confidentiality.

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Disclosure Statement

The first author is employed at a school that operates under an educational model similar to those examined in this study. The first author also had prior familiarity with four participants: one a relative and three former students encountered in professional contexts. These connections were carefully considered and addressed through reflexive practices. Measures were taken throughout to ensure that no personal or external interests influenced the study's design, data collection, analysis, or reporting.

The second author declares no competing interests.

Data Availability Statement

Anonymized interview transcripts supporting the findings of this study are not publicly available due to confidentiality agreements but may be obtained from the corresponding author upon reasonable request.

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CHAPTER 8

Discussion and Synthesis:
Exploring Human Development as an Ecological Process



INTRODUCTION

Despite a century of pedagogical reform, education systems worldwide remain caught between industrial-era structures of control and contemporary calls for autonomy, creativity, and lifelong learning. This tension is fundamentally motivational in nature. SDT has demonstrated that satisfying the needs for autonomy, competence, and relatedness is essential for motivation and well-being (Deci & Ryan, 2000; Ryan & Deci, 2020), while research within conventional school settings has shown that institutional structures of control and evaluation often undermine motivation by thwarting these needs (Deci & Ryan, 2008; Niemiec & Ryan, 2009; Ryan & Weinstein, 2009).

In parallel, EDP has emphasized play, curiosity, social learning, and prolonged immaturity as adaptive features of human development (Bjorklund & Pellegrini, 2000a; Geary, 2005; Pellegrini et al., 2007a; Rogoff, 2003). From this perspective, scholars have argued that modern schooling environments diverge markedly from the ecological conditions under which human learning evolved, pointing to a mismatch between children's exploratory tendencies and the demands of contemporary schooling (Bjorklund, 2007b; Gray, 2016).

SDT scholars have also raised concerns about conventional educational practices, even as the theory has been extensively tested within these systems. In these settings, constraints such as grading, evaluation, and performance pressure often mask the deeper motivational dynamics the theory seeks to explain, a limitation that Deci and Ryan (2020) themselves highlight in calling for more qualitative studies in alternative educational contexts. What remains largely unexamined, however, is how these motivational and developmental processes unfold over the long term when autonomy, play, and social participation are not episodic interventions but organizing principles of everyday learning environments. Taken together, EDP and SDT form a complementary theoretical–empirical continuum. EDP foregrounds the long-term developmental functions of cognitive immaturity, play, and exploration as deferred adaptations, while SDT examines how experiences of need support or need thwarting shape motivation across the life course, including within educational systems. Bringing these perspectives together thus requires examining ecologies where support for autonomy, social participation, and exploratory motivation is structurally embedded.

This dissertation addressed this gap by integrating insights from SDT and EDP and by empirically examining the long-term experiences of graduates of Sudbury-model democratic schools, where self-determination and responsibility for one's own learning structure daily educational life. Given the assumed complexity of development in

such autonomy-rich educational contexts, shaped by interacting individual, familial, institutional, and socio-cultural factors, the present work did not begin from a fixed theoretical model, but instead sought to identify shared experiential patterns before situating them in relation to existing theory.

In this final chapter, findings from both the theoretical and empirical components are brought into dialogue with one another and with the wider literature. The discussion synthesizes these insights to articulate a broader understanding of learning as an evolved, self-motivated process, considers implications for educational theory and practice, and identifies directions for future research on autonomy-rich educational ecologies.

Summary of Main Findings

An overview of the different chapters of this dissertation can be found in Table 8.1. For each chapter, the title and the research focus are given and the main findings of each chapter are summarized.

Table 8.1.

Overview of chapters and main findings

Chapter & Title	**Research focus**	**Key findings**
2. Are play and intrinsic motivation the same? A narrative review	This chapter focuses on theory, a narrative review examining the scope of intrinsic motivation and play by exploring functional, biological, neurological, conceptual, and historical overlaps, with special focus on learnings for educational contexts.	Play and intrinsic motivation are not merely related but expressions of the same adaptive system: - Both are self-rewarding, autonomy-driven, and fundamentally exploratory. - They evolved to sustain learning and creativity in uncertain environments. - Deprivation of either leads to psychological maladjustment (e.g., anxiety, depression, reduced creativity). - In education, recognizing play as a state of mind aligned with intrinsic motivation may improve learning, well-being, and long-term engagement.

Chapter & Title	Research focus	Key findings
The following Chapters 3-7 are based on a thematic analysis–grounded study exploring the shared experiences of 14 adult graduates from eight Sudbury model schools across three countries.		
3. Participant Backgrounds and Social Contexts	This chapter situated the participants within their broader social and developmental contexts, offering a descriptive and interpretive foundation for the analyses that follow.	Early dispositions, varied routes into schooling, autonomy-supportive family environments, and heterogeneous post-school trajectories highlight the wide range of personality types and life contexts represented in the cohort. Their accounts reveal a shared developmental progression in which initial emotional decompression and identity realignment gradually gave way to increasingly intentional, self-directed engagement that shaped later learning, personal growth, and emerging career paths. Participants navigated different forms of external skepticism while ultimately establishing stable, self-chosen adult lives
4. A Culture of Non-Judgment: Former Students' Perspectives on the Sudbury Model Schools' Justice System, Culture, and Relatedness	This chapter focused on the justice system, the role of adults, school culture, and the experience of relatedness and belonging.	*Justice Committee and School Culture.* The formal structure of the Justice Committee (JC) was associated with a predictable, transparent, and fair environment, fostering safety, inclusivity, and connection. Its non-judgmental processes appeared to reinforce equality and mutual respect, cultivating a culture of trust and belonging. *Adult Roles and Mentorship.* Adults held responsibility-based authority rather than control, allowing them to act as mentors and coaches instead of evaluators. The JC and the absence of a mandated curriculum removed the need for adult enforcement, enabling authentic, voluntary relationships between students and adults, conditions aligned with effective mentoring and coaching practices. *Autonomy and Theoretical Implications.* Findings highlight a form of relational autonomy grounded in SDT, defined by equality, trust, and psychological safety in a caring community, contrasting with notions of autonomy as self-optimization or individualism.

Chapter & Title	Research focus	Key findings
5. True Choice and Taking Ownership of Life: A Qualitative Study into Self-Determination in Sudbury Model Schools	This chapter focuses on true choice, self-determination, and the development of ownership over one's life.	The findings suggest that an organizational structure that supports own responsibility in an absence of an imposed program and a culture of no-interference is associated with conditions for taking ownership of life and choices (self-determination) and encompasses taking ownership of learning, education, and one's future. Taking ownership of one's life seems to be related to strongly internally oriented processes associated with an internal locus of causality, to find their own motivation and taking responsibility for choices, behavior, and consequences in a SDT need supportive social context. Critical boundary conditions were a culture of non-interference within a clear democratic structure, conditions that support autonomy.
6. Autonomy-Rich Schooling and Pathways of Reflection, Motivation, and Agency: A Qualitative Study of Sudbury Graduates	This chapter focuses on expressions of boredom, processes of self-reflection, the development of flexible mindsets, purposeful motivation, and identity formation.	Across contexts, graduates described recurring processes of self-reflection, value-based decision-making, and resilient agency. Boredom emerged as both a challenge and a developmental signal, prompting reflection, experimentation, and the cultivation of flexible mindsets. Many emphasized how habits of reflection and values-aligned choices were associated with persistence and identity consolidation over time, contributing to a durable sense of ownership and the capacity to navigate new challenges. Interpreted through SDT, the findings suggest a recurring developmental process in which experiences of boredom fostered reflection and value alignment, gradually supporting the development of more sustained forms of agency over time.
7. Autonomy, Participation, and Lifelong Learning: Graduates' Reflections from Sudbury Schools	This chapter provides insight into how participants relate everyday experiences within these schools to long-term personal and interpersonal skills.	Learning emerged through authentic engagement in meaningful activity, shared responsibility, and informal interactions with peers and adults, conditions that resonate with core principles of experiential education. Graduates described cultivating initiative, self-regulation, civic and organizational literacy, and confidence in communication. By situating Sudbury schooling within traditions of experiential education, SDT, and EDP, this study offers empirical evidence that democratic participation and learner autonomy have enduring positive effects on learning, social development, and civic engagement.

IN ANSWERING THE RESEARCH QUESTION

The core aim of this dissertation can be summarized as an effort to understand how adults, looking back from the vantage point of later life, make sense of the ways their self-directed, Sudbury model schooling shaped their motivation, identity, and development.

The overarching research question guiding the work was:

How do graduates make sense of their experiences of Sudbury schooling in relation to their adult lives?

The empirical chapters represent thematic subsets of one larger qualitative study. Although published separately, they emerged from a single analytic process: patterns that appeared consistently across cases were clustered into coherent thematic domains relating to: (a) school culture and relational experience, (2) emerging ownership and agency, (3) reflective and identity processes, and (4) perceptions of learning and ability. These domains were separated for clarity in publication, but in participants' lives they were deeply intertwined; together, they form a composite answer to the overarching question.

First, participants consistently associated their schooling with the development of personal agency and volitional functioning. They recalled learning how to make meaningful choices, tolerate uncertainty, and take responsibility for their actions, capacities they later viewed as foundational for navigating adulthood. This sense of ownership was not experienced as independence from others, but as personal agency embedded within a community in which their voice mattered, and their contributions had real effects. As many noted, this early experience of agency carried forward into their work, relationships, and life decisions.

Second, graduates described a durable orientation toward intrinsic motivation, curiosity, and exploratory engagement. They described their educational experience to have enforced a lifelong tendency to follow interests, initiate projects, and learn for the purpose of meaning rather than external evaluation. Even when entering instruction-heavy or accountability-focused systems later in life, they described to draw on internal motivation to adapt voluntarily rather than through compliance. For some, this resulted in sustained long-term commitments; for others, it produced an ongoing openness to

experimentation. Participants attributed both these pathways to a shared sense of self-directedness rooted in early autonomy-rich conditions.

Third, participants emphasized the importance of psychological safety and egalitarian relationships. Being treated with respect, without judgment or comparison, shaped their expectations of interpersonal life beyond school. Many described feeling comfortable in diverse social contexts, able to communicate directly with professors or employers, and skilled at navigating conflict. These relational competencies were understood as outgrowths of having lived within a "mini-society", a democratic community in which decision-making, accountability, and negotiation were daily practices. Rather than protecting them from external demands, participants felt that this environment prepared them to meet such demands with clarity and confidence.

Fourth, graduates reported that the schools may have contributed to a strong sense of self-knowledge and coherence. They described that without prescriptive pathways, they learned to observe their own interests, strengths, and limits, an ongoing process of reflection that continued into adulthood. They connected this sense of self-knowledge with shaping their career choices, their approach to learning, and the way they interacted with others. Participants understood their school not as directing them toward specific identities but as enabling them to construct identity with authenticity and deliberation.

Finally, although some entered higher educational and professional contexts with initial uncertainty, none felt fundamentally disadvantaged. Instead, they described being well prepared motivationally, cognitively, and socially to engage with higher education or professional environments. Their accounts suggest that the absence of structured instruction did not inhibit their capacity to learn complex knowledge when needed; rather, participants described this context as supporting the motivational and regulatory resources to seek guidance, persist through challenge, and adapt effectively.

Taken together, these findings indicate that graduates experienced Sudbury-model schooling as a formative, autonomy-rich environment that shaped how they approached learning, relationships, and life choices long after leaving school. They understood its influence not as a direct transmission of skills but as a deep developmental grounding, an early experience of being trusted, respected, and allowed to explore, upon which later capacities for agency, intrinsic motivation, and adaptive functioning were built. Through analysis, these school environments appeared to be structured in ways that organizationally supported participants' basic psychological needs for autonomy, competence, and relatedness. Viewed through this lens, participants' narratives are

consistent with theoretical propositions from SDT and EDP, illustrating how growing up in environments that support autonomy, competence, relatedness, and exploratory play may be associated with enduring motivational orientations into adulthood.

While the findings remain interpretive, the overall pattern suggests that Sudbury-model schools may foster a distinctive developmental trajectory, one characterized by volition, curiosity, psychological resilience, and a strong sense of authorship over one's life. This, according to participants, is the enduring legacy of their educational experience.

CROSS-STUDY SYNTHESIS

Emerging Theoretical Connections between Play, Intrinsic Motivation, and Self-Determination in Autonomy-Rich Schooling.

Situating the Synthesis

This synthesis integrates the findings from the five studies presented in this dissertation: one theoretical narrative review and four qualitative, cross-cultural investigations into graduates' experiences of Sudbury-model schooling. It returns to the conceptual framework outlined in Chapter 1, SDT and EDP, and asks how the empirical material elaborates, challenges, or nuances that framework.

Rather than offering generalizable conclusions, this chapter presents emerging theoretical ideas grounded in participants' narratives and supported by existing scholarship. Its purpose is integrative and generative: to articulate conceptual linkages between the evolved motivational architecture of learning and the lived realities of autonomy-rich, context-driven education.

Integrating Conceptual Foundations with Empirical Realities

Chapter 2 offered a conceptual foundation by examining play and intrinsic motivation as psychological states rather than as observable activities. The narrative review demonstrated that play, when understood as free, self-chosen, imaginative, and enjoyable engagement, shares the defining features of intrinsic motivation: volition, curiosity, and the inherent satisfaction of exploring or mastering challenges. Across historical, cognitive, biological, and evolutionary perspectives, the review showed that play and intrinsic motivation overlap so extensively that they may represent two expressions of the same underlying adaptive mechanism. Play arises spontaneously

without external rewards; intrinsic motivation similarly energizes behaviors undertaken for their inherent enjoyment. Both states promote exploration, cognitive flexibility, creativity, and social learning, and both depend on environments that provide safety, freedom, and the absence of external pressure. Crucially, the review also highlighted that depriving individuals of either play or intrinsic motivation leads to parallel forms of psychological ill-being.

Having established this conceptual overlap, Chapter 2 further showed that many learning mechanisms highlighted in EDP, such as exploration, observation, imitation, and social play, are themselves driven by intrinsic motivation. In this sense, intrinsic motivation is not merely conceptually related to play but constitutes the psychological mechanism through which the evolved play system organizes sustained, self-directed learning.

From the perspective of SDT, the motivational conditions that support this form of learning can be understood as the ongoing satisfaction of the basic psychological needs for autonomy, competence, and relatedness (Deci & Ryan, 2000). SDT thus offers a framework for understanding the psychological conditions under which the playful, intrinsically motivated state naturally emerges. In parallel, EDP conceptualizes it as an adaptive mechanism through which human beings learn, cooperate, and develop within complex social ecologies, which explains the extended juvenile period of the human species (Bjorklund, 2007a; Geary, 2005). Thus, where Chapter 2 described the conceptual overlap between play and intrinsic motivation, SDT and EDP together articulate why this overlap exists, psychologically and evolutionarily. Taken together, these frameworks depict intrinsic motivation as the psychological expression of the evolved human propensity to play, explore, experiment, and engage meaningfully with the environment (Deci & Ryan, 2000; Geary, 2008).

Human learning mechanisms are determined by evolution (Bjorklund, 1997; Bjorklund & Ellis, 2014; Geary, 2005; Gray, 2016). Natural selection has laid the biological foundation for cognitive mechanisms to learn from information needed to adjust to a social context (Bjorklund & Ellis, 2014). Similarly, the way children acquire knowledge and skills from social learning evolved through evolution as well (Bjorklund, 2018; Bjorklund & Beers, 2016; Bjorklund & Ellis, 2014; Geary, 2005; Lancy et al., 2010a; Pellegrini & Bjorklund, 2004). More particularly, children are hardwired to learn, especially through play and exploration (Feldman, 1997; Gray, 2007, 2011c, 2012; Lancy & Grove, 2010; Pellegrini et al., 2007a; Pellegrini & Bjorklund, 2004; Vygotsky, 1978), through observation and imitation (Gaskins & Paradise, 2010; Lancy & Grove, 2010; Vygotsky, 1978), and through

discourse and narratives (Paradise & Rogoff, 2009; Sterponi, 2010). Their cognitive immaturity at a very young age serves their learning (Bjorklund, 1997, 2007b; Bjorklund & Ellis, 2014; Bjorklund & Pellegrini, 2000a).

Humans show the longest period of growth into adulthood of all mammals. The length of the juvenile period is related to the species-specific social complexity (Geary & Bjorklund, 2000). The enormous amount of cultural knowledge and social skills that the human species needs to survive as an adult has evolutionally extended the period of maturation (Bjorklund, 1997; Bjorklund & Green, 1992; Lancy et al., 2010a). From an evolutionary–developmental perspective, Bjorklund (1997, 2007) argues that cognitive immaturity in childhood functions as a deferred adaptation, preparing children to be especially responsive to certain experiences and learning opportunities whose adaptive value is realized later in adulthood. Play is considered an example of the adaptive value of immature cognition and has immediate and deferred benefits for the organism growing up into adulthood (Bjorklund, 2018; Bjorklund & Pellegrini, 2000a; Gray, 2009, 2011b, 2012; King & Bjorklund, 2010; Pellegrini et al., 2007a). Groos (1898, 1901) laid the foundation for the insight that play is essential for later development for all young animals (including for young human beings). Free play, exploration and social contact are directed towards learning how to deal with other people, developing social competencies and learning about the physical world (Geary & Bjorklund, 2000).

According to many psychologists (Berlyne, 2014; Csikszentmihalyi, 1990; Deci & Ryan, 1985a; Maslow, 1943, 1970; Ryan & Deci, 2000a; White, 1959), intrinsic motivation is *the* driving force behind cognitive development and is seen as a natural (evolutionary) attribute of Homo sapiens (Ryan & Deci, 2000a, 2000b). Many EDP researchers work with concepts based on intrinsic motivation, like play (Bjorklund, 1997; Bjorklund & Pellegrini, 2000a; Gray, 2014; Pellegrini & Bjorklund, 2004). Free play originates from intrinsic motivation, as it is done for mere pleasure, is self-chosen and self-directed, imaginative and needs an unstressed state of mind (Gray, 2015). The reasons to play arise from "an intrinsic motivation to experience positive emotional stages such as arousal, excitement, fun, merriment, joy, ecstatic feelings, mastery and competence" (Sandseter & Kennair, 2011, p. 273). Other learning mechanisms emphasized in EDP, such as observation, imitation (Gaskins & Paradise, 2010; Lancy et al., 2010a) and exploration (Gray, 2015), likewise originate from intrinsic motivation. This suggests that SDT and EDP describe different facets of comparable underlying evolved dispositions.

Both fields of science view humans as naturally active organisms equipped with evolved tendencies to explore, master skills, and connect with others. SDT articulates

the psychological needs, autonomy, competence, and relatedness, that enable intrinsic motivation to flourish, while EDP describes the evolutionary functions of the behaviors that emerge when those needs are met. Together, these accounts imply that environments capable of supporting evolved, intrinsically motivated learning must provide (a) autonomy and freedom from external control, (b) psychological and physical safety for exploration, and (c) rich opportunities for social participation and self-directed responsibility.

On this basis, Sudbury-model environments described in the empirical chapters constitute a particularly rich setting for examining these mechanisms in practice: they are organized around autonomy, social participation, and meaningful responsibility, ecological features that correspond directly to the motivational and evolutionary conditions identified in Chapter 2.

The empirical studies brought this motivational architecture into focus within everyday educational life of 14 participants in their Sudbury model schools. Chapter 3 showed that participants entered Sudbury-model schools with diverse personal histories, some having experienced disengagement, anxiety, or constraint in conventional education, while others arrived already confident and self-motivated. Some arrived later in their schooling career, while for others this school had been all they knew. Participants who arrived later described the Sudbury environment as enabling the re-emergence of exploratory motivation, curiosity, and initiative. By contrast, for those who had always been educated in this context, such conditions were a stable and largely implicit backdrop to their development, shaping motivation and agency over time.

Processes of internalization were reflected in participants' accounts in Chapters 4 and 5, which examines how the school's democratic organization and participatory governance contributed to a distinctive motivational climate. Participants described how clear, fair, and transparent participatory structures were associated with a culture of non-judgment (Chapter 4) and non-interference (Chapter 5). These conditions were made possible by the absence of a mandated curriculum, a structural feature of the Sudbury model that may have allowed students' interests and initiatives to guide learning and community life in ways that are difficult to replicate within state systems bound by prescribed standards and accountability requirements. These interrelated cultural features were described by participants as supporting two complementary forms of internalization: a socially oriented process of 'fitting in,' grounded in experiences of relatedness and belonging, and a more individually oriented process of 'taking ownership of one's life,' which emerged in a context that strongly supported autonomy

and competence. The former reflects the socially directed dimension of internalization, while the latter illustrates its individually directed, long-term manifestation, both of which align with SDT's continuum from external to integrated regulation (Ryan & Connell, 1989; Vansteenkiste, Niemiec, et al., 2010).

Chapter 6 deepened this understanding by showing that these structural and cultural conditions were associated with a play-like mindset, an orientation marked by flexibility, experimentation, openness to challenge, and a capacity to tolerate uncertainty. This mindset mirrors intrinsic motivation as defined by Ryan and Deci (2000b) as "the inherent tendency to seek out novelty and challenges, to extend and exercise one's capacities, to explore, and to learn" (p. 70) for an "inherent satisfaction" (p. 72). Synthesizing participants' accounts, their descriptions of flexible and adaptive mindsets were analytically interpreted as aligning with the play mindset described in Chapter 2, characterized by deep engagement, problem-solving, and adaptive persistence.

Finally, Chapter 7 traced how participants perceived these motivational and cognitive tendencies to extend into adulthood. Building on the forms of reflective engagement and flexible self-regulation described in Chapter 6, participants related the exploratory dispositions cultivated in childhood to long-term commitments in adult life. Although play was rarely explicitly mentioned, its psychological hallmarks, curiosity, experimentation, improvisation, and learning through trial and error, were clearly embedded in participants' stories, both in their approaches to learning and to adult professional life.

In this sense, the empirical findings reinforce the central proposition of Chapter 2: when autonomy-supportive ecologies allow intrinsic motivation and play-like states of mind to flourish, these states may become developmental engines that shape identity, agency, and lifelong learning.

Autonomy-in-Community: Relational Contexts for Self-Direction

A defining theme across all empirical chapters was the experience of personal agency embedded within community. Participants consistently described exercising freedom through equal participation in governance and justice processes, while maintaining strong, reciprocal relationships with peers and adults. This dynamic is assumed to reflect what identifies as the interdependence of autonomy, competence, and relatedness, the three basic psychological needs that together support motivation and well-being (Ryan & Deci, 2017). The Sudbury context appeared to provide these conditions not in

isolated instructional moments but as a continuous social ecology in which autonomy and community were mutually reinforcing.

The justice systems described in Chapter 4 exemplified this integration: they embodied fairness, shared responsibility, and mutual accountability, conditions that participants experienced as supporting satisfied needs for competence and relatedness while safeguarding individual agency. Adults within these communities, called staff, were not perceived as evaluators but as mentors and collaborators, modeling the kind of autonomy-supportive guidance described by e.g. Jang et al. (2010). These staff members appeared to operate as peers without evaluative authority, which participants experienced as creating conditions in which relationships characterized by trust, authenticity, and psychological safety could develop.

These findings most closely resemble what Wubbels et al. (2006) described as a "cooperative–submissive understanding" style, characterized by friendliness, helpfulness, and attentiveness within traditional classroom settings. From an SDT perspective, however, such relational intentions are often constrained by the broader institutional context. Ryan and Deci (2020) argue that structural hierarchies, school policies, and leadership practices in mainstream education can thwart teachers' own basic psychological needs, thereby increasing the likelihood of more controlling and less relationally satisfying instructional approaches. Crucially, even where efforts toward autonomy support are present, the teacher's evaluative role typically remains intact, continuing to shape the asymmetry of the relationship. As studies across organizational contexts suggest (Carr et al., 2017; Gallacher, 1997; Hudson, 2013; Mullen & Klimaitis, 2021; Scandura, 1998; Tepper, 1995), the dual function of mentoring and evaluating often creates tension, reducing the perceived authenticity of supportive relationships and the effectiveness of mentoring/coaching. Goldner and Ben-Eliyahu (2021) further demonstrated that high-quality mentoring of youth depends on support, sensitivity, trust, and balanced long-term and open-ended relational structures, conditions difficult to maintain when assessment is embedded in the relationship. By contrast, the Sudbury context, with no grading, no evaluation, and no predetermined relational endpoint, may create unusually fertile conditions for sustained, egalitarian mentoring relationships.

Age-mixing was an important part of this ecology. Although not foregrounded in every chapter, the fully mixed-age community appeared to facilitate the integration of autonomy and relatedness by enabling older and younger students as well as adults of different ages to engage in reciprocal roles, informal mentoring, and shared participation

in democratic life. This aligns with play research and sociocultural theory showing that mixed-age groups enrich learning opportunities, support prosocial development, and reinforce autonomy-supportive social norm (e.g. Gray, 2009; Pellegrini et al., 2007a; Rogoff, 2003).

Taken together, the findings (see Chapter 4) demonstrated that autonomy in Sudbury-model schools was not an individualistic freedom from social structures, but a relational autonomy sustained by egalitarian governance, non-evaluative mentoring, and long-term, trust-based relationships. This social configuration resembles the cooperative dynamics found in social play among mammals (Pellis et al., 2010; Pellis & Pellis, 2007) and in learning ecologies of traditional societies (Lancy et al., 2010b; Rogoff, 2003) where children learn through observation, collaboration, and meaningful contribution rather than instruction and evaluation.

Overall, the empirical findings provide qualitative support for the proposition that autonomy flourishes most robustly within egalitarian, participatory, trust-based communities. This equilibrium of freedom and connection exemplifies the trust-based vision of human nature that Ryan and Lynch (2003) describe: one that views individuals as active, capable, and inherently oriented toward growth when supported by caring, autonomy-promoting relationships. These environments may approximate the evolutionary conditions under which human motivation, social learning, and exploratory play originally developed, suggesting that autonomy-in-community is not only psychologically beneficial but also deeply aligned with our species' developmental design.

Structure without Control: Competence and Predictability

Participants consistently emphasized that freedom at Sudbury schools was not equivalent to the absence of structure. They described a transparent framework, democratically established rules, regular routines, and stable governance processes, that might be understood as supporting predictability and safety without coercion. This sense of order was widely perceived as enabling rather than limiting; it offered clarity and fairness while preserving their capacity for self-direction.

In SDT, structure is typically discussed within the context of teacher–student interaction. Ryan and Deci (2020) define it as "setting clear expectations and goals, having consistency in rules and guidelines, and providing informational supports for engagement and rich efficacy feedback" (p. 4). Whereas controlling behaviors pressure students to behave or achieve, good structure, they note, "scaffolds learning so that

students rarely face non-optimal challenges, and feedback is thus largely positive and efficacy supportive." Although this definition refers to classroom instruction, the underlying psychological function of structure, to provide clear, predictable boundaries that support autonomy, competence and relatedness, appears analogous to the social ecology of the Sudbury model.

In Sudbury school settings, the organizational structure itself seemed to provide this scaffolding. As discussed in Chapter 4, participants understood the judicial and governance systems as predictable, fair, and collectively maintained rather than externally imposed. Rules and consequences were described by participants as created through deliberation, reviewed through democratic processes, and implemented by the community itself. Because these systems were co-constructed and transparently enacted, they were experienced as informational rather than controlling: forms of structure that supported competence and belonging while leaving self-governance intact. In this context, structure was described as providing a shared framework for coordination, accountability and peer-based behavioral regulation through internalization of norms.

When viewed through the conceptual lens developed in this dissertation, the Sudbury model's form of structure shares an important feature with the conditions that support both play and intrinsic motivation: both require an enabling framework that allows for self-determined action within safe, predictable boundaries (e.g. Pellegrini & Bjorklund, 2004; Ryan & Deci, 2020). Play unfolds within structure often defined by participatory imposed constraints, rules, turns, or imaginary boundaries, that render participation meaningful (Bateson, 2014; Gray, 2009; Huizinga, 2024). In both contexts, predictable frameworks appear essential for transforming freedom into mastery, providing the optimal challenge necessary for intrinsic motivation (Csikszentmihalyi, 1990). In this sense, play, like intrinsically motivated learning, flourishes where structure offers affordances rather than restrictions, and where relationships are freely chosen yet simultaneously supportive of autonomy.

Age-mixing, discussed in Chapter 7, exemplified this interplay between structure and freedom. Rather than reiterating its full set of developmental functions, it can be emphasized more succinctly that mixed-age groups were associated with recurring opportunities for guidance, responsibility, and collaboration that did not rely on formal hierarchy. These interactions illustrate how structure can arise organically through social participation, mirroring the informal mentoring and collaborative problem-solving described in sociocultural and evolutionary accounts of learning.

Within SDT, structure is typically conceptualized at the level of interpersonal and instructional practices, referring to the provision of clear expectations, consistent guidelines, and informational feedback that can be enacted in either autonomy-supportive or controlling ways (Deci & Ryan, 2020). In contrast, participants in the present study described a form of structure operating at the organizational level of Sudbury schools, characterized by transparent governance, predictable procedures, and collectively maintained rules. Rather than being imposed by authority figures, this organizational structure was experienced as co-owned and participatory. Participants consistently described such structure as supporting their sense of ownership and self-determination (Chapter 5), as well as their experiences of belonging and social integration (Chapter 4). Taken together, these findings offer an interpretation of SDT by illustrating how structure can be supported by the organizational design, and how such shared structures were experienced by participants as supporting competence, relatedness, and autonomy. This also resonates with evolutionary-developmental perspectives, which emphasize that learning in ancestral environments unfolded within predictable social ecologies that integrated freedom with communal norms.

The interplay between structure, safety, and autonomy described above may conceptually resemble the ecological conditions under which developmental processes of self-organization can unfold. When autonomy is supported by predictable, non-controlling frameworks, individuals appear better able to explore, take initiative, and assume responsibility. While this research cannot determine causal mechanisms, the empirical patterns observed across participants' narratives suggest that such environments may facilitate a gradual movement from open-ended exploration toward more focused, self-endorsed forms of engagement. The following section considers how these dynamics appeared in the lived experiences of participants and how they can be interpreted within developmental theory.

Developmental Processes: From Play and Exploration to Ownership

Across participants' narratives (see Chapter 3), a recurring developmental pattern emerged. For those who transferred from demand-driven mainstream schooling, the first period often involved a phase of psychological decompression, during which externally regulated habits gradually loosened and space for intrinsic motivation reopened. For early entrants, the process began more immediately with intensive, unstructured play and open-ended exploration. Despite these different starting points, both groups described trajectories that unfolded through recognizably similar stages: an initial period of free play and social exploration, followed by experimentation, and

eventually a shift toward more purposeful, self-initiated forms of engagement. Although individual pathways varied, the overall pattern indicates that autonomy-supportive environments may be associated with a gradual strengthening of self-regulation, competence, and commitment over time.

A consistent finding was that, regardless of age of entry, play and social exploration were described as foundational developmental processes. Younger entrants tended to describe extended periods of immersive, imaginative activity and open-ended creative engagement. Later entrants likewise reported an initial period of playful exploration, sometimes accompanied by a sense of release or recalibration, before orienting toward more intentional pursuits. For those who arrived after experiencing evaluative or pressured environments, this period of openness often served as a restorative transition that allowed intrinsic curiosity to re-emerge.

Boredom featured prominently across accounts as a catalyst for reflection and self-organization, rather than as a sign of disengagement. Participants described moments of uncertainty or lack of direction as prompting shifts in attention, the reassessment of interests, and eventual movement toward more meaningful activities. These experiences highlight a core developmental challenge in self-directed contexts: learning to allocate one's own time, sustain motivation without external structure, and navigate freedom constructively. As described in Chapter 6, such periods helped cultivate flexible mindsets and increasing responsibility for one's choices and relates to the longer-term sense of agency and life ownership that emerged from experiences of *true choice* discussed in Chapter 5.

As students became more attuned to community life, many moved into roles that involved sustained contribution and responsibility, such as participating in governance, engaging in committee work, or organizing collective activities (see chapter 7). Participants understood this shift as reflecting a growing sense of ownership and an internalized understanding of their place within the school community. In parallel, when participants were students, they described how they also pursued personally directed projects, ranging from artistic, technical, and academic explorations to social or organizational initiatives, using the school's freedom to explore interests that were meaningful to them. Although the timelines differed for late entrants, the underlying developmental logic remained comparable.

From an evolutionary–developmental perspective, this broad movement, from exploratory play toward more stable forms of self-direction, echoes the adaptive role of play as a mechanism for learning to navigate freedom within socially structured

environments (Bjorklund & Pellegrini, 2000b; Bock, 2010). Importantly, these observations do not imply a universal or linear progression; rather, they highlight how autonomy-rich contexts create a fertile ecology for diverse forms of developmental growth.

Two broad developmental pathways appeared across participants. For some, exploration gradually consolidated into intentional commitments: sustained roles in governance, long-term projects, or deepening engagement with particular domains. For others, self-direction manifested as continued openness and experimentation across different fields, reflecting a lifelong exploratory orientation. Both pathways were experienced as self-endorsed, and both were understood as grounded in early experiences of volition and psychological safety (see also chapter 4).

Synthesizing across the qualitative findings, a descriptive developmental arc can be articulated, not as a tested model but as a heuristic conceptualization:

Playfulness / Curiosity → Challenge → Reflection → Competence → Ownership / Agency

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The foundational element of playfulness/curiosity captures the intertwined emotional and cognitive orientations that initiate exploration: a sense of joyful openness combined with an intrinsic drive to engage with novelty. Together they appeared, in participants' accounts, to be associated with encounters with challenge, which in turn were often described as prompting self-reflection and adaptive problem-solving, processes that participants connected with the development, over time, of competence and a sense of ownership or agency.

This "arc of self-directed growth" aligns with SDT's account of intrinsic motivation as part of a natural, growth-oriented process (Ryan & Martela, 2016) and with evolutionary–developmental perspectives identifying play as foundational for competence development (Bjorklund & Pellegrini, 2000b; Pellegrini et al., 2007b). It also resonates with Dweck's (2016) concept of a growth mindset, in which challenge and uncertainty are not threats but opportunities for mastery and self-development. Participants' reflections suggest that autonomy-rich contexts foster such mindsets organically: boredom and difficulty were reframed as invitations to learn rather than signals of failure.

Age-mixing, as discussed in Chapter 7, appeared to be an important facilitator of this process. Within the developmental dynamics outlined in Chapter 7, its role can be understood primarily as providing a broader social landscape in which developmental movement, from peripheral participation to more central forms of involvement, could unfold. Rather than repeating previously described mechanisms, it is enough to note that mixed-age participation expanded learners' opportunities to observe, contribute, and gradually assume responsibility at their own pace. Research on mixed-age ecologies suggests that such groupings naturally scaffold competence, perspective-taking, and social responsibility (Gray & Feldman, 2004; Vygotsky, 1978).

Developmentally, this arc also echoes classic and sociocultural theories of learning. Piaget (1952) conceptualized learning as cycles of exploration, conflict, and reorganization, while Vygotsky (1978) emphasized the social genesis of self-regulation through play and collaboration. Later sociocultural theories (Lave & Wenger, 1991; Rogoff, 2003) similarly frame development as increasing participation in community practices. Within a mixed-age democratic community, the movement from curiosity to agency can be seen as both individual growth and social integration.

While this arc does not claim causal status, it offers a coherent conceptual lens for understanding how autonomy-supportive, socially rich environments may scaffold long-term motivational development. Importantly, participants linked ownership not only to competence but also to meaning: choosing, persisting, or changing direction arose from an internalized sense of purpose rather than external demands. This integration of volition and value, emerging gradually from play, exploration, and community participation, forms the foundation for the broader developmental processes discussed in the next section.

Reflection, Meaning, and the Internalization of Values

The later phases of self-directed growth, as described across Chapters 5–7, were characterized by an emerging sense of ownership and personal responsibility. A central developmental process underpinning this transition was reflection, an internal process through which participants examined their motivations, choices, and values. Boredom, uncertainty, and newfound responsibilities frequently acted as prompts for this reflective engagement, leading individuals to assess what they cared about, why they cared about it, and how to align their actions with these evolving values.

These reflective processes align with Rogers' (1961), through which individuals evaluate experiences in light of their intrinsic needs and developing sense of self.

Within SDT, this corresponds to movement toward integrated regulation, the form of internalization in which values and goals are not simply adopted but become fully self-endorsed and congruent with one's identity (Deci & Ryan, 1985b; Ryan & Connell, 1989). The findings suggest that autonomy-supportive conditions, characterized by non-interference, respect, and psychological safety, may enable the emergence of such reflective integration, as they allow individuals to engage in honest self-evaluation without coercion, comparison, or fear of judgment.

Chapter 5 elaborated on this dynamic through the concept of true choice, a decision-making process marked by volition, awareness, and personal endorsement (Ryan & Deci, 2006, 2017). The absence of externally imposed programs or evaluative control required participants to define their own directions and to take responsibility for the outcomes of their actions. Over time, participants appeared to develop a stable sense of themselves as agents, protagonists of their own learning and life trajectories, rather than passive recipients of instruction.

Importantly, in this context *true choice* did not refer to the mere availability of numerous options, an element that Ryan and Deci (2006) caution is neither necessary nor sufficient for autonomy. Rather, choice functioned as a process of meaningful decision-making: determining whether to persist, redirect, or discontinue a line of action based on personal reflection and volition. In this sense, decisions were experienced not as selecting from an array of externally provided alternatives, but as self-endorsed commitments emerging from ongoing evaluation of one's interests, frustrations, and goals.

Chapter 6 further highlighted the mechanisms that were associated with this reflective development. Participants described engaging in ongoing internal dialogue, evaluating their frustrations, aspirations, and uncertainties as part of a broader process of self-regulation. These reflective practices, ranging from deliberate self-questioning to flexible self-negotiation, helped them convert indecision into meaningful action and refine their understanding of what mattered to them. Ample time, freedom from externally imposed schedules, and a culture that normalized introspection all appeared to facilitate these processes.

From an evolutionary–developmental perspective, such reflective agency may represent the mature expression of the same adaptive system that drives play and exploration in childhood: an open-ended feedback loop linking exploration, feedback, and self-correction (Tomasello, 2019). Autonomy-rich contexts appear to extend this loop into adolescence and adulthood, transforming playful engagement into reflective

meaning-making. In this way, reflection becomes not merely a cognitive process but an evolved capacity for moral and existential learning, a means of aligning self-direction with both personal meaning and collective good.

Complex Knowledge and Pathways of Learning

When viewed across all narratives, participants' accounts of learning complex skills, ranging from literacy and numeracy to professional and creative domains, underscore a broader theoretical dispute: the relationship between intrinsic motivation, self-direction, and the means by which complex knowledge is acquired. The findings challenge what Swartz (2016) called the instruction assumption: the notion that learning, especially of cognitively demanding material, depends primarily on formal teaching. Participants' accounts do not reject the role of instruction per se but suggest that instruction was experienced as most meaningful when it was voluntarily sought and integrated into a broader process of self-directed engagement, often taking the form of targeted feedback or informal mentoring rather than explicit transmission.

From an evolutionary–developmental perspective, the instruction assumption directly aligns with Geary's (2008) differentiation between biologically primary and biologically secondary knowledge (see also the Discussion in chapter 7). Geary argues that primary learning, language, social reasoning, problem-solving, emerges spontaneously through exploration and play. Whereas secondary learning, formal mathematics, literacy, scientific reasoning, typically requires structured instruction. In addition, a recent study by Xu et al. (2024) reinforced this division by showing that evolutionarily familiar content is more engaging, less effortful, and more memorable than evolutionarily novel material. However, these studies also highlight an important limitation: because they are largely grounded in research conducted within mainstream educational contexts, they may obscure how motivation develops in learning environments more closely aligned with conditions that support evolutionary predispositions.

In contrast, the present synthesis addresses extended, real-life motivational processes within autonomy-rich, context-driven educational environments. Rather than requiring external stimuli to initiate or sustain effort, participants described motivation as emerging organically through curiosity, play, and voluntary participation. Importantly, this motivation did not always originate in an explicit prior choice: in several cases, engagement began under externally imposed conditions, with interest and effort intensifying only after immersion in the material itself. From this perspective, the line between primary and secondary knowledge may be more permeable than categorical: as participants came to meaningfully engage with a domain, whether languages,

programming, dance, or mathematics, its motivational status shifted. Based on these accounts, it is assumed that under conditions of perceived autonomy and volition, even abstract or biologically secondary domains can acquire the intrinsic qualities normally associated with primary learning. In this way, the mechanisms identified in Chapter 2, playfulness, exploration, and curiosity, appear to extend into the deliberate pursuit of complex knowledge.

This interpretation resonates with Ellis (2008) and Lancy (2016), who argue that learning evolves through meaningful cultural engagement rather than transmission alone. It also reframes Geary's position within SDT's logic: the effectiveness of instruction depends less on its form than on the degree to which it supports autonomy (Niemiec & Ryan, 2009). Voluntarily sought teaching, mentorship, or guidance can therefore be understood as a continuation of intrinsically motivated exploration, not its negation.

Theoretically, this synthesis bridges the conceptual argument developed in Chapter 2 with the empirical findings of Chapters 3–7. Play's adaptive function, to create safe opportunities for exploration, inference, and mastery, seems to persist in more advanced learning when challenge, curiosity, and volition converge. Bjorklund (2022) notes that guided play represents an evolutionarily coherent bridge between exploration and instruction. Yet, as Chapter 2 emphasized, guidance easily becomes controlling if imposed rather than chosen. The present findings suggest that when learners themselves determine when and how to access guidance, the motivational quality of play and exploration remains intact, allowing exploration to evolve into self-determined mastery. In autonomy-rich, context-driven environments, the playful impulse to explore may transform into the self-determined capacity to pursue complex, abstract, or disciplined forms of knowledge, while maintaining a sense of volition and ownership.

Recognizing this overlap helps contextualize debates about the long-term consequences of direct instruction. Research on play deprivation shows that limiting opportunities for self-initiated exploration can undermine adaptability and well-being (Gray, 2011a; Gray et al., 2023; Pellis & Pellis, 2007). Similarly, educational approaches that overemphasize direct instruction may inadvertently disrupt autonomy, producing short-term cognitive gains at the expense of long-term psychological health (Zhao, 2017). A developmental perspective that attends to broader time frames and diverse outcome measures therefore becomes essential for evaluating the full effects of different learning ecologies.

Across studies, participants described their educational environments as ecologies in which decision-making, negotiation, and shared responsibility were routine features of daily life. These conditions did not merely support social participation; they appeared to function as training grounds for navigating complexity, uncertainty, and self-directed problem solving. Within such contexts, participants reported developing competencies that extended beyond domain-specific knowledge, including motivational resilience, strategic adaptability, and reflective self-direction.

These meta-skills proved especially salient during transitions into higher education. Although several participants anticipated challenges associated with increased structure or academic demands, none described feeling academically or cognitively unprepared. Instead, they emphasized their capacity to independently organize learning, seek guidance when needed, form constructive relationships with instructors, and adapt to novel expectations. In this sense, autonomy-rich, context-driven environments did not hinder engagement with complex, formal knowledge; rather, they appeared to equip learners with the self-regulatory and motivational resources required to navigate such domains effectively. These accounts align with the limited but growing literature on graduates of autonomy-rich, context-driven educational models, which similarly reports high levels of adaptability and self-endorsed academic engagement (Gray & Chanoff, 1986; Gray & Riley, 2015b; Morrison, 2022).

Taken together, the available evidence suggests that autonomy-rich, context-driven schooling does not insulate learners from the demands of adult academic life, nor does it delay engagement with complex knowledge. Instead, it appears to cultivate the capacities required to find viable pathways into such knowledge when it becomes relevant or desired. From this perspective, the pursuit of complex learning is shaped less by early exposure to formal instruction than by the development of motivational, relational, and self-regulatory competencies that support adaptive engagement across contexts. This synthesis underscores that complex knowledge acquisition is not only a matter of instructional technique, but of the broader motivational ecology within which learners learn how to learn.

Psychological Safety and the Absence of Control

Across studies, participants described their schools as environments marked by psychological safety: spaces where exploration was not evaluated, mistakes were treated as natural, and learning unfolded without grades, comparison, or performance pressure. This climate appeared to support the openness, curiosity, and willingness to take risks that characterized their developmental trajectories.

SDT research offers a clear theoretical explanation for these patterns. Ryan and Deci (2020) emphasize that many common features of conventional schooling, grading, comparative evaluation, and performance-oriented expectations, function as controlling pressures that reliably undermine motivation. Even achievement goals often considered adaptive (e.g., performance-approach goals) tend to foster controlled motives because they orient learners toward avoiding negative judgment rather than pursuing meaning. Experimental work confirms that when grading becomes salient, autonomous motivation decreases and avoidance motivations increase (Pulfrey et al., 2011). Moreover, the motives underlying achievement goals, autonomous or controlled, predict well-being and engagement more strongly than the goals themselves (Gillet et al., 2015; Vansteenkiste, Smeets, et al., 2010). In short, performance-focused climates erode the motivational quality that supports exploratory learning.

Niemiec and Ryan (2009) argue that humans possess an inherent tendency toward curiosity, coherence seeking, and value internalization, yet these natural inclinations are frequently suppressed by external controls and evaluative surveillance. When motivation is weakened, educational systems often increase external control to secure engagement, producing a self-reinforcing cycle in which boredom, anxiety, and disengagement multiply.

The empirical findings of this dissertation offer a mirror image of this cycle. In the absence of grades, comparisons, and evaluative monitoring, participants described long-term experiences of curiosity, comfort with uncertainty, and an openness to taking intellectual and creative risks. These patterns align with research in play and learning showing that evaluative pressure constrains exploration and reduces creativity and cognitive flexibility (Bateson, 2014; Bonawitz et al., 2011; Gray, 2011a), whereas environments that protect exploratory freedom tend to preserve agency, intrinsic motivation and adaptive learning over time (Berg & Corpus, 2013; Von Duyke, 2013). Where conventional classrooms often evoke defensiveness or ego-involvement, well-documented outcomes of evaluative climates (Cohen et al., 2023; Gillet et al., 2015; Ryan & Deci, 2020; Vansteenkiste et al., 2014), the Sudbury model school environments examined here appeared to foster a sense of safety in which boredom, uncertainty, and experimentation were experienced as natural parts of learning rather than as threats to self-worth.

The stance of adults in these schools contributed substantially to this climate. Staff members acted as non-controlling mentors, available as resources, yet not imposing expectations or evaluative judgments. This stands in contrast to instructional

environments shaped by accountability demands, where teachers often must balance support with grading, surveillance, and performance monitoring. As Ryan and Weinstein (2009) note, high-stakes educational systems may produce short-term compliance but frequently undermine interest, vitality, and well-being. Teachers and parents have expressed similar concerns, describing how testing-oriented climates narrow learning and heighten stress (Barksdale-Ladd & Thomas, 2000).

Age-mixing also played a role in maintaining psychological safety. Its contribution here lay less in its instructional value and more in its social climate effects: mixed-age groups helped diffuse competition, normalize diverse trajectories, and foster supportive peer relations. These dynamics are consistent with findings that heterogeneous peer groups support social competence, confidence, and exploratory risk-taking (e.g. Gray & Feldman, 2004; Liu & Lafreniere, 2014; Shalom et al., 2021). In these Sudbury contexts, age-mixing complemented the non-evaluative structure by reinforcing the sense that learning could proceed without fear of judgment.

Taken together, the autonomy-supportive, non-controlling contexts in research are often described in participants' accounts as associated with sustaining intrinsic motivation, foster psychological well-being, and maintain the exploratory mindset necessary for adaptive development. These qualitative data, however, cannot establish causality. What can be said with confidence is that participants' descriptions of feeling valued, seen, and safe align with a substantial body of SDT research demonstrating that autonomy-supportive environments reliably promote well-being and sustained engagement (Ryan & Deci, 2017). Consistent with this evidence, the narratives across chapters show that when controlling pressures are absent, curiosity, initiative, and intrinsic motivation tend to emerge, supporting long-term development through informal learning within a mixed-age democratic community.

Concluding Reflection on the Synthesis

Taken together, the analyses in this Synthesis suggest that autonomy-rich democratic schools, more particularly those that are organised according to the Sudbury model, constitute a distinctive learning ecology, one in which evolved motivational tendencies, social participation, and reflective self-regulation interact in mutually reinforcing ways. Within these environments, the conceptual overlap between play and intrinsic motivation becomes visible not as an abstract theoretical claim but as a lived developmental process: learners start with play and exploratory engagement, experience encounters with challenge and uncertainty, and gradually over time develop more deliberate forms of agency as they navigate the freedoms and responsibilities of

community life. The combination of psychological safety, non-controlling adult roles, predictable yet co-constructed organisational structures, and sustained participation in mixed-age social worlds appears to create conditions under which curiosity, volition, and adaptive problem-solving can flourish over time. These relational and structural features seem to support the internalization of values, the emergence of reflective choice, and the capacity to seek instruction voluntarily, processes that reflect both SDT's account of need-satisfying ecologies and EDP's view of learning as an evolved, socially embedded system.

Although the qualitative nature of this work does not permit causal inference, the convergence of conceptual and empirical insights points toward a coherent developmental interpretation: participants described autonomy-support embedded in community and exploration protected from evaluative control as conditions that they experienced as associated with motivational resilience, social understanding, and cognitive flexibility when navigating complex knowledge and later institutional demands. In this sense, Sudbury-model environments may be understood as conceptually resembling ecologies theorized in evolutionary accounts of human learning, offering a perspective on how participants themselves made sense of the interplay between autonomy, responsibility, and exploratory motivation across the life course.

METHODOLOGICAL REFLECTIONS

The methodological approach of this dissertation reflects a dual commitment to empirical openness and theoretical integration. Although SDT and EDP were identified in the research proposal as relevant frameworks for understanding motivation and development, they did not guide the design of the interviews, the construction of the interview guide, or the initial analytic procedures. This decision was intentional. Rather than eliciting participants' interpretations of theoretical constructs, the study aimed to capture participants' own accounts of their developmental experiences and their long-term consequences as they were lived, remembered, and made meaningful over time. SDT and EDP were therefore employed as interpretive lenses in a later analytic stage, allowing participants' narratives to be examined in relation to broader motivational and developmental theories without constraining data generation to predefined theoretical categories. The empirical studies were conducted using reflexive thematic analysis (Braun & Clarke, 2006, 2019, 2021), following an inductive and interpretivist approach in which codes and themes were generated from the data.

The interview guide included open-ended questions that introduced broad domains, for example, asking participants to describe features of their school's structure and organization, but these prompts did not direct how participants should interpret or evaluate those domains. In line with reflexive thematic analysis, the interview schedule functioned as a flexible scaffold rather than a prescriptive framework, allowing participants to foreground what they considered meaningful.

Analytically, coding proceeded inductively across the entire dataset. Instead of line-by-line coding, meaning-rich narrative segments were coded at a semantic–latent hybrid level, and analysis moved iteratively between within-case and cross-case perspectives. Similar experiential patterns often appeared in response to different prompts, and these cross-question resonances played a key role in theme development. Through repeated comparison, preliminary codes were clustered into broader conceptual groupings that captured patterned meaning across participants' accounts. These groupings ultimately cohered into four higher-order thematic domains, relating to school culture and relational experience, emerging ownership and agency, reflective and identity processes, and perceptions of learning and ability. These domains formed the conceptual foundation of the four empirical chapters, each offering a distinct but interconnected lens on the broader developmental patterns that emerged from the data.

Only after the themes had been fully developed and stabilized were SDT and EDP employed as interpretive frameworks. Theories were thus used as post-analytic lenses to contextualize and integrate the empirical findings, illuminating how the inductively generated themes resonated with broader understandings of autonomy, intrinsic motivation, exploratory behavior, and human developmental tendencies. Importantly, the empirical results were not shaped by these theories; rather, the theories were applied afterwards to deepen the conceptual interpretation of participants' lived experiences.

The narrative review on play and intrinsic motivation was developed in parallel to the empirical work and was integrated into the dissertation during its final assembly. The review synthesized research from functional, biological, neurological, evolutionary, historical, and psychological domains. While SDT and evolutionary accounts featured in parts of the review, it was not anchored exclusively in these perspectives. Instead, it constructed a broad conceptual foundation showing that play and intrinsic motivation share substantial functional overlap, similar preconditions, adaptive functions, and developmental outcomes, which later helped illuminate why playfulness and

exploratory engagement appeared so centrally in the alumni's descriptions of their development.

Thus, the dissertation combines two distinct yet complementary strands:

1. A conceptual synthesis offering an interdisciplinary account of play and intrinsic motivation; and
2. Empirical studies grounded in inductive, reflexive qualitative methodology

The abductive integration of these strands in this chapter allowed the dissertation to move from grounded qualitative insights to a broader conceptual framing, while maintaining methodological transparency about the independence of analytic processes. This design enabled a nuanced articulation of how autonomy-rich, context-driven educational environments may support the motivational and developmental trajectories described by participants, without reducing their lived experiences to a single theoretical model.

THEORETICAL IMPLICATIONS

Before turning to the theoretical implications, it is helpful to recall the rationale that motivated this research. Contemporary schooling often reflects structural traditions that differ in important ways from the forms of autonomy, playfulness, curiosity, and social participation emphasized in SDT and EDP. Both frameworks highlight deeply interactive and context-dependent motivational processes, yet most empirical work has examined them in conventional, control-oriented school environments. This dissertation therefore examined a context in which these processes are structurally embedded rather than peripheral, Sudbury-model schools, in order to explore how need satisfaction, exploratory motivation, and community participation unfold when freed from traditional instructional constraints. The theoretical implications that follow should thus be understood against this backdrop.

Across the theoretical and empirical components of this dissertation, a set of interconnected implications emerges regarding how learning unfolds in autonomy-rich, age-mixed environments. The synthesis suggests that motivation, development, and community participation form an interdependent system, in which autonomy, exploration, and reflective agency mutually reinforce one another over time

A first implication concerns the motivational foundations of learning. The narrative review presented in Chapter 2 demonstrated a profound conceptual overlap between

play and intrinsic motivation. Both are rooted in an evolved exploratory and self-rewarding system that orients humans toward novelty, mastery, and social connection (Panksepp, 2015; Ryan et al., 2021). The empirical findings echoed this interpretation: participants repeatedly described their learning as arising from curiosity, enjoyment, and voluntary engagement rather than from external incentives or prescribed instruction. This convergence suggests that play and intrinsic motivation may be different expressions of a single motivational architecture, one that supports adaptive learning across development and that is easily activated when individuals are given autonomy and space to explore.

A second implication concerns the ecological and relational conditions under which this exploratory motivation thrives. The Sudbury environments in which participants lived were characterized by democratic governance, shared responsibility, egalitarian relationships, and full age-mixing. Within this structure, autonomy was not experienced as isolation or selfishness, but as a deeply social process embedded in communal norms, what participants often referred to as "mini-societies" or "demo life." Decision-making, conflict resolution, and collective rule-setting gave learners repeated opportunities to exercise choice while simultaneously engaging with the needs and perspectives of others. Age-mixing added a further layer of complexity and opportunity: it facilitated fluid movement between roles such as observing, imitating, mentoring, or being mentored, thereby enabling participation in a naturally scaffolded social-learning ecology rather than one organized around formal instruction. These combined features align closely with conditions that support evolved exploratory systems: high autonomy, high relatedness, and meaningful participation in communal life. SDT explains why such contexts foster intrinsic motivation and internalization, while EDP and sociocultural theories illuminate how participation itself functions as a learning mechanism.

A third implication concerns the developmental outcomes that emerge through sustained engagement in such ecologies. Participants described how cycles of self-chosen action, challenge, reflection, and adaptation were associated with increasing self-awareness, responsibility, and alignment between values and behavior. Through trial and error, periods of boredom, and encounters with real communal demands, they gradually learned what mattered to them and how to act on those commitments. Over time, many assumed greater responsibility within the school community and, later, in their adult lives. This pattern resonates with SDT's account of internalization, as the movement toward actions and commitments that are fully self-endorsed, and with evolutionary views of learning as an iterative process of adaptation. The qualitative synthesis suggests that early phases of playful exploration may provide the experiential

grounding from which more integrated, reflective commitments develop in adolescence and beyond.

Taken together, these insights point toward an emerging integrative framework. Motivation can be understood simultaneously as a biological adaptation (EDP's evolved exploratory systems), a psychological process (SDT's mechanisms of need satisfaction and internalization), and a sociocultural practice (participation in community life). The autonomy-rich, context-driven learning environments examined in this dissertation illustrate how these layers interact in practice: play-like motivational systems unfold within relational ecologies that support agency and belonging, and, over time, these conditions appear to foster reflective integration into personally meaningful purposes and commitments.

Although these propositions are heuristic rather than definitive, they highlight a promising theoretical direction. They suggest that autonomy, exploration, community participation, and reflective integration are not separate processes but mutually reinforcing dimensions of human learning and development. This perspective offers a richer conceptual basis for understanding how autonomy-supportive environments may shape learners' trajectories across childhood, adolescence, and adulthood. The next section therefore turns to the implications of this synthesis for educational theory, pedagogical design, and broader policy considerations.

IMPLICATIONS FOR EDUCATIONAL PRACTICE

Although this dissertation does not seek to prescribe a single pedagogical model, its findings carry several implications for how educators, researchers, and policymakers conceptualize learning and the conditions under which it flourishes. These implications do not rest on causal claims but emerge from the convergence of theoretical perspectives, SDT, EDP, play scholarship, and sociocultural theory, and the lived experiences of participants who spent their formative years in autonomy-rich democratic learning environments. The interpretations that follow should therefore be understood as theoretically informed insights drawn from participants' accounts rather than as evidence of causal relationships.

Participants' early "play phases" and later reflective engagement illustrate how exploration and self-determination can coexist with the eventual pursuit of complex, even abstract, knowledge. For educational theory, this suggests a need to conceptualize learning in ways that foreground play and exploration, intrinsic motivation, and self-

initiation as core, not peripheral, mechanisms of development. This reframing is reinforced by participants' descriptions of feeling trusted, respected, and psychologically safe, conditions strongly linked to autonomous motivation and well-being in SDT research. While Sudbury schools represent one of the most comprehensive forms of self-governance, the findings indicate that autonomy-supportive practices need not be limited to democratic schools; mainstream settings can incorporate many of the same elements. Reducing evaluative pressure, offering meaningful choices, framing learning tasks informationally rather than as performance demands, and cultivating trusting and egalitarian relationships are all practices that participants experienced as supportive. Importantly, these practices are validated by decades of motivational research, yet their implementation in many educational systems remains inconsistent, often overshadowed by accountability structures that leave little room for autonomy-supportive design.

A related implication concerns the educational value of participation in meaningful community practices. Participants described their schools as functioning like "mini societies," where democratic decision-making, negotiation, and accountability formed part of daily life. From a sociocultural perspective, these experiences resemble legitimate participation in community practices (Lave & Wenger, 1991; Rogoff, 2003), where learning arises through engagement in socially consequential activity. A distinctive feature of these ecologies was full age-mixing, which were associated with creating natural opportunities for informal mentoring, observational learning, and reciprocal support, echoing Vygotskian dynamics in which development is scaffolded through participation with more capable peers. Gray and Feldman (2004) showed, based on research in the Sudbury Vallery School, how the older often modeled expertise or community leadership, while the younger contributed spontaneity, curiosity, and new perspectives. These findings suggest that educational environments may benefit from shifting part of their focus from instructional structures toward participatory structures, such as democratic meetings, collaborative projects, shared governance, or intentional age-heterogeneous groupings that cultivate agency, responsibility, and social understanding.

Within these participatory environments, instruction itself emerged as an interesting phenomenon. Sudbury schools do not require formal lessons; participants acknowledged that they had rarely experienced formal instruction, instead describing how they learned informally through discussions, asking questions, and occasionally seeking feedback or guidance in pursuit of their self-chosen goals. Participants further noted that this orientation toward self-learning carried into higher education, where

selecting courses aligned with their interests and goals fostered a strong sense of ownership and sustained commitment to instructional demands. This reveals an important conceptual point: instruction becomes motivationally powerful when it is voluntarily chosen and personally meaningful. Rather than opposing direct instruction to discovery learning, the crucial factor appears to be how learners enter the instructional process, whether through external pressure or through autonomous choice. In practice, this perspective invites environments where instructional resources are readily available but not imposed, where learners are supported in identifying their own goals, and where adult expertise is offered responsively, without assuming control. Such an interpretation aligns with scholarship questioning the universality of the instruction assumption (Swartz, 2016; Wheatley, 2015) and reframes instruction as one component within a broader, self-determined learning ecology.

Participants' narratives also highlighted boredom, uncertainty, and challenge as recurring developmental triggers, moments that prompted reflection, reorientation, and eventual commitment. This interpretation aligns with SDT's focus on optimal challenge and with play theory's characterization of exploration as cyclically involving confusion and resolution. Educational practice often assumes that boredom must be eliminated and that productivity equates to learning, yet the findings here suggest that, within a context of psychological safety and autonomy-in-community, boredom can function as a productive turning point. It can encourage learners to reassess their interests, redirect their actions, and experiment with new pathways. Rather than being signs of disengagement requiring correction, boredom and uncertainty may be essential ingredients of self-directed growth.

A key empirical insight underlying all of these processes is that students' sense of self-direction in these schools was not experienced as *freedom from* restraint but as *freedom within* a communal structure of norms, expectations, and shared accountability. This self-directed participation, acting with personal agency inside a collectively created framework, mirrors SDT's understanding of autonomy as volition rather than independence. In SDT, autonomous motivation emerges when expectations and norms are encountered in ways that feel legitimate, fair, and aligned with one's values, enabling internalization. Sudbury participants described exactly this process: rules and responsibilities became meaningful because they were co-created, negotiated, and enacted within trusted relationships. This also aligns with EDP's view of learning as fundamentally social and embedded in community practices. For educational theory and practice, this suggests the value of environments that frame autonomy as an invitation to meaningful participation, scaffold responsibility through real roles

and community expectations, and cultivate cultures where learners experience the consequences of their decisions in more supportive ways.

This emphasis on autonomy and responsibility also intersects with a broader recognition of learner diversity. One participant, Jessica, noted that "different models work for different people," a comment that, while not shared by all participants, captures a crucial insight: learners vary, contexts vary, and no single pedagogical model can meet the needs of all. This view aligns with SDT's recognition of individual differences in how autonomy, competence, and relatedness are best supported, as well as with broader developmental perspectives emphasizing the importance of learner–environment fit. The findings show that autonomy-rich Sudbury model environments can be deeply supportive for some learners, but this does not mean they suit all. Instead, they underscore the value of recognizing multiple legitimate educational ecologies.

Ryan and Lynch's (2003) distinction between trust-based and control-based educational worldviews is especially relevant: educators' assumptions about human nature shape the environments they design. Control-oriented practices, such as surveillance, evaluation, and performance-based accountability, tend to undermine autonomy and intrinsic motivation. Viewed through this lens, policymakers should be attentive to the risk that assessing autonomy-rich, context-driven educational models through control-based frameworks may erode the very conditions that participants in this dissertation described as central to their long-term development.

The experiences of the participants suggest that trust-based, autonomy-supportive structures can yield strong developmental outcomes, yet such structures represent only one approach within a broader, pluralistic educational landscape. For policy and theory, the implication is clear: educational systems benefit from diversity. Recognizing developmental variability means legitimizing distinct pedagogical approaches, allowing families to choose environments aligned with their values, and resisting the assumption that a single standardized model defines "good education." Pedagogical pluralism expands the conceptual space for designing environments that cultivate curiosity, autonomy, and well-being across diverse learners.

Finally, the findings invite a reconsideration of how educational success is conceptualized and measured. The qualitative data make visible a set of long-term developmental outcomes, agency, adaptability, self-knowledge, reflective capacity, and the ability to take ownership of one's life, that were central to participants' growth yet remain largely invisible within conventional metrics. These capacities emerged not as by-products but as defining achievements of their educational experience. This resonates with

longstanding critiques within SDT, EDP, and sociocultural theory that warn against equating educational quality with test performance or narrowly defined academic competencies. Standardized assessments capture only a small fraction of what is developmentally meaningful, whereas many of the capabilities most relevant for adult functioning, motivational resilience, identity development, self-direction, are precisely those least measured by current systems. Moreover, many of these developmental outcomes are inherently context-dependent and personally interpreted, much like the "soft skills" often invoked in educational discourse. Their expression varies across individuals and situations, making them difficult to reduce to objective or standardized indicators without oversimplifying their complexity. Indeed, SDT and play research caution that when intrinsically motivated processes, such as curiosity, autonomy, or reflective agency, are subjected to external evaluation, the quality of motivation may decline. The paradox is that the more we attempt to quantify these qualities, the more we risk undermining the very motivational dynamics that give them educational significance. Recognizing this disconnect is essential, because if educational evaluation continues to privilege what is easily measurable, it risks obscuring the developmental processes that enable individuals to thrive beyond school. The findings therefore point toward a broader conception of educational success, one that places sustained motivation, identity development, and agency at its center, and that invites reconsideration of assessment systems grounded primarily in external control and standardization.

Taken together, these implications suggest that learning is most powerfully supported when autonomy, participation, and psychological safety are treated as foundational design principles rather than supplementary features of schooling. The findings across this dissertation indicate that curiosity, intrinsic motivation, and exploratory engagement flourish in environments where learners feel trusted, respected, and empowered to make meaningful choices, and where responsibility is embedded within participatory community structures. They highlight the importance of viewing learning as an evolved, exploratory process shaped by autonomy-supportive ecologies; of recognizing that meaningful instruction is most effective when voluntarily chosen; and of acknowledging boredom, uncertainty, and challenge as developmentally productive when situated within safe relational climates. They also point toward broadening conceptions of educational success to include long-term motivational, relational, and identity outcomes. Finally, the findings underscore the value of pedagogical pluralism. Learners differ in how they thrive, and no single approach can meet the full range of developmental needs. By embracing a wider landscape of educational possibilities,

policymakers can better support environments that cultivate agency, well-being, and lifelong engagement with learning.

LIMITATIONS OF THE RESEARCH

Several methodological and interpretive limitations should be acknowledged when considering the findings of this dissertation.

The first concerns the empirical studies' reliance on retrospective alumni narratives. Participants made sense of their learning histories from the standpoint of adulthood, describing a variety of experiences uncovered across Chapters 4–7. While these accounts offered rich insight into how former students understand the influence of their education, they reflect reconstructed memories shaped by narrative coherence and adult interpretation. As such, the findings illuminate perceived developmental significance, not direct evidence of how these processes unfolded in real time.

A second limitation relates to the sample size and potential potential self-selection and positive case bias. The empirical studies drew on a sample of fourteen alumni, a size typical for interpretive, in-depth qualitative research, but one that necessarily limits the range of perspectives included. In addition, the sample likely reflects perspectives from individuals who adapted well to the model. Several participants had close personal ties to their schools, including parents who were founders or part-time staff, which may have strengthened their identification with the Sudbury model and its underlying values. From the outset, the study proceeded from the expectation that participants would predominantly report positive experiences with Sudbury-model schooling; this selectivity was a deliberate and theoretically informed choice, aligned with the study's aim to develop an in-depth understanding of autonomy-rich, context-driven educational contexts. The interpretive strength of the findings is supported by the contextual diversity of the participants, who attended eight Sudbury-model schools across three countries. While these schools share a common governance structure, they vary in cultural and social context, size, and community composition. The recurrence of similar themes across this range of individuals from different settings provides cross-contextual resonance that strengthens the credibility of the interpretations, although the findings cannot be assumed to represent all Sudbury-model graduates.

A further limitation arises from the inductive, reflexive analytic approach used in the empirical studies, which did not employ theoretical coding frameworks. Codes and themes were developed directly from the data, without applying SDT or EDP during

interview design, coding, or theme generation. While this ensured analytic openness, it also means that the themes were shaped by interpretive judgment and researcher reflexivity. The integration with SDT and EDP occurred after the analytic process, which limits claims about theoretical saturation or theory-building. The dissertation therefore offers an interpretive synthesis, not a formal theoretical model.

Relatedly, the narrative review and the empirical studies were developed through separate methodological trajectories. The review synthesized interdisciplinary literature on play and intrinsic motivation and was integrated into the dissertation during its final assembly. Although the review enriched the conceptual interpretation of the empirical findings, it did not guide data collection or analysis. This creates a complementary rather than iterative relationship between the theoretical and empirical components. Readers should therefore view the synthesis in Chapter 8 as abductive and integrative rather than as methodological triangulation.

Another important limitation is the absence of longitudinal and observational data. The proposed developmental sequences, such as transitions from free play to purposeful engagement, or the role of boredom as a catalyst, cannot be tested with retrospective self-report alone. Nor does the study include measures of academic achievement, motivation, or well-being beyond participants' own accounts. Future research using longitudinal or mixed methods would be needed to examine how these processes unfold in situ.

A final limitation involves researcher positionality and interpretive bias. As with all qualitative research, the findings reflect not only participants' accounts but also the researcher's interpretive engagement with them. Reflexivity was addressed within each of the empirical studies, yet an overarching limitation remains relevant at the level of the dissertation as a whole. The synthesis presented in Chapter 8 involves interpretive decisions about how independently generated themes, across multiple studies, speak to one another and to broader theoretical perspectives. These integrative judgments are inevitably shaped by the researcher's background, values, and long-standing interest in autonomy-supportive forms of education. Although efforts were made to maintain analytic openness, through iterative coding, memo writing, peer discussion with the supervisory team, and explicit attention to alternative interpretations, the possibility of interpretive bias cannot be eliminated. The findings should therefore be understood as one possible, theoretically informed reading of the data rather than a definitive account of Sudbury-model schooling. At the same time, it is noteworthy that several independent student and alumni studies of Sudbury-model and other self-

directed educational contexts, conducted in different settings (Berg & Corpus, 2013; Gray et al., 2021; Gray & Chanoff, 1986; Gray & Riley, 2015b, 2015a; Morrison, 2022; Von Duyke, 2013) report strikingly similar patterns of agency development, intrinsic motivation, social competence, and self-directed adaptability. This convergence across studies, using distinct samples and methodological approaches, provides a form of contextual validity: it suggests that the developmental themes identified here are not merely artifacts of the researcher's analytic process but reflect commonalities in the lived experiences of graduates across these environments. Future research involving multiple analysts, collaborative coding, or participant validation could help broaden or challenge the interpretations offered here.

Despite these limitations, the combination of inductive empirical analysis and interdisciplinary theoretical synthesis provides a rich and nuanced account of how the autonomy-rich, context-driven education in these Sudbury schools was experienced across the life course. The limitations outlined above help situate the findings as contextual, interpretive, and generative, offering insights that can inform future theory, research, and educational design while avoiding unwarranted claims of generalizability or causal inference.

FUTURE RESEARCH DIRECTIONS

The research presented in this dissertation illuminates how autonomy-rich, democratic schooling may shape motivation and development, but it also underscores the complexity of self-directed educational processes. No single theory can fully capture how humans learn in self-directed educational contexts, nor can a single model represent the diverse developmental pathways observed. Each empirical chapter revealed distinct aspects of learning and growth, derived from inferred circumstantial evidence that particular contextual conditions appeared to elicit particular psychological processes. The overarching focus of the dissertation, on shared experiences grounded in the schools' governance structures and cultural ethos, offers a meaningful but necessarily partial account. Building on this foundation, several avenues for future research emerge.

One such avenue concerns longitudinal developmental studies. The qualitative findings suggest a recurring sequence, periods of intense play or decompression, followed by boredom, experimentation, and eventually more purposeful forms of engagement, but these remain interpretive. Longitudinal research following learners over many years

would be invaluable for determining whether such sequences are typical, context-dependent, or vary systematically by age of entry, disposition, or developmental stage. Such work could also empirically examine the heuristic developmental arc proposed in this dissertation (Playfulness/Curiosity → Challenge → Reflection → Competence → Ownership/Agency), assessing whether it reflects a robust pattern of growth across individuals and contexts.

A second direction for future research concerns the development and evaluation of academic knowledge in autonomy-rich educational pathways. Participants' accounts challenge the prevailing instruction assumption, suggesting that complex disciplinary knowledge can emerge through voluntary engagement and self-directed inquiry, while also reporting no perceived deficits in academic content knowledge upon entering higher education or professional training. Future research could combine in-depth, longitudinal studies of learning processes within autonomy-supportive environments with follow-up investigations of how learners mobilize and evaluate their knowledge across educational transitions. Such work would shift attention from curricular benchmarking to processes of academic adaptation, situational adequacy of knowledge, and the meanings learners attach to educational success over time.

Another inquiry suggestion concerns how different educational environments shape learners' motivational orientations and dispositional capacities over time. Participants repeatedly described their own motivation as internally regulated, in contrast to the externally driven engagement they attributed to peers from instruction-heavy environments, suggesting that differences in perceived locus of causality may be central to these developmental outcomes. Future research could investigate how autonomy-supportive and instruction-heavy contexts differentially foster resilience, adaptability, self-regulation, confidence, and relational competence, and how these dispositions develop across educational transitions and into post-school contexts. Such work is particularly salient in light of ongoing concerns about adolescent and young adult mental health, and may clarify how sustained experiences of agency, competence, and relatedness contribute to psychological well-being and durable engagement with learning.

A further area of inquiry lies in comparative research across autonomy-oriented educational ecologies. Sudbury-model schools can be situated alongside other learner-directed arrangements that vary in governance, adult roles, and degrees of learner agency, including democratic free schools, learning communities, agile learning centers, and family-based or community-based homeschooling initiatives. Comparative

research across these contexts could clarify which developmental mechanisms are unique to fully self-governing environments, which generalize across autonomy-supportive models, and how different forms of adult involvement (non-intervention, guided play, mentorship) shape motivation, identity, and participation.

Another promising direction concerns fully mixed-age educational ecologies. A key but understudied characteristic, which is typical of Sudbury-type environments, is full age heterogeneity, in which children as young as four participate in daily life, decision-making structures, and play spaces together with adolescents and adults. While research on mixed-age classrooms highlights benefits for prosocial behavior, cooperation, and adaptive functioning, these studies typically examine narrow age spans. The developmental potential of complete age-mixing, where intergenerational interaction is the normative condition, remains largely unexplored. Future research could investigate how developmental processes unfold in fully mixed-age settings; how cross-age participation supports learning, identity, and social responsibility; and how age heterogeneity interacts with autonomy-supportive structures such as democratic governance or voluntary instruction. Such inquiry would clarify whether fully mixed-age ecologies constitute a distinct developmental mechanism and could potentially explain several trajectories described by participants in this study.

A complementary area for future inquiry concerns democratic participation as developmental practice. Participants often described their school as a "mini society," highlighting the central role of democratic participation in their development. Although democratic school meetings have been productively examined as sites of participation and voice (Fielding, 2013; Morrison, 2024), focusing on discrete institutional practices may obscure how developmental processes emerge across the broader participatory organizational ecology. Future research could investigate how everyday practices of governance, negotiation, and shared accountability shape social cognition, moral reasoning, and civic identity. Ethnographic, sociocultural, or microgenetic methods would be especially well suited to examine these dynamics as they unfold in everyday activity.

Future research should also address questions of misfit and boundary conditions in autonomy-rich, context-driven education, including experiences after leaving school. While the present study highlighted graduates' experiences within Sudbury-type schools and the supportive ecological conditions that sustained their engagement, such conditions may limit the generalizability of the findings. Future research should therefore attend to experiences at the edges of fit, including students who struggled,

left early, or reported less-positive or negative outcomes after transitioning to higher education, work, or other post-school contexts. Importantly, such experiences should not be interpreted as evidence of school failure, as all educational models involve some degree of misfit. Rather, examining these trajectories may offer critical insight into how autonomy-rich, context-driven education is experienced over time, how expectations and meanings shift after leaving school, and which ecological, relational, or structural factors shape perceived educational outcomes. This work would help clarify both the strengths and the limits of democratic and self-directed educational models.

Extending play and intrinsic motivation research into adolescence is another important direction. The conceptual synthesis in Chapter 2 revealed a deep overlap between play and intrinsic motivation, yet empirical studies of "play-like" learning states in adolescence are scarce. Future work could examine how playful, exploratory modes of thinking, like described already by Huizinga (2024), support learning during middle childhood and adolescence. It could further explore how such modes can be sustained under increasing academic and societal pressures, and how playfulness intersects with identity formation, risk-taking, and the development of self-direction and resilience.

Finally, the theoretical integration of SDT, EDP, and play scholarship represents an important area for further work. The conceptual contribution of this dissertation, linking SDT, EDP, and play scholarship, opens the door to more integrative theoretical work. Future research could examine how psychological need satisfaction operates within participatory ecologies rather than isolated tasks; how playfulness functions across developmental periods; and how autonomy-supportive environments may approximate ancestral conditions for learning. Such work may help to articulate a unified framework for understanding human learning across evolutionary, motivational, and sociocultural dimensions.

Together, these directions illustrate the need for research that captures the temporal, motivational, relational, and cultural complexity of self-directed educational contexts. Understanding autonomy-rich education necessitates moving beyond short-term assessments and narrowly defined cognitive outcomes altogether; it demands longitudinal designs and methodologically plural approaches that remain ecologically sensitive, as well as theoretical frameworks capable of integrating the interplay of exploration, participation, and internalization. Advancing this field will depend on research that is as open, dynamic, and developmentally sensitive as the learning environments it seeks to understand.

CONCLUDING REMARKS AND FORWARD-LOOKING REFLECTION

Across the theoretical and empirical strands of this dissertation, a consistent picture emerges. Autonomy-supportive ecologies that preserve play, exploration, and participation appear to foster motivational and relational foundations needed for agency and resilience in adulthood. This insight resonates strongly with SDT's account of humans as naturally active, growth-oriented organisms and with EDP's view of childhood and adolescence as developmental periods uniquely suited for exploration, experimentation, and social integration.

Interpreted through the combined lenses of SDT and EDP, the present findings provide empirical resonance for this theoretical account. The influence of Sudbury-model schooling appears much broader than particular skills or discrete outcomes; graduates understood their education as having shaped the motivational ecology through which they engaged with later academic, professional, and relational contexts. In this sense, the dissertation responds directly to calls within SDT to examine psychological need satisfaction across a wider range of life contexts and institutional arrangements (Ryan & Deci, 2020).

Crucially, participants' narratives illustrate how playful, exploratory engagement can evolve into sustained, self-determined pursuit of complex and abstract goals. This developmental continuity reflects the theoretical claim that play and intrinsic motivation are not opposed to disciplined learning, but can scaffold the emergence of reflective agency, responsibility, and long-term commitment when supported by autonomy-rich, context-driven environments. The findings demonstrate how need-supportive processes can manifest in participatory educational ecologies that differ markedly from the instruction-centered settings in which SDT has most often been studied.

Taken together, the theoretical article and the empirical studies converge on a shared insight: when educational environments preserve the conditions that sustain play and exploration, autonomy, psychological safety, and meaningful participation, they also preserve the conditions under which intrinsic motivation can mature into self-directed mastery. This synthesis helps explain why dispositions such as curiosity, adaptability, and reflective agency remained salient in participants' adult lives. Importantly, this synthesis shifts attention away from transmission-based accounts of education and toward the cultivation of motivational and relational conditions that support adaptive engagement with complexity across the lifespan.

At the same time, the chapter underscored the limitations of these interpretations. The findings reflect the perspectives of graduates who remained connected to their schools and whose family contexts supported sustained participation in autonomy-rich, context-driven environments. As such, they illuminate one segment of the broader population of students who enter Sudbury-model schools. Moreover, as a qualitative and retrospective inquiry, this research cannot make causal claims about long-term outcomes. The interpretations offered here should therefore be understood as a theoretically informed account of how participants themselves made sense of their developmental trajectories, rather than as evidence of universal effects.

Beyond summarizing findings and theoretical contributions, the chapter invites reflection on future educational possibilities. If learning is most robustly supported when autonomy, competence, belonging, play, and exploratory engagement are treated as foundational conditions rather than supplementary features, what might educational systems look like if they were designed around these principles?

Contemporary schooling often channels young people toward uniform curricular outcomes and standardized examinations, thereby narrowing developmental trajectories. Yet from both evolutionary and motivational perspectives, humans have always developed along diverse pathways, gradually specializing through interest-driven engagement and participation in community life.

A more open and flexible educational landscape, one in which learners select competencies aligned with their emerging identities, and in which entry into higher education or vocational fields is based on readiness assessments rather than standardized school-leaving exams, could better support this developmental diversity. Such an approach would not eliminate standards, but relocate them to points of meaningful transition, allowing learners to pursue individualized pathways while maintaining rigor.

This proposition is necessarily speculative and would require careful empirical investigation and policy innovation. Yet the findings of this dissertation gesture toward its plausibility. Under conditions characterized by trust, stability, and democratic participation, uncertainty may be experienced as a potential space for exploration, learning, and the formation of more deliberate, agentic orientations toward one's life course.

As societies confront rapidly shifting social, technological, and ecological challenges, the need for individuals who can think flexibly, regulate themselves autonomously,

collaborate across differences, and learn throughout life becomes increasingly evident. Designing educational environments that nurture these capacities, by aligning with the motivational, evolutionary, and sociocultural foundations of human development, may therefore be not merely an educational aspiration but a societal imperative.

Looking forward, the challenge is no longer whether such environments are possible, but how they can be cultivated more broadly in ways that honor human diversity, respect developmental rhythms, and support learners in becoming active protagonists of their own lives.

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SAMENVATTING



ACHTERGROND EN AANLEIDING

Onderwijssystemen in veel westerse landen zijn historisch gevormd vanuit een logica van controle, standaardisering en externe beoordeling. Hoewel er in de afgelopen eeuw talrijke onderwijsvernieuwingen zijn doorgevoerd, blijft formeel onderwijs vaak georganiseerd rond vaste curricula, jaarklassensystemen, leeftijdsgebonden leerdoelen, toetsing en hiërarchische verhoudingen tussen leraren en leerlingen. Tegen de achtergrond van snelle technologische, maatschappelijke en ecologische veranderingen worden in hedendaagse samenlevingen echter toenemende aanpassingsvaardigheid, zelfsturing, creativiteit en bereidheid tot levenslang leren verwacht. Dit roept de vraag op hoe onderwijs zich verhoudt tot deze veranderende eisen.

In lijn hiermee groeit de wetenschappelijke en maatschappelijke belangstelling voor autonomie, intrinsieke motivatie, creativiteit en levenslang leren. Binnen de psychologie heeft de Zelfdeterminatietheorie (Self-Determination Theory; SDT; Deci & Ryan, 2000; Ryan & Deci, 2000) overtuigend aangetoond dat autonomie, competentie en sociale verbondenheid fundamentele psychologische basisbehoeften zijn voor motivatie, welbevinden en optimale ontwikkeling. Deze theorie impliceert daarmee ook dat omgevingen die sterk leunen op externe sturing, controle en beoordeling, zoals veel traditionele onderwijsvormen, het risico lopen deze basisbehoeften systematisch te ondermijnen. In lijn met deze uitgangspunten stellen Gray, Lancy en Bjorklund (2023), op basis van convergerende empirische evidentie en theoretische inzichten uit de SDT én evolutionair-antropologisch onderzoek, dat een afname in onafhankelijke activiteiten zoals vrij spel een bijdragende factor kan vormen in de langetermijnafname van het mentale welzijn bij jongeren.

Voortbouwend op deze inzichten biedt de Evolutionaire Ontwikkelingspsychologie (Evolutionary Developmental Psychology; EDP; Geary, 2005; Geary & Bjorklund, 2000) een aanvullend verklaringskader door te laten zien dat het menselijk brein is geëvolueerd met leermechanismen die spontane, intrinsiek gemotiveerde verwerving van fundamentele vaardigheden mogelijk maken. Aanvullend laten evolutionair-antropologische en socioculturele benaderingen zien dat deze leermechanismen zich in de praktijk ontwikkelen via spel, exploratie en participatie in sociale gemeenschappen, een beeld dat wordt ondersteund door vergelijkend spelonderzoek in evolutionair perspectief (bijv. Gray, 2012; Lancy et al., 2010; Pellegrini et al., 2007; Rogoff, 2003). In dit proefschrift wordt EDP opgevat als een kader dat voortbouwt op evolutionaire, socioculturele en cultureel-antropologische inzichten om leren te conceptualiseren

als een geëvolueerd ontwikkelingsproces dat gestalte krijgt via participatie, spel en betrokkenheid bij sociale praktijken.

Omdat het merendeel van het empirisch onderzoek naar motivatie en leren plaatsvindt binnen conventionele onderwijssystemen, worden deze contexten vaak als vanzelfsprekend uitgangspunt genomen. Daardoor is weinig bekend over hoe geëvolueerde leermechanismen en psychologische basisbehoeften functioneren wanneer zij niet zijn ingebed in vaste curricula, externe beoordeling en hiërarchische sturing. Hoewel dergelijke kritische perspectieven regelmatig worden geformuleerd door onderzoekers zoals Ryan, Gray, Lancy en Rogoff, is empirisch onderzoek naar leer- en motivatieprocessen buiten conventionele onderwijssystemen vooralsnog beperkt. Tegen deze achtergrond rijst de vraag hoe motivationele en ontwikkelingsprocessen, bezien vanuit inzichten uit de SDT en de EDP, zich empirisch manifesteren in onderwijscontexten die, in tegenstelling tot conventionele onderwijssystemen, institutioneel en cultureel zijn ingericht rond autonomie, vrijwillige participatie en zelfregulatie.

Dit proefschrift vult deze leemte door ontwikkeling te onderzoeken in autonomie-rijke onderwijscontexten: omgevingen die worden gekenmerkt door ruime keuze-vrijheid, niet-dwingende structuren en een hoge mate van zelfsturing. De aanduiding *autonomie-rijk* verwijst naar deze ecologische inrichting van de leeromgevingen en moet niet worden verward met het SDT-concept autonomie-ondersteuning, dat in dit proefschrift analytisch dieper wordt onderzocht.

Omdat leren, motivatie en ontwikkeling in dit onderzoek worden opgevat als het resultaat van langetermijnprocessen die ontstaan uit een voortdurende wisselwerking tussen individuele factoren en de sociale, institutionele en culturele context, is het onderzochte fenomeen zowel conceptueel als empirisch complex. Om deze complexiteit hanteerbaar te maken, richt het empirische deel zich op één type school volgens het Sudburymodel, dat vanwege gedeelde organisatorische en pedagogisch-filosofische uitgangspunten een geschikt vergelijkingskader biedt over verschillende landen heen. Deze benaming verwijst naar de Sudbury Valley School in Framingham, Massachusetts (VS), opgericht in 1968, die fungeert als het oorspronkelijke referentiemodel voor deze schoolvorm. Wereldwijd bestaan er inmiddels ongeveer vijftig scholen die, ongeacht of zij zichzelf expliciet als 'Sudburyschool' aanduiden, een herkenbare en grotendeels gedeelde set van kernprincipes en organisatorische structuren hanteren.

Hoewel veel onderwijsvernieuwers (zoals Freinet, Ferrer, Montessori en Parkhurst) in hun pedagogische uitgangspunten aansluiten bij deze visie op autonomie en intrinsieke

motivatie, blijven hun praktijken doorgaans ingebed in institutionele structuren die meer sturing en afbakening kennen dan het Sudburymodel. Het model wordt gekenmerkt door het ontbreken van verplichte lessen of roosters, leeftijdsgebonden klassen en formele beoordelingspraktijken, waardoor leerlingen grote autonomie hebben in de inrichting van hun dagelijkse schoolleven. De school is georganiseerd als een democratisch bestuurde gemeenschap met volledige gelijkwaardigheid tussen leerlingen en volwassenen. Tot de gedeelde organisatorische kenmerken behoren onder meer een schoolmeeting, een juridisch comité voor normhandhaving en verschillende uitvoerende functies en organen, waarin zowel leerlingen als volwassenen gezamenlijk verantwoordelijk zijn voor het dagelijkse functioneren van de school. Ontwikkeling vindt plaats binnen een volledig leeftijdsgemengde sociale omgeving, waarin jonge mensen vanaf ongeveer vier jaar, adolescenten en volwassenen samen deelnemen aan het schoolleven, de besluitvorming en het sociale verkeer.

DOELSTELLING EN ONDERZOEKSVRAAG

Het doel van dit proefschrift is te onderzoeken hoe alumni van Sudburyscholen de invloed van hun onderwijs op hun latere leven ervaren en begrijpen, en hoe deze ervaringen kunnen worden geïnterpreteerd vanuit motivatie- en evolutionair ontwikkelingspsychologisch perspectief.

De centrale onderzoeksvraag luidt:

Hoe geven afgestudeerden betekenis aan hun ervaringen met Sudburyscholing in relatie tot hun volwassen leven?

Gezien de conceptuele en empirische complexiteit van leren, motivatie en ontwikkeling in autonomie-rijke onderwijsomgevingen, processen die meerdere ontwikkelingsdomeinen beslaan en zich vaak pas over langere tijd ontvouwen, is in dit proefschrift niet gestreefd naar één verklarend model of één overkoepelende theorie. Evenmin was het doel om specifieke kenmerken van Sudburyscholen te bevestigen of te toetsen. In plaats daarvan richt het proefschrift zich op het identificeren van gedeelde ervaringspatronen en globale ontwikkelingsprocessen die samenhangen met de structurele en culturele inrichting van deze scholen, met als doel een conceptueel verdiept begrip te ontwikkelen van ontwikkeling in dit type leeromgevingen.

OPZET VAN HET PROEFSCHRIFT

Het proefschrift bestaat uit twee onderdelen:

1. Een theoretisch narratief literatuuroverzicht (Hoofdstuk 2), waarin spel en intrinsieke motivatie worden onderzocht vanuit functionele, biologische, neurologische, evolutionaire en historische perspectieven.
2. Vier kwalitatieve empirische studies (Hoofdstukken 4-7), voorafgegaan door een introductie van de deelnemers (Hoofdstuk 3), gebaseerd op semigestructureerde diepte-interviews met veertien volwassen alumni van acht Sudburyscholen in Nederland, Israël en de Verenigde Staten. De steekproef omvatte twee scholen in Nederland en twee in Israël (elk met twee deelnemers) en vier scholen in de Verenigde Staten, waarvan twee scholen één deelnemer leverden en twee scholen elk twee. De scholen selecteerden de deelnemers zelf, met als expliciete richtlijn om variatie aan te brengen in gender, schooltrajecten en latere loopbanen.

Door deelnemers uit vergelijkbaar georganiseerde scholen in drie landen te betrekken, maakt het proefschrift het mogelijk om ontwikkelingsprocessen te identificeren die zich consistent voordoen over verschillende culturele en maatschappelijke contexten heen. Het aantreffen van vergelijkbare ervaringspatronen in de narratieven van meerdere deelnemers wijst daarmee op de robuustheid van de bevindingen, zonder te impliceren dat deze ervaringen universeel zijn voor iedereen onder alle omstandigheden.

Voor de uitvoering van de empirische studies is gebruikgemaakt van een inductieve, reflexieve thematische analyse (Braun & Clarke, 2006). Dat betekent dat interviews, codering en themavorming niet werden gestuurd door vooraf vastgestelde theoretische kaders. De positie en aannames van de onderzoeker werden gedurende het gehele onderzoeksproces expliciet gereflecteerd en gedocumenteerd om vertekening te beperken. Pas in een latere interpretatieve fase werden SDT, EDP en socio-culturele perspectieven gebruikt om de bevindingen te integreren en te duiden. Hierdoor blijft de analyse primair geworteld in de geleefde ervaringen van de deelnemers.

Hoofdstuk 2: Spel en intrinsieke Motivatie

Hoofdstuk 2 presenteert een narratief literatuuroverzicht waarin spel en intrinsieke motivatie worden onderzocht op hun onderlinge samenhang. Op basis van onderzoek uit onder meer de psychologie, neurowetenschappen, biologie en evolutietheorie wordt betoogd dat spel en intrinsieke motivatie geen losstaande fenomenen zijn, maar twee uitdrukkingen van mogelijk hetzelfde geëvolueerde exploratieve motivatiesysteem, waarbij de beloning primair intern van aard is.

Beide worden gekenmerkt door:

- vrijwilligheid en autonomie,
- nieuwsgierigheid en exploratie,
- plezier en interesse als intrinsieke beloning,
- en positieve effecten op leren, creativiteit en welbevinden.

Daarnaast laat het hoofdstuk ook zien dat gebrek aan spel en intrinsieke motivatie samenhangt met negatieve effecten, zoals verhoogde stress, verminderde flexibiliteit en verminderde intrinsieke betrokkenheid. Deze inzichten vormen een conceptuele basis voor het begrijpen van leerervaringen in autonomie-rijke onderwijscontexten.

Hoofdstuk 3: Context en achtergrond van deelnemers

Hoofdstuk 3 beschrijft de levenscontexten van de deelnemers en hun routes naar Sudburyscholen. De veertien alumni bleken een diverse groep te vormen, met uiteenlopende persoonlijkheden, gezinssituaties en eerdere schoolervaringen. Sommige deelnemers kwamen uit traditionele onderwijssystemen waarin zij vastliepen of hun motivatie verloren, terwijl anderen al een sterk gevoel van autonomie hadden op het moment dat zij de overstap naar de Sudburyschool maakten. Drie deelnemers hadden geen eerdere schoolervaring en twee slechts minimale; zij hebben hun volledige schoolloopbaan doorgebracht op een Sudburyschool. Vrijwel alle deelnemers brachten ten minste vijf jaar van hun jeugd door op deze scholen.

Wat in dit hoofdstuk naar voren komt, is dat deelnemers hun ontwikkeling beschrijven in termen van opeenvolgende perioden: een periode waarin spel centraal stond, gevolgd door een tussenfase van meer gerichte exploratie van mogelijkheden en interesses, en een latere fase waarin sprake was van een sterkere focus op zelfgekozen projecten en loopbaanvoorbereiding. Dit hoofdstuk vormt de basis voor de empirische hoofdstukken.

Hoofdstuk 4: Relationaliteit, rechtvaardigheid en gemeenschap

Hoofdstuk 4 analyseert de sociaal-relationele organisatie van Sudburyscholen, met bijzondere aandacht voor het Juridisch Comité als democratisch en herstelgericht rechtssysteem. Mogelijke overtredingen van gezamenlijk vastgestelde regels worden via peer-gedreven en vaste procedures gewogen en beoordeeld, waarin leerlingen en volwassenen gelijkwaardig participeren. Vanuit een SDT-perspectief kan dit worden opgevat als structuur: een voorspelbare context die autonomie en verbondenheid ondersteunt en de internalisatie van gedeelde normen faciliteert. Doordat

volwassenen geen hiërarchische sanctiemacht hebben, maar deelnemen als leden van de gemeenschap, ontstaat een schoolcultuur die door deelnemers wordt ervaren als transparant, relationeel veilig en niet-oordelend.

Binnen deze context functioneren volwassenen als mentoren en rolmodellen. Deze relaties ontstaan informeel binnen gedeelde activiteiten en kunnen zich over langere tijd ontwikkelen binnen een stabiele gemeenschap. Dit sluit aan bij literatuur over mentorschap (*mentoring*), waarin vrijwilligheid, gelijkwaardigheid en duurzaamheid als kernvoorwaarden gelden. Deelnemers benadrukken dat deze relationele context het stellen van vragen, het tonen van kwetsbaarheid en het zoeken van ondersteuning mogelijk maakte, en daarmee zowel verbondenheid, autonomie als ook competentie ondersteunde.

Hoofdstuk 5: Eigenaarschap, zelfbepaling en echtheid van keuze

Hoofdstuk 5 onderzoekt de betekenis van eigenaarschap en 'echte keuze' in leren en leven. In Sudburyscholen is verregaande keuzevrijheid structureel verankerd door het ontbreken van een opgelegd curriculum en door democratische besluitvorming. Deelnemers beschrijven hoe deze combinatie van vrijheid en gedeelde verantwoordelijkheid het mogelijk maakte om keuzes niet af te schuiven op externe autoriteit, maar deze als eigen te ervaren.

De schoolcultuur van niet-inmenging stimuleerde een onderzoekende houding en zelfsturing, terwijl de gemeenschappelijke structuur houvast bood. Hoewel deze autonomie soms als confronterend werd ervaren, beschrijven deelnemers geen blijvende negatieve gevolgen. Integendeel, de mogelijkheid om zelf richting te geven aan tijdsbesteding en leerprocessen werd gezien als cruciaal voor het ontwikkelen van intrinsieke motivatie en een intern ervaren gevoel van verantwoordelijkheid voor leren en de levensloop.

Hoofdstuk 6: Verveling, reflectie en flexibele mindsets

Hoofdstuk 6 richt zich op de psychologische processen die voortkomen uit autonomie-rijke leeromgevingen, met bijzondere aandacht voor verveling, reflectie en agency[1]. Verveling fungeert volgens deelnemers als ontwikkelingssignaal dat aanzet tot zelforganisatie, experimenteren en heroriëntatie. Deelnemers beschrijven daarbij een

[1] In deze samenvatting worden Engelstalige kernbergippen (agency, growth mindset, grit) onvertaald gehanteerd, omdat zij in het Nederlands geen eenduidige, conceptueel volledige vertaling kennen. *Agency* wordt hier gebruikt in de betekenis van het vermogen van actoren om intentioneel te handelen binnen en ten opzichte van structurele condities.

flexibele houding ten aanzien van leren en keuzes, gekenmerkt door nieuwsgierigheid, openheid en adaptieve probleemoplossing.

Over de narratieven heen ontstaat geen eenduidige ontwikkelingslijn, maar een terug kerend patroon waarin momenten van verveling, onzekerheid en stilstand fungeren als contexten voor reflectie en heroriëntatie. Reflectie verschijnt daarbij niet alleen als individueel proces, maar als een praktijk die ingebed is in concrete levenssituaties en keuzes in de volwassenheid. Agency wordt zichtbaar als een situationele en dynamische capaciteit die vorm krijgt in wisselwerking met persoonlijke waarden, sociale contexten en veranderende omstandigheden. In deze zin wijzen de bevindingen niet op vaste uitkomsten, maar op manieren waarop deelnemers hun handelen blijven afstemmen en heroverwegen. In contrast met meer instrumentele interpretaties van *growth mindset* en *grit*[2], verschuift de nadruk hier van doelgericht doorzetten naar het ontwikkelen van betekenisvolle betrokkenheid, waarbij motivatie voortkomt uit geïnternaliseerde waarden en persoonlijke afstemming.

Hoofdstuk 7: Levenslang leren, burgerschap en sociale competenties

Hoofdstuk 7 beschrijft hoe alumni hun ervaringen in Sudburyscholen relateren aan hun functioneren in het volwassen leven en plaatst deze ervaringen expliciet in relatie tot theorieën over ervaringsgericht en gesitueerd leren, SDT en evolutionair-ontwikkelingspsychologische perspectieven. De bevindingen worden geïnterpreteerd tegen de achtergrond van uiteenlopende post-school trajecten, waarin deelnemers via vaak niet-diplomagebaseerde routes hun weg vonden naar hoger onderwijs, beroepsopleiding en de arbeidsmarkt.

Deelnemers beschrijven leren consequent als een doorlopend en grotendeels impliciet proces dat plaatsvond binnen activiteiten die zij als persoonlijk betekenisvol ervoeren. Vaardigheden zoals lezen, schrijven, rekenen en het leren van vreemde talen werden meestal verworven binnen zelfgekozen projecten en dagelijkse praktijken in de democratische schoolcontext, wanneer deze vaardigheden functioneel nodig waren. Formele instructie speelde daarbij een ondergeschikte rol en werd vooral ingezet in korte, vrijwillig gekozen momenten. Deze leerprocessen sluiten aan bij theorieën over ervaringsgericht, gesitueerd en socioculturel leren, evenals bij evolutionaire

[2] *Growth mindset* verwijst naar de overtuiging dat capaciteiten ontwikkeld kunnen worden door eigen inspanning en volharding. *Grit* wordt hier opgevat als volhardende inzet en blijvende betrokkenheid bij langetermijndoelen.

perspectieven waarin cognitieve en sociale vaardigheden zich ontwikkelen in ecologisch valide contexten van gezamelijke activiteiten.

Alumni rapporteren dat zij geen blijvende cognitieve of functionele achterstand ervoeren bij de overgang naar vervolgonderwijs of werk. Hoewel sommigen tijdelijke aanpassingsproblemen noemden bij het omgaan met conventionele routines of hiërarchische structuren, werden deze niet als structureel beperkend ervaren. Integendeel, deelnemers benadrukken hun vermogen tot zelfstandig leren, initiatief nemen, omgaan met tijdsdruk en effectief navigeren binnen bureaucratische en institutionele contexten. Gezamenlijk wijzen deze bevindingen erop dat ervaringen in autonomie-rijke, context-gestuurde onderwijsomgevingen kunnen samenhangen met de ontwikkeling van breed toepasbare vaardigheden en veerkracht, zonder aanwijzingen voor nadelige gevolgen voor latere functionele competenties.

Een terugkerend thema is het belang van leeftijdsgemengde omgevingen en actieve participatie in democratisch schoolbestuur. Door betrokkenheid bij besluitvorming, normhandhaving, organisatie en het gezamenlijk dragen van verantwoordelijkheid ontwikkelden deelnemers communicatieve, organisatorische en civiele vaardigheden. Deze ervaringen werden door alumni beschreven als vormend voor hun zelfbeeld en voor hun ontwikkeling tot competente, verantwoordelijke en sociaal betrokken volwassenen.

De bevindingen worden echter met de nodige voorzichtigheid geïnterpreteerd. De data zijn gebaseerd op retrospectieve zelfrapportages, die gevoelig zijn voor selectieve herinnering en betekenisgeving achteraf. Daarnaast betreft het een specifieke groep alumni die succesvol uit deze onderwijscontext is voortgekomen, waardoor minder positieve trajecten mogelijk ondervertegenwoordigd zijn. De beschreven ontwikkelingsprocessen moeten daarom worden begrepen als contextueel en ecologisch van aard, voortkomend uit een samenhangend geheel van individuele, sociale, culturele en institutionele factoren.

Hoofdstuk 8: Discussie

Hoofdstuk 8 beantwoordt de centrale onderzoeksvraag door een synthese te maken van de empirische bevindingen uit de vier voorafgaande hoofdstukken en deze te verbinden met het theoretische kader uit hoofdstuk 2 en met inzichten uit de SDT, EDP en socio-culturele perspectieven. In plaats van afzonderlijke effecten te isoleren, wordt een samenhangende ontwikkelingsinterpretatie uitgewerkt waarin motivatie, sociale

participatie, spel, reflectie en zelfregulatie worden begrepen als onderling verweven processen binnen een autonomie-rijke, context-gestuurde leer-ecologie.

De analyses laten zien hoe democratische, niet-controlerende schoolcontexten kunnen functioneren als relationele en gestructureerde omgevingen, waarin autonomie niet losstaat van gemeenschap, maar juist wordt ingebed in sociale relaties en democratische organisatorische structuren. *Autonomie-in-gemeenschap* komt naar voren als een ecologische conditie die het SDT-begrip *relatedness,* de ervaring van sociale verbondenheid en erbij horen binnen betekenisvolle relaties (Ryan & Deci, 2017), concreet en relationeel uitwerkt. Deelnemers beschrijven hoe vertrouwen, gedeelde verantwoordelijkheid en daadwerkelijke participatie in besluitvorming niet alleen verbondenheid bevorderen, maar ook de internalisering van waarden en de ontwikkeling van zelfregulatie ondersteunen. Volledig gemengde leeftijdsgroepen blijken hierin een cruciale rol te spelen door informeel mentorschap, wederkerige rollen en verantwoordelijkheid mogelijk te maken, zonder beroep te doen op hiërarchie of externe sturing.

Daarnaast wordt zichtbaar hoe structuur in deze contexten aanwezig is en collectief wordt vormgegeven. Transparante regels, democratische procedures en voorspelbare sociale kaders werden door deelnemers ervaren als ondersteunend in plaats van controlerend. Deze vorm van *structuur zonder controle* bood psychologische veiligheid en competentie-ondersteuning, terwijl ruimte bleef bestaan voor zelfgekozen actie en exploratie. Daarmee sluit deze ecologie aan bij zowel SDT's beschrijving van behoefte-ondersteunende omgevingen (Ryan & Deci, 2017) als bij evolutionair-ontwikkelingspsychologische perspectieven waarin leren plaatsvindt binnen sociale structuren die tegelijkertijd stabiliteit bieden en ruimte laten voor flexibiliteit (Bijv. Gray, 2014; Lancy, 2015; Pellegrini et al., 2007; Rogoff, 2003).

Op ontwikkelingsniveau beschrijft hoofdstuk 8 een heuristisch groeipad waarin speelsheid en nieuwsgierigheid overgaan in uitdaging, reflectie, competentie en uiteindelijk eigenaarschap en agency. Deze beweging wordt niet opgevat als lineair of causaal, maar als een terugkerend proces waarin exploratie, feedback en betekenisgeving elkaar versterken. Reflectie verschijnt hierbij niet als losstaande cognitieve vaardigheid, maar als een volwassen expressie van hetzelfde geëvolueerde systeem dat spel en exploratie in de kindertijd aandrijft.

Ten slotte benadrukt het hoofdstuk dat autonomie-rijke en psychologisch veilige omgevingen deelnemers niet afschermen van complexiteit of institutionele eisen, maar

juist capaciteiten lijken te ondersteunen om daar later vrijwillig en adaptief mee om te gaan. Samen genomen bieden de bevindingen een ecologisch ontwikkelingsperspectief op leren waarin autonomie, gemeenschap, structuur en exploratie worden gezien als wederzijds versterkende voorwaarden voor duurzame motivatie en zelfgestuurde ontwikkeling over de levensloop.

Implicaties, beperkingen en toekomstig onderzoek

Dit proefschrift heeft implicaties voor zowel onderwijstheorie als onderwijspraktijk doordat het laat zien dat leren, motivatie en ontwikkeling niet los kunnen worden begrepen van de sociale en institutionele ecologieën waarin zij plaatsvinden. In plaats van onderwijs te reduceren tot de overdracht van vooraf vastgestelde kennis, wijzen de bevindingen op het belang van leeromgevingen die psychologische veiligheid, exploratie, participatie en zelfsturing mogelijk maken. Autonomie-rijke, democratisch georganiseerde contexten blijken daarbij niet structuurloos, maar worden gekenmerkt door gezamenlijk gedragen kaders die zowel vrijheid als verantwoordelijkheid ondersteunen. Dit sluit aan bij SDT en laat zien hoe basisbehoeften niet alleen interpersoonlijk, maar ook institutioneel en ecologisch worden vormgegeven.

Voor de onderwijspraktijk suggereren de bevindingen dat vertrouwen, relationele gelijkwaardigheid en participatie in besluitvorming centrale ontwikkelingscondities zijn. In tegenstelling tot instructiegerichte systemen waarin structuur voornamelijk extern wordt opgelegd en gecontroleerd, laten de beschrijvingen van de contexten zien hoe structuur ook collectief kan ontstaan via democratische processen en gedeelde verantwoordelijkheid. Tegelijkertijd pleiten de bevindingen niet voor één universeel onderwijsmodel, maar voor pedagogische pluriformiteit, waarin verschillende leeromgevingen naast elkaar kunnen bestaan en niet worden beoordeeld vanuit één dominant, traditioneel onderwijsparadigma, maar vanuit hun eigen ontwikkelingslogica en doelen.

Bij de interpretatie van de resultaten moeten enkele beperkingen in acht worden genomen. De empirische gegevens zijn gebaseerd op retrospectieve narratieven van alumni, die inzicht bieden in betekenisgeving over de levensloop, maar geen directe observaties van leerprocessen tijdens hun verloop bevatten. Daarnaast betreft het een relatief kleine en zelfgeselecteerde groep deelnemers die in overwegende mate succesvol uit deze onderwijscontext is voortgekomen. Deze steekproef is passend bij het exploratieve en theoretisch gerichte karakter van het onderzoek, maar beperkt de generaliseerbaarheid van de bevindingen. Ook maakt de ecologische

en institutionele verwevenheid van de onderzochte ervaringen het onmogelijk om specifieke ontwikkelingsuitkomsten toe te schrijven aan afzonderlijke elementen zoals autonomie, leeftijdsmenging of democratisch bestuur.

Toekomstig onderzoek kan voortbouwen op deze studie door autonomie-rijke, contextgestuurde leeromgevingen verder te onderzoeken vanuit longitudinale en observationele perspectieven. Van bijzonder belang is onderzoek naar hoe leer processen zich over tijd ontwikkelen binnen volledig leeftijdsgemengde gemeenschappen, hoe democratische participatie functioneert als dagelijkse ontwikkelingspraktijk, en hoe spel, exploratie en intrinsieke motivatie zich manifesteren in adolescentie en volwassenheid. Daarnaast verdient onderzoek naar overgangservaringen, misfit en herinterpretatie na het verlaten van dergelijke scholen bijzondere aandacht, om beter zicht te krijgen op de variatie, grenzen en voorwaarden van autonomie-gebaseerde ontwikkelingspaden.

Samen genomen bieden deze implicaties en beperkingen geen blauwdruk voor onderwijsvernieuwing, maar wel een uitnodiging om gevestigde aannames over leren en ontwikkeling te heroverwegen. Dit proefschrift draagt bij aan een ecologisch en ontwikkelingsgericht perspectief waarin leren wordt opgevat als een langdurig, contextgebonden proces, en waarin autonomie, gemeenschap, structuur en exploratie als samenhangende ontwikkelingscondities worden begrepen.

CONCLUSIE

Dit proefschrift maakt zichtbaar hoe leren en ontwikkeling vorm kunnen krijgen in autonomie-rijke, context-gestuurde ecologieën die zich buiten het dominante instructie- en prestatiedenken bevinden. Het biedt daarmee tevens een verdieping van de kennis over SDT en EDP, doordat het laat zien hoe psychologische basisbehoeften en langetermijnontwikkeling zich kunnen ontvouwen binnen volledige institutionele ecologieën in plaats van binnen geïsoleerde onderwijsinterventies. Daarmee levert het een bijdrage aan het wetenschappelijk begrijpen van ontwikkelingsprocessen die zich binnen reguliere onderwijscontexten moeilijk laten onderzoeken en duiden, en daardoor in de literatuur beperkt zijn uitgewerkt. Dit proefschrift probeert hiermee een onderzoeksruimte te openen waarin fundamentele vragen, die SDT en EDP ook oproepen, over motivatie, leren en menselijke ontwikkeling opnieuw en met een bredere ecologische blik kunnen worden gesteld.

SUMMARY



BACKGROUND AND RATIONALE

Educational systems in many Western countries have historically been shaped by a logic of control, standardization, and external evaluation. Although numerous educational reforms have been introduced over the past century, formal education often remains organized around fixed curricula, age-graded classrooms, age-related learning objectives, testing, and hierarchical relationships between teachers and students. Against the backdrop of rapid technological, societal, and ecological change, contemporary societies increasingly demand adaptability, self-direction, creativity, and a willingness to engage in lifelong learning. This raises the question of how education relates to these changing demands.

In line with these developments, scientific and societal interest in autonomy, intrinsic motivation, creativity, and lifelong learning has grown. Within psychology, Self-Determination Theory (SDT; Deci & Ryan, 2000; Ryan & Deci, 2000) has convincingly demonstrated that autonomy, competence, and relatedness are fundamental psychological needs for motivation, well-being, and optimal development. This theory therefore also implies that environments that rely heavily on external regulation, control, and evaluation, such as many traditional forms of education, risk systematically undermining these basic needs. In line with these assumptions, Gray, Lancy, and Bjorklund (2023) argue, based on converging empirical evidence and theoretical insights from both SDT and evolutionary-anthropological research, that a decline in independent activities such as free play may contribute to the long-term decline in youth mental well-being.

Building on these insights, Evolutionary Developmental Psychology (EDP; Geary, 2005; Geary & Bjorklund, 2000) offers a complementary explanatory framework by demonstrating that the human brain has evolved with learning mechanisms that enable spontaneous, intrinsically motivated acquisition of fundamental skills. Evolutionary-anthropological and sociocultural approaches further show that these learning mechanisms develop in practice through play, exploration, and participation in social communities, a view supported by comparative play research from an evolutionary perspective (e.g., Gray, 2012; Lancy et al., 2010; Pellegrini et al., 2007; Rogoff, 2003). In this dissertation, EDP is understood as a framework that builds on evolutionary, sociocultural, and cultural-anthropological insights to conceptualize learning as an evolved developmental process that takes shape through participation, play, and engagement in social practices.

Because most empirical research on motivation and learning takes place within conventional educational systems, these contexts are often treated as the default point of departure. As a result, little is known about how evolved learning mechanisms and basic psychological needs function when they are not embedded in fixed curricula, external evaluation, and hierarchical regulation. Although such critical perspectives are regularly articulated by researchers such as Ryan, Gray, Lancy, and Rogoff, empirical research on learning and motivational processes outside conventional educational systems remains limited. Against this background, the question arises as to how motivational and developmental processes, viewed through the lenses of SDT and EDP, manifest empirically in educational contexts that, in contrast to conventional systems, are institutionally and culturally organized around autonomy, voluntary participation, and self-regulation.

This dissertation addresses this gap by investigating development in autonomy-rich educational contexts: environments characterized by extensive freedom of choice, non-coercive structures, and a high degree of self-direction. The term autonomy-rich refers to the ecological design of these learning environments and should not be confused with the SDT concept of autonomy support, which is examined analytically in greater depth in this dissertation.

Because learning, motivation, and development are conceptualized in this study as the result of long-term processes emerging from continuous interaction between individual factors and social, institutional, and cultural contexts, the phenomenon under investigation is both conceptually and empirically complex. To render this complexity manageable, the empirical component focuses on one type of school based on the Sudbury model, which, due to shared organizational and pedagogical-philosophical principles, provides a suitable comparative framework across countries. This designation refers to the Sudbury Valley School in Framingham, Massachusetts (USA), founded in 1968, which serves as the original reference model for this type of school. Worldwide, approximately fifty schools now exist that, regardless of whether they explicitly identify as "Sudbury schools," employ a recognizable and largely shared set of core principles and organizational structures.

Although many educational reformers (such as Freinet, Ferrer, Montessori, and Parkhurst) align with this vision of autonomy and intrinsic motivation in their pedagogical principles, their practices typically remain embedded in institutional structures that involve more guidance and constraint than the Sudbury model. The model is characterized by the absence of compulsory classes or schedules, age-based

classrooms, and formal assessment practices, granting students extensive autonomy in shaping their daily school life. The school is organized as a democratically governed community with full equality between students and adults. Shared organizational features include a school meeting, a judicial committee for norm enforcement, and various executive roles and bodies in which students and adults jointly assume responsibility for the school's daily functioning. Development takes place within a fully age-mixed social environment in which children from approximately four years of age, adolescents, and adults participate together in school life, decision-making, and social interaction.

Aim and Research Question

The aim of this dissertation is to investigate how alumni of Sudbury schools experience and interpret the influence of their education on their later lives, and how these experiences can be understood from motivational and evolutionary developmental psychological perspectives.

The central research question is:

How do graduates make meaning of their experiences with Sudbury education in relation to their adult lives?

Given the conceptual and empirical complexity of learning, motivation, and development in autonomy-rich educational environments, processes that span multiple developmental domains and often unfold over extended periods, this dissertation does not seek to propose a single explanatory model or overarching theory. Nor is its aim to confirm or test specific features of Sudbury schools. Instead, the dissertation focuses on identifying shared experiential patterns and broad developmental processes associated with the structural and cultural organization of these schools, with the goal of developing a conceptually deepened understanding of development in this type of learning environment.

STRUCTURE OF THE DISSERTATION

The dissertation consists of two complementary components:

1. A theoretical narrative literature review (Chapter 2), examining play and intrinsic motivation from functional, biological, neurological, evolutionary, and historical perspectives.
2. Four qualitative empirical studies (Chapters 4–7), preceded by an introduction to the participants (Chapter 3), based on semi-structured in-depth interviews with fourteen adult alumni of eight Sudbury schools in the Netherlands, Israel, and the United States. The sample included two schools in the Netherlands and two in Israel (each with two participants), and four schools in the United States, two of which contributed one participant and two of which contributed two participants. Schools selected participants themselves, with the explicit guideline to ensure variation in gender, school trajectories, and subsequent careers.

By including participants from similarly organized schools in three countries, the dissertation enables the identification of developmental processes that occur consistently across different cultural and societal contexts. The presence of comparable experiential patterns across multiple narratives thus points to the robustness of the findings, without implying that these experiences are universal for all individuals under all conditions.

The empirical studies employed an inductive, reflexive thematic analysis (Braun & Clarke, 2006). Interviews, coding, and theme development were not guided by predefined theoretical frameworks. The researcher's position and assumptions were explicitly reflected upon and documented throughout the research process to minimize bias. Only in a later interpretive phase were SDT, EDP, and sociocultural perspectives used to integrate and interpret the findings. This approach ensures that the analysis remains primarily grounded in participants' lived experiences.

Chapter 2: Play and Intrinsic Motivation

Chapter 2 presents a narrative literature review examining the relationship between play and intrinsic motivation. Drawing on research from psychology, neuroscience, biology, and evolutionary theory, it argues that play and intrinsic motivation are not separate phenomena, but rather two expressions of a potentially shared evolved exploratory motivational system, in which rewards are primarily intrinsic.

Both are characterized by:

- voluntariness and autonomy,
- curiosity and exploration,
- pleasure and interest as intrinsic rewards, and

» positive effects on learning, creativity, and well-being.

The chapter also shows that the absence of play and intrinsic motivation is associated with negative outcomes, such as increased stress, reduced flexibility, and diminished intrinsic engagement. These insights provide a conceptual foundation for understanding learning experiences in autonomy-rich educational contexts.

Chapter 3: Context and Background of Participants

Chapter 3 describes the participants' life contexts and pathways to Sudbury schools. The fourteen alumni constituted a diverse group with varying personalities, family situations, and prior school experiences. Some participants came from traditional educational systems in which they struggled or lost motivation, while others already possessed a strong sense of autonomy at the time they transitioned to a Sudbury school. Three participants had no prior schooling experience and two had only minimal experience; they completed their entire schooling within Sudbury schools. Nearly all participants spent at least five years of their childhood in these schools.

Participants described their development in terms of successive periods: an initial phase centered on play, followed by an intermediate phase of more directed exploration of possibilities and interests, and a later phase characterized by a stronger focus on self-chosen projects and career preparation. This chapter provides the foundation for the empirical chapters that follow.

Chapter 4: Relationality, Justice, and Community

Chapter 4 analyzes the social-relational organization of Sudbury schools, with particular attention to the Judicial Committee as a democratic and restorative justice system. Alleged violations of jointly established rules are evaluated through peer-driven, structured procedures in which students and adults participate as equals. From an SDT perspective, this can be understood as structure: a predictable context that supports autonomy and relatedness and facilitates the internalization of shared norms. Because adults do not possess hierarchical sanctioning power but participate as members of the community, a school culture emerges that participants experience as transparent, relationally safe, and nonjudgmental.

Within this context, adults function as mentors and role models. These relationships emerge informally through shared activities and may develop over extended periods within a stable community. This aligns with mentoring literature, which identifies voluntariness, equality, and durability as core conditions. Participants emphasized that

this relational context enabled asking questions, showing vulnerability, and seeking support, thereby supporting relatedness, autonomy, and competence.

Chapter 5: Ownership, Self-Determination, and Authentic Choice

Chapter 5 examines the significance of ownership and "authentic choice" in learning and life. In Sudbury schools, extensive freedom of choice is structurally embedded through the absence of an imposed curriculum and through democratic decision-making. Participants described how this combination of freedom and shared responsibility made it possible to experience choices as one's own rather than attributing them to external authority.

The school culture of non-interference fostered an exploratory attitude and self-direction, while the communal structure provided support. Although this autonomy was sometimes experienced as confronting, participants reported no lasting negative effects. On the contrary, the opportunity to direct one's own time use and learning processes was viewed as crucial for the development of intrinsic motivation and an internally experienced sense of responsibility for learning and life trajectories.

Chapter 6: Boredom, Reflection, and Flexible Mindsets

Chapter 6 focuses on psychological processes emerging from autonomy-rich learning environments, with particular attention to boredom, reflection, and agency. Boredom functioned, according to participants, as a developmental signal prompting self-organization, experimentation, and reorientation. Participants described a flexible approach to learning and decision-making, characterized by curiosity, openness, and adaptive problem-solving.

Across narratives, a developmental arc emerged in which repeated encounters with challenge led to reflection, alignment with personal values, and increasing self-regulation. Agency is not understood as a fixed trait, but as a dynamic capacity developing through interaction with complex situations. This form of resilience is value-driven and aligns with integrated motivation within SDT. In contrast, instrumental interpretations of growth mindset and grit frame perseverance primarily as a means of enhancing performance, driven by external goals rather than internalized values and personal meaning.

Chapter 7: Lifelong Learning, Citizenship, and Social Competence

Chapter 7 describes how alumni relate their Sudbury school experiences to their functioning in adult life and explicitly situates these experiences in relation to theories

of experiential and situated learning, SDT, and evolutionary developmental psychology. The findings are interpreted against the background of diverse post-school trajectories, in which participants often found their way into higher education, vocational training, and the labor market through non-credential-based routes.

Participants consistently described learning as an ongoing and largely implicit process occurring within activities they experienced as personally meaningful. Skills such as reading, writing, arithmetic, and foreign languages were typically acquired within self-chosen projects and everyday practices in the democratic school context, when these skills became functionally necessary. Formal instruction played a subordinate role and was primarily used in short, voluntarily chosen moments. These learning processes align with theories of experiential, situated, and sociocultural learning, as well as with evolutionary perspectives emphasizing the development of cognitive and social skills in ecologically valid contexts of shared activity.

Alumni reported no lasting cognitive or functional disadvantage when transitioning to further education or work. While some mentioned temporary adjustment difficulties in dealing with conventional routines or hierarchical structures, these were not experienced as structurally limiting. On the contrary, participants emphasized their ability to learn independently, take initiative, manage time pressure, and navigate bureaucratic and institutional contexts effectively. Collectively, these findings suggest that experiences in autonomy-rich, context-driven educational environments may be associated with the development of broadly transferable skills and resilience, without indications of adverse consequences for later functional competence.

A recurring theme is the importance of age-mixed environments and active participation in democratic school governance. Through involvement in decision-making, norm enforcement, organization, and shared responsibility, participants developed communicative, organizational, and civic skills. Alumni described these experiences as formative for their self-concept as competent, responsible, and socially engaged adults.

The findings must, however, be interpreted with caution. The data are based on retrospective self-reports, which are susceptible to selective memory and post-hoc meaning-making. Moreover, the sample consists of a specific group of alumni who successfully emerged from this educational context, potentially underrepresenting less positive trajectories. The described developmental processes should therefore be understood as contextual and ecological in nature, arising from a coherent constellation of social, cultural, and institutional factors rather than as effects of isolated interventions.

Chapter 8: Discussion and Synthesis

Chapter 8 addresses the central research question by synthesizing the empirical findings from the four preceding chapters and linking them to the theoretical framework presented in Chapter 2, as well as to insights from SDT, EDP, and sociocultural perspectives. Rather than isolating individual effects, a coherent developmental interpretation is developed in which motivation, social participation, play, reflection, and self-regulation are understood as interwoven processes within an autonomy-rich, context-driven learning ecology.

The analyses demonstrate how democratic, non-controlling school contexts can function as relationally structured environments in which autonomy is not opposed to community but embedded within social relationships and democratic organizational structures. *Autonomy-in-community* emerges as an ecological condition that concretely and relationally elaborates SDT's concept of relatedness, the experience of social connection and belonging within meaningful relationships (Ryan & Deci, 2017). Participants described how trust, shared responsibility, and genuine participation in decision-making not only fostered relatedness but also supported the internalization of values and the development of self-regulation. Fully age-mixed groups played a crucial role by enabling informal mentoring, reciprocal roles, and responsibility without reliance on hierarchy or external control.

Additionally, the analyses reveal how structure is present and collectively shaped within these contexts. Transparent rules, democratic procedures, and predictable social frameworks were experienced as supportive rather than controlling. This form of "structure without control" provided psychological safety and competence support while leaving room for self-chosen action and exploration. In this way, the learning ecology aligns with both SDT's description of need-supportive environments (Ryan & Deci, 2017) and evolutionary developmental psychological perspectives in which learning occurs within social structures that simultaneously provide stability and allow for flexibility (e.g., Gray, 2014; Lancy, 2015; Pellegrini et al., 2007; Rogoff, 2003).

At the developmental level, Chapter 8 outlines a heuristic growth pathway in which playfulness and curiosity give way to challenge, reflection, competence, and ultimately ownership and agency. This movement is not understood as linear or causal, but as a recurring process in which exploration, feedback, and meaning-making reinforce one another. Reflection does not appear as a discrete cognitive skill, but as a mature expression of the same evolved system that drives play and exploration in childhood.

Finally, the chapter emphasizes that autonomy-rich and psychologically safe environments do not shield participants from complexity or institutional demands, but instead appear to support capacities to engage with them later voluntarily and adaptively. Taken together, the findings offer an ecological developmental perspective on learning in which autonomy, community, structure, and exploration are viewed as mutually reinforcing conditions for sustainable motivation and self-directed development across the lifespan.

IMPLICATIONS, LIMITATIONS, AND FUTURE RESEARCH

This dissertation has implications for both educational theory and practice by demonstrating that learning, motivation, and development cannot be understood independently of the social and institutional ecologies in which they occur. Rather than reducing education to the transmission of predefined knowledge, the findings highlight the importance of learning environments that enable psychological safety, exploration, participation, and self-direction. Autonomy-rich, democratically organized contexts are not structureless, but characterized by collectively sustained frameworks that support both freedom and responsibility. This aligns with SDT while extending the theory by showing how basic psychological needs are shaped not only interpersonally but also institutionally and ecologically.

For educational practice, the findings suggest that trust, relational equality, and genuine participation in decision-making are central developmental conditions. In contrast to instruction-oriented systems in which structure is primarily externally imposed and controlled, the described contexts demonstrate how structure can also emerge collectively through democratic processes and shared responsibility. At the same time, the findings do not advocate for a single universal educational model, but rather for pedagogical pluralism, in which different learning environments can coexist and be evaluated not against a dominant traditional paradigm, but according to their own developmental logics and aims.

Several limitations must be considered when interpreting the results. The empirical data are based on retrospective alumni narratives, which provide insight into life-course meaning-making but do not include direct observations of learning processes as they unfolded. In addition, the sample consists of a relatively small and self-selected group of participants who largely experienced successful outcomes within this educational context. While appropriate for the exploratory and theoretically oriented nature of

the study, this limits the generalizability of the findings. Furthermore, the ecological and institutional interdependence of the experiences examined makes it impossible to attribute specific developmental outcomes to isolated elements such as autonomy, age-mixing, or democratic governance.

Future research can build on this study by further investigating autonomy-rich, context-driven learning environments from longitudinal and observational perspectives. Of particular importance is research into how learning processes develop over time within fully age-mixed communities, how democratic participation functions as a daily developmental practice, and how play, exploration, and intrinsic motivation manifest in adolescence and adulthood. In addition, research into transition experiences, misfit, and reinterpretation after leaving such schools deserves special attention in order to better understand the variation, boundaries, and conditions of autonomy-based developmental pathways.

Taken together, these implications and limitations do not provide a blueprint for educational reform, but rather an invitation to reconsider established assumptions about learning and development. This dissertation contributes to an ecological and developmental perspective in which learning is understood as a long-term, context-dependent process, and in which autonomy, community, structure, and exploration are understood as interrelated developmental conditions.

CONCLUSION

This dissertation demonstrates how learning and development can take shape within autonomy-rich, context-driven ecologies that exist outside dominant instruction- and performance-oriented paradigms. In doing so, it deepens understanding of SDT and EDP by showing how basic psychological needs and long-term development can unfold within complete institutional ecologies rather than within isolated educational interventions. It thereby contributes to the scientific understanding of developmental processes that are difficult to study and interpret within conventional educational contexts and are therefore underdeveloped in the literature. Through this work, the dissertation seeks to open a research space in which fundamental questions, also raised by SDT and EDP, about motivation, learning, and human development can be revisited from a broader ecological perspective.

APPENDICES



Appendix A

LETTER OF CONSENT

In regard to the current research on: "The effect of Sudbury model schools on the life of its former students":

- I was informed about the research by reading the information letter that explains the research purposes.
- I had the opportunity to ask questions about the research.
- I have thought about my involvement in the study and I agree to take part in it. Taking part in the study will include being interviewed and recorded.
- I understand that my taking part is voluntary; I can withdraw from the study at any time and I do not have to give any reasons for why I no longer want to take part.
- I consent to the use of the data and recordings collected during this research only for the purpose of this study.
- I understand that I will be able to withdraw my data up to 2 weeks after the interview.
- I understand that personal details (name, age, email, school name) will not be revealed to people outside the project.
- I understand that all data and recordings collected will be made anonymous when publishing research results by means of removing all personal details that may lead to the identification of me.
- I understand that all recordings and data is exclusively stored on the secured server of the Open University.
- I understand that all data collected from me will be destroyed once all the research for this particular PhD is finished or when 10 years have been passed since the collection of the data, whatever comes first.

I confirm all the points above and agree with my involvement in the research.

Name:

Signature: Date

The undersigned, responsible investigator declares that the above-mentioned person has been informed about the research concerning "The effect of Sudbury model schools on the life of its former students".

Name: Christel Hartkamp-Bakker (PhD)

Function: External PhD researcher (Open University, the Netherlands)

Signature: Date

Appendix B

INTERVIEW GUIDE

Introductory Note

This interview guide reflects the structure and content of the instrument used in this doctoral research.

Minor editorial edits were made for clarity and readability; no substantive changes were made to the questions or their intent.

Throughout the interviews, participants were encouraged to elaborate on their responses.

Follow-up questions such as "Can you tell me more about that?" or "What did that mean for you?" were used as conversational probes to deepen understanding, though these are not individually listed below.

Introduction Script

Hello, I am Christel.

Thank you very much for agreeing to participate in this interview. How are you? (ice-breaker)

Before we begin, please note that I am not yet recording. I will let you know when I start. I have invited you because of my research into the effects of a Sudbury model or comparable school on the lives of former students.

The purpose of this study is to understand the unique experiences of individuals who attended such schools and how those experiences may have influenced their lives after graduation. In particular, I am interested in the shared meaning structures among participants from different countries and schools to identify commonalities across contexts and cultures.

This research is not intended to evaluate any individual school or to assess you personally. I am genuinely interested in hearing about your experiences and perspectives-positive, negative, or mixed. All viewpoints are valuable.

I will use this interview guide to ensure that all key topics are addressed, but please feel free to elaborate, reflect, and share stories as they come to mind.

After analysing all data from this first round of interviews, I may invite you to participate in a second interview focusing more deeply on certain meaning structures. This would likely occur in about six months or later.

This interview will be recorded, as described in the information sheet to which you gave consent. The audio recording will be stored securely on the Open University servers.

As stated in the information letter, you have the right to withdraw at any time.

If you prefer not to answer a particular question, that is completely fine.

I would like to take sufficient time for this interview, without any stress about the ending time. If you would like to take a break at any moment, just let me know. If we need additional time to finish, would you be comfortable continuing a little longer? Would you be willing to schedule another interview later if necessary?

Please note that any statements I express do not form part of the research data. My input will therefore be minimal, and I will mainly ask questions. It may feel slightly formal at first, but the goal is to focus entirely on your experiences. Again, there are no right or wrong answers, and this is not an evaluation of you or your school.

Do you have any questions before we begin?

Before we start recording, I would like to ask you to fill in a short questionnaire collecting some background information needed for data analysis.

This information will be used anonymously and will not be linked to your name. It will only serve to contextualise your case alongside anonymised interview transcripts. (Survey link was provided to participants here, see appendix XX.)

We will now move to the official interview, and recording will begin.

INTERVIEW QUESTIONS

Section 1: Current Situation

1. Can you tell me what you currently do-for example, your work, studies, or other main activities?

    » What do you do in your free time (e.g., activities, sports, or hobbies)?
    » Can you describe any volunteer work or involvement in organisations you take part in?
    » Are there any other activities that are particularly important to you at the moment?
    » When you look back, what influence do you think your [Sudbury model] school has had on your life? (A brief first reflection.)

Section 2: Pre-Sudbury School Years

2. Can you describe your school experiences before attending the [Sudbury model] school?

    » What led you or your family to look for an alternative to your previous school situation?
    » Why did you or your family choose to enrol at this school?
    » What role did you play in the decision to attend this school?

If the school choice was related to a specific issue (for example, a problem, trauma, learning difficulty, or behavioural concern):

    » If there was a specific issue (e.g., difficulty, challenge, or situation), how did attending the school affect this?

Section 3: Sudbury School Years

3. Can you describe some features of your school's structure and organisation, and what they meant to you?

Standard Follow-up Probes (apply to all topics in this section):

    » Were there aspects you found challenging or difficult?
    » How do you look back on these experiences now?

» How did these experiences affect or influence you in the longer term?

4. Can you describe features of the school's culture-the general atmosphere, how people treated each other-and what these meant for you?

(Use standard follow-up probes)

5. Are there features or elements related to the context of the school that you consider important-for example, the physical environment, available materials, or the wider community?

(Use standard follow-up probes)

6. Can you describe the role of staff members and what their role meant for you?

(Use standard follow-up probes)

7. Students at such schools are generally free to decide how to spend their time. How did you typically spend your time at school?

» How do you think these activities related to your learning and development?
» Looking back, what significance did those activities have for you?
» What role did the school play in facilitating these?

(Use standard follow-up probes)

» How, if at all, do you see connections between these activities and later choices in your education or career?

8. Can you relate specific challenges or activities to certain phases you went through during your school years?

» Can you describe those phases?
» What did they mean to you in retrospect?

9. How do you look back on your overall learning and development in the school?

» How did this learning occur, in your view?
» Which elements of the school played a role?
» In what ways did you experience your preparation for life after school?
» What role did the school play in that preparation?
» How do you view this now?

10. What role did your parents, guardians, or broader social context (siblings, grandparents, friends, etc.) play in your experiences and education at school?

- » In what ways did your social context support or hinder your experiences?
- » To what extent did they agree with the school's philosophy, and what impact did that have?

11. What opportunities did your school provide for graduation or certification, if any?

- » What form did this take?
- » What was your experience with graduating or completing your time at the school, and what did it mean for you?

Section 4: Post-Sudbury School Period

12. What did you do after leaving the school, particularly in the first year?

- » How did you experience the transition?
- » How did you experience your school background in relation to this transition?

13. Can you tell me what you have done in your life so far-for example, employment, travel, further studies, or other experiences?

- » What things are most important to you besides work or study?
- » How, if at all, do you see connections between your school experience and the choices you have made in your life?

Higher Education (if applicable)

14. What studies or courses did you undertake?

- » How did you gain admission to your programme, and what requirements or processes were involved?
- » How did you experience higher education with your Sudbury background?
- » Did your school experience affect your interactions with classmates, teachers, or the organisation?
- » Were there difficulties you had to adapt to? How did you handle them?

Employment (if applicable)

15. Can you describe the types of jobs or employment you have had so far?

- » How did you enter these jobs?
- » Were there skills or knowledge you needed to acquire?
- » Did your school background influence your approach to work?

- How has your school experience affected you in your job or workplace (for example, with colleagues, supervisors, or organisational culture)?
- Did you have to adjust to specific work demands or expectations because of your background?
- How did your school experience influence the way you dealt with these demands?

Other Activities (if applicable)

16. You mentioned being active in [club, sport, volunteer work, etc.].
17. What do you do in that setting?
18. How, if at all, do you see connections between your Sudbury school experience and what you do there?
19. How, if at all, has your background influenced your experiences in this context?

Section 5: Current Situation and Reflections

20. To what extent do you think your school experience has influenced you as a person-how you think, act, or approach life?
21. Have you ever experienced situations where you felt you approached or saw things differently from others? If so, can you descibe?
22. What experiences, if any, have you had of being treated differently because of your school background?
23. Looking back now, what role, if any, has the school played in your life?
    - How do you reflect on the idea of choosing the same school again, and what reasons shape your view?
    - How do you view this kind of school for your own children or family, and what influences your thinking?

Section 6: Closing Section

24. Is there anything else you would like to add?
25. Were there any questions you feel I should have asked?
26. Thank you very much for your time and openness. This interview is extremely valuable for my research.
27. How did you feel about the interview?

(Recording stops here.)

_____

Closing Remarks (After Recording)

After stopping the recording, the following points were addressed with participants:

Confirmation of a possible follow-up interview once all first-round data had been analysed. The purpose of the second interview would be to explore selected themes in greater depth.

Invitation for member checking: participants were informed that they might be contacted to clarify or confirm interpretations of their transcript to strengthen validity.

Participants were thanked again for their contribution and reminded that they could withdraw at any point if they wished.

Appendix C

SHORT QUESTIONNAIRE FOR PARTICIPANT CHARACTERISTICS

This short online questionnaire was completed by each participant before the interview. It was used to collect anonymous demographic and contextual data to help characterise the sample.

The link used for the data collection (SurveyMonkey) has since expired, but the full questionnaire items are reproduced below.

Questions:

What is your age?

- o 20–24
- o 25–29
- o 30–34
- o 35 or older

How long did you attend a Sudbury or similar model school? (Open-ended response)

How long ago did you leave the school?

- o Less than 3 years ago
- o Between 3 and 5 years ago
- o Between 6 and 10 years ago
- o Longer than 10 years ago

How many students were there in the school during the time you attended? (Select all that apply)

- o Fewer than 20
- o 20–35
- o 36–50
- o 51–80
- o More than 80

Which of the following best describes your current status? (Select all that apply)

- o Full-time employment
- o Self-employed
- o Part-time employment
- o Freelancing
- o Unemployed (looking for work)
- o Unemployed (not looking for work)
- o Student
- o Unable to work

In relation to your gender, which pronouns would you like me to use? *Note: Participants were informed that pronoun choice might affect anonymity.*

- She/Her/Hers
- He/Him/His
- They/Their/Theirs

SHORT QUESTIONNAIRE ABOUT SCHOOL CHARACTERISTICS

This short online questionnaire was completed by each contact person of the participating school.

The link used for the data collection (SurveyMonkey) has since expired, but the full questionnaire items are reproduced below.

What has been the approximate number of students in the school over the years? (More answers possible)

- 0-20
- 20-35
- 35-50
- 50-80
- 80-120
- more than 120

How is the school funded?

- Fully privately funded
- Partially govenment funded
- Fully government funded

Appendix D

RESEARCHER POSITIONALITY AND REFLEXIVE PRACTICE

Researcher Positionality

This study was conducted by a researcher with prior professional experience in democratic and autonomy-based education and longstanding academic interest in motivation and educational design. My familiarity with the philosophy underlying Sudbury model schools and related educational movements provided both an interpretive lens and a potential source of bias. I entered the research with the assumption that autonomy-supportive education contributes positively to human development; therefore, maintaining reflexive awareness of this perspective was essential throughout the research process.

Of the fourteen participants, I had prior acquaintance with four: one was a distant relative, and three were former students from earlier professional contexts. These prior relationships facilitated rapport and depth of conversation but also raised the need for careful reflexive monitoring of interpretation. During interviews, I actively sought to bracket assumptions, emphasize participants' own framings, and remain alert to the potential influence of familiarity on conversational tone and thematic emphasis.

My epistemological position aligns with a constructivist–interpretivist paradigm, in which meaning is co-constructed between researcher and participant. This stance recognizes that findings are shaped through dialogue, interpretation, and context rather than representing objective discovery. Consequently, transparency and reflexivity were integral to both data generation and analysis.

Reflexive Practices

Reflexivity was embedded in all stages of the project. I maintained a reflexive journal throughout data collection and analysis, recording insights, assumptions, and emotional responses after each interview and during the coding process in ATLAS.ti. These notes were used to identify interpretive tendencies and to refine emerging themes in light of my positionality.

Regular peer-debriefing meetings with the co-author (R.M.) and supervisory discussions served as structured opportunities to question assumptions and test the coherence of interpretations. Table D1 summarizes key reflexive activities.

Table D1

Summary of reflexive activities illustrating key moments of epistemological, ethical, methodological, and temporal awareness across the research process.

Reflexive Focus	Period / Phase	Description and Learning	Implications for Research
Formative positioning and project development	2017 –2020	Engaged in six exploratory meetings with Prof. Dr. Rob Martens to develop the PhD project idea and proposal. Presented an early poster at the Open University PhD Day (early 2018) and another at the 7th Self-Determination Theory Conference (21–24 May 2019). Received final project approval on 3 February 2020.	Early scholarly engagement refined conceptual framing and situational awareness of autonomy research. Discussions and presentations clarified research focus, feasibility, and theoretical underpinnings.
Epistemological positioning	2020–April 2021	Engaged in literature on qualitative methodologies; clarified constructivist–interpretivist stance.	Ensured coherence between philosophical assumptions and methodological choices.
Ethical considerations and qualitative research practice	March 2021	Consultation with Dr. Melissa Riley Bradford, a qualitative researcher and lecturer at St. Paul's University of Chicago, to draw on her practical experience with qualitative research ethics and institutional review processes. The discussion focused on strategies for approaching the ethics committee and anticipating ethical considerations in qualitative fieldwork.	Helped shape the ethical design of the study and the preparation of the ethics application; increased awareness of participant protection, informed consent, and reflexive ethical decision-making throughout the research process.
Ethical reflexivity	March–April 2021	Revised ethics application and consent procedures after committee feedback.	Strengthened ethical transparency and participant trust.
Methodological development	April–May 2021	Completed two certified Udemy courses by Dr. Kriukow on qualitative interviewing and data analysis.	Increased methodological rigour and confidence.

Reflexive Focus	Period / Phase	Description and Learning	Implications for Research
Collaborative reflexivity (supervisory dialogue)	2021–2022	Ongoing consultation with supervisors throughout design, data collection, and analysis.	Enhanced methodological alignment and accountability.
Peer reflection (ASDE research group)	2021–2022	Participated in ASDE research group led by Prof. Dr. Peter Gray; presented research plan and received feedback.	Broadened interpretive awareness through peer learning.
Methodological adaptation	Mid-2021	Chose to omit group interviews with staff to preserve analytic depth.	Improved focus and feasibility; deepened interpretive engagement.
Analytic reflexivity	June–Dec 2021	Engaged in iterative coding, memoing, and cross-case analysis in ATLAS.ti.	Increased transparency and critical awareness of interpretive processes.
Peer debriefing and validation	Nov–Dec 2021	Consulted peers (L. Wijnia, P. Gray) and Dr. Kriukow on analytic decisions.	Strengthened credibility and confirmability of findings.
Temporal and emotional reflexivity	2022–2024	Periods of pause due to caregiving and illness within family context; reflected on effects of interruption.	Recognised that qualitative interpretation requires immersion and sustained engagement.
Dialogic reflexivity (peer collaboration)	June 2023–present	Ongoing collegial dialogue with Dr. Melissa Riley Bradford; co-authored and co-edited work related to research field.	Continued development of theoretical framing and interpretive rigour through dialogue.
Strategic reflexivity (writing phase)	2024–2025	Reduced external commitments to prioritise publications and thesis completion.	Demonstrated conscious boundary-setting to maintain analytic depth and coherence.
Supervisory dialogue and collaborative writing	2024–present (final phase of PhD)	Bi-weekly meetings with my first promotor, Rob Martens, focusing on discussing interpretations, refining arguments, and developing articles and the dissertation. These conversations supported critical reflection on my analytical choices, theoretical framing, and positioning within the field.	Strengthened analytical clarity and theoretical grounding; iterative feedback helped refine interpretations and articulate findings more rigorously in publications and the thesis.

These activities enhanced reflexive awareness, strengthened analytic transparency, and ensured that interpretations remained grounded in participants' accounts rather than researcher expectations.

Ethical Reflexivity

Given my prior familiarity with some participants, ethical reflexivity was a continuous concern. Consent procedures emphasized voluntary participation, confidentiality, and the right to withdraw. During analysis, identifying details were removed, and pseudonyms were used. Awareness of power dynamics and shared background was maintained through self-questioning and discussion with peers.

Overall, reflexivity in this project functioned as a methodological safeguard, ensuring that my interpretations were both critically self-aware and faithful to the meanings expressed by participants.

Appendix E

ANALYTIC DEVELOPMENT AND CODING PROCESS

E1 Overview of the Analytic Approach

The analytic process was interpretive and iterative rather than linear. Data were analyzed in ATLAS.ti through repeated cycles of coding, reflection, and memoing, guided by a constructivist–interpretivist stance that viewed meaning as co-constructed between researcher and participant. Codes were refined, renamed, and merged as insights deepened; comment fields and analytic memos recorded interpretive reasoning. The goal was to preserve participants' experiential nuance while identifying conceptual patterns of connections partcipants made with later-life dispositions.

E2 Coding and Memo Practices

Codes were drawn inductively from participants' phrasing and refined as understanding evolved. Rather than discarding early codes, they were continuously adapted to capture new nuance. ATLAS.ti comment boxes served as analytic memos recording interpretive questions, emotional responses, and conceptual boundaries. Memoing ensured transparency and traceability between raw data and interpretation..

The following excerpt illustrates this iterative refinement process.

E3 Example of Code Comment (Analytic Memo)

Code: LATER LIFE: Effect on taking initiative, being self-directed

Comment / Memo:

This code is used when participants speak about how they feel that the school affected the way they take initiative and are self-directed (in contrast to being dependent on external direction). To this code, being independent and confident was added, as these qualities frequently appear together in quotations. However, confidence also emerges under flexible mindset codes, where it reflects self-confidence, not being afraid to try or make choices.

The term agency could theoretically apply here, but it risks being too general; participants' descriptions are often more personal and experiential. For example, Ella explicitly used the word agency to describe this feeling. In several cases, distinguishing between initiative as a personal trait and as an effect of schooling required interpretive attention. Over time, as

more data were coded, the distinction became clearer, with participants explicitly linking their initiative to experiences in the school.

Reflexive note:

This memo illustrates the challenge of interpreting "initiative" both as an individual disposition and as a developmental outcome. The process of refining this code helped clarify the conceptual category of self-directedness as a relational, learned competence rather than a static personal trait.

E4 Layered Coding

E4a Layered Coding Example – Interpersonal Competence

Participant Leo – Interview 1:

> "Being in a community is like working in an office. … You need to have a relationship even with people you don't like … Standing on what I think is right and doing it elegantly." (¶ 136, 1:55 min)

Coded as:

LATER LIFE: Interpersonal skills; SCHOOL EFF: To argue, talk to people; SCHOOL EFF: To cooperate, work together; SCHOOL EFF: To deal with others; SCHOOL EFF: To take perspective, form and respect opinions.

Interpretive Comment:

Layered coding captured both later-life outcomes and the school mechanisms behind them. Leo's reflection revealed how community interaction fostered dialogue, tolerance, and ethical self-regulation, forming the basis for adult interpersonal competence.

E4b Layered Coding Example – Relational Autonomy

Participant Lillian – Interview 14:

> "You really got to know staff … I respected them but wasn't afraid to challenge them … I don't have fear of authority … I saw adults as people." (¶ 69–73, 00:29–00:35 min)

Coded as:

CONTEXT ELEMENT: Being responsible to structure your day; CULTURE: Not being interfered by others; SCHOOL EFF: To relate to adults, communicate with authority;

SCHOOL EFF: To argue, talk to people; LATER LIFE: Effect on flexible mindset; LATER LIFE: Effect on self-reflection.

Interpretive Comment:

Lillian's narrative linked egalitarian staff–student relations with later confidence in professional hierarchies. Coding across cultural, school, and later-life dimensions revealed how relational autonomy was learned in a non-hierarchical environment.

E4c Layered Coding Example – Ambivalence in Autonomy Learning

Participant Rachel – Interview 7:

> "At times I sort of craved having an adult tell me what to do … but ultimately I am the owner of my life." *(¶ 60–63, 00:24 min)*

Coded as:

CONTEXT ELEMENT: Being responsible for own decisions/life; CONTEXT: Adult role; IND: School period of crisis; PROCESS: Ask questions, being helped; LATER LIFE: Effect on taking initiative, being self-directed.

Interpretive Comment:

Rachel's account conveys the emotional struggle of autonomy: desiring direction while internalizing responsibility. Layered coding maintained the tension between dependence and self-ownership, showing autonomy as both liberating and demanding.

E4d Layered Coding Example – Learning Boundaries through Community Processes

Participant Beth – Interview 8:

> "What I like about the JC most is that it teaches boundaries … Friends write up friends and it's okay … It doesn't mean you're a bad person; it means you made a mistake and you can fix it." *(¶ 33, 12:18 min)*

Coded as:

CONTEXT ELEMENT: Being responsible for relationships and surroundings; CONTEXT: Safe environment; CONTEXT: The disciplinary meeting; CULTURE: Non-judgmental; CULTURE: Culture and community; PROCESS: Be and deal with others, interact; PROCESS: Be challenged; PROCESS: Think, self-reflect, seek purpose; SCHOOL EFF: To deal with others; SCHOOL EFF: To respect boundaries in a social context.

Interpretive Comment:

Beth's story illustrates moral and relational learning within the school's disciplinary culture. Layered coding captured the interplay of safe context, non-judgmental culture, and self-reflective process, showing how accountability fostered empathy and ethical agency.

E5 Code Refinement and Evolution

Codes were renamed or merged as conceptual clarity developed:

Example:

16/08/2021: "Later life: Effect of school on making choices" → renamed to "Effect of school on defining intrinsic purpose."

20/10/2021: Merged with "Effect of knowing learning needs on motivation."

16/11/2021: Merged with "Effect of knowing purpose on motivation."

These refinements illustrate how analytic understanding developed over time as cases accumulated and concepts were compared across interviews.

E6 Provisional Conceptual Model

The following figure (Fig. E6.1), represents a provisional visual model developed during the coding process. It was not a final outcome, but a working tool to explore relationships between emerging concepts.

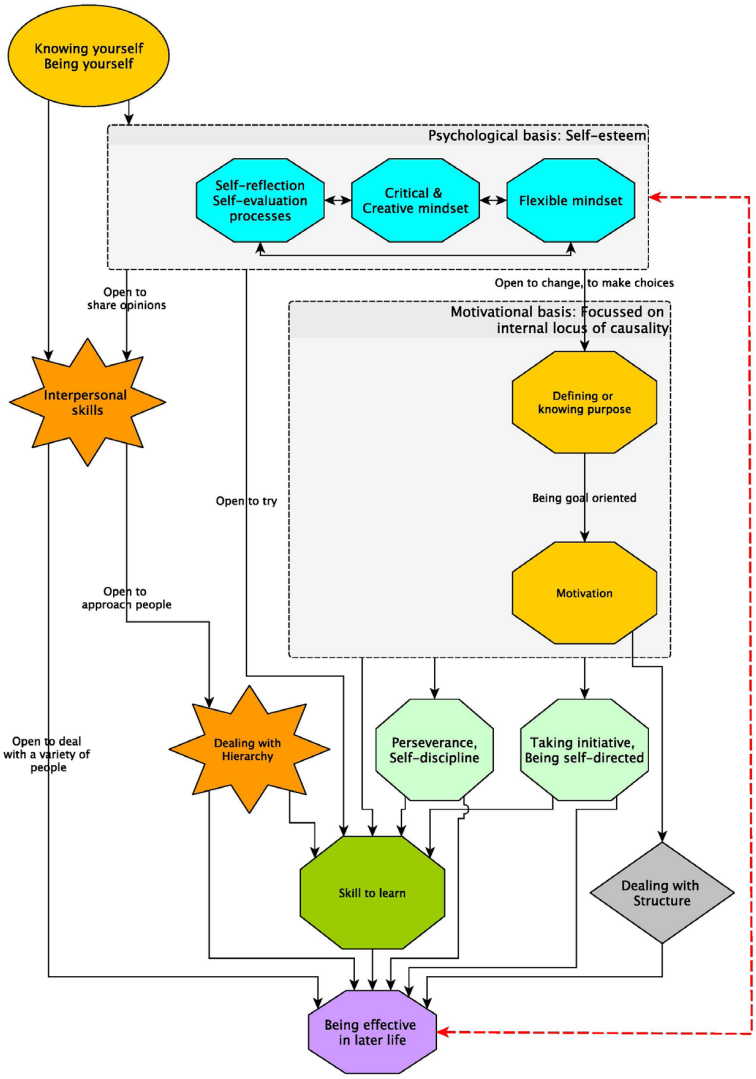
The model visualises relationships between psychological, motivational, and interpersonal factors identified in participants' accounts. It supported the researcher's ongoing interpretation of how self-related and motivational processes connected to later-life effectiveness.

E7 Refinement and Integration

Through iterative coding, memoing, and modeling, conceptual categories were consolidated around how democratic, autonomy-supportive education shaped adult dispositions of flexible mindset, motivation, interpersonal awareness, and self-reflection. Renaming codes and testing alternative framings deepened interpretive sensitivity and grounded conceptual clarity in the data.

Figure E6.1

Provisional conceptual model developed during coding. This diagram shows a process of self-assessment, including self-awareness, self-regulation, and self-reflection.



E8 Co-Occurrence Patterns Between Code Families

To deepen the analytic insight into how developmental processes and outcomes interrelated, three ATLAS.ti co-occurrence tables were generated (Figs E8 1-3).

Each table shows the number of quotations that were simultaneously coded under two code families, providing a frequency-based view of the strength of association between analytical dimensions.

These matrices supported the interpretive process by highlighting where participant narratives most often connected school-based experiences, contexts, and later-life effects.

E8a Co-Occurrence Between School Processes and In-School Effects. The first matrix (Table E8.1) maps relationships between school-process codes and school-effect codes, indicating which processes participants most often associated with particular developmental outcomes experienced during their school years.

Table E8.1

Co-Occurrence Between School Processes and In-School Effects (Quotation Counts)

	▪PROCESS: Ask questions, being helped Gr=19	▪PROCESS: Bs & deal with others, interact Gr=41	▪PROCESS: Be bored Gr=18	▪PROCESS: Be challenged Gr=45	▪PROCESS: Deal with choices, trying out things, make decisions, failure Gr=38	▪PROCESS: Engage in conversations, discussions, argue Gr=45	▪PROCESS: Engage in school organization Gr=70	▪PROCESS: Initiate or join in activities, explore or play Gr=45	▪PROCESS: Initiate, plan, organize or manage projects or events Gr=24	▪PROCESS: Learn & develop: processes in general Gr=87	▪PROCESS: Observe & listen to Gr=15	▪PROCESS: Pursue own goals, do focused activities Gr=33	▪PROCESS: Think, self-reflect, seek purpose Gr=36
▪SCHOOL EFF: To learn arguing, talk to people Gr=27	2	6	0	3	1	16	11	0	2	3	3	3	1
▪SCHOOL EFF: To build or pursue interest in career direction Gr=19	0	0	1	0	3	1	8	2	0	1	0	5	1
▪SCHOOL EFF: To build self-discipline, confidence, perseverance Gr=29	1	2	3	7	6	2	4	0	4	2	1	4	3
▪SCHOOL EFF: To build sense of self, self-knowledge, self-esteem Gr=36	2	2	2	8	7	5	4	2	0	4	0	2	10
▪SCHOOL EFF: To cooperate, work together Gr=16	0	3	0	1	1	1	9	2	6	4	0	1	1
▪SCHOOL EFF: To create an emotional bond Gr=18	0	2	0	3	2	7	0	0	0	2	0	0	0
▪SCHOOL EFF: To deal with organizational structures Gr=20	0	2	0	2	2	5	15	1	2	1	0	1	1
▪SCHOOL EFF: To learn dealing with others Gr=47	3	22	0	9	2	10	7	2	1	5	4	3	1
▪SCHOOL EFF: To do things for the good of the community Gr=13	0	1	0	2	1	2	11	0	2	1	0	1	0
▪SCHOOL EFF: To gain skills and competencies Gr=62	3	3	0	8	5	7	16	9	9	26	5	9	4
▪SCHOOL EFF: To respect boundaries in a social context Gr=25	0	7	0	11	3	5	10	0	1	0	0	0	1
▪SCHOOL EFF: To take initiative, be self-directed Gr=54	2	2	6	11	17	6	10	4	10	12	1	9	9
▪SCHOOL EFF: To take ownership of life Gr=36	3	0	5	10	13	3	3	1	1	4	0	3	20
▪SCHOOL EFF: To take perspective, form and respect opinions Gr=35	0	6	0	5	3	17	8	1	0	3	7	1	3

Interpretive Summary

» The strongest overlaps occurred between decision-making and challenge processes and the later-life themes Flexible Mindset and Purpose/Motivation.

» Interpersonal interaction processes showed the highest co-occurrence with Interpersonal Skills and Being Effective in Organizations.
» Thinking and self-reflection processes most often aligned with Self-Reflection / Evaluation and Skill to Learn.
» These findings reinforced that reflective and participatory processes in school life underpinned adaptive and motivational dispositions in adulthood.

E8b Co-Occurrence Between Context, Culture, and School Effects. The second table (Table E8.2) explores the relationships between school-context and cultural dimensions (e.g., equality, safety, non-judgment, home-like atmosphere) and school-effect codes (e.g., cooperation, sense of self, emotional bonds).

Table E8.2

ATLAS.ti Co-Occurrence Table (Context × Culture × School-Effect Codes – Frequency View)

	•CONTEXT: Adult role Gr=76	•CONTEXT: Equality, having a voice Gr=75	•CONTEXT: Free mixing of ages Gr=31	•CONTEXT: Predictable and clear environment Gr=7	•CONTEXT: Safe environment Gr=19	•CONTEXT: The disciplinary meeting Gr=34	•CONTEXT: The governing bodies Gr=18	•CULTURE: Inclusive, intimate, home like Gr=19	•CULTURE: Non-judgemental Gr=24	•CULTURE: Not being interfered by others Gr=27
•SCHOOL EFF: To learn arguing, talk to people Gr=37	10	15	4	0	3	2	0	0	5	3
•SCHOOL EFF: To build or pursue interest in career direction Gr=19	0	2	0	0	1	1	0	0	0	0
•SCHOOL EFF: To build self-discipline, confidence, perseverance Gr=29	4	2	1	0	1	1	1	1	1	3
•SCHOOL EFF: To build sense of self, self-knowledge, self-esteem Gr=36	3	6	2	1	2	5	1	3	5	3
•SCHOOL EFF: To cooperate, work together Gr=16	3	3	2	0	0	2	0	0	1	1
•SCHOOL EFF: To create an emotional bond Gr=18	12	5	4	0	1	0	0	10	4	0
•SCHOOL EFF: To deal with organizational structures Gr=20	1	3	0	1	1	2	3	0	1	0
•SCHOOL EFF: To learn dealing with others Gr=47	13	14	11	1	9	10	0	3	5	4
•SCHOOL EFF: To do things for the good of the community Gr=13	0	7	0	0	2	4	2	0	1	0
•SCHOOL EFF: To gain skills and competencies Gr=62	15	7	7	0	1	2	1	2	3	5
•SCHOOL EFF: To respect boundaries in a social context Gr=25	1	8	2	1	7	14	0	0	4	2
•SCHOOL EFF: To take initiative, be self-directed Gr=54	10	7	1	1	2	2	2	0	3	12
•SCHOOL EFF: To take ownership of life Gr=36	2	1	0	0	1	3	0	1	2	3
•SCHOOL EFF: To take perspective, form and respect opinions Gr=35	7	18	7	0	5	7	3	1	5	3

Interpretive Summary

- The contextual dimensions *Adult Role* and *Equality / Having a Voice* showed the strongest overlap with effects such as l*earning to deal with others*, *taking initiative*, and *learning to argue and talk to people*.
- *Safe environment* and *non-judgmental culture* were most often co-coded with *building self-knowledge* and *developing self-confidence*.
- *The disciplinary meeting* and *respecting boundaries in social contexts* co-occurred consistently, demonstrating how participatory justice fostered accountability and empathy.
- *Inclusive, home-like culture* connected closely with *creating emotional bonds* and *learning cooperation*, underscoring how belonging facilitated moral and interpersonal growth.

This analysis revealed that democratic school culture and organizational context worked synergistically with developmental effects to form a coherent educational ecology.

E8c Co-Occurrence Between School Processes and Later-Life Effects.

Table E8.3

Co-Occurrence Between School Processes and Later-Life Effects (Quotation Counts)

	•PROCESS: Ask questions, being helped Gr=19	•PROCESS: Be & deal with others, interact Gr=41	•PROCESS: Be bored Gr=18	•PROCESS: Be challenged Gr=45	•PROCESS: Deal with choices, trying out things, make decisions, failure Gr=38	•PROCESS: Engage in conversations, discussions, argue Gr=45	•PROCESS: Engage in school organization Gr=70	•PROCESS: Initiate or join in activities, explore or play Gr=45	•PROCESS: Initiate, plan, organize or manage projects or events Gr=24	•PROCESS: Learn & develop: processes in general Gr=57	•PROCESS: Observe & listen to Gr=15	•PROCESS: Pursue own goals, do focused activities Gr=35	•PROCESS: Think, self-reflect, seek purpose Gr=36
•LATER LIFE: Effect on being effective in adult life Gr=46	0	0	0	1	3	1	6	0	1	9	1	1	3
•LATER LIFE: Effect on being effective in organisations Gr=37	0	4	0	1	1	3	13	1	3	2	0	1	2
•LATER LIFE: Effect on critical and creative thinking Gr=22	0	2	0	1	3	6	4	0	0	5	1	0	2
•LATER LIFE: Effect on defining or knowing purpose, motivation Gr=69	0	2	3	3	14	2	7	1	3	6	1	6	13
•LATER LIFE: Effect on flexible mindset Gr=40	1	1	2	2	10	1	4	2	3	5	0	4	6
•LATER LIFE: Effect on self-discipline, perseverance Gr=17	0	0	1	2	5	0	1	0	1	0	0	1	2
•LATER LIFE: Effect on self-reflection, self-evaluation processes Gr=15	1	1	3	3	6	0	0	0	2	1	0	1	10
•LATER LIFE: Effect on taking initiative, being self-directed Gr=35	3	1	2	2	5	0	1	2	0	4	1	1	4
•LATER LIFE: Effect on the skill to learn Gr=37	3	0	0	0	4	1	1	3	1	15	2	6	2
•LATER LIFE: Effect on who they are, on self-concept and self-esteem Gr=38	0	3	0	2	3	1	4	2	0	5	1	2	5
•LATER LIFE: Interpersonal skills Gr=54	0	15	0	2	0	9	7	0	0	4	5	2	1

Table E8.3 visualizes how often particular school-process codes (e.g., dealing with challenges, making decisions, or engaging in discussions) co-occurred with later-life effect codes (e.g., flexible mindset, motivation, interpersonal skills). Each cell represents the number of quotations where both themes were applied.

Interpretive Summary

- The strongest overlaps occurred between *decision-making* and *challenge* processes and the later-life themes *Flexible Mindset* and *Purpose/Motivation*.
- *Interpersonal interaction processes* showed the highest co-occurrence with *Interpersonal Skills* and *Being Effective in Organizations*.
- *Thinking and self-reflection* processes most often aligned with *Self-Reflection / Evaluation* and *Skill to Learn*.

These findings reinforced that reflective and participatory processes in school life underpinned adaptive and motivational dispositions in adulthood.

Synthesis Note

Together, the three co-occurrence tables provided a multi-level picture of the relationships that structured participants' experiences.

They formed the empirical bridge between coding (Sections E4–E5) and thematic synthesis (E9–E10), showing that the patterns underlying the final four thematic groupings were strongly supported by cross-code relationships at multiple analytic levels.

E9. Extraction and Thematic Grouping of Coded Quotations

After completing the coding process and initial pattern exploration in ATLAS.ti, all coded quotations were exported and systematically organized in a Word document.

In this document, quotations were grouped under analytic cluster headings reflecting key processes, contexts, and developmental effects identified during analysis.

Each heading represented a code family or higher-order category, and subheadings captured more specific aspects (for example, "To engage in conversations and discussions," "To take initiative," "To deal with challenges," or "Culture of not being judged").

This step made it possible to work more interpretively with the data, to compare patterns across participants, and to begin constructing integrative narrative summaries for each cluster.

The exported document functioned as a bridge between software-based coding and conceptual synthesis, enabling the identification of relationships and overlaps among codes that later informed the co-occurrence analysis and the thematic groupings.

Example (excerpted structure from the analytic grouping document):

IN SCHOOL PROCESSES

- To engage in conversations, discussions, argue
- To observe and listen
- To initiate and plan projects or events
- To pursue own goals, do focused activities

CONTEXT AND CULTURE

- Safe environment
- Non-judgmental culture
- Feeling at home / home-like atmosphere

LATER-LIFE EFFECTS

- Effect on taking initiative, being self-directed
- Effect on defining or knowing intrinsic purpose
- Effect on self-reflection, self-evaluation processes

E10. From Analysis to Thematic Groupings

Insights from the analytic process were consolidated into four overarching thematic clusters, each of which became the foundation for one of the published articles (Table E10.1).

These clusters were developed through iterative synthesis of coded data, co-occurrence relationships, and extracted quotations (see Sections E4–E10).

Each cluster integrated multiple analytical dimensions, school structure, culture, process, and later-life effects, reflecting the multidimensional nature of participants' narratives.

Table E10.1 *Overview of Thematic Groupings and Analytic Sources*

Thematic Group	Analytic Source Document	Illustrative Codes and Foci	Conceptual Emphasis
1. Structure, Non-Judgmental Culture, and Moral Learning	*Raw Excerpts and Interpretations – JC, Staff and Culture*	***CONTEXT:*** Judicial Committee; ***CULTURE:*** Non-judgmental; Inclusive; PROCESS: Challenged by the JC; Taking Ownership for the culture; ***ROLE OF STAFF:*** Tools, Equal status; Unequal in experience; ***SCHOOL EFF:*** Self-concept & self-esteem; Respect others; Social engagement and interconnectedness	Explores how structural elements like the Judicial Committee, clear rules, and staff–student equality fostered belonging, responsibility, moral reasoning, and emotional safety. Shows that respect for boundaries and others' perspectives developed through a non-punitive, reflective culture.
2. Structure and Culture of Non-Interference: Ownership and Self-Direction	*Raw Excerpts and Interpretations – True choice-Ownership*	***CONTEXT:*** General explanation of educational model***; CONTEXT:*** Predictable and clear environment; ***CULTURE:*** Not being interfered by others; ***SCHOOL EFF:*** To take ownership of life	Examines how freedom with responsibility and a non-interference culture fostered ownership of choices and actions. Shows how autonomy, accountability, and trust in self-regulation supported lasting intrinsic motivation and self-discipline.
3. Purpose, Motivation, and Flexible Mindset through Reflection	*Raw Excerpts and Interpretations – Boredom, Effects on Self and Motivation*	***PROCESS:*** Dealing with challenge of boredom; SCHOOL EFF: To take initiative, be self-directed; To build sense of self, self-knowledge, self-esteem ***LATER LIFE:*** Knowing purpose, flexible mindset, self-reflection, perseverance	Examines how experiences of boredom nurtured self-reflection, flexible mindsets and intrinsic motivation. Highlights the role of reflective awareness in maintaining value-consistent choices and adaptability in adult life.
4. Lifelong Learning, Personal, Interpersonal, and Civic Competence	*Raw Excerpts and Interpretations – Experiences with activities in the school and later life dispositions*	***CONTEXT:*** Free mixing of ages ***PROCESS:*** Observe & listen to; Initiate, plan, organize or manage projects or events; Engage in school organization ***LATER LIFE:*** Ability to learn; Functioning in jobs or further education; Dealing with organizational structures; Expressing their opinions; Interacting with people	Integrates accounts of personal and interpersonal learning and democratic participation. Demonstrates how community life and shared decision-making developed civic maturity and lifelong learning dispositions, and a sense of belonging and contribution.

Interpretive Note

Each of the four documents represented an advanced stage of interpretive grouping in which quotations were recontextualized, compared, and connected conceptually.

Together, they reflect the cumulative process of moving from coded fragments to theoretically informed themes.

These clusters formed the empirical and conceptual backbone of the four articles and collectively articulate a coherent model of the long-term developmental effects of autonomy-supportive, democratic schooling.

Appendix F

Table F.1 *Detailed Coding of Pre-Enrolment Dispositions and School-Fit Narratives (N = 14), see also Appendix F.*

Category (Code Label)	Operational Definition	Indicative Examples / Participant Excerpts	n
Psychological distress / low academic self-concept	Accounts describing emotional strain, bullying, or feelings of inadequacy in prior schooling; reports of poor self-esteem linked to academic pressure or social exclusion.	"I struggled on my self-esteem. I was being bullied and I was also self-harming." / "It really had a huge impact, especially on my self-confidence, the idea that there was still a possibility [to find a job]. Because when I had just started there, that idea wasn't really present in my mind anymore."	2
Resistance to externally imposed structure / strong agency	Statements expressing conflict with authority, dislike of hierarchical classroom settings, or preference for self-direction and independence in prior school setting.	"I mainly tried my very best to do as little as possible with the curriculum and as much as possible with the things I enjoyed. And I was good at that, too." / "The moment someone tells me, 'You HAVE to do this,' the simplest answer, generally, is: 'No, I'm not going to do that."	1
High activity / novelty-seeking	Descriptions of high energy, curiosity, or restlessness that led to friction in structured environments; includes references to sensory or attention needs.	"I was … diagnosed with ADHD and dyslexia. My parents needing to fight with me to [go to] school." / "I used to (cause) a lot of trouble and run away."	2
School disengagement / boredom	Reports of lack of challenge, monotony, or alienation in conventional schooling; includes narratives of under-stimulation or frustration with standardized routines.	"At public school I was so bored once I fell asleep." / "I spent a lot of time at school staring out the window, and I was always behind on all my work."	3
Adequate fit	Accounts of meeting the demands placed upon them or performing well in previous schools.	"I didn't especially have trouble cooperating with the system and [I was] doing well enough." / "When someone told me what to do, … I was doing this in the best way I could."	3
Early entry (no prior comparison)	Participants who started at a very young age (typically 5–7 years old) and thus had no comparable prior schooling experience.	"I obviously started at the youngest age." / "This was the only school that I've been to."	3

Appendix G

DETAILED PARTICIPANT PROFILES

This appendix presents extended narrative portraits of the fourteen participants. Each case briefly outlines how participants described themselves prior to entering their Sudbury-model school (linked to the pre-enrolment category in Appendix x and Table X), how their families decided to pursue this educational pathway, and how participants later entered higher education or work. The profiles illustrate both diversity of background and the continuity of self-directed development into adult life. All descriptions of participants' current work, studies, and daily lives refer to their situations at the time of the interview (2021). Past-tense descriptions refer to earlier experiences during or before their time at school.

The Story of Andrew

Pre-enrolment category: School disengagement / boredom

Andrew first entered the school at age six after becoming disengaged in public education. Around this time, his parents divorced, and a disagreement over his schooling briefly interrupted his attendance before he fully re-enrolled at about age seven. In his new family setting with his mother and stepfather, he found strong support for this approach, with his mother also helping to staff the new Sudbury-model school in its early days. Growing up in a blended household, Andrew developed a strong sense of independence within a trust-based environment. After school, he entered higher education without a formal diploma, gaining admission through written assessments and interviews for a business program. He later retrained as a software engineer through self-study and now works as an IT consultant. His trajectory, from nontraditional schooling to self-taught professional, reflects how intrinsic motivation can sustain lifelong learning..

The Story of Beth

Pre-enrolment category: Psychological distress / low academic self-concept

Beth joined at eleven after experiencing bullying and self-harm in her previous school. Her mother supported the switch as a way to restore confidence and happiness. The Sudbury model's structure helped Beth develop emotionally and socially, offering stability during adolescence. After leaving school, she took courses to obtain a secondary

diploma and worked in her mother's shop. She learned languages independently and considered international studies. Her entry into adult life combined work experience with self-education, reflecting a practical yet exploratory approach to learning and career building.

The Story of Claire

Pre-enrolment category: School disengagement / boredom

Claire transferred at ten, following long-term disengagement in her mainstream school. Her parents, recognizing her unhappiness, co-founded a Sudbury-model school. Within the new setting, she rediscovered motivation through creative pursuits. After school, she moved between jobs in hospitality and the arts, gradually building freelance skills. Without pursuing formal degrees, she trained independently in special effects and later in digital 3D modeling, entering creative industries through internships and self-taught practice. Her route exemplifies how autonomy and creativity can form an alternative pathway into skilled work.

The Story of Ella

Pre-enrolment category: Adequate fit

Ella transferred at twelve, not from dissatisfaction but through her family's involvement in founding the Sudbury school for a sibling who struggled. She flourished in the open structure and became active in school governance. After graduation, she undertook a period of structured service, after which he spent a year abroad teaching languages, then entered higher education through an entrance exam. She first studied music but later shifted to law, drawn by issues of justice and fairness. Now a human-rights lawyer, Ella's non-linear educational path reflects the same independence and civic orientation fostered in her school years.

The Story of Helen

Pre-enrolment category: Adequate fit

Helen joined at ten after succeeding in traditional school but seeking a more open environment alongside her siblings. Her parents were supportive and involved in the school community. After exploring multiple interests, she focused on dance and used her time at school to prepare for a dance academy, where she was later accepted. After deciding professional dance was not her path, she returned to school temporarily, then entered a vocational program in healthcare through an entrance test. She now

works as a maternity nurse. Helen's transition from the arts to care work exemplifies flexible, self-directed vocational decision-making.

The Story of Jessica

Pre-enrolment category: Early entry (no prior comparison)

Jessica began at six and attended throughout childhood. Her parents valued self-direction; for some years her mother worked at the school as staff. After school, Jessica worked while taking programming courses on her own initiative. She was later accepted into a university computer science program through bridging exams and portfolio review. She now manages a cybersecurity team, crediting her ability to self-learn and problem-solve to her school experience. Jessica's professional trajectory highlights how intrinsic motivation and perseverance can substitute for formal credentials.

The Story of Leo

Pre-enrolment category: High activity / novelty-seeking

Leo entered at ten after conflict in traditional education, where ADHD and dyslexia diagnoses made him feel constrained. His parents, active in social initiatives, supported his move to a Sudbury-model school emphasizing autonomy. There, he discovered a passion for photography. After school, he worked as a photographer and was later hired by a news agency through the quality of his freelance work. Currently, he combines photojournalism with part-time teaching at a democratic school. Leo's self-taught career exemplifies how alternative learners can access professional pathways through experience rather than formal qualification.

The Story of Lillian

Pre-enrolment category: Early entry (no prior comparison)

Lillian entered at five, with no prior schooling experience. Her parents valued independence and supported the school's philosophy but stayed largely hands-off. After graduation, she spent time abroad in the far east and entered the workforce through hospitality and event coordination roles, later becoming an operations manager for a private foundation. Her career advanced through experience rather than formal degrees. Lillian's path shows how confidence and self-management learned early can translate into professional competence and adaptability.

The Story of Marcia

Pre-enrolment category: Adequate fit

Marcia transferred at twelve after performing well but stressed by it in her former school. Her parents, already involved in alternative education, sought a setting where curiosity could guide learning. She devoted her school years to dance and continued training afterward, entering a boarding dance school and later pursuing other structured professional experiences while maintaining her artistic practice. She subsequently worked abroad in Europe and became a professional dance teacher. Her entry into work came through performance networks rather than formal credentials. Marcia's life illustrates how self-discipline developed in free settings can support demanding professional artistry.

The Story of Philip

Pre-enrolment category: High activity / novelty-seeking

Philip entered at six after a brief period of two months in mainstream school marked by behavioral friction. His parents, already invested in alternative education, believed he needed an environment based on trust. After school, he traveled widely, worked in his family's business, and later joined a government department. He pursued university studies in political science and history through entry exams, motivated by personal interest rather than career aims. His blended path of work and study shows how self-directed learners navigate institutional systems on their own terms.

The Story of Rachel

Pre-enrolment category: Early entry (no prior comparison)

Rachel attended her school from early childhood; she went there because her mom worked there as staff. Home and school values were fully aligned around self-trust and responsibility. After graduation, Rachel entered higher education through an alternative admissions route, submitting a personal learning portfolio. She earned degrees in psychology and social work and later worked as a therapist before pausing to raise her child. She continues to volunteer in democratic education. Rachel's path demonstrates the long-term transfer of intrinsic motivation into relational and community-based professions.

The Story of Suzanne

Pre-enrolment category: Resistance to externally imposed structure / strong agency

Suzanne joined at twelve after resistance to the hierarchical climate at her prior school. Her parents, both self-educated entrepreneurs, supported her choice. After finishing, she pursued horse-training courses abroad and later studied body-centered therapy

in a three-year rebalancing program. She worked as a self-employed therapist and trainer before shifting to temporary work during Covid. Her independent study and entrepreneurial entry into work show how learners from Sudbury schools continue to construct flexible, self-defined careers.

The Story of Stephen

Pre-enrolment category: Psychological distress / low academic self-concept

Stephen entered at sixteen after struggling with academic motivation and self-confidence in mainstream schooling. His parents hoped the Sudbury approach would help him regain balance. The unpressured environment allowed him to rediscover focus through programming. After leaving school, he traveled abroad to South America, then returned home to take a job in IT support based on his self-taught skills. He completed some professional cybersecurity certifications while working and now holds a technical support position in the field. His case highlights resilience and recovery of confidence through autonomous learning.

The Story of Ted

Pre-enrolment category: School disengagement / boredom

Ted transferred at thirteen after feeling unchallenged in an advanced track at his former school. Ted lived with his mother, who agreed to the change after noticing his growing disinterest. In the Sudbury setting, he developed technical skills and social confidence. After graduation, he entered the workforce directly, starting as an intern at an IT firm, later becoming an IT security consultant and eventually founding his own business. Ted's self-made career path exemplifies the pragmatic independence that Sudbury education tends to foster.

INTEGRATIVE SUMMARY

The participants' stories illustrate multiple routes from self-directed education into adult life. Some entered higher education through alternative admissions or entrance tests; others built careers through vocational training, entrepreneurship, or self-study. Across cases, autonomy, curiosity, and persistence emerged as core resources for navigating institutional systems without traditional credentials. These portraits reinforce that Sudbury-model schooling cultivates not uniform outcomes but durable capacities for self-direction across diverse life trajectories.

These individual portraits correspond with the thematic categories outlined in Appendix X. Together, they illustrate how varied personal dispositions and family contexts converged in the choice for a Sudbury-model education and how these formative experiences connect to the empirical findings presented in Chapters 5–7.

ABOUT THE AUTHOR



Christel Hartkamp-Bakker (1960) holds a master's degree in Geology from Utrecht University (1987) and a PhD from Delft University of Technology (1993), the Netherlands. Her early academic work focused on geological sciences and applied earth sciences in the petroleum sector. From 1994 to 2011, she worked in the oil industry in Oman and the Netherlands, contributing to scientific and technical research in applied geology and authoring several publications.

Since 2002, Hartkamp-Bakker has been actively involved in the development and practice of democratic education in the Netherlands. Together with her husband, Peter Hartkamp, she co-founded and worked as a staff member at several Sudbury model schools, including De Kampanje Sudbury School (2007–2014), Sudbury School Harderwijk (from 2014), and Sudbury School Amersfoort (from 2022). Through this work, she has gained extensive experience in learner-directed education, democratic governance in schools, and alternative pedagogical models. Her children were educated within the Sudbury model, further informing her engagement with this approach.

Originally trained as a geologist, Christel developed a strong interest in the theoretical foundations of education, studying learning theory, motivation, and the historical and evolutionary foundations of education. This work resulted in her book Een Pedagogie van Vertrouwen ("A Pedagogy of Trust"), which presents a theoretical framework for Sudbury School Amersfoort and explores education from historical, evolutionary, and psychological perspectives, emphasizing the child as an autonomous human being and the role of freedom in learning.

In 2019, Christel began a second PhD at the Open University of the Netherlands, exploring experiences of Sudbury model schools on the adult lives of their former students. Her research focuses on self-determination, autonomy, developmental outcomes, and life trajectories of former students of Sudbury model schools, contributing to the growing field of alternative education research. She continued to work at Sudbury School Amersfoort while completing her doctoral research.

SCHOLARLY WORK

Peer-Reviewed or Scholarly Journal Contributions

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Academic Service

Peer Reviewer, Learning Futures and Emerging Technologies (LFET), Emerald Publishers. (Formerly known as: On the Horizon: The International Journal of Learning Futures).

EARLIER CAREER

Doctoral Dissertation

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