"Obviously, I decide!" or Maybe Not?

Investigating Behavioural Autonomy in Children: The Case of a Dutch International School

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Disclaimer:

This document represents part of the author's study programme while at the International Institute of Social Studies. The views stated therein are those of the author and not necessarily those of the Institute.

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Contents

List of Tables

List of Figures

List of Appendices

List of Acronyms

DIS	Dutch International Schools
EST	Ecological Systems Theory
HC	Horizontal Collectivism
HCCL	Host Country Culture and Language
HI	Horizontal Individualism
IB	International Baccalaureate
INDCOL	Individualism and Collectivism
IPC	International Primary Curriculum
OECD	Organization for Economic Co-operation and Development
OLS	Ordinary Least Squares
PISA	Programme for International Student Assessment
PSDQ	Parenting Styles and Dimensions Questionnaire
SDT	Self-Determination Theory
TASC	Teacher as Social Context
VC	Vertical Collectivism
VI	Vertical Individualism
WIERD	Western, Industrialised, Educated, Rich and Democratic

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Abstract

Independence is often regarded as a developmental milestone in children (Erikson, 1968), with decision-making being a key aspect of this growth. While behavioural autonomy - defined as the ability to make independent decisions - has been extensively studied in adolescents, it has received less attention in middle childhood, particularly within a multi-cultural setting. This study employs a mixed-methods approach, quantifying vignettes and incorporating qualitative insights from interviews, to explore how factors such as age, gender, culture, and parenting styles shape behavioural autonomy in everyday decisions among children in a Dutch international school. The findings reveal that behavioural autonomy is highly decision-specific, with students reporting moderate levels of autonomy, leaning primarily towards collaborative decision-making, in both home and school settings. Qualitative insights bring light to parental influence as well as the need for parental involvement for the development of behavioural autonomy among children.

Relevance to Development Studies

Exploring behavioural autonomy among children in a multi-cultural environment sheds light on "development" at both the personal as well as societal level. This study positions behavioural autonomy as a non-cognitive skill and investigates how it is exhibited across different cultural contexts. At the same time, it also captures the roles of individual factors, parental influence, and educational practices in shaping this skill. By looking into how behavioural autonomy is expressed in a multicultural setting, this research brings light to both local and global practices that shape its development.

Keywords

Behavioural Autonomy; Non-Cognitive Skills; Cross-cultural Autonomy; Middle Childhood.

Chapter 1
Introduction

1.1 Setting the Scene

While volunteering as a caretaker at an international school in the Netherlands, the first instruction I was given during my training day was, *"Let them (the children) do things on their own. They will ask for your help, but before you do so, just ask them to try once more. That's how they will learn to be independent."*

I found it quite intriguing that independence in this school was encouraged from the young age of 5. Maybe because I grew up in India, often hearing the phrase that we live in a collectivist society, where the emphasis is on interdependence rather than independence. As days went by at the school, I could not help but notice varying levels of independence among these children (Mishra, 2024). While some of them easily did things on their own, others asked for help (Mishra, 2024). This made me question what the reasons behind this could be. To begin with, do these differences exist? If they do, is it possible that the differences could be attributed to culture?

1.2 Understanding Autonomy as a Non-Cognitive Skill

Research in educational and developmental psychology emphasizes the critical role of cognitive skills, i.e., the ability of an individual to execute tasks in domains like memory, awareness, reasoning, and language. Among these skills, literacy and numeracy have often been touted as significant predictors of an individual's life outcomes (Rammstedt et al., 2024). However, sole emphasis on cognitive skills provides an incomplete picture of human development.

Non-cognitive skills, also known as socio-emotional skills, refer to the traits and abilities of an individual influenced by their behaviours and attitudes (Kattan, 2017). Increasingly recognized as strong determinants of individual development and economic success, social and emotional skills are described as "competencies that support key life outcomes, including health and well-being, academic achievement, and job performance" (Brunello & Schlotter, 2011; OECD, n.d.).

Despite having no definitive agreement as to what specific skills fall under socio-emotional skills, autonomy emerges as a critical factor influencing an individual's development. For instance, an initial version of the Big Five-Factor model, commonly used in empirical economics literature, investigated personality traits like emotional stability, extraversion, agreeableness, conscientiousness and autonomy (Brunello & Schlotter, 2011). In this context, autonomy was understood as an indicator of an "individual['s] propensity to decide and the degree of initiative and control" (Brunello & Schlotter, 2011, p. 6). But autonomy has a plethora of definitions and perspectives, ranging from the field of philosophy to biomedical research. The current paper investigates this concept through the lens of developmental psychology, as it provides a holistic understanding of how autonomy evolves, particularly in the context of child development, by integrating cognitive, emotional, and behavioural dimensions, as well as understanding the various environmental factors that influence it (Deci & Ryan, 2000; Steinberg, 2023).

Fostering autonomy in children, particularly adolescents, is often seen as a developmental task (Erikson, 1968; Kemph, 1969; Wray-Lake et al., 2010). It usually starts young,

with parents letting their child do things on their own. But this can differ across cultures. For instance, in Japan, a show called 'Old Enough!' documents toddlers, usually between the ages of 3 and 6, running errands alone without any parental supervision (Duckworth & Maughan, 2024). Similarly, in Nordic countries, it is common practice for parents to leave their infants out in the cold to sleep, with the idea of letting them get fresh air (Duckworth & Maughan, 2024). These diverse practices raise an important question: how exactly do we define and understand the concept of autonomy?

Autonomy is described as a state of self-governance (Legault, 2016). In simple words, it is about being under one's own control, whether it be regulating emotions, making decisions or developing opinions and values. Often used interchangeably with the word independence, autonomy suffers from what numerous scholars refer to as the jingle-jangle fallacy[1] (Van Petegem et al., 2013; Silverberg & Gondoli, 1996; Zimmer-Gembeck & Collins 2003). This is because in the literature, autonomy has commonly been considered an umbrella term, comprising of numerous constructs which are often substituted for one another. Some of these include detachment, self-governance, and independence (Beyers et al., 2003; Van Petegem et al., 2012). At the same time, it is seen as a trait, skill and state of motivation (Boud, 2012; Legault, 2016).

Putting on the lens of developmental child psychology, Steinberg, in the context of adolescent development, describes autonomy as "thinking, feeling, and making moral decisions that are truly your own, rather than following along with what others believe" (Fleming, 2005, p. 2). Here, autonomy encompasses cognitive, emotional, and behavioural components. Cognitive or value autonomy refers to the child's set of beliefs, principles and values through which they operate (Steinberg, 2023). Emotional autonomy sheds light on the relationship between the parent and the child, particularly looking into how the child views and interacts with the parents for emotional regulation (Nguyen, 2021; Steinberg, 2023). And finally, behavioural autonomy, also referred to as decision-making autonomy, talks about functioning independently, wherein the child operates from a place of self-governance to make his/her own decisions, without relying on parents (Van Petegem et al., 2013; Nguyen, 2021; Steinberg, 2023). Additionally, this component addresses whether the child can follow through with the decision, i.e., take action (Fleming, 2005; Berk, 2015).

Now, while the concept of autonomy has been defined and understood, the question remains: why is it important? In a podcast episode on the show No Stupid Questions, Angela Duckworth, an American psychologist, pointed out *"we feel like kids aren't as independent today as when we were growing up, and we think it's a problem"* (Duckworth & Maughan, 2024). While this statement reflects an opinion, the speakers go on to provide evidence through research on decline in independent activity which has been linked to a decline in children's mental well-being (Gray et al., 2023; Duckworth & Maughan, 2024). There is plenty of literature that links autonomy with mental well-being. For instance, Deci and Ryan (2000, p. 228) refer to autonomy as a basic psychological need by calling it a "nutriment[ ] for healthy functioning", which has been deemed crucial for fostering intrinsic motivation, self-regulation and resilience.

Individuals who feel autonomous tend to be more interested, happier, and engaged (Legault, 2016, p. 2). At the same time, they also exhibit greater openness to experiences and creativity in activities (Floricica & Mihai, 2020). Early studies by Steinberg and Silverberg (1986) indicate that individuals with high levels of behavioural autonomy during childhood

[1] The jingle fallacy refers to confusing two different things to be the same because they bear the same name (Reeves et al., 2018). On the other hand, the jangle fallacy refers to confusing two identical/almost identical things to be different because they have different labels (Reeves et al., 2018).

and adolescence are more likely to exhibit resilience, adaptive coping strategies, and proactive life planning in adulthood. Children who are allowed to make decisions about their daily activities, such as choosing their own clothes, tend to develop better decision-making skills and a stronger sense of responsibility (Demirtaş & Sucuoğlu, 2009). In the labour market, decision-making autonomy has been linked to personal and professional growth (Morelli et al., 2022). David J. Deming found that jobs requiring high levels of decision-making autonomy are linked to career growth and higher lifetime earnings (Harvard Kennedy School, 2023). Incorporating this skill in the educational curriculum is gaining traction, as it equips the youth with the demands of the labour market (Harvard Kennedy School, 2023).

1.3 Purpose of the Study

The main purpose of the current study is to investigate behavioural autonomy, i.e., independent decision-making, among children in an international school. This setting offers a unique opportunity to have cultural heterogeneity among the students as they come from different corners of the world. Within this context, the study aims to answer the following research questions:

1. What are the levels of behavioural autonomy exhibited by children from different regions in an international school setting?
2. What factors influence behavioural autonomy among children in an international school?

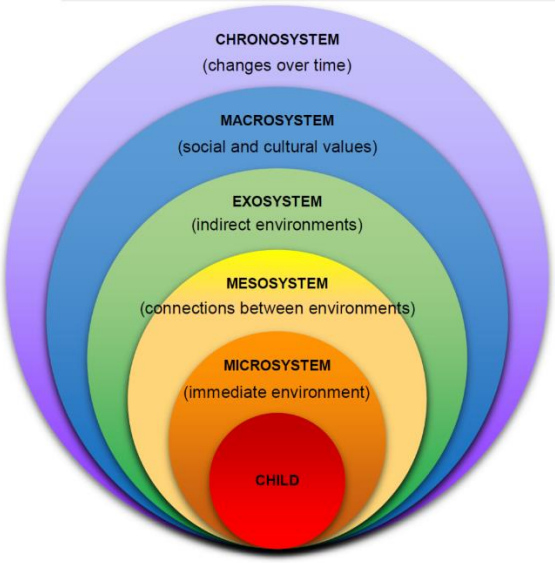
The rest of the paper is structured as follows. Chapter 2 provides an overview of the literature along with the conceptual framework adopted in the paper. Chapter 3 outlines the research setting and design, followed by the methodology, i.e., the measures and tools used for analysis. Chapter 4 presents the quantitative and qualitative results. Chapter 5 discusses the results in the context of current literature and presents the limitations of the study. Chapter 6 concludes.

Chapter 2
Literature Review

2.1 Conceptual Framework: Factors Influencing Behavioural Autonomy

Human development is determined through a number of factors that surround an individual. It is helpful to look at child development through the Ecological Systems Theory (EST) put forward by Bronfenbrenner (1977). As illustrated in Figure 1, the EST model features different structures organized in a nested arrangement that influence an individual. Each structure here is called a sub-system.

Figure 1: Ecological Theory



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The current research focuses on two of these sub-systems – the microsystem and the macrosystem. At the microsystem level, which is closest to the child, attention is directed towards the immediate environment surrounding the child (Bronfenbrenner, 1977). This encompasses factors such as the family, school, and peers. In contrast, the macrosystem, positioned right before the outermost layer, examines the broader societal and cultural influences on the child's development (Bronfenbrenner, 1977; Paquette & Ryan, 2001). This includes the impact of cultural norms, values, customs, laws, and other systemic factors.

EST has extensively been used to understand child and adolescent development, both in the educational context as well as by investigating mental health factors (Coll et al., 1996; Bronfenbrenner & Morris, 2007; Kitchen et al., 2019; Smith & Stamoulis, 2023). But it has often been criticised for giving too much emphasis on the environmental, biological and cognitive aspects while ignoring socio-emotional aspects. For instance, Campbell et al. (1982) criticise this theory on the ground of environmental determinism, i.e., while the theory looks at environmental factors, it places too much importance on the same and fails to look at the interactions between emotional and social development within each sub-system. Similarly, it also fails to account for direct relationships (such as parent-child interactions) which are deemed crucial for the socio-emotional development of children (Glanz, 2017).

Furthermore, the complexity of this theory makes it hard to quantify and evaluate socio-emotional aspects (Tudge et al., 2009; Rosa & Tudge, 2013). Drawing from EST, the current research aims to study behavioural autonomy, a socio-emotional skill, by illuminating specific elements from the microsystem and macrosystem that influence the child.

Figure 2: Factors influencing Behavioural Autonomy

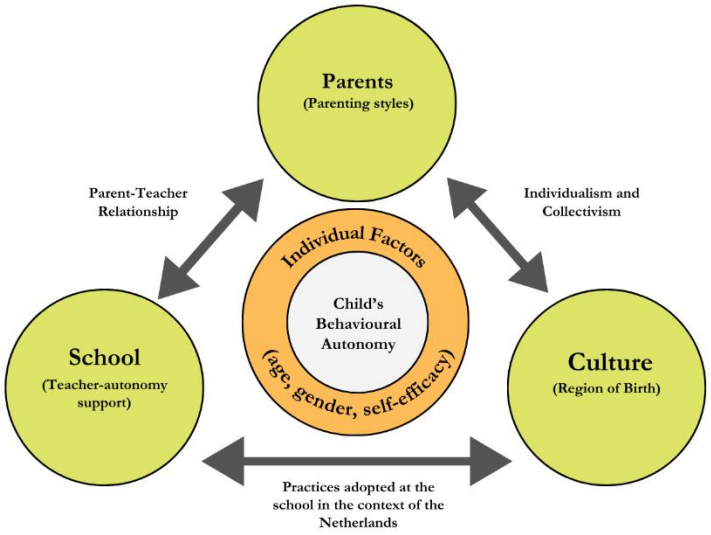


Figure 2 illustrates the conceptual framework guiding this research. At the centre lies the socio-emotional element of behavioural autonomy, nested within individual factors like the child's age, gender and perceived self-efficacy. Drawing from EST, the child's immediate environment (family and school) interacts with the broader societal context of culture. Each component is given equal focus as it triangulates around behavioural autonomy while also capturing the interplay among these components. Parental influence is primarily understood through parenting styles, school influence through teacher-autonomy support, and cultural influence through the child's region of birth, with arrows between the components depicting interactions seen as sub-factors (e.g., individualism and collectivism within culture-parent).

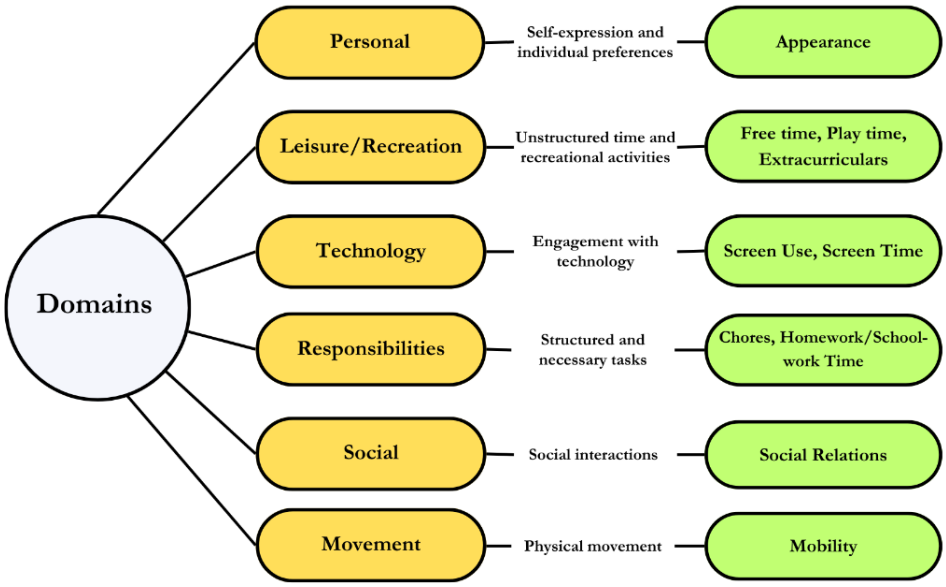
2.1.1 Decision-Making through Domains

Behavioural independence has been a frequent area of investigation with the common measure being independent decision-making, whereby different decisions surrounding everyday activity, like choice of clothing, are studied (Van Petegem et al, 2013). This has often been done through the lens of family dynamics as numerous studies investigate parent-child relationship by looking into the primary decision-maker (the youth or the parent) by indicating the nature of decision as (a) youth unilateral, where the decision is taken solely by the child, (b) parent-unilateral, where the decision is taken solely by the parent/s, and (c) joint decision-making, where the child and the parent/s take the decision together (Perez-Brena et al., 2012; Nguyen, 2021; Wray-Lake et al., 2010). Research shows that autonomy levels vary depending on the nature of the decision, and studies, such as those by Smetana (2002) and Wray-Lake et al. (2010), categorize decision-making into different domains, using the social domain theory.

Focusing on family dynamics, the social domain theory classifies decisions based on the nature of child and parental involvement into categories such as personal, prudential, socio-conventional, and multifaceted, wherein the level of autonomy and parental involvement varies depending on the decision. However, the focus of the current study extends beyond family dynamics. It aims to incorporate cultural factors and includes teacher involvement; as such, the usage of social domain theory isn't entirely appropriate as the classification

of different decisions could vary depending upon the culture. Instead, the domains here are organized based on broader thematic categories (see Figure 3). A total of 10 decisions were chosen based on literature and personal observation in the school setting, namely, appearance, free time, play time, extracurriculars, screen use, screen time, chores, homework/schoolwork time, social relations, and mobility.

Figure 3: Categorization of Domain-Specific Decisions



The personal domain relates to self-expression and individual preferences, encompassing the decision appearance, where students make choices about how they present themselves. Children are expected to gain autonomy much earlier in areas of self-expression (Wray-Lake et al., 2010; Daddis & Smetana, 2005; Nucci et al., 2005). The leisure/recreation domain includes decisions related to unstructured time, such as free time and playtime. Ginsburg and the Committee on Psychosocial Aspects of Child and Family Health (2007) and Gray (2013) argue that autonomy in unstructured activities like playtime allows children to experiment and develop a sense of agency that is critical for their socio-emotional growth, making this an important area of investigation. The technology domain addresses decisions regarding digital engagement, which has become an increasingly important aspect in the modern context. Here, autonomy involves managing screen use and screen time.

The responsibilities domain relates to structured tasks, such as homework time and chores, where autonomy might be more constrained due to adult expectations. This is in line with studies that have shown children exhibit less autonomy in tasks that are more rigid and necessary (Smetana & Asquith, 1994; Wray-Lake et al., 2010). Additionally, the social domain addresses decisions around social interactions. Lastly, the movement domain involves decisions about physical mobility, i.e., freedom of movement to navigate spaces independently.

2.2 Empirical Literature

Guided by Ecological Systems Theory and incorporating elements from the conceptual framework shown in Figure 2, this sub-section explores existing research on behavioural autonomy in children and the factors shaping it. The review is organized into three parts: the role played by individual factors (age, gender, and self-efficacy), the microsystem (parenting styles and teacher autonomy support), and the macrosystem (individualism and collectivism) in influencing autonomy. A systematic approach was used to compile the literature, drawing

from academic databases such as JSTOR, Google Scholar, PsycINFO, and PubMed. Both qualitative and quantitative studies were included, with primary sources from peer-reviewed journals like Child Development, Journal of Educational Psychology, and Journal of Youth and Adolescence.

2.2.1 Individual Factors

Age

Numerous studies chart the developmental trajectory of decision-making autonomy with age being a common factor under investigation. Smetana and Daddis (2002) in their two-year longitudinal study involving 93 middle-class African American families of adolescents, found that age played an important role in adolescents' perceptions of parental psychological control and monitoring. Using hierarchical regressions, they found that as adolescents grew older, their perception of parental authority over personal issues, like appearance, decreased, reflecting a desire for greater autonomy (Smetana & Daddis, 2002). Similarly, Smetana et al. (2003), in a two-year longitudinal study, interviewed and administered an issues checklist to 82 middle-class African American families. They found that behavioural autonomy increases from early to middle adolescence, shown by a growing tendency among adolescents to justify conflicts based on issues of personal jurisdiction (Smetana et al., 2003). These studies reflect that children are expected to gain behavioural autonomy earlier, particularly in areas of self-expression.

However, the results are more nuanced with broader decision domains. Smetana et al. (2004) conducted a five-year longitudinal study across 76 African American adolescents and their mothers on the development of decision-making autonomy and found that while decision-making autonomy increases with age, it varies depending on the type of decision, with adolescents again reporting higher autonomy in personal decisions. Supporting this further, Wray-Lake et al. (2010), in their ten-year longitudinal study using multilevel modelling analysis, found that behavioural autonomy increases from middle childhood to adolescence, peaking in the latter stage, based on data collected from 201 European American families. The general trend observed suggests a positive association between age and behavioural autonomy, i.e., as age increases, behavioural autonomy also increases. It is expected earliest in personal decisions that carry self-expression, though there might be variation owing to the nature of the decision (Smetana et al., 2004; Wray-Lake et al., 2010). However, it is important to note that these studies span across relatively homogenous samples in terms of ethnicity, with a primary focus on the period of adolescence. This reduces their generalizability to broader cultural contexts as well as other age groups.

Gender

Gender emerges as another factor that has been explored, with mixed reports on behavioural autonomy. Dornbusch et al. (1990) conducted a study on family decision-making and academic performance across 7,836 adolescents and 2,955 parents from multiple ethnicities. They found that while both males and females move towards greater decision-making autonomy, the effect is less pronounced for females, who show a much slower pace towards youth-alone decision-making (Dornbusch et al., 1990). Similarly, Smetana and Daddis (2002) found that females experience higher levels of parental monitoring, suggesting that girls might encounter different types of parental regulation compared to boys. Moreover, Perez-Brena et al. (2012), among 246 Mexican-origin families, found that fathers with sons reported higher independent decision-making than with their daughters. This also aligns with literature by Smetana et al. (2003), who noted that conflicts regarding decisions of personal autonomy

were more intense in families with girls than with boys, which reflects stricter socialization practices for girls.

However, later studies present conflicting results. For instance, Smetana et al. (2004) found no significant gender differences, while Wray-Lake et al. (2010) report that girls have higher behavioural autonomy. Similarly, Riina and McHale (2014), in a six-year longitudinal study on decision-making and adolescent adjustment among 201 European American families, found that shared decision-making (where the parent and the child decide together) was higher among boys than girls. The mixed findings reflect the complexity of decision-making autonomy across genders, as it might be negotiated in a unique manner across different cultural and familial settings.

Perceived Self-Efficacy

Often discussed in the context of child development, perceived self-efficacy is considered an important factor influencing numerous development outcomes. This concept was first introduced by Bandura (1997, p. 3), who described it as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments."

Higher self-efficacy has been positively linked with decision-making across academic, career, health, and risk-related contexts (Bandura, 1997; Betz & Hackett, 1981; Gibbons & Gerrard, 1995; Pajares, 1996; Schwarzer & Renner, 2000; Taylor & Betz, 1983). As a factor, it is also known to enhance self-regulation in children, which has been positively associated with autonomy (Grolnick & Ryan, 1989; Zimmerman & Cleary, 2006). Literature shows that students with higher self-efficacy lean towards being more persistent, hardworking, and participate more readily as they experience fewer adverse emotional reactions during challenging periods (Pajares, 1996). Additionally, it has also been linked to other positive outcomes, such as academic achievement and intrinsic motivation (Pajares, 1996; Ryan & Deci, 2000). The role of environmental factors such as parental autonomy support has also been under investigation, where higher levels of parental support correspond with higher self-efficacy among adolescents (Grolnick & Pomerantz, 2009; Miller, 2019; Bi et al., 2022). Given these connections, self-efficacy could be expected to play a role in supporting decision-making autonomy in children. However, despite its potential relevance, there is a lack of empirical studies directly measuring and analysing behavioural autonomy with self-efficacy.

2.2.2 The Microsystem

Parenting Styles

Another moderating factor influencing autonomy in children is the parenting style adopted by the parents. Baumrind (1991a) proposed 3 different parenting styles: authoritative, authoritarian and permissive. Authoritative parenting has been described as "warm but firm", most commonly associated with higher levels of autonomy in children (Steinberg, 2023, p.133). On the other hand, authoritarian parenting, where the parent uses "punitive, absolute, and forceful discipline" is associated with lower levels of autonomy in children and higher levels of conflict (Steinberg, 2023, p.133). The same applies to permissive parenting, where the focus is on "high responsiveness and low demandingness", i.e., where the parents demand very little and indulge the child while giving a high degree of freedom (Steinberg, 2023, p.133). Additionally, a fourth parenting style, neglectful/indifferent parenting has also been theorised where parents exhibit lower levels of responsiveness and demandingness, with little interest in their child's activities (Steinberg, 2023, p.133).

Among all parenting styles, authoritative parenting is most commonly associated with high levels of behavioural autonomy (Collins & Steinberg, 2006; Steinberg, 2023). In the context of the U.S., Grolnick and Ryan (1989) conducted a study which involved 50 fathers

and 64 mothers of elementary school children. They found that autonomy-granting, a key dimension of authoritative parenting, was positively associated with children's autonomy (Grolnick & Ryan, 1989). Steinberg et al. (1992) further reinforced these findings through their study on an ethnically diverse sample of 6,400 American adolescents. They found that autonomy granting by parents had positive effects on decision-making autonomy, especially in the school context, where it was linked to increased responsibility and academic engagement. Positive outcomes associated with authoritative parenting are also observed in collectivist cultures. In the Middle Eastern context, Dwairy (2004) used five different scales in a study of 118 gifted and 115 non-gifted Arab adolescents in Israel, finding that authoritative parenting correlated with better psychological outcomes and increased autonomy for both groups. Sorkhabi (2005), in a comparative review of authoritative and authoritarian parenting across individualist and collectivist cultures noted that authoritative parenting supports positive development across different cultural settings. Supporting this, Chen et al. (1997) conducted a study in China with 302 second-grade children and found, through group-administered peer assessments, that authoritative parenting was positively linked to autonomy, particularly in terms of social competence, peer acceptance, and school adjustment.

Authoritarian parenting, in the Western context, has been linked to negative outcomes, particularly lower levels of autonomy and psychological well-being. Steinberg et al. (1992) found that children with authoritarian parents struggled with self-regulation and exhibited lower levels of independence due to the central focus on obedience rather than on developing decision-making skills. Literature also indicates that parental restrictions on decision-making autonomy are associated with higher levels of depressive symptoms among adolescents, especially in cultures where such restrictions are considered non-normative (Eagleton et al., 2016). However, results are mixed in non-Western contexts. Sorkhabi (2005) found evidence that authoritarian parenting is linked to negative outcomes in collectivist cultures as well. Chen et al. (1997) support this by reporting negative effects of authoritarian parenting, including higher levels of aggression and lower social competence and academic achievement. On the other hand, Chao (1994) reports different findings. In a comparative study in the U.S. involving 50 immigrant Chinese mothers and 50 European American mothers, Chao (1994) found that while autonomy is encouraged by Chinese immigrant mothers, it is balanced with familial and societal obligations. In Chinese families, autonomy is developed through "training," which may be perceived as authoritarian in the Western context, rather than through fostering independence (Chao, 1994).

Looking at permissive parenting in the Western context, Baumrind (1991b) found that although autonomy is present with permissive parenting, it is characterized by poor self-regulation and discipline, primarily due to the lack of guidance and structure. This can lead to behavioural problems. Lamborn et al. (1991) conducted a study on 4,100 adolescents in the U.S. comparing all four parenting styles and found that while children from indulgent families tend to have more autonomy and score high on self-confidence, they also report higher levels of substance use and school misconduct. In contrast, in the context of Spain, Garcia and Garcia (2009) conducted a study on 1,416 adolescents and found that indulgent parenting is as good as, if not better than, authoritative parenting, as children with higher levels of autonomy demonstrated higher self-esteem, personal competence, and fewer problem behaviours.

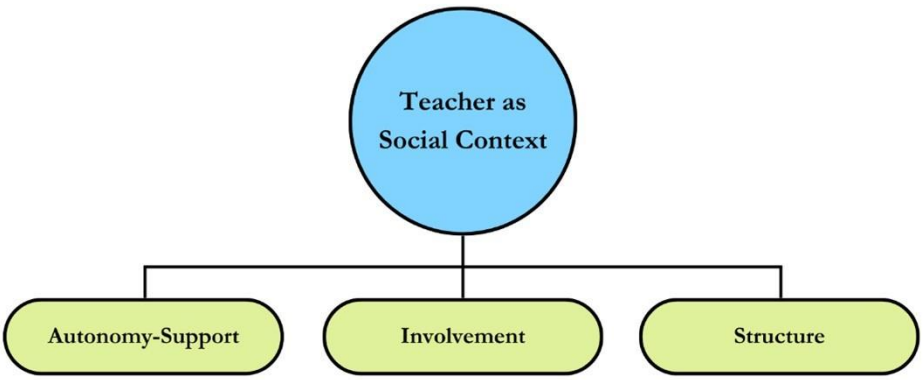
Overall, it can be noted that both authoritative and permissive parenting are linked to higher levels of autonomy, though with the latter there are signs of behavioural problems. On the other hand, the literature is more nuanced for authoritarian parenting, with negative outcomes in the Western context and mixed outcomes in the non-Western world.

Teacher-Autonomy Support

Children, in the school environment, spend a considerable amount of time with their teachers. Schools adopting autonomy-supportive teaching practices, wherein they provide students with choices and encourage self-directed learning can help enhance students' autonomous behaviour (Reeve, 2006). Teacher autonomy support has been linked to increased student motivation, engagement, and well-being (Deci et al., 1991). This in turn promotes students to take ownership of their actions, which has been linked to their ability to make autonomous decisions (Zhou et al., 2022).

To understand teacher-autonomy support, the current research makes use of the Teacher as Social Context (TASC) scale as put forward by Belmont (1988). Often used in the context of Self-Determination theory (SDT), this scale (see Figure 4) has three dimensions, autonomy-support, involvement and structure, all aimed at measuring the three basic psychological needs of autonomy, competence and relatedness as put forward in SDT (Belmont, 1988). Autonomy-support is concerned with providing students with choices while encouraging independent thinking along with self-expression (Belmont, 1988). The second dimension, involvement, is characterized by emotional support and attentiveness and has most commonly been linked to relatedness (Belmont, 1988). Finally, the dimension of structure deals with providing clear guidelines and feedback to the students, which helps them in understanding the expectations placed on them (Belmont, 1988).

Figure 4: Dimensions of Teacher as Social Context



Research finds that students who perceive their teachers as autonomy-supportive are more likely to exhibit intrinsic motivation and higher self-efficacy (Reeve & Jang, 2006; Jang et al., 2010). Hagger et al. (2009), in their three-wave prospective correlational study involving 840 high school students from Britain, Estonia, Finland and Hungary, found that teacher autonomy support in physical education positively influences autonomous motivation in both physical education and leisure-time, with cultural variations in the strength of these effects. Similarly, using a structural equation model, Affuso et al. (2023), in their three-year longitudinal study involving 419 adolescents found that teacher support directly and positively influences self-efficacy, which subsequently impacts academic performance. Additionally, Skinner and Belmont (1993), in their year-long study of 144 children (Grades 3–5) and 14 teachers, found that teacher involvement, autonomy support, and structured teaching positively influenced students' behavioural and emotional engagement.

While numerous studies link teacher-autonomy support to outcomes such as intrinsic motivation, self-efficacy and academic engagement, no explicit link been established specifically to decision-making autonomy, thus warranting further investigation.

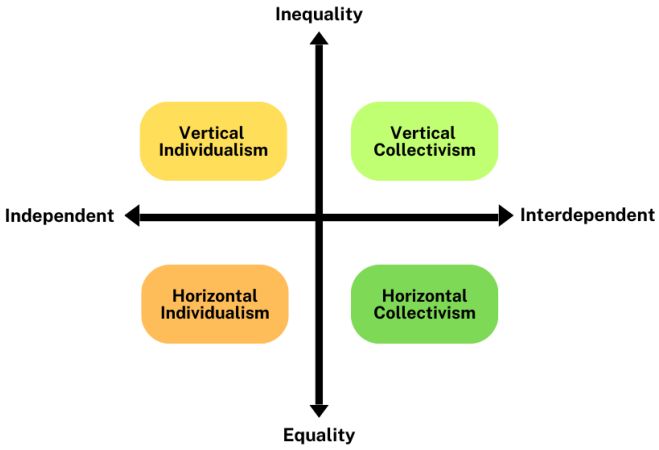
2.2.3 The Macrosystem

The identity of an individual is shaped by numerous factors, with culture being a crucial mediator. While the term culture has different interpretations, in the context of this research, one of the components that encapsulates it is individualism and collectivism (INDCOL). INDCOL has been used in the field of psychology to study autonomy related constructs, such as independent and interdependent self-construals (Cross et al., 2010; Vignoles et al., 2016), but there has been no explicit link established with decision-making autonomy.

Individualistic societies prioritize personal needs and achievements, while collectivist societies emphasize societal needs and group harmony (Berk, 2015). A cross-cultural study conducted across North America, Latin America, Europe, Asia, and Australia with 81 psychologists and anthropologists found a consensus among different cultures on how INDCOL is viewed (Hui & Triandis, 1986). Western countries have commonly been associated with individualism, while non-Western countries like India and China are often linked to collectivism (Singelis et al., 1995; Triandis et al., 1986; Gill, 2017). However, the INDCOL construct has been criticized for over-generalization, as it does not account for regional, generational, or individual differences within countries, particularly with the evolvement of cultural norms over time (Matsumoto, 1999; Oyserman et al., 2002).

Helwig (2006) highlights the importance of social interactions and cultural contexts in shaping children's understanding of autonomy rights. In individualistic cultures, independence and self-expression are placed highly, wherein children are often encouraged to make decisions independently from an early age (Helwig, 2006). In contrast, in collectivist cultures, the development of this independence is more gradual, as greater emphasis is placed on interdependence and communal goals (Kagitcibasi, 2005).

Figure 5: Dimensions of Individualism and Collectivism



To further capture the attributes of individualistic and collectivist cultures, Triandis (1995) introduced two dimensions of INDCOL - horizontal and vertical (Figure 5) - later popularized by Singelis et al. (1995). Horizontal Individualism (HI) emphasizes the "autonomous self," where an individual is independent and views themselves as equal to others (Singelis et al., 1995, p. 245). Vertical Individualism (VI) also emphasizes autonomy but incorporates inequality, where individuals view themselves in hierarchical relation to others, often competing for a higher status (Triandis and Gelfand, 1998). In contrast, Horizontal Collectivism (HC) emphasizes interdependence and equality within groups, valuing social harmony and equality (Singelis et al., 1995). Finally, Vertical Collectivism (VC) reflects a preference for group harmony and interdependence, paired with an acceptance for hierarchy and inequality within the group. Individuals scoring high in this dimension prioritize group goals over

personal ones, often sacrificing personal desires for the benefit of the group (Singelis et al., 1995; Triandis & Gelfand, 1998).

2.3 Research Gap

Research on behavioural autonomy has primarily focused on adolescence, with minimal attention to middle childhood. Additionally, while some studies have compared autonomy across two to three ethnic groups, the concept has not been explored in multicultural settings, where cultural diversity could provide more nuanced insights. Furthermore, factors such as self-efficacy, teacher autonomy support, and individualism and collectivism have been examined within the context of Self-Determination Theory to understand their effects on other outcomes, such as academic achievement and intrinsic motivation, or have been used in psychology to study identity. However, their role in decision-making autonomy warrants further investigation. Methodologically, most existing studies rely heavily on quantitative scales, which may oversimplify the complexities of decision-making autonomy, especially across varied cultural contexts. This study aims to address these gaps through a mixed-methods approach, by using vignettes and interviews to gather a better understanding of decision-making autonomy in children aged 9–11.

Chapter 3
Methodology

3.1 Research Setting

The Netherlands has historically been ranked among the top educated countries in the world and has performed well in the Programme for International Student Assessment (PISA) for 15-year-olds (World Economic Forum, 2016). However, recent data suggests a slight decline, owing to various factors, one of which is disparities in socio-economic status (OECD, 2023). With its intricate and complex structure, the Dutch education system is known for its highly decentralized nature, where schools have significant freedom in determining both the content and methods of teaching, provided they meet national attainment targets (OECD, 2014).

As previously mentioned, the current research focuses on an international school located in the Netherlands. These schools, which include both private and public (partially subsidized by the government) institutions, typically attract expatriates and internationally mobile families (Dutch International Schools, 2016). Those intending to enrol in public schools must meet criteria for admission established by Dutch legislation (Dutch International Schools, 2022). These schools generally do not follow the Dutch curriculum but instead adopt either the International Baccalaureate (IB) or the European Baccalaureate (Dutch International Schools, 2016).

Citing the volunteering experience mentioned earlier, this study employs a mix of both convenience and purposive sampling by approaching the same international primary school[2] located in the Randstad[3], Netherlands. The school is partially funded by the government and is a member of the Dutch International Schools (DIS), where the focus is on providing education aligned with the structure of the Dutch education system. Although the school follows International Primary Curriculum (IPC) with the main medium of instruction being English, it has also made Host Country Culture and Language (HCCL) a part of this curriculum, wherein the children are taught about the culture, history and geography of the Netherlands. This is coupled with Dutch language lessons.

3.2 Data Collection and Participants

Data collection at the school was carried out from the middle of June until the beginning of July. Since the focus is on middle childhood, students enrolled in classes 4 to 6 were the main target group. Spanning across 4 branches, the school at the time of the research had a total of 261 students enrolled in classes 4 to 6 (94 in fourth grade, 93 in fifth grade and 74 in sixth grade). A digital pamphlet (see Appendix B) containing information on the study along with an online consent form was circulated among the parents of the students using the school's official online communication channel. All communication was facilitated by the Head of the main branch.

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[2] The identity of the school has been kept confidential.

[3] Also known as 'ring city,' 'edge city,' 'rim city,' or 'border city,' the term Randstad refers to a roughly crescent-shaped megalopolis in the Netherlands, comprising nearly half the country's population. Located in the central-west region, it connects the four largest cities: Amsterdam, Rotterdam, The Hague, and Utrecht (The Editors of Encyclopaedia Britannica, 2013).

Post the first announcement, two additional reminders were sent over a span of two weeks. Additionally, in-person data collection was also carried out in the main branch of the school during the same time period – one, by engaging with parents during the closing hours of the school, and two, during a summer fair organized by the school for the parents and students. In the case of teachers, an online survey was circulated across all 4 branches which was followed by two reminders.

The final sample of the study consists of:

a. Students: A total of 25 students, from classes 4-6 (approximately aged 9-11) across all 4 international branches of the school. Over 50 per cent (N=14) of the student sample is from the main branch of the school, primarily because this was where in-person data collection was also carried out. The students were administered an online survey (refer to Appendix C) during the school hours, which contained questions on basic socio-demographic information, short vignettes on behavioural autonomy, both at school and at home. Two additional questions on self-efficacy and reminders for homework were also included.
b. Parents: Data from the parents was collected both online and in-person[4]. A total of 15 parents participated in the study. Those who agreed to participate through the online consent form, were sent an online survey (refer to Appendix D) containing questions on basic socio-demographic information, parenting styles, individualism and collectivism, and degree of integration. The final section of the survey included an observation checklist adapted from the vignettes given to the students.
c. Teachers and Key Informants: The study involved 4 key informants from the school administration (both teaching and non-teaching staff) who participated in semi-structured interviews. A total of 8 questions outlining their understanding and approach to autonomy, individual and cultural factors affecting autonomy, were asked. Two interviews were conducted in person, while the remaining two were conducted online. All interviews were recorded and transcribed. Additionally, 2 teachers completed a survey (refer to Appendix E) focused on teacher-autonomy support. One teacher was involved in both the interview and survey.

3.2.1 Challenges during Data Collection

While studies focusing on a single ethnicity generally use a total sample size of 70 to 200 participants, studies comparing children from multiple ethnicities have typically used a minimum of 50 individuals per group, as indicated in previous literature. Keeping this in mind, the sample size of the current study is relatively small. This is primarily due to challenges that arose during data collection. To begin with, the data collection period, which lasted two weeks, was subjected to time constraints, owing to the closure of the school during summer vacation beginning of July. Nonetheless, numerous measures were taken to gather as many responses as possible. Upon the circulation of the information pamphlet along with the consent form to the parents, two additional reminders were sent. Additionally, observing the low response rate, in-person data collection was also carried out. Despite these efforts, the total number of responses did not exceed 25 children. In the case of teachers, again a low response rate was observed, despite an additional reminder being sent through email. This was because the study took place at the end of the school year during which the teaching and non-teaching staff were tied up administratively. While these are limitations, given the paucity of research

[4] The survey administered to parents both online and in-person was identical, with the only difference being an additional consent section in the in-person version. This section, which had previously been sent separately in the online version, was integrated into the in-person survey for convenience during data collection.

on the age group under scrutiny and the depth of information that has been collected, arguably, this research does yield useful insights on an issue that has an important bearing on the development of children.

3.3 Measures and Tools

The current research employs a mixed-methods approach, wherein both quantitative and qualitative data have been collected and analysed.

3.3.1 Perceived Behavioural Autonomy

This study attempts to measure behavioural autonomy adapted from the Family Decision Making Scale by Dornbusch et al., (1985). This has been implemented using two different tools: one, a vignette-based survey administered to the students, and two, an observation checklist administered to the parents and teachers.

The questions on decision-making for the students have been adapted into vignettes. A vignette is a short hypothetical scenario used to draw out perceptions, opinions or beliefs of an individual about specific situations (Barter & Renold, 1999). They have often been employed in research with children and youth. To avoid complexity and maintain consistency, the vignettes in this research were made quite simple, keeping in mind the age group of the children. Under each domain (see Figure 3), for each decision (except chores and extracurriculars), two simple vignettes were presented – one showcasing a scenario at home and another at school. The observation checklists administered to the parents and teachers were inspired from Wray-Lake et al. (2010). To ensure consistency across the measures, this checklist was adapted to include the same decision-making items that were presented in the vignettes given to students. As an example, the following vignettes was presented to the students for the decision appearance:

Table 1: Example of Vignettes Employed in the Study

Appearance (at Home)	You are getting ready for school. You need to decide what clothes to wear. Who chooses your clothes? A. I decide on my own B. I decide with my mum C. I decide with my dad D. I decide with my parents E. My mum decides for me F. My dad decides for me G. My parents decide for me H. Other - please specify
Appearance (at School)	You are preparing for a school play. You need to choose a costume. Who chooses your costume? A. I decide on my own B. I decide with my teacher C. My teacher decides for me D. Other - please specify

The family decision-making scale categorizes the responses as youth-unilateral, joint-decision, and parent-unilateral. In the context of this study, they have been categorized as follows:

- Independent decision: Every decision taken by the student alone (I decide on my own) falls under the independent decision category, which is scored a 3.
- Collaborative decision: Decisions in which the student decides with the parent/s or teacher/third person (I decide with my mum/dad/parents/teacher) is scored a 2.
- Dependent decision: Responses where the student is not the decision-maker, i.e., there is complete reliance on either the parent/s or teacher/third party (My mum/dad/parents/teacher decides for me), gets a score of 1.

Other responses: Among the responses for each decision, most responses under the 'other' category were clubbed into one of the decision types, except 9 of them (scattered across different decisions) which could not be categorised. While some responses were ambiguous, some others simply did not fit into any category (for e.g., "*it depends on how much time I have"*). Consequently, these have been treated as missing data points.

The study employs a 3-point continuous scale. This has previously been employed by Wray-Lake et al. (2010). A similar 5-point scale was adopted by Smetana et al. (2004). To determine the levels of autonomy, equal width binning was carried out. This method divides the range of values on the 3-point continuous scale into 3 equal-sized bins, namely, high, moderate and low autonomy. The bin width has been calculated as follows:

$$\text{Bin Width} = \frac{Maximum\ value - Minimum\ Value}{Number\ of\ Bins} = \frac{3-1}{3} = \frac{2}{3} \approx 0.66$$

Each bin/level spans approximately 0.66 units. The scale starts at the minimum value of 1 and adding the bin width of 0.66 gives the upper bound for low autonomy, which is 1.66. The next bin begins at 1.67 and adding the same bin width gives us the upper bound for moderate autonomy, which is 2.33. The final bin for high autonomy starts at 2.34 and ends with the upper bound of 3. In summary, the autonomy levels are as follows: Low autonomy (1 to 1.66), Moderate autonomy (1.67 to 2.33) and High autonomy (2.34 to 3).

Multivariate Analysis Through Ordinary Least Squares (OLS)

To better explore and understand the relationship between the main autonomy variables as well as the factors specified in the conceptual framework (see Figure 2), this research uses Ordinary Least Squares (OLS) regression. OLS was chosen because it estimates relationships between a continuous dependent variable - in this case, the behavioural autonomy scores (ranging from 1 to 3) - and continuous/categorical independent variables.

In the context of this research, the independent variables[5] include age, gender, and region of birth. The following model has been specified for the autonomy score of each decision:

$$Autonomy\ Score = \beta_0 + \beta_1 10\text{-}years + \beta_2\, 11\text{-}years + \beta_3\, Gender + \beta_4\, Asia + \beta_5\, Africa + \beta_6\, Americas + \varepsilon$$

[5] Self-efficacy, an individual factor shown in the conceptual framework, supports confidence in decision-making autonomy. However, due to its conceptual overlap with autonomy, it was excluded from the regression analysis to avoid endogeneity issues and reduce redundancy, as self-efficacy could act as both a predictor and an outcome of autonomy.

where:

- β_0 - Intercept representing the reference group: 9-year-olds, male, and European region
- β_1 & β_2 - Coefficients capturing the effect of being 10 or 11 years old compared to the reference group (9-year-olds)
- β_3 - Coefficient capturing the difference in autonomy between females (coded as 1) and males (coded as 0)
- β_4, β_5 & β_6 - Coefficients capturing the effects of being from Asia, Africa, or Americas compared to Europe
- ε - Error term

OLS estimates the average effect of these variables on autonomy scores, while controlling for other factors. To put it in simple words, each coefficient (β) measures the change, on average, in autonomy scores for a specific category, compared to the reference category, while holding all other variables constant. For instance, if the coefficient for gender is positive, this would indicate that females (coded as 1) have higher autonomy scores compared to males (coded as 0), keeping other factors constant. Similarly, if the coefficient for Asia is negative, it means that students from Asia have lower autonomy scores compared to children from Europe.

Although OLS assumes linearity, independence of errors, homoscedasticity, and normal distribution of residuals, these assumptions were not formally tested in this study. This could influence the validity of the results if any assumptions are violated. Additionally, the small sample size hampers precision.

3.3.2 Parenting Styles

To assess the different parenting styles, the Parenting Styles and Dimensions Questionnaire - Short Version (PSDQ-Short Version) by Robinson et al. (2001) was used. This questionnaire contains a total of 32 questions on three parenting styles: authoritative, authoritarian and permissive. Each type has different dimensions and is scored using a 5-point frequency scale, ranging from 1 (Never) to 5 (Always). The current study employed 17 questions (9 for authoritative, 5 for authoritarian and 3 for permissive) in the final version, primarily to shorten the length.

The standard methodology to obtain the overall score for each parenting style is to calculate the mean of all the questions pertaining to that style (Robinson et al., 2001). Simply put, the 9 questions related to authoritative parenting were grouped, and the average score was obtained by adding the scores for all nine questions and dividing by 9. The same process was applied for authoritarian and permissive parenting. The resulting mean score for each parenting style represents the overall frequency with which behaviours characteristic of that style are exhibited. Thus, higher mean scores indicate a more frequent use of behaviours associated with a given parenting style. To understand the effect of parenting styles on autonomy scores, OLS regression[6] was run on the student's autonomy scores at home, across 10 decisions. The following model has been specified:

$$Autonomy\ Score = \beta_0 + \beta_1 ATT + \beta_2 ATN + \beta_3 PER + \varepsilon$$

[6] Unlike the previous model on individual and regional factors which was run for all the 25 students, this model was run on the available parent and student matched sample of 16. Keeping the small sample size in mind, this model only makes use of 3 regressors without taking other factors into consideration, purely to explore the relationship between parenting styles and behavioural autonomy across decisions.

where:

- β_0 - Intercept
- β_1 - Coefficient capturing the effect of authoritative parenting
- β_2 - Coefficient capturing the effect of authoritarian parenting
- β_3 - Coefficient capturing the effect of permissive parenting
- ε - Error term

3.3.3 Individualism and Collectivism

The cultural aspect from the parents' side has been captured through the Individualism and Collectivism (INDCOL) Scale by Singelis et al., (1995), which measures 4 dimensions (horizontal and vertical) of individualism and collectivism (see Figure 5). A total of 16 questions (4 for each dimension) were used in the survey.

The original 9-point scale used by Singelis et al., (1995) was adapted to a 7-point Likert scale, where 1 indicates Strongly Disagree and 7 indicates Strongly Agree. This was primarily done for ease of response from the participants. Like the PSDQ questionnaire, the standard methodology to obtain the overall score for each dimension is to calculate the average scores of all the respective questions pertaining to that dimension. Higher scores indicate a stronger agreement with the values of that particular dimension. To understand the effect of INDCOL, the following regression model[7] has been specified:

$$Autonomy\ Score = \beta_0 + \beta_1 HI + \beta_2 VI + \beta_3 HC + \beta_4 VC + \varepsilon$$

where:

- β_0 - Intercept
- β_1 - Coefficient capturing the effect of Horizontal Individualism
- β_2 - Coefficient capturing the effect of Vertical Individualism
- β_3 - Coefficient capturing the effect of Horizontal Collectivism
- β_4 - Coefficient capturing the effect of Vertical Collectivism
- ε - Error term

3.3.4 Teacher-Autonomy Support

In order to assess teacher-autonomy support, this study employs a modified version of the Teacher as Social Context (TASC) questionnaire by Belmont et al. (1988). Based on the Self-Determination Theory (SDT), the TASC questionnaire focuses on three areas: involvement, structure, and autonomy support (see Figure 4). Iglesias-García et al., (2020) using the TASC questionnaire, investigated teacher-autonomy support through the perception of the teacher in the Spanish context. The English version of this questionnaire has been used here. A total of 16 questions (4 each for the 3 dimensions) were assessed on a 4-point Likert scale, where 1 indicates Strongly Disagree and 4 indicates Strongly Agree. Similar to the PSDQ and INDCOL scale, the average scores of all the respective questions pertaining to each dimension was taken.

[7] Similar to the parenting styles model, the current model was also run on the available parent and student matched sample of 16, making use of 4 regressors without taking other factors into consideration.

3.3.5 Differences in Perceptions of Autonomy Scores

As mentioned previously, the parents and teachers were also given a one-time observation checklist adapted from the vignettes. This was done to assess whether there were any differences in perceptions of behavioural autonomy between the student and the parent or teacher. Despite the limited parent-student sample of 16, the autonomy scores were subjected to some statistical tests. First, both the parents' and students' autonomy scores were tested for normality using the Shapiro-Wilk test, which checks whether the data follows a normal distribution. If the data was found to be normally distributed, a paired t-test was used to compare the means of the students and parents' autonomy scores. If the data was not normally distributed, the Wilcoxon signed-rank test was employed. This non-parametric test is used to compare the median differences between paired samples.

3.3.6 Thematic Analysis

The qualitative data collected through the interviews was analysed using thematic analysis, a method commonly employed in qualitative research to capture emerging patterns and themes within a data set (Naeem et al., 2023). This method was chosen for its flexibility in capturing both commonalities and diverging perspectives within the data. Inductive coding was conducted on the transcribed responses, leading to the identification of four broad themes: Meaning of Autonomy, Fostering Autonomy at School, Factors Affecting Autonomy, and Challenges with Autonomy, as outlined in Table 2. A table with example quotes for themes 1, 2, and 4 can be found in the appendices (see Appendix F).

Table 2: Description of Emerging Themes

S.No	Theme	Description
1	Meaning of Autonomy	Understanding how autonomy is defined by key informants within the school setting
2	Fostering Autonomy at School	Strategies and practices employed by the school, to support student autonomy
3	Factors affecting Autonomy	Various factors that influence autonomy, including individual factors (such as age, gender, and personality), cultural influences, and parental involvement
4	Challenges with Autonomy	Challenges faced by the school in fostering autonomy

While themes 1, 2, and 4 revealed both common patterns and unique perspectives, theme 3 on Factors Affecting Autonomy was further divided into five sub-themes: age, gender, personality, culture, and parents. This was primarily done to highlight the diverging views within these sub-themes. Appendix G provides example quotes for theme 3 used to determine the sub-themes, showcasing both sides of agreement and disagreement.

3.4 Research Ethics

The main target group of this study are children aged 9-11 who are categorized as 'vulnerable'. This research also collects sensitive personal information such as (country of origin, religion, etc). Keeping this in mind, during the data collection and analysis, this study adhered to strict ethical guidelines. To begin with, the identity of the school and the participants have been kept confidential. The research was undertaken only after receiving formal consent

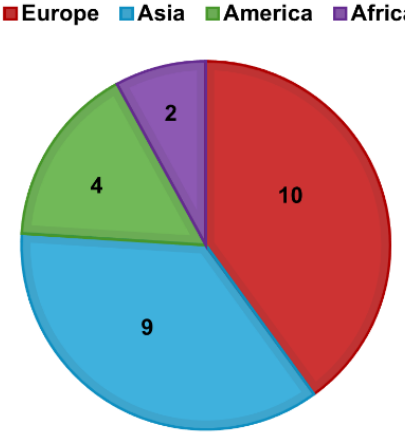
from the school authorities. As mentioned earlier, consent forms along with an information pamphlet detailing the study were circulated to all parents. This pamphlet explicitly mentioned that participation was voluntary, and participants could withdraw from the study at any time. Only after the confirmation of consent were the students administered the survey during school hours. Additionally, each student also received a brief explanation on why the data was being collected.

Chapter 4
Results

4.1 Socio-Demographic Profile

4.1.1 Students & Parents

Figure 6: Region-Wise Distribution of Students



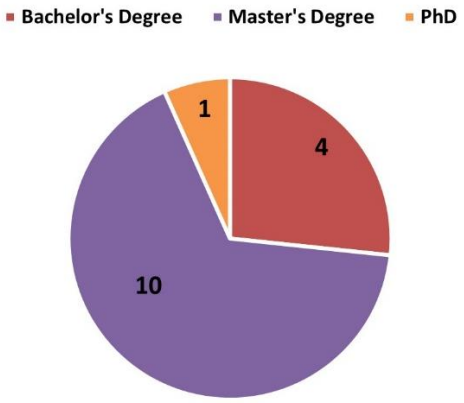
A total of 25 students participated in the study. The average age across the sample of the students is 9.84 with 8 students each from the age-group 9 and 10, and 6 students aged 11. Two 8-year-olds and one 12-year-old enrolled in classes 4 and 6 respectively were also a part of this study[8]. The gender composition of the student sample is almost equal, with 13 boys and 12 girls. Over 50 per cent of the students are trilingual, with 80 per cent choosing English as the most comfortable language to speak in. A little over 50 per cent of the students (N=13) also speak Dutch.

The students hail from 15 different countries which have been clubbed into 4 broad regions, namely Africa, Americas, Asia and Europe[9]. The list of countries clubbed under each region can be found in Appendix A. As can be noted, most of the students hail from Europe and Asia (see Figure 6). In addition to this, about 40 per cent (N=10) of the sample are students enrolled in class 5. A summary statistics table can be found in Appendix H.

[8] Observing minimal variation in scores, the two 8-year-olds were added into the age group of 9 and the one 12-year-old was added into the age group of 11 to draw meaningful conclusions.

[9] This grouping has done using Geert Hofstede's country comparison tool which maps countries on various dimensions, one of them being Individualism and Collectivism.

Figure 7: Parent's Highest Level of Education



15 parents participated in the study. The average age across the sample is 43.93, with 9 parents falling under the age group of 45-54 years old and the rest under 35-44 years old. Mothers constitute the major chunk of the sample (N=12), with 3 fathers participating in the study. Over 66 per cent of the sample hold a master's degree (see Figure 7) and are employed full time (N=11). In terms of religion, there is variation, although Christianity takes the highest spot with the sample comprising of 4 Roman Catholics and 3 Protestants. In terms of regional distribution, over 50 per cent of the parent respondents are from Europe. Additionally, most of them report on being bilingual. Approximately 53 per cent of the respondents (N=8) have been residing in the Netherlands for less than 3 years. A summary statistics table can be found in Appendix I.

4.1.2 Teachers & Key Informants

2 teachers participated in the study, falling under the age group of 35-44 years, one handling class 4 and the other handling class 5. Both the teachers hail from Europe and have been teaching at the same branch of the school for 2-3 years. As for the key informants (excluding the teacher who filled the survey), all of them fall under the age group of 45-54 years, from a mix of nationalities, and have been working at the school for 6-11 years.

4.2 Levels of Behavioural Autonomy

This section is aimed at answering the first research sub-question, i.e., exploring and reporting on the levels of behavioural autonomy using the average autonomy scores. This has further been divided into 3 sub-sections. We start by exploring overall behavioural autonomy levels, i.e., combined autonomy at home and at school across various domains. This is followed by reporting on behavioural autonomy levels at home, starting with an overall picture then breaking it down across age group, gender and regions. The final sub-section outlines behavioural autonomy at school with a similar structure. The quantitative data has been visualised using a combination of radar/spider charts and clustered column graphs. This has been paired with the qualitative insights.

4.2.1 Overall Behavioural Autonomy

Overall behavioural autonomy encompasses the autonomy scores across all ten decision types, both at home and at school. Reporting on the levels of autonomy, the average scores are presented in Figure 8 using a spider chart on a 3-point scale. The centre of the web starts with 1. As we move towards the edge of the web, the score increases to 3. On this scale, 1

represents dependent decision-making, 2 represents collaborative decision-making, and 3 represents independent decision-making. In terms of levels, as presented earlier in Chapter 3, there are three levels, i.e., low (1 to 1.66), moderate (1.67 to 2.33) and high (2.34 to 3). A higher score points towards greater decision-making autonomy. Lower scores (closer to 1) indicate that the students are more reliant on others when making decisions.

Figure 8: Overall Behavioural Autonomy Across Decisions

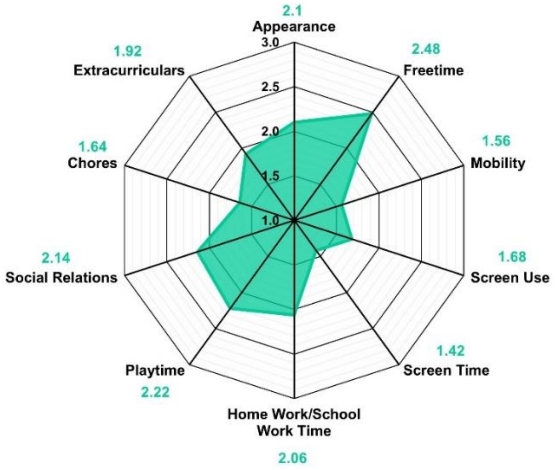


Figure 8 shows that students primarily display moderate levels of autonomy (scoring between 1.67 and 2.33). This is consistent with Wray-Lake et al., (2010), who also report that children exhibit moderate autonomy during middle childhood, which progressively increases as they approach adolescence. When looking at specific decisions, students score much higher in activities that are unstructured, particularly in the domain of leisure/recreation (refer to Figure 3 for domains), with free time taking a score of 2.48 leaning towards independent decision-making, followed by playtime. On the other hand, screen time is the only decision falling under low level of autonomy, leaning towards dependent decision-making.

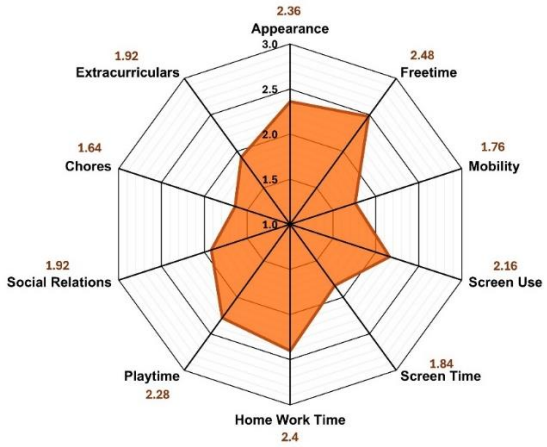
The qualitative findings provide perspectives on how autonomy is understood. Informant 2 describes autonomy as *"learning to make the right choices"* while Informant 3 emphasizes the importance of encouraging children to *"think for themselves."* Both informants suggest that autonomy involves independent decision-making. Additionally, the higher autonomy levels in unstructured activities like free time and playtime align with Informant 3's observation: *"I often notice autonomy in children, especially when they engage in collaborative work or any kind of group work - And this is particularly the case with activities that are not very structured."* This could mean that autonomy might be context-specific, with children showing higher levels of independence in unstructured environments.

4.2.2 Behavioural Autonomy at Home

Under this section, the focus is on behavioural autonomy at home, i.e., the levels of autonomy exhibited by students across various decisions at home. This includes all the 10 decisions, but particularly those framed in the context of potential parental involvement. Figure 9 provides an overall picture of the autonomy scores across the different decisions at home.

Similar to the scores exhibited for overall behavioural autonomy in Figure 8, it can be observed that the behavioural autonomy scores at home also fall in the range of moderate level of autonomy. The exceptions here are appearance (personal), free time (leisure/recreation), and homework time (responsibilities), where the students exhibit higher levels of autonomy leaning towards independent decision-making.

Figure 9: Behavioural Autonomy at Home Across Decisions



A higher score in the personal domain which has the decision on appearance, aligns with literature pointing towards children attaining autonomy at an early stage for decisions that are related to self-expression (Smetana & Daddis, 2002; Smetana et al., 2004; Wray-Lake et al., 2010). The domain of responsibilities, which encompasses structured and necessary tasks, shows contrasting autonomy scores for the two decisions it includes. While homework time has a high autonomy score of 2.4, indicating greater independence, the decision for chores has the lowest score overall, averaging 1.64. Though the higher score for homework time contrasts with the findings of Wray-Lake et al. (2010) on higher parental involvement in academic decisions, there is literature that points towards how parental involvement in youth's learning activities generally declines when children move from elementary to middle school and even more so as they move towards adolescence (Wei et al., 2019). As children grow older, their desire for independence along with competence increases thereby reducing the need for parental help (Wei et al., 2019).

Chores, on the other hand, are seen as tasks that fall under family rules and require adherence, due to the reason that not participating could be perceived as disrespectful to parents (Smetana & Asquith, 1994; Wray-Lake et al., 2010). The lower score for chores which is a structured task, can also be contrasted with earlier findings on overall behavioural autonomy in Figure 8, where students lean towards independent decision-making particularly in unstructured tasks (like free time) – as reported by the scores and the observations shared by key informants.

Across Age-Groups

Figure 10: Behavioural Autonomy at Home Across Age-Groups

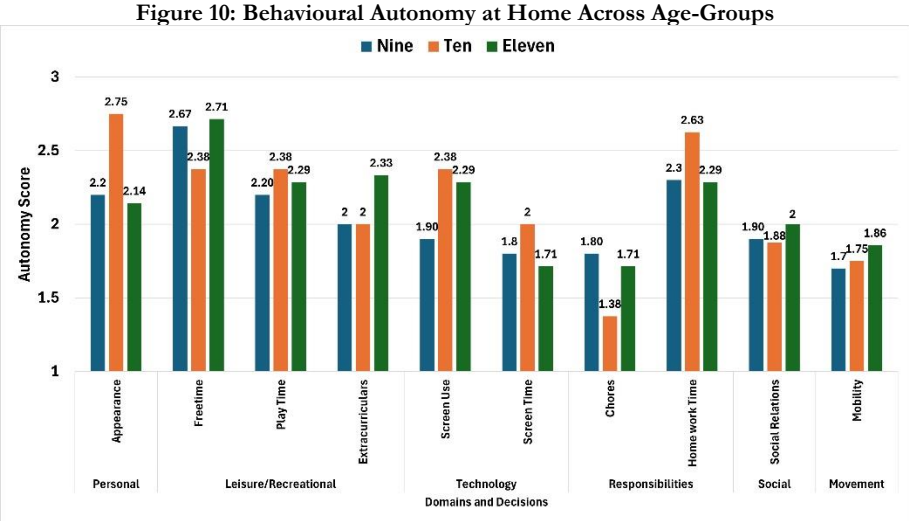


Figure 10 displays the behavioural autonomy scores at home across the age group 9-11. As seen in the figure, behavioural autonomy at home does not follow a clear linear progression with an increase in age. These findings contrast with literature on autonomy increasing with age as well as with what the key informants report, specifically noting that older children tend to have higher decision-making autonomy. The main difference observed is that while 9-year-olds generally exhibit lower autonomy scores across most domains compared to their peers, this pattern is inconsistent for 10-year-olds, who display higher autonomy scores than their 11-year-old counterparts in five specific decision areas.

10-year-olds exhibit much higher scores in the decisions of appearance and home-work time, with both falling in the range of high autonomy indicating independent decision-making. They also exhibit higher levels of autonomy in the domain of technology, though the difference between the groups is much smaller. Conversely, for chores which falls under the same domain (responsibilities) as homework time, they score much lower than their 9- and 11-year-old peers.

Across Genders

Figure 11: Behavioural Autonomy at Home Across Genders

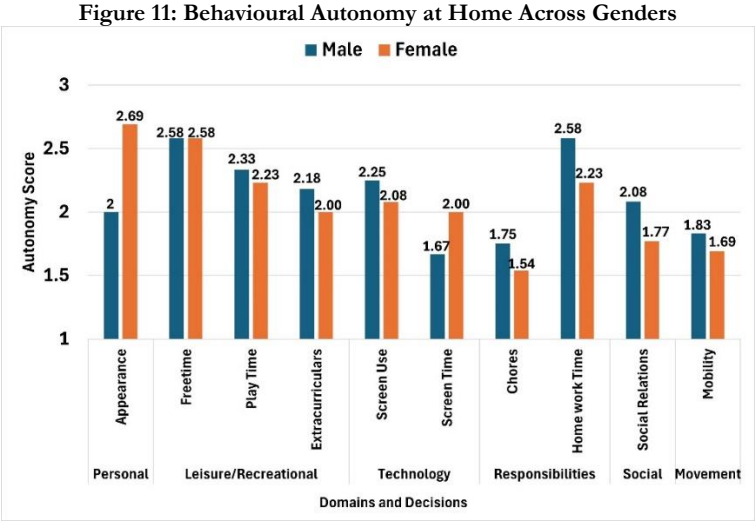


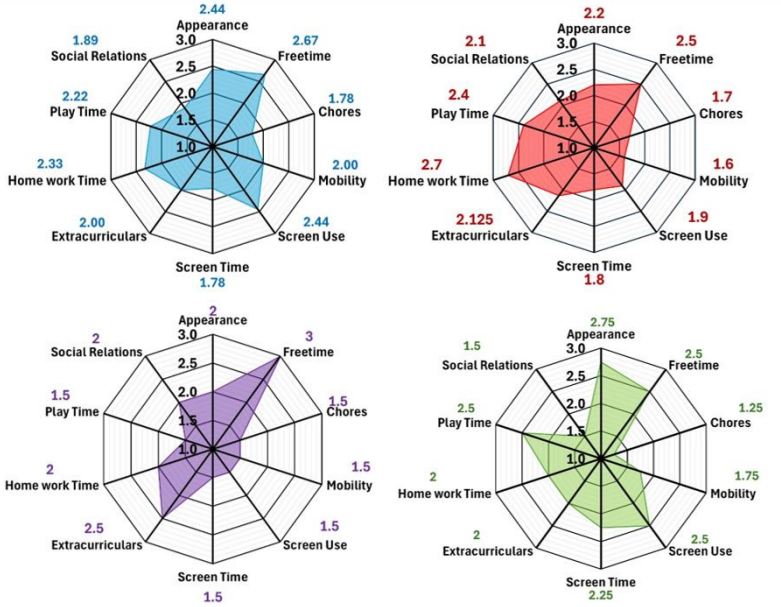
Figure 11 illustrates behavioural autonomy scores at home for male and female students. In seven out of ten decisions, boys tend to score higher than girls, although the differences are

not particularly large, ranging between 0.10 and 0.35 points. The domains of free time and appearance are exceptions: in free time, both genders score identically, while in appearance, girls score 0.69 points higher than boys. This higher score for appearance suggests a shift towards independent decision-making among female students, specifically for personal decisions.

Across Regions

Figure 12 illustrates spider charts that map the behavioural autonomy scores across the four different regions - Asia, Europe, Africa and Americas. Starting with overall average scores, all regions again score in the moderate level, with students from Asia scoring the highest. The highest score for Asian students is unexpected since collectivist cultures have most commonly been associated with higher levels of interdependence (Singelis et al, 1995).

Figure 12: Behavioural Autonomy at Home Across Regions



From Top Left - Asia (Blue), Europe (Red), Africa (Purple), Americas (Green)

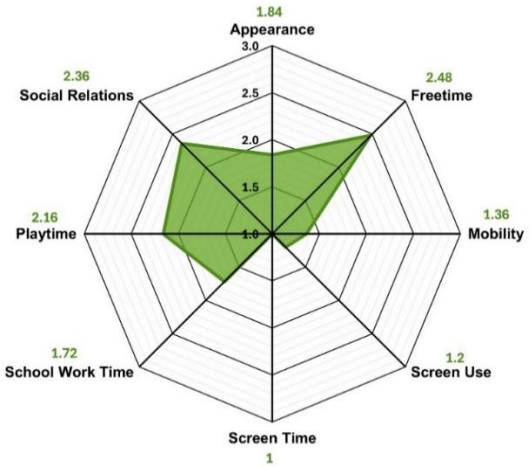
Decision-specific autonomy scores reveal interesting patterns as certain regions score higher than certain others. For instance, in the personal domain (appearance) and technology domain (screen use), students from Asia and Americas score higher than the other two regions. Students from the Americas region also display higher scores in the decision for playtime (score 2.5) leaning towards a blend of collaborative and independent decision-making. On the other hand, students from Europe score higher for a structured decision - homework time, compared to all other regions. Finally, for the region Africa, although it is difficult to draw comparisons with just 2 students from this region, we note that both the students score high in an unstructured area, free time (score 3), indicating independent decision-making.

In terms of qualitative findings, the key informants had mixed opinions on cultural differences. While 2 of them did not observe regional differences in autonomy, the other two reported that children did exhibit different levels of autonomy owing to the region they come from. One specific insight by Informant 3 contrasted with the findings presented in the radar chart, wherein it was stated, *"children from South Asia […] tend to be less autonomous and independent."* But as observed in Figure 12, children from Asia do exhibit greater levels of autonomy compared to other regions.

4.2.3 Behavioural Autonomy at School

This section reports on the levels of behavioural autonomy in the school setting, i.e., decisions with potential teacher involvement. This has been conducted across 8 different decision types (excluding chores and extracurriculars). Figure 13 illustrates behavioural autonomy scores at school. Overall, the students again exhibit moderate levels of autonomy, though there is variation depending upon the decision.

Figure 13: Behavioural Autonomy at School Across Decisions

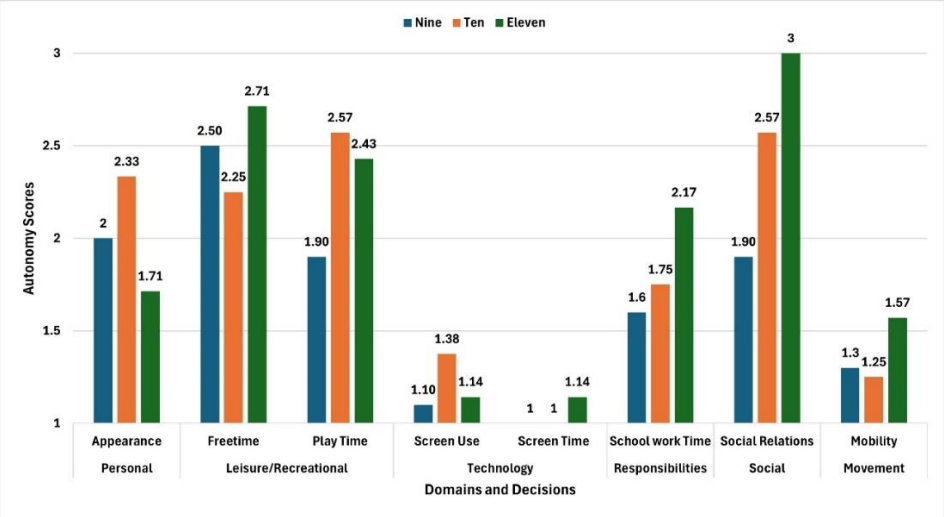


For instance, in the case of screen time, screen use and mobility, the students' scores fall in the range of low autonomy (1 to 1.66), pointing towards dependent decision-making wherein the teacher decides with or for the student. On the other hand, students score much higher in the domain of leisure/recreation (unstructured activities) encompassing decisions free time and playtime, with free time falling in the range of high autonomy leaning towards a blend of collaborative and independent decision-making, while playtime leans more towards collaborative. This aligns with the previous qualitative findings on children having higher autonomy in unstructured activities. Students also exhibit higher scores in the social domain, with a score of 2.36, again indicating a blend of collaborative and independent decision-making.

Across Age-Groups

Figure 14 illustrates behavioural autonomy scores at school across the three age groups: 9, 10, and 11. Overall, the autonomy scores vary across the ages depending on the decision type. A clear progression can be observed in the Responsibilities and Social domains, where autonomy scores increase with age, with 11-year-olds exhibiting moderate to high levels of autonomy. This aligns with the key informants' observations on how younger children are more dependent and "*need to be prompted a lot more to take care of themselves.*"

Figure 14: Behavioural Autonomy at School Across Age-Groups



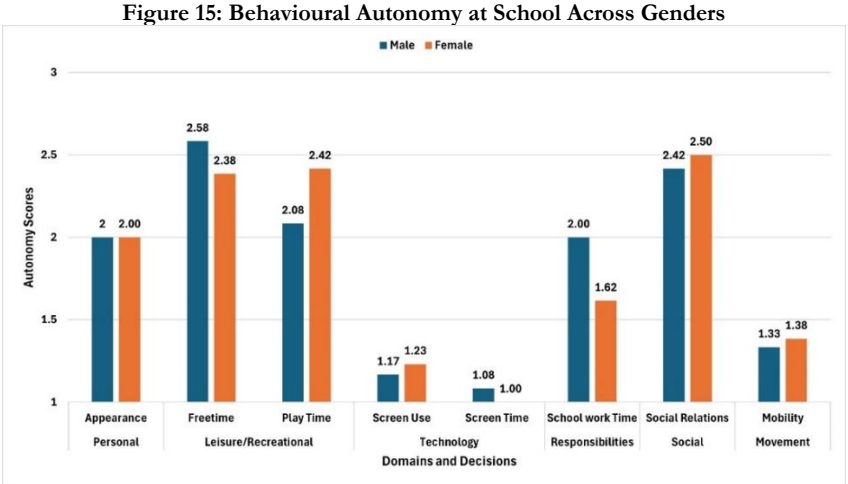
Across all age groups, autonomy scores in the leisure/recreational domain are consistently higher, with students leaning towards collaborative or independent decision-making. However, in the technology domain, students display low levels of autonomy, indicating that they tend to rely on the teacher for making decisions. Similarly, in the movement domain, scores are lower, pointing to a blend of dependent and collaborative decision-making. This could point towards a pattern of having low autonomy in decisions concerning the health and safety of the child, as excessive screen device usage has harmful effects on child development, while the decision on mobility is concerned with their physical safety.

The informants also provided another insight which could potentially explain the non-linear progression across other domains (including the patterns at home as seen in Figure 10) – the role of personality. Here, the informants gave examples of personality traits like dominance and shyness. They noted that while these children get influenced by various factors, the way a child behaves, and exercises autonomy largely depends on their personality. For instance, one respondent noted that older children exhibit higher levels of autonomy as their personality shines through more. Adding further nuance to this, another respondent noted that though younger children tend to be less autonomous, *"[they] can be more ready depending on their personality."*

Across Genders

Figure 15 displays the behavioural autonomy scores for boys and girls at school. Overall, we can see that while there are some differences in scores, the magnitude of these differences is relatively small.

Figure 15: Behavioural Autonomy at School Across Genders

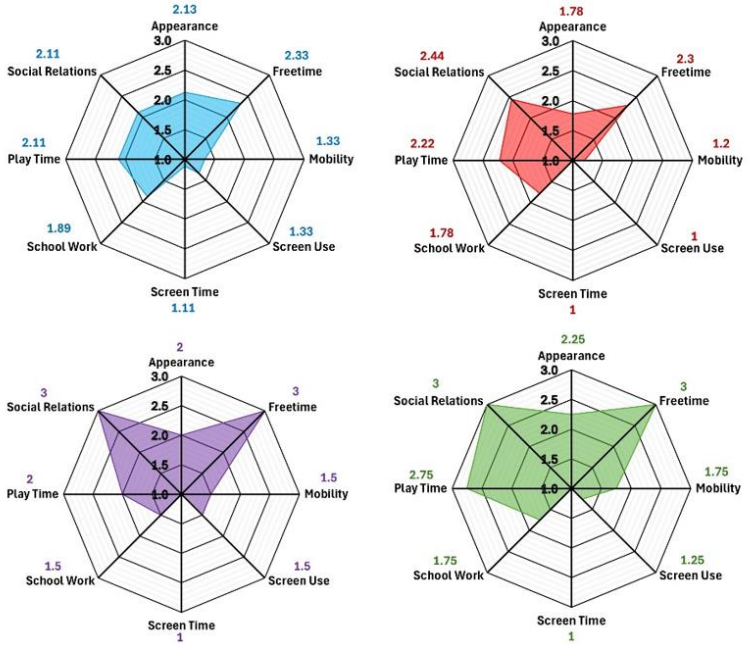


The biggest difference appears in the domain of responsibilities, where boys score 0.38 points higher than girls. Both genders display moderate to high levels of autonomy in the leisure/recreational domain, with girls scoring 0.36 points higher than boys in the decision playtime. In the social domain, both the genders score leans towards a blend of collaborative and independent decision-making. Similar to Figure 13, autonomy scores remain lower in the technology and movement domains, indicating that decisions in these areas are likely driven by teachers. In the personal domain (appearance), both genders show an equal autonomy score of 2, which points towards collaborative decision-making.

Across Regions

Figure 16 illustrates behavioural autonomy scores across the 4 regions at school. While students from all regions exhibit moderate levels of behavioural autonomy, students from the region Americas score the highest overall with an average score of 2.09, which leans towards collaborative decision-making. The region of Americas is largely individualistic which is supported by the higher score. But the higher score for the African students is in contrast with literature that points towards the region of Africa being highly collectivist, focusing on interdependence (Singelis et al., 1995).

Figure 16: Behavioural Autonomy Score at School Across Regions



From Top Left - Asia (Blue), Europe (Red), Africa (Purple), Americas (Green)

As seen previously, the highest scores are again displayed in the leisure/recreational domain which includes free time and playtime, as well as the social domain, which includes the decision social relations. Having high levels of autonomy across these three decisions, the scores point towards independent decision-making.

Students from Asia and Europe exhibit similar scores, with Europeans scoring slightly higher in the decision social relations. The overall lower score for Asian students goes in line with the earlier qualitative finding reported by the key informant on how, particularly South Asian kids, tend to be less autonomous. Another pattern to note is that they also score lower than their peers in the decision of social relations (though still falling under moderate levels of autonomy). This also points towards how children from Asian immigrant families are most often faced with struggles in the school setting due to cultural mismatches, including navigating unfamiliar social norms, expectations from teachers, and struggles in interacting with peers (Smith and Hart, 2022).

The students from Africa and the Americas score on the higher end, particularly for social relations. Across all regions, consistent with the previous findings, the autonomy scores are much lower in the domain of technology as well as movement, indicating that the students rely on their teacher for making decisions.

4.3 Factors Influencing Behavioural Autonomy

Drawing on the conceptual framework presented earlier in Figure 2, this section investigates the factors influencing behavioural autonomy. To set the stage qualitatively, factors influencing behavioural autonomy was one theme which had opposing views, where some informants agreed upon one factor influencing autonomy while others disagreed. A comparison is presented in Table 3 below.

Table 3: Comparison of Informants' Views on Factors Affecting Autonomy

Informant ID	Age	Gender	Culture	Personality	Parents
Informant 1	☒	☒	☑	☒	☑
Informant 2	☑	☒	☒	☑	☑
Informant 3	☑	☒	☑	☒	☑
Informant 4	☑	☑	☒	☑	☑

Note: ☑ indicates that the informant agrees that the factor influences autonomy, while ☒ indicates disagreement.

As can be seen from the table, for age, most informants agree that it affects autonomy, while for gender they primarily disagree. For culture and personality, the views are mixed. The standout factor that emerges is parental influence. To investigate whether these factors significantly influence autonomy, as well as their direction and magnitude, multiple OLS regression models have been run on the students' autonomy scores. Further analysis is divided into two sub-sections: at home and at school.

4.3.1 At Home

In the first subsection (at home), individual factors such as age and gender are examined, along with regional influences (i.e., being from Asia, Africa, the Americas, or Europe). Additionally, the effects of individualism, collectivism, and different parenting styles on students' autonomy scores are analysed.

Individual and Regional Factors

For the individual and regional factors, a total of eleven regression models were run for behavioural autonomy scores at home - one for total behavioural autonomy at home and one each for the 10 decisions, treated as individual outcome variables. While most models did not demonstrate predictive power, two were found to be explained by individual factors and regions. Additionally, these models provide insights into findings observed earlier in the descriptive analysis. Table 4 presents two OLS models run on the autonomy scores for the decisions on appearance (Model 1) and screen use (Model 2).

Table 4: OLS Results – Effect of Individual and Regional Factors on Appearance and Screen Use at Home

Independent Variables	Dependent Variables – Autonomy Scores	
	Personal Appearance	*Technology* Screen Use
	(1)	(2)
10 years	0.536*	0.416
	(0.288)	(0.384)
11 years	0.380	0.317
	(0.312)	(0.417)
Gender	0.765**	-0.280
	(0.278)	(0.371)
Asia	0.282	0.614*
	(0.250)	(0.333)
Africa	-0.192	-0.311
	(0.428)	(0.570)
Americas	-0.131	0.597
	(0.380)	(0.506)
Constant	1.619***	1.792***
	(0.275)	(0.367)
Observations	25	25
R-squared	0.487	0.492

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

In model 1 (Table 4, Col.1), the dependent variable is the autonomy score for the decision appearance. Beginning with age, 10-year-olds score 0.536 points higher on average compared to their 9-year-old peers, keeping other factors constant. This result is statistically significant at the 10% level. Similarly, 11-year-olds also score higher (0.380) than 9-year-olds though this coefficient is statistically insignificant. Both the positive coefficients suggest a potential pattern where older children have slightly more autonomy in appearance-related decisions.

For gender, the results reflect the pattern observed in the descriptive statistics (Figure 11), where girls demonstrate higher decision-making autonomy in appearance than boys. Specifically, girls score 0.765 points higher on average than boys, and this finding is statistically significant at the 5% level. This magnitude amounts to approximately 25% of the total 3-point scale range. Though this finding contrasts with some literature pointing towards girls having lower autonomy than boys, it supports the claim that parents often consider appearance as a low-risk area and owing to societal expectations encourage more autonomy earlier in girls (Farnill, 1987; Pomerantz et al., 2002).

Moving to regional differences, none of the regions exhibit statistically significant differences compared to students from Europe. Although students from Asia score 0.282 points higher on average than European students, the coefficient is not statistically significant. Those from Africa and the Americas score slightly lower (-0.192 and -0.131, respectively), but owing to the small sample sizes it is difficult to draw meaningful conclusions. These coefficients could also suggest that autonomy in appearance in this sample might not be greatly influenced by regional background.

Model 2 (Table 4, Col. 2) explores autonomy in screen use. Here, both 10- and 11-year-olds score higher than 9-year-olds by 0.416 and 0.317 points on average, respectively, though neither of these results are statistically significant. This indicates that while older

children might have slightly more autonomy in screen-related decisions, it is difficult to attribute these differences to age.

For gender, the pattern is the reverse of what was observed in Model 1. Boys demonstrate slightly more autonomy in screen use than girls, with girls scoring 0.280 points lower than boys. Although the coefficient is not statistically significant, the pattern aligns with existing literature that suggests boys often have more freedom regarding technology usage, potentially due to social perceptions of boys being more technologically competent or being trusted more with gadgets (Livingstone & Helsper, 2007).

Looking at regions, we observe a difference for students from Asia, who score 0.614 points higher on average compared to their European peers in autonomy over screen use, and this is statistically significant at the 10% level. This suggests that children from Asian backgrounds might experience greater autonomy in making decisions related to screen usage compared to their European peers. Students from the Americas also display a positive coefficient (0.597), while students from Africa display a negative coefficient (-0.311), but neither of these are statistically significant.

Overall, model 1 highlights that gender could play a significant role in behavioural autonomy over appearance, with girls demonstrating significantly higher autonomy, potentially due to societal norms around self-expression. In model 2, a significant regional effect is seen for children from Asia regarding screen use, indicating greater autonomy in this decision compared to their European peers.

Individualism and Collectivism

To assess the impact of individualism and collectivism (INDCOL) on behavioural autonomy, eleven regression models were run on the parent-student sample of 16. While most models showed limited predictive power, four decisions exhibited some nascent patterns, as presented in Table 5.

Table 5: OLS Results – Effect of INDCOL Across Various Domains at Home

	Dependent Variables – Autonomy Score			
	Responsibilities		*Technology*	*Social*
Independent Variables	Chores	Homework Time	Screen Time	Social Relations
	(1)	(2)	(3)	(4)
HI	0.397	-0.162	0.698**	0.00488
	(0.232)	(0.283)	(0.301)	(0.186)
VI	-0.0744	-0.0423	0.00413	0.0873
	(0.132)	(0.161)	(0.171)	(0.106)
HC	0.0250	-0.560*	0.394	-0.211
	(0.251)	(0.306)	(0.325)	(0.201)
VC	0.221	0.524*	-0.293	0.370*
	(0.221)	(0.270)	(0.287)	(0.177)
Constant	-1.268	3.978*	-2.355	0.995
	(1.693)	(2.065)	(2.197)	(1.357)
Observations	16	16	16	16
R-squared	0.365	0.299	0.385	0.414

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Starting with model 1 (Table 5, Col.1), none of the cultural dimensions significantly influence

autonomy in chores, with Horizontal Individualism (HI) showing a positive coefficient. For every one-unit increase in HI, the autonomy score is expected to increase by 0.397 units, holding all other variables constant. While this coefficient points towards a preference for more independence, the lack of statistical significance points towards autonomy in chores being less influenced by individualistic or collectivist mindsets. Similarly, Vertical Collectivism (VC) has a positive but weak effect (0.221).

In model 2 (Table 5, Col.2), Vertical Collectivism (VC) has a statistically significant positive effect (0.524) on autonomy in homework time, implying that parents who emphasize hierarchy and group cohesion are more likely to encourage autonomy in structured activities. On the other hand, Horizontal Collectivism (HC) has a negative and statistically significant effect (-0.560), potentially indicating that parents valuing equality in group settings may foster less autonomy in this specific domain.

In model 3 for screen time (Table 5, Col.3), Horizontal Individualism (HI) shows a statistically significant positive impact on autonomy. With every one unit increase in HI, the autonomy score in screen time increases by 0.698 points on average, keeping other factors constant. This is statistically significant at the 5% level. This indicates that parents who lay emphasis on independence and equality allow more freedom in their children's technological engagement. Finally, moving to model 4 (Table 5, Col.4) on social relations, we note that Vertical Collectivism (VC) has a positive and statistically significant effect in social relations, with a coefficient of 0.370. This suggests that even within a hierarchical and group-focused value system, parents foster independence in their children's social interactions.

Parenting Styles

Similar to the previous INDCOL models, here, the focus is on the three parenting styles, i.e., authoritative (ATT), authoritarian (ATN) and permissive (PER). Again, a total of eleven models, were run out of which six of the decisions could be explained using the parenting styles. This has been presented in Table 6.

Table 6: OLS Results – Effect of Parenting Styles Across Various Domains at Home

	Dependent Variables – Autonomy Score					
	Personal	*Social*	*Leisure/Recreational*		*Responsibilities*	
Independent Variables	Appearance	Social Relations	Free Time	Extra Curriculars	Chores	Homework Time
	(1)	(2)	(3)	(4)	(5)	(6)
ATT	-0.343	0.445	0.326	0.263	-0.00699	-0.270
	(0.297)	(0.282)	(0.216)	(0.167)	(0.356)	(0.335)
ATN	-0.211	0.462	0.506**	0.787***	-0.0475	0.948**
	(0.284)	(0.269)	(0.218)	(0.182)	(0.339)	(0.320)
PER	-0.207	-0.204	0.222	-0.263**	-0.350	-0.645***
	(0.179)	(0.170)	(0.130)	(0.104)	(0.214)	(0.202)
Constant	4.847**	-0.404	-0.792	0.0539	2.673	3.041
	(1.607)	(1.527)	(1.192)	(0.920)	(1.922)	(1.813)
Observations	16	16	15	14	16	16
R-squared	0.225	0.345	0.597	0.677	0.277	0.523

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Starting with authoritative parenting (ATT), which has most commonly been linked to higher levels of autonomy, we observe that while it has a positive impact on social relations (0.445

points) and free time (0.326 points), it does not hold statistical significance in any of the models.

For authoritarian parenting style (ATN), we observe significant positive effects, particularly in the leisure/recreational domain. For instance, in the decision free time (Table 6, Col 3), authoritarian parenting is associated with a 0.506-point increase in autonomy score, statistically significant at 5% level. Similarly, in the case of extra-curriculars (Table 6, Col 4), ATN is associated with a 0.787-point increase, statistically significant at 1% level. Though here, the sample drops to 14 due to missing data points, and hence should be interpreted with caution. ATN also shows a substantial 0.948-point increase in autonomy for homework time, indicating higher autonomy levels when this parenting style is used, again statistically significant at the 5% level.

On the other hand, permissive parenting (PER), is associated with a significant negative effect on autonomy in homework time and extra-curriculars. For example, students of permissive parents score 0.645 points lower in autonomy for homework time (Table 6, Col.6), and 0.263 points lower in extracurriculars (Table 6, Col.4), both of which are statistically significant at the 1% and 5% levels, respectively. This is unexpected as permissive parenting has again been associated with higher autonomy.

Overall, the results indicate that authoritarian parenting may lead to higher autonomy in certain domains, particularly leisure/recreation and responsibility, while permissive parenting appears to negatively impact autonomy, especially in structured tasks like homework time.

4.3.2 At School

In the second subsection (at school), beyond individual and regional factors, teacher autonomy support within the school context is also explored.

Individual and Regional Factors

Nine regression models were run for behavioural autonomy scores at school - one, for total behavioural autonomy at school and one each for the 8 decisions. As seen previously with the models for behavioural autonomy scores at home, several of them did not have any predictive power but a few could be explained using the given variables.

Table 7: OLS Results – Effect of Individual and Regional Factors on Total Behavioural Autonomy Score at School

Independent Variables	**Dependent Variable – Autonomy Score**
	Total Behavioural Autonomy at School
10 years	0.0801
	(0.177)
11 years	0.217
	(0.193)
Gender	-0.109
	(0.171)
Asia	0.129
	(0.154)
Africa	0.245
	(0.264)
Americas	0.508**
	(0.234)

Constant	1.639***
	(0.169)
Observations	25
R-squared	0.421

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 7 presents the OLS regression results for the outcome variable Total Behavioural Autonomy at School. Starting with individual factors, we note that on average, 10-year-olds score 0.0801 points lower than their 9-year-old peers in total behavioural autonomy at school, keeping other factors constant. On the other hand, 11-year-olds score 0.217 points higher on average than 9-years-olds, holding other factors constant. Both these coefficients have a small magnitude and are statistically insignificant.

In the case of gender, girls score (0.109 points) lower than boys, though again this magnitude is quite small and statistically insignificant. Moving to regional differences, all regions have a positive coefficient, indicating that they score higher than students from Europe. The magnitude for Asia and Africa is small. On the other hand, the coefficient for the regions Americas is much larger and statistically significant at the 5% level, indicating that students from the region Americas score 0.508 points higher on average than students from Europe, keeping other factors constant. This finding aligns with the literature on the influence of cultural values on autonomy, where individualistic cultures, which are prevalent in the Americas, may place greater emphasis on student independence (Singelis et al., 1995).

Table 8: OLS Results – Effect of Individual and Regional Factors on Free time, Playtime, Screen Use and Social Relations at School

	Dependent Variable – Autonomy Score			
Independent Variables	*Leisure/Recreational*		*Technology*	*Social*
	Free time	Play time	Screen Use	Social Relations
	(1)	(2)	(3)	(4)
10 years	-0.585	0.593	0.401*	0.764**
	(0.391)	(0.367)	(0.205)	(0.355)
11 years	-0.223	0.773*	0.0896	1.196***
	(0.425)	(0.378)	(0.223)	(0.366)
Gender	-0.503	0.524	0.00654	0.368
	(0.378)	(0.346)	(0.198)	(0.335)
Asia	-0.00710	-0.0834	0.371*	-0.241
	(0.340)	(0.306)	(0.178)	(0.296)
Africa	0.620	-0.307	0.602*	0.465
	(0.582)	(0.514)	(0.305)	(0.498)
Americas	1.254**	-0.0698	0.0703	0.00632
	(0.517)	(0.491)	(0.271)	(0.476)
Constant	2.744***	1.658***	0.850***	1.753***
	(0.374)	(0.329)	(0.196)	(0.319)
Observations	25	24	25	24
R-squared	0.511	0.554	0.390	0.529

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 8 presents the OLS regression results across four decision types: free time, playtime, screen use, and social relations at school. Starting with model 1 (Table 8, Col.1), both 10- and 11-year-olds score lower on autonomy compared to their 9-year-old peers, though these coefficients are statistically insignificant. For gender, girls score 0.503 points lower than boys for free time, but this result is not statistically significant. In terms of regional differences, students from the Americas score significantly higher than European students, with coefficient of 1.254, which is statistically significant at the 5% level, reflecting a notable regional variation.

Moving to model 2 (Table 8, Col.2), both 10- and 11-year-olds again score higher than 9-year-olds. The coefficient (0.773) for 11-years old is statistically significant at the 10% level, which indicates that older children have higher autonomy with regards to playtime. Turning to gender, girls, on average, score 0.524 points higher than boys, though this result is statistically insignificant. In terms of regional differences, we note that all students from all three regions (Asia, Africa and the Americas) score much lower than their European peers. But these coefficients are not very large and are also statistically insignificant.

For model 3 (Table 8, Col.3), the autonomy scores display consistent patterns with earlier findings. Ten-year-olds score 0.401 points higher than their younger peers, significant at the 10% level. The gender difference is marginal, with girls scoring only 0.00654 points higher than boys, and this is not statistically significant. On the other hand, regional differences are observed: students from Asia score 0.371 points higher than those from Europe, a significant result at the 10% level, while African students score 0.602 points higher, also statistically significant.

Finally, model 4 (Table 8, Col.4) shows us that both 10 and 11-year-olds exhibit higher more autonomy than 9-year-olds, with a coefficient of 0.764 and 1.164 points respectively. Being statistically significant at the 5% and 10% level respectively, the higher magnitude also indicates that age does play a significant role in autonomy with social relations, as previously observed in the descriptive statistics. However, gender does not show significant effects on social relations autonomy. The same goes for regional differences. Though we note lower autonomy among Asian students compared to European students and higher autonomy among students from Africa and the Americas, the coefficients are statistically insignificant.

Overall, the models indicate that autonomy generally increases with age, with 10- and 11-year-olds scoring higher on autonomy than 9-year-olds in several decision areas, some with statistically significant results. Gender differences appear across domains but are not statistically significant. Regional differences are also observed, though the differences are significant across all decisions.

Teacher-Autonomy Support

Table 9: Teacher-Autonomy Support Scores

Respondent	Involvement	Structure	Autonomy-Support
Teacher 1	4	3	3.25
Teacher 2	4	3.25	3.5

Using the TASC questionnaire, two teachers answered questions on teacher-autonomy support along three dimensions: involvement, structure and autonomy-support as given in Table 9. Both teachers in the dimension of involvement reported a score of 4 which indicates high engagement with their students. Teacher 2 reports slightly higher scores in structure and autonomy compared to Teacher 1, which suggests that Teacher 2 provides a bit more guidance and encourages more independence. Overall, the differences are modest.

The dimension on 'structure' sheds light on guidance given to the student. The scores in this dimension, not being the highest, also support some of the qualitative findings. As presented previously, one of the key informants noted that students exhibit higher levels of autonomy in activities that are unstructured, rather than structured. In the context of the school, providing structure is done in a balanced manner. Activities given to the children start with structure and guidance to give them a sense of direction. But beyond a certain point, they are pushed to think for themselves. This is captured in the following quote given by the informant: *"[W]hen I give the students a STEM activity, where they have to engage and learn from a robotic arm – I don't tell them to replicate the exact same thing. They can use it for inspiration but in the end, they try to create something of their own."*

Challenges with Autonomy

The interviews with the key informants also brought light to certain challenges that the school faces with fostering autonomy in children. Each informant gave a unique insight, with certain overlaps. The first challenge presented by the one of the key informants is reflected in the following quote, *"A child will often say: "I don't want to listen to you. I can do this." Here, children often do what they want. They take their autonomy for granted and take undue advantage of it."* This quote illuminates how some students take their autonomy for granted, wherein they disregard rules and refuse to listen to their teachers/caretakers.

Another challenge, which all the informants agreed upon was related to the role of parents. The insights present a two-fold problem - one, with too much parent interference/dependency and two, when there is a lack of communication and collaboration with parents. In the former case, one informant noted that often younger children attain independence at a slower pace, primarily because at home parents lack the patience and do the work for them. This goes against the practice at the school. Additionally, parents also tend to be overprotective. For this, the informant gave the example of the playground at the school, stating, *"Dutch playgrounds tend to be quite open – they are seen as part of the community. Again, parents tend to be quite apprehensive about letting their children play in such open playgrounds. But that's the policy here. And the parents have to learn to adjust."* This also points towards how while the school practices what is most commonly seen around the Netherlands, parents can often show hesitation since the same may not be observed back in their home country.

On the other hand, there is also the problem of communication, particularly when parents don't collaborate with the teachers. Informant 4 noted in some cases, parents view themselves as overqualified, often not paying heed to what the teacher says.

4.4 Differences in Perceptions of Behavioural Autonomy

This section outlines the differences in perceptions of behavioural autonomy between parents and their children, followed by teachers and their respective students.

4.4.1 Parents' vs Students' Perceptions

Figure 17: Parents vs Students Behavioural Autonomy Scores

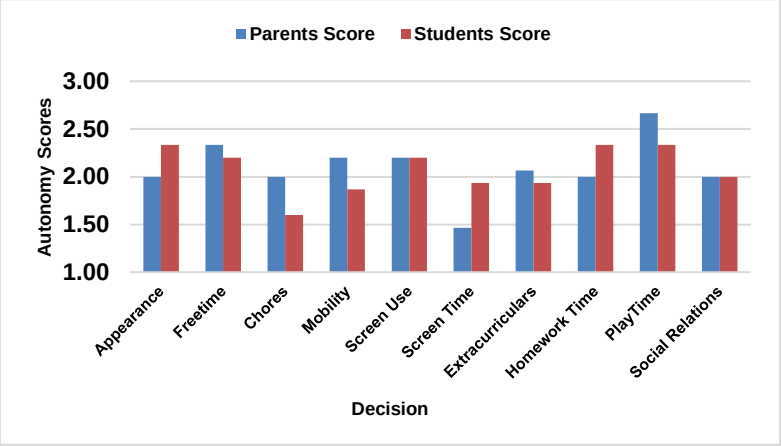


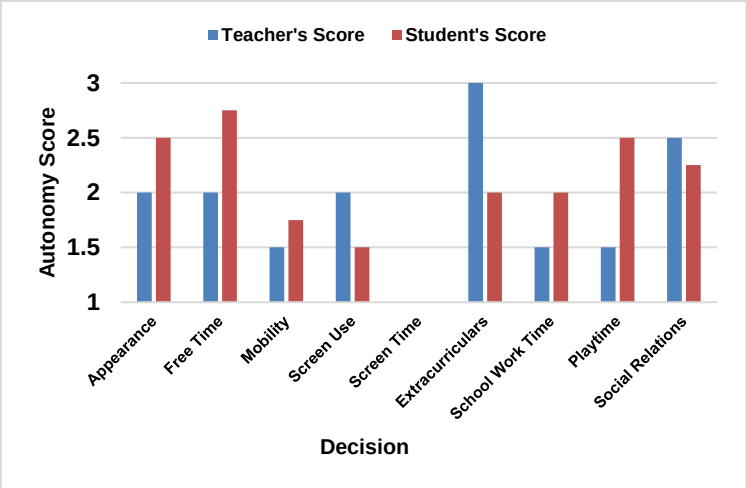
Figure 17 shows a comparison of parents scores and students score for behavioural autonomy. Overall, it can be observed that there is not a lot of variation between the scores, though this depends on the decision. In the case of screen use and social relations, the scores are identical. Free time and extra curriculars have much smaller differences. The difference between the scores is highest for decisions related to screen time, where the students score themselves much higher (1.93 v 1.47), and playtime, where the parents report a higher score (2.67 v 2.33). For certain decisions, the parents score the students much higher (chores, mobility) than what the students perceive. On the other hand, students report higher autonomy scores in areas of appearance, screen time and homework time.

To further understand whether the differences visualized in the clustered column chart are statistically significant, several statistical tests were conducted. The Shapiro-Wilk test was used to check for normality in the autonomy scores of both students (see Appendix J) and parents (see Appendix K). For the student scores, seven of the ten decisions were normally distributed, while three decisions—extracurriculars, chores, and homework time—showed non-normal distributions (p-value < 0.05). In the case of parent scores, all decisions except screen time were normally distributed.

Paired t-tests (see Appendix L) were conducted to determine if there were meaningful differences between the normally distributed parent and student samples, while the Wilcoxon Signed-Rank Test was used for the decisions that were not normally distributed (see Appendix M). Both tests found no statistically significant differences in perceived behavioural autonomy between students and parents across these domains.

4.4.2 Teachers' vs Students' Perceptions

Figure 18: Teachers vs Students Behavioural Autonomy Scores



The above figure above displays behavioural autonomy scores of the teachers and students on a 3-point scale. It can be observed that there is variation in their perceptions. This is particularly pronounced in certain decisions. For instance, in the case of extracurriculars, teachers report a higher score compared to students (3 vs 2), while in the case of free time (2.75 vs 2) and play time (2.5 vs 2) students report a much higher score. The scores match in only one category, which is screen time. Overall, the students score themselves much higher across most decisions.

Chapter 5
Discussion and Limitations

5.1 Discussion

5.1.1 Level of Behavioural Autonomy

The first research question aimed to explore the levels of behavioural autonomy exhibited by students in an international school. In both the home and the school setting, it was observed that children display moderate levels of autonomy, leaning towards collaborative decision-making. This is consistent with the findings from Wray-Lake et al. (2010) who also observe that during middle childhood, behavioural autonomy is moderate, particularly in the home setting, while it progressively increases and peaks during adolescence. The moderate levels of autonomy also indicate that children engage more frequently in collaborative decision-making. This has future implications for the period of adolescence, as joint decision making, where in both the parent and the child are involved, has been positively associated with better developmental outcomes (Smetana, 2005; Peterson & Bush, 1999; Steinberg et al., 1989).

Consistent with the findings from Smetana et al. (2004), it was also observed that autonomy is decision-specific, i.e., children display different levels of autonomy for different decisions. For instance, in the home setting, we noted particularly high levels of autonomy in the domain of leisure, which encompasses unstructured activities like free time and playtime. But the decision of extracurriculars, which lies in the same domain, has a relatively lower level of autonomy. This could be because often parents and children view extracurricular activities through a functional lens rather than something carried out for pleasure (Shannon, 2006). They also displayed lower scores for the decision chores, which is a structured responsibility. This is consistent with the literature as before adolescence, children tend to have lower say in such areas, since tasks like household chores fall under the purview of family rules and cultural norms which need to be abided by (Wray-Lake et al., 2010; Smetana et al., 2004).

Like the pattern at home, in the school setting, children exhibit higher levels of autonomy in unstructured activities. This was further confirmed through the qualitative insights. On the other hand, lower levels of autonomy were observed in the domain of technology encompassing screen use and screen time. This aligns with the trend of most schools moving towards heavy monitoring and even banning of electronic devices during school hours among students, citing the harmful effects of unrestricted device usage on their development such as distraction, cyberbullying and negative impacts on cognitive performance and mental well-being (Muppalla et al., 2023; Böttger & Zierer, 2024; The Digital Wellness Lab, 2024; Kassam, 2024).

5.1.2 Factors Influencing Behavioural Autonomy

With the help of Bronfenbrenner's (1977) Ecological Systems Theory (EST), this research also aimed to look at the various factors influencing behavioural autonomy. EST helped to contextualize how different environmental factors interact to shape child development, with a particular focus on behavioural autonomy. The findings show that factors in the microsystem (home and school) as well as the macrosystem (culture) do interact with behavioural

autonomy, a socio-emotional skill, being less pronounced in some areas and more pronounced in others.

At home

While the qualitative findings indicated that older children are more autonomous, the regression models, despite showing positive coefficients for 10- and 11-year-olds, did not show age as a significant predictor of behavioural autonomy across all decisions. Although statistically insignificant, the positive coefficients do suggest that changes in autonomy across ages might be decision-specific, as previously noted by Smetana et al. (2004). In terms of gender differences, the regression analysis revealed that girls have significantly higher autonomy in appearance compared to boys. This contrasts with the literature on girls having lower autonomy than boys (Dornbusch et al., 1990; Smetana & Daddis, 2002; Perez-Brena et al., 2012), and particularly with findings from Smetana and Asquith (1994), who observed that personal issues (such as choosing one's clothes) are governed by stricter rules in families with girls than with boys. However, it aligns with findings by Daddis and Smetana (2005), who noted that girls are expected to attain autonomy much earlier in personal issues, such as deciding on their hairstyle. This finding aligns with literature which shows that parents can grant higher autonomy to girls in decisions related to appearance because these choices fit into gendered social expectations through which they place emphasis on femininity, self-expression, and proper grooming (Farnill, 1987; Eccles et al., 1999). Additionally, these decisions are also considered low risk thereby making parents more comfortable in allowing girls the freedom to explore their identity (Pomerantz et al., 2002; Grusec & Goodnow, 1994).

Turning to culture, in terms of regional differences it was observed that students from Asia scored significantly higher than the other regions, with a particularly higher score compared to their European counterparts in the decision screen use. The higher overall score for Asians does contrast with literature that points towards collectivist cultures like Asia to be more interdependent than independent (Singelis et al., 1995). However, it aligns with literature which points towards autonomy manifesting differently in collectivist cultures. We could also observe this in the INDCOL regression models as shown in Table 5, where the parents' score across the two dimensions of collectivism were positively associated with behavioural autonomy scores of the students in certain decision areas. Kagitcibasi (2005, p. 403), through her model of the "autonomous-related self," discusses this by showing that, in collectivist cultures, personal agency is often coupled with family values and interdependence. This indicates that even in collectivist cultures, autonomy is indeed present, albeit integrated with family and social ties.

With parenting styles, an interesting pattern emerged where authoritarian parenting was observed to have a positive association with the autonomy scores for structured tasks like homework time as well as for unstructured activities like free time and extracurriculars. The pattern for structured tasks like homework time aligns with literature which shows that even though authoritarian parenting is characterized by control, it fosters a sense of self-discipline in children especially in areas of academic achievement, thus granting them higher autonomy (Leung et al., 1998). On the other hand, permissive parenting, which has usually been associated with higher levels of autonomy, had a negative association in the case of homework time and extracurriculars. This could be because permissive parenting is often accompanied by a lack of guidance and structure, coupled with narcissism and academic disengagement, which can limit the child's autonomy development (McKinney & Renk, 2008).

At School

In the school setting, age did emerge as a significant factor in certain decision areas, particularly social relations, where older children displayed higher levels of autonomy. On the other hand, no significant gender differences were observed. Significant regional differences were noted for students from the Americas and Africa as they scored higher in autonomy for free time and playtime compared to their European peers. According to Triandis (1995) and Singelis et al. (1995), cultures with strong individualistic values, common in the Americas, often emphasize independence. This may explain the higher autonomy scores among these students in leisure activities.

On the other hand, it can be observed that the autonomy scores for students from Asia is the opposite from the home setting where they displayed higher levels of decision-making autonomy. This difference points towards autonomy, within the same culture, being nuanced. Literature shows how Asian immigrant families may strike a balance between cultivating practices of encouraging autonomy at home, while still valuing obedience and respect for authority, which could potentially lead to greater conformity and lower autonomy in the school setting (Markus & Kitayama, 1991; Chao & Tseng, 2002; Chea & Leung, 2011).

5.2 Limitations & Potential Areas for Improvement

This section talks about the limitations of the study along with potential areas of improvement. To begin with, the cross-sectional nature of the study limits its scope. Numerous studies on behavioural autonomy are longitudinal in nature, as it helps shed light on the trajectory of autonomy across different phases of child development. Charting this trajectory among children across different cultures, though challenging, can give further insights into how decision-making autonomy manifests in children.

In terms of the tools used, the reliance on self-report surveys and observation checklists for the students, parents, and teachers introduces the risk of social desirability bias, where respondents may provide answers, they believe are more socially acceptable. This could have affected the accuracy of the data collected.

The sample of the study is subject to multiple issues. With a limited sample size and focus on a specific international school in the Netherlands, it is difficult to draw generalizations in a broader context. Plus, the voluntary nature of participation makes the sample prone to self-selection. This means that parents who are inherently interested in autonomy issues may have volunteered to take part in the study, which could skew the results, while also making it difficult to deem it representative of the school's population. Additionally, the small sample, while capturing some nascent patterns, is a clear drawback. Nonetheless, the nascent pattens do warrant further investigation and hence, undertaking a study with a larger sample would be beneficial.

One of the major aims of this study was to look at the effect of culture on behavioural autonomy. As mentioned previously, international schools generally attract expatriates and mobile families, that have often lived in numerous countries. The student and parent sample, though split into four broad regions, have a lot of variation, with 15 different countries in the student sample. Some students also come from multi-cultural families, having parents of two different nationalities. This variation again makes it difficult to deem the sample representative of their respective countries and cultures.

Another potential area of improvement would be to look at parenting styles that are not so contextual to the WEIRD (Western, Educated, Industrialised, Rich and Democratic) part of the world. For instance, in her book *Hunt, Gather, Parent*, Doucleff (2021) explores parenting styles that have been practiced across indigenous cultures for centuries, which stand in stark contrast to the typical Western style of parenting. She explains how, in the

WEIRD world, where the focus is on individualism, children tend to have less autonomy due to the nuclear family structure. In contrast, in collectivist cultures, children have more autonomy because the joint-family structure provides a protective environment with a greater amount of trust placed in children (Doucleff, 2021).

Chapter 6
Conclusion

During the process of conducting this study, I often engaged in conversations with individuals, and parents, from diverse cultural backgrounds. A recurring question that sprang up among them was on what level of autonomy is ideal, and whether more autonomy is necessarily better. In this context, I bring forward an insight shared by one of the key informants, who stated that autonomy does not have a "*right dosage*" but is instead a "*tool*" that one needs to learn how to wield. While being autonomous has been linked to numerous psychological benefits, this study does not intend to make a normative claim on more autonomy being inherently better. Nor does it imply that children need to be completely autonomous. Rather, the main goal was to investigate how the level of autonomy manifests across different cultures.

Reflecting on the day I posed those questions based on my observations at the school: do these differences in autonomy exist? Yes, they do. The findings indicate that autonomy is decision-specific, particularly emerging with distinct differences between structured and unstructured decisions, wherein students display higher autonomy in unstructured activities. However, can these differences be attributed to culture? Not entirely. The mixed qualitative findings, along with the quantitative analysis, show some regional differences, but it is difficult to attribute them solely to a child's region of birth or cultural background. These mixed findings also suggest that autonomy may be nuanced even within the same culture which warrants further investigation.

The research also broadens our understanding of the Ecological Systems Theory, particularly in depicting how both the microsystem (home and school environments) and the macrosystem (cultural influences) shape decision-making autonomy. Practically, the findings of the research can be also tied to one of the challenges highlighted by the key informants - the need for collaboration between teachers and parents to bridge the gap in understanding decision-making autonomy. For instance, holding joint meetings to discuss autonomy-supportive practices, as well as the issues that come along with autonomy support, could be a starting point. Owing to the multicultural setting, these meetings can also give way to discussions on how decision-making autonomy is practiced across different cultures. This would particularly be relevant for expatriate families who are thrown into navigating new cultural spaces. By establishing a collaborative and culturally sensitive framework, schools and educators can avoid the risk of imposing a one-size-fits-all approach to fostering autonomy in children from diverse cultural backgrounds.

Appendices

Appendix A: Regions and Countries

Region	Country
Africa	Cameroon
	Guinea Conakry
	Tanzania
Asia	India
	Iraq
	Japan
	Qatar
	Turkey
Europe	Finland
	France
	Germany
	Italy
	Netherlands
	Poland
	Romania
	Switzerland
	UK
Americas	Canada
	Mexico
	USA
	Argentina
	Brazil
	Ecuador
	Peru

Appendix B: Digital Information Pamphlet
(Digital Version)

INFORMATION PAMPHLET

Working Title: Understanding Behavioural Autonomy in Children in a Global School Community

About the Study

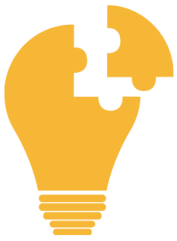
This study explores children's levels of behavioural autonomy at school and home in various activities and the factors influencing their autonomous behaviours within a diverse school environment.

But what is behavioural autonomy? It is the ability to make one's own decisions and follow through with them.

By examining how different factors such as parenting styles, cultural norms, and teacher support affect children's decision-making abilities, this research aims to provide insights on behavioural autonomy. The study uses a combination of surveys and observational methods to gather data from children, parents, and teachers.

- Key Focus Area: Behavioural Autonomy in Children
- Factors: Cultural Norms, Parenting Styles, Teacher Autonomy Support
- Methodology: Vignettes, surveys, and observational checklists
- Target Group: Children aged 9-11 in an international school setting

Why is this relevant?



This research is significant as it aims to deepen our understanding of childhood autonomy within a multicultural school environment. Existing research suggests that individuals whose need for autonomy is met tend to experience higher levels of interest, happiness, and engagement (Legault, 2016). Furthermore, instilling independence in children from an early age equips them with essential skills to navigate diverse social settings (Rozi et al., 2022). Despite the abundance of literature on the benefits of fostering autonomy and independence, there is a noticeable gap in understanding the levels of behavioural autonomy in multicultural settings.

What can you expect?

To enable the research, I request children and parents to engage and provide information. Specifically:

For Children:

Survey (10-15 mins):

- Basic demographics (age, gender, nationality, language, etc.)
- Vignettes (simulations of real events/situations) on behavioural autonomy

For Parents/Guardians:

1. Survey (20-30 mins):
   - Basic demographics (age, gender, occupation, nationality, etc.)
   - Questions on cultural norms and parenting styles
2. Observation Checklist (5-10 mins):
   - Corresponds to vignettes given to your child
   - Report on your child's behavioural autonomy in various aspects

What happens to your data?

- I store all your data securely. Only I (and my supervisor) will have access to the data.
- The name of the school will be kept anonymous.
- The results may be published in (academic) journals and/or books. The results will be accessible to anyone. But your data remains secure.

During or after the study, if you regret your participation. Please indicate this by contacting me.

Research Ethics

The study will strictly adhere to ethical research guidelines. You decide whether you want to participate. Participation in this study is completely voluntary. Not participating will not affect your child or you. You can stop at any time and would not need to provide any explanation. Confidentiality and anonymity will be strictly maintained, and participants will have the right to withdraw from the study at any time.

About Me

"I am Devki Mishra, a passionate student of Development Economics at the International Institute of Social Studies, Erasmus University Rotterdam. As Secretary of the SCHOLAS student council, I actively champion education advocacy, driven by the conviction that every individual deserves access to quality education. With determination and dedication, I endeavor to make a tangible difference in the realm of education."

Please contact me if you have any questions about the study or your privacy rights, such as accessing, changing, deleting, or updating your data.

CONTACT INFORMATION:

[redacted]

Appendix C: Student's Survey

(Digital Version)

A. Basic Demographic Details

S. No	Questions	
1	What is your full name?	
2	What is your age?	
3	What is your gender?	A. Male B. Female C. Other
4	Which class are you in?	***The options included the branch, class and section (if applicable) which have been anonymized.***
5	Which country were you born in?	
6	Which country do you think of as your home?	
7	What languages do you speak?	
8	Which language are you most comfortable with?	

B.Vignettes on Perceived Behavioural Autonomy (At School & Home)

	Decision Type	Questions
9.	Appearance (Home)	You are getting ready for school. You need to decide what clothes to wear. Who chooses your clothes? A. I decide on my own B. I decide with my mum C. I decide with my dad D. I decide with my parents E. My mum decides for me F. My dad decides for me G. My parents decide for me H. Other - please specify
10.	Appearance (School)	You are preparing for a school play. You need to choose a costume. Who chooses your costume? A. I decide on my own B. I decide with my teacher C. My teacher decides for me

		D. Other - please specify
11.	Free Time (Home)	It's Saturday afternoon, and you have some free time. Who decides how you will be spending your free time? A. I decide on my own B. I decide with my mum C. I decide with my dad D. I decide with my parents E. My mum decides for me F. My dad decides for me G. My parents decide for me H. Other - please specify
12.	Free Time (School)	It's break time at school. Who decides what you will do during the break? A. I decide on my own B. I decide with my teacher C. My teacher decides for me D. Other - please specify
13.	Chores (Home)	You have some jobs to do at home, like tidying your room. Who decides when you will do the job? A. I decide on my own B. I decide with my mum C. I decide with my dad D. I decide with my parents E. My mum decides for me F. My dad decides for me G. My parents decide for me H. Other - please specify
14.	Mobility (Home)	You want to walk alone to a nearby park. Who decides if you can go? A. I decide on my own B. I decide with my mum C. I decide with my dad D. I decide with my parents E. My mum decides for me F. My dad decides for me G. My parents decide for me H. Other - please specify
15.	Mobility (School)	While you are playing with a ball, it goes outside the school playground. Who decides if it's safe for you to go and get the ball? A. I decide on my own B. I decide with the adult supervising me

		C. The supervising adult decides for me D. Other - please specify
16.	Screen Usage (Home)	At home, you want to use a screen device (e.g., watch TV, play on a tablet, or use a computer). Who decides if you can use it? A. I decide on my own B. I decide with my mum C. I decide with my dad D. I decide with my parents E. My mum decides for me F. My dad decides for me G. My parents decide for me H. Other - please specify
17.	Screen Time (Home)	Who decides how long you use a screen device? I. I decide on my own J. I decide with my mum K. I decide with my dad L. I decide with my parents M. My mum decides for me N. My dad decides for me O. My parents decide for me P. Other - please specify
18.	Screen Usage (School)	You want to use the school laptop. Who decides if you can use it? A. I decide on my own B. I decide with my teacher C. My teacher decides for me D. Other - please specify
19.	Screen Time (School)	Who decides how long you can use the school laptop? A. I decide on my own B. I decide with my teacher C. My teacher decides for me D. Other - please specify
20.	Extracurricular Activities	A friend asks you to join a new club at school. Who decides if you should join the club? A. I decide on my own B. I decide with my teacher C. I decide with my mum D. I decide with my dad E. I decide with my parents F. I decide with my mum and teacher G. I decide with my dad and teacher H. I decide with my parents and teacher

		I. My teacher decides for me J. My mum decides for me K. My dad decides for me L. My parents decide for me M. Other - please specify
21.	Homework Time (Home)	You have some homework to do. Who decides when you start working on it? A. I decide on my own B. I decide with my mum C. I decide with my dad D. I decide with my parents E. My mum decides for me F. My dad decides for me G. My parents decide for me H. Other - please specify
22.	School Work Time (School)	Your teacher gives you a project at school. Who decides the theme/topic of the project? A. I decide on my own B. I decide with my teacher C. My teacher decides for me D. Other - please specify
23.	Playtime (Home)	You have just finished your homework. You feel like playing a game. Who decides if you can play? A. I decide on my own B. I decide with my mum C. I decide with my dad D. I decide with my parents E. My mum decides for me F. My dad decides for me G. My parents decide for me H. Other - please specify
24.	Playtime (School)	You have finished your lunch at school and want to play. Who decides when you can play? A. I decide on my own B. I decide with the adult supervising me C. The supervising adult decides for me D. Other - please specify
25.	Social Relations (Home)	At home, you want to invite a friend over to play. Who decides if you can invite them? A. I decide on my own B. I decide with my mum C. I decide with my dad

		D. I decide with my parents E. My mum decides for me F. My dad decides for me G. My parents decide for me H. Other - please specify
26.	Social Relations (School)	You want to talk to a friend from another class during break time. Who decides if you can talk to them? A. I decide on my own B. I decide with my teacher C. My teacher decides for me D. Other - please specify

C. Others

27.	Perceived Self-Efficacy	On a scale of 1 to 5, how much do you agree with the following statement: *I can make decisions by myself without asking anyone for help* 1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree
28.	Reminders	On a scale of 1 to 5, how much do you agree with the following statement: *I often need reminders from my parents/teacher to complete my schoolwork.* 1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree

Appendix D: Parent's Survey

(Digital Version)

Section 1: Socio-Demographic Information

S.No	**Questions**	
1	Name of Your Child (1)	
2	Name of Your Child (2) **(Please Note: Leave Blank if only one child is participating in the study)**	
3	Relation (of respondent) to the Child	A. Mother B. Father

		C. Guardian D. Other - please specify
4	Birth Order of the Child (1)	A. First-born B. Second born C. Middle child D. Youngest E. Only child
5	Birth Order of the Child (2) **(Please Note: Leave Blank if only one child is participating in the study_**	F. First-born G. Second born H. Middle child I. Youngest J. Only child
6	Marital Status of the Respondent	A. Single B. Married C. Widowed D. Separated E. Divorced F. Other – please specify
7	Respondent's Age	
8	Age of Spouse/Partner **(Please indicate N/A if you don't have a spouse/partner)**	
9	Respondent's Place of Birth	
10	Place of Birth of Spouse/Partner **(Please indicate N/A if you don't have a spouse/partner)**	
11	How long have you been living in the Netherlands?	
12	What languages do you (respondent) speak?	
13	Which language are you most (respondent) comfortable with?	
14	Postal Code	
15	Highest Level of Education	A. No formal education B. Primary education C. Secondary education D. Vocational training E. Bachelor's degree

		F. Master's degree G. PhD H. Other - please specify
16	Employment Status	A. Full-time B. Part-time C. Self-employed D. Unemployed E. Retired F. Student G. Homemaker H. Other - please specify
17	Religion	A. Roman Catholic B. Protestant C. Muslim D. Hindu E. None I. Other - please specify
18	Frequency of any religious practice	A. Daily B. Weekly C. Monthly D. Occasionally F. Never

Section 2: Individualism and Collectivism[10]

Instructions: Please indicate your level of agreement with each statement using the following 7-point scale: **1 - Strongly Disagree, 2 – Disagree, 3 - Somewhat Disagree, 4 - Neither Agree nor Disagree, 5 - Somewhat Agree, 6 – Agree, 7 - Strongly Agree**

19	Horizontal Individualism	I prefer to be direct and forthright when I talk with people.
20		One should live one's life independently of others.
21		I am a unique individual.
22		What happens to me is my own doing.
23	Vertical Individualism	Winning is everything.
24		It is important for me that I do my job better than others.

[10] The questions were shuffled and the dimensions were removed.

25		I enjoy working in situations involving competition with others.
26		Without competition, it is impossible to have a good society.
27	Horizontal Collectivism	My happiness depends very much on the happiness of those around me.
28		It is important for me to maintain harmony within my group
29		To me, pleasure is spending time with others.
30		I think cooperation in the workplace is more important than competition.
31	Vertical Collectivism	I would do what would please my family.
32		I usually sacrifice my self-interest for the benefit of my group.
33		Children should be taught to place duty before pleasure.
34		I would sacrifice an activity that I enjoy very much if my family did not approve of it.

Section 3: Parenting Styles[11]

Instructions: Please rate how frequently you engage in the following behaviours with your child using the following scale: **1 – Never, 2 – Rarely, 3 - Sometimes, 4 - Very Often, 5 - Always**

Authoritative Parenting Style	
35	I encourage my child to talk about their troubles.
36	I give praise when my child is good.
37	I have warm and intimate times together with my child.
38	I give my child reasons why rules should be obeyed.
39	I help my child understand the impact of their behaviour by encouraging them to talk about the consequences of their actions.

[11] The questions were shuffled.

40	I explain to my child how I feel about their good and bad behaviour.
41	I show respect for my child's opinions by encouraging them to express them.
42	I encourage my children to freely express themselves even when disagreeing with me.
43	I allow my child to give input on family rules.

Authoritarian Parenting Style	
44	I use physical punishment as a way of disciplining my child.
45	I yell or shout when my child misbehaves.
46	I punish by taking privileges away from my child with little if any explanations.
47	I use threats as punishment with little or no justification.
48	When my child asks why they have to conform, I state: "Because I said so," or "I am your parent, and I want you to."

Permissive Parenting Style	
49	I state punishments to my child and do not actually follow through.
50	I give in to my child when they cause a commotion about something.
51	I find it difficult to discipline my child.

Section 4: Degree of Integration in the Netherlands

Instructions: Please indicate your level of agreement with each statement using the following scale: **1 - Strongly Disagree, 2 - Disagree, 3 - Neutral, 4 - Agree, 5 - Strongly Agree**

52	I feel at home in the Netherlands.
53	I participate in Dutch cultural events.
54	I am fluent in Dutch.
55	I have many Dutch friends.
56	I understand Dutch customs and traditions.

Section 5: Checklist - Behavioural Autonomy

Please select the option that best reflects who typically makes decisions in each situation for your child (1)

Type of Activity	Child alone	Child with	Child with	Child with Both	Mother alone	Father alone	Both parents	Other – please

		Mother	Father	parents				specify
Choosing clothes for school								
Spending their free time at home								
Chores at home (Eg: Tidying up the room)								
Walking to a nearby park alone								
Using a screen device								
Screen time								
Joining a new club at school								
When to start home-work								
When to proceed with playtime								
Inviting a friend at home								

Please select the option that best reflects who typically makes decisions in each situation for your child (2)

Please Note: Leave blank if only one child is participating in the study

Type of Activity	Child alone	Child with Mother	Child with Father	Child with Both parents	Mother alone	Father alone	Both parents	Other – please specify
Choosing clothes for school								
Spending their free time at home								
Chores at home (Eg: Tidying up the room)								
Walking to a nearby park alone								
Using a screen device								
Screen time								
Joining a new club at school								
When to start								

homework								
When to proceed with playtime								
Inviting a friend at home								

Appendix E: Teacher's Survey and Interview Questions

(Digital Version)

Section 1: Basic Socio-demographic Details

S.No	**Questions**	
1	Name	
2	Age	
3	Gender	A. Male B. Female C. Other – please specify
4	Place of Birth	
5	Highest Level of Education	1. No formal education 2. Primary education 3. Secondary education 4. Vocational training 5. Bachelor's degree 6. Master's degree 7. PhD 8. Other - please specify
6	How long have you been teaching at the school?	
7	Which languages do you speak?	
8	Which language are you most comfortable with?	
9	Which class do you handle?	***The options included the branch, class and section (if applicable) which have been anonymized.***

Section 2: Teacher-Autonomy Support[12]

Instructions: Please indicate your level of agreement with each statement using the given 4-point scale: **1 - Strongly Disagree, 2 – Disagree, 3 – Agree, 4 - Strongly Agree**

10	Involvement	I talk with the students of this class.
11		The students of this class can count on me to be there for them.
12		I know the students of this class well.
13		I enjoy the time I spend with the students of this class.
14	Structure	When the students of this class don't understand something, I explain it in a lot of different ways
15		I try to be clear with the students of this class about what I expect of them in class
16		I find it hard to teach the students of this class in a way they can understand
17		When I discipline the students of this class, I always explain why.
18	Autonomy	I encourage the students of this class to think about how schoolwork can be useful to them
19		I explain to the students of this class why we learn certain things in school
20		It's better not to give too many choices to the students of this class
21		I try to give the students of this class a lot of choices about classroom assignments

22	**Question for Interview**	Would you be willing to participate in a brief interview about student autonomy at school, either online or offline? A. Yes, online B. Yes, offline C. No

[12] ***The questions in the above section were shuffled and the name of the dimensions was excluded.***

Section 3: Checklist

Please select the option that best reflects who typically makes decisions in each situation for the students in your class.

Type of Activity	Student alone	Student with Teacher	Teacher alone	Other - please specify
Choosing their costume for a school play				
Spending Break time at School				
Going out of the school grounds (For eg: During the student's playtime, the ball bounces out of the school boundary. Who decides if the student can get the ball?)				
Usage of school laptop				
Screen time				
Joining a new club				
Theme of project/assignment given during class				
When to proceed with playtime				
Talking to their peer from another class during break time				

Interview Questions (Key Informants)

General Approach to Autonomy	How do you define behavioural autonomy in the context of your teaching practice/school?
Perceptions of Students' Autonomy	Do you observe students exercising autonomy in their daily activities and interactions? If yes, in what ways?
Individual Factors	Do you think individual factors (such as age, gender, personality) influence students' behavioural autonomy? If yes, how?
Cultural Factors	Do you think cultural factors (i.e., the origin, background) influence students' behavioural autonomy? If yes, how?
Role of Parents and Collaboration	Do you communicate with parents regarding their child's autonomy and decision-making at school? In what ways?
Autonomy-Supportive Practices	What strategies do you employ to support students in developing their autonomy and decision-making skills?

Challenges and Opportunities	Do you face challenges in promoting behavioural autonomy among your students? If yes, could you elaborate on a few?
Personal Reflection	Reflecting on your teaching experiences, have there been any memorable moments related to students' autonomy that have impacted your approach or perspective?

Appendix F: Description of Themes with Example Quotes

Theme	Description	Example Quotes
Meaning of Autonomy	Understanding how autonomy is defined by key informants, including both teaching and non-teaching staff, within the school setting	"It is like an umbrella with multiple facets – a range of different things. It is not just about being free – it is about **making the right choices**." (Informant 2)
		"I would say behavioural autonomy in the context of the school is really about encouraging children to be independent – pushing them to **think for themselves**, be **responsible**, look after their belongings." (Informant 3)
Fostering Autonomy at School	Strategies and practices employed by the school, as described by teaching and non-teaching staff, to support student autonomy	"The common instruction at the school is that you are not supposed to direct the child. The child should learn on their own. They are provided with **choices and the consequences of those choices**, but they are **never told what to do**." (Informant 1)
		"We have **visual timetables** that informs the students of what is going on and they also know **what to expect**. We also really emphasise on the **personal goals adopted by the school** – the core values which focuses on promoting **responsibility** and good attitude, being ethical and being a **collaborator**." (Informant 3)
		"I often notice autonomy in children especially when they engage in **collaborative work** or any kind of group work. Usually, they are given a role to perform which gives them a **sense of direction of what they are expected to do**. But in the end, they take over. And this is particularly the case with **activities that are not very structured**. For instance, we engage students in **STEM activities**. And these often tend to be **less structured**. They have more freedom and autonomy, and you can really see their personality sparkle through such activities, whether they are dominant or passive." (Informant 4)

Challenges with Autonomy	Challenges faced by the school in fostering autonomy	"We also notice that with the younger ones, it takes time maybe because at home the **parents find it quicker to do the work for them**. But that defeats what is taught at school." (Informant 3)
		"I would say the biggest challenge is when the **teacher and the parents don't meet**. Some parents ... think they are overqualified. I really think that parents and teachers need to meet on a level-playing field." (Informant 4)
		"Dutch playgrounds tend to be quite open – they are seen as part of the community. Again, **parents tend to be quite apprehensive** about letting their children play in such open playgrounds. But that's the policy here." (Informant 3)
		"A child will often say: I don't want to listen to you. I can do this. Here, children often do what they want. They **take their autonomy for granted** and take undue advantage of it." (Informant 1)

Appendix G: Description of Sub-Themes of Factors Influencing Autonomy with Example Quotes

Sub-Themes	**Example Quote showing Agreement**	**Example Quote showing Disagreement**
Age	"The younger the child, the more dependent they are." (Informant 2)	"It doesn't matter if the child is 9 or 11(...)" (Informant 1)
Gender	"(...) more generally speaking in the school, the girls tend to be more mature which I think plays a role in their autonomy." (Informant 4)	"I don't think gender influences autonomy" (Informant 2)
Personality	"I also think that you are born with a personality and character (...) One may get ten percent influenced by culture, maybe thirty percent by educational background (...) but in the end your personality determines how you behave and exercise autonomy." (Informant 2)	"Personality encompasses a lot of things. I don't think it necessarily influences the child's autonomy. We have children who are very shy but tend to be independent, responsible and can make their choices." (Informant 3)
Culture	" For instance, children from the Far East (more of North Asia) tend to be more independent and autonomous. They assume responsibility and make decisions for themselves. But this is not the case with children from South Asia where they tend to be less autonomous and independent. Those hailing from	"I don't think that the nationality affects the child's autonomy." (Informant 4)

	Scandinavian countries where they emphasise a lot on being outdoors again tend to be more responsible for themselves." (Informant 3)	
Parents	"I would say that the biggest influence on their autonomy is by the parents. Often the parent's opinion overrides what is actually happening in the class. The parents often decide what the child can do." (Informant 4)	N/A

Appendix H: Summary Statistics - Students

Variable	Description	N	Mean	SD	Min	Max
age 9	Indicator variable for age of the student, where 1 indicates 9 years of age and 0 otherwise	25	.4	.5	0	1
age 10	Indicator variable for age of the student, where 1 indicates 10 years of age and 0 otherwise	25	.32	.476	0	1
age 11	Indicator variable for age of the student, where 1 indicates 11 years of age and 0 otherwise	25	.28	.458	0	1
s gender	Indicator variable for gender of the student, with 0 indicating male and 1 indicating female	25	.52	.51	0	1
s branch1	Indicator variable of the branch of the school, with 1 indicating that the student belongs to branch 1 and 0 otherwise	25	.24	.436	0	1
s branch2	Indicator variable of the branch of the school, with 1 indicating that the student belongs to branch 2 and 0 otherwise	25	.08	.277	0	1
s branch3	Indicator variable of the branch of the school, with 1 indicating that the student belongs to branch 3 and 0 otherwise	25	.56	.507	0	1
s branch4	Indicator variable of the branch of the school, with 1 indicating that the student belongs to branch 4 and 0 otherwise	25	.12	.332	0	1

s class4	Indicator variable for class, with 1 indicating that the student belongs to class 4 and 0 otherwise	25	.28	.458	0	1
s class5	Indicator variable for class, with 1 indicating that the student belongs to class 5 and 0 otherwise	25	.4	.5	0	1
s class6	Indicator variable for class, with 1 indicating that the student belongs to class 6 and 0 otherwise	25	.32	.476	0	1
s eur	Indicator variable for region, with 1 indicating that the respondent is from Europe and 0 otherwise	25	.4	.5	0	1
s asia	Indicator variable for region, with 1 indicating that the respondent is from Asia and 0 otherwise	25	.36	.49	0	1
s africa	Indicator variable for region, with 1 indicating that the respondent is from Africa and 0 otherwise	25	.08	.277	0	1
s americas	Indicator variable for region, with 1 indicating that the respondent is from Americas and 0 otherwise	25	.16	.374	0	1
s monolingual	Indicator variable for number of languages spoken, with 1 indicating that the respondent is monolingual and 0 otherwise	25	.08	.277	0	1
s bilingual	Indicator variable for number of languages spoken, with 1 indicating that the respondent is bilingual and 0 otherwise	25	.24	.436	0	1
s trilingual	Indicator variable for number of languages spoken, with 1 indicating that the respondent is trilingual and 0 otherwise	25	.52	.51	0	1
s multilingual	Indicator variable for number of languages spoken, with 1 indicating that the respondent is multilingual and 0 otherwise	25	.16	.374	0	1
l dutch	Indicator variable with 1 indicating that the respondent speak Dutch and 0 otherwise	25	.52	.51	0	1
lc english	Indicator variable with 1 indicating that the student finds English as the most comfortable language to speak in and 0 otherwise	25	.76	.436	0	1
s appearance home ~e	Autonomy score for appearance at home	25	2.36	.638	1	3

s appearance sch s~e	Autonomy score for appearance at school	23	2	.674	1	3
s freetime home sc~e	Autonomy score for free time at home	24	2.583	.504	2	3
s freetime sch score	Autonomy score for free time at school	25	2.48	.77	1	3
s chores score	Autonomy score for chores	25	1.64	.7	1	3
s mobility home sc~e	Autonomy score for mobility at home	25	1.76	.597	1	3
s mobility sch score	Autonomy score for mobility at school	25	1.36	.569	1	3
s screenuse home s~e	Autonomy score for screen use at home	25	2.16	.746	1	3
s screentime home ~e	Autonomy score for screen time at home	25	1.84	.746	1	3
s screenuse sch sc~e	Autonomy score for screen use at school	25	1.2	.408	1	2
s screentime sch s~e	Autonomy score for screen time at school	24	1.042	.204	1	2
s extracurr score	Autonomy score for extracurriculars	23	2.087	.417	1	3
s hwtime score	Autonomy score for homework time	25	2.4	.707	1	3
s_schwtime score	Autonomy score for schoolwork time	24	1.792	.884	1	3
s_playtime home sc~e	Autonomy score for play time at home	25	2.28	.678	1	3
s playtime sch score	Autonomy score for play time at school	24	2.25	.676	1	3
s socrel home score	Autonomy score for social relations at home	25	1.92	.493	1	3
s socrel sch score	Autonomy score for social relations at school	24	2.458	.779	1	3
disagree	Indicator variable for self-efficacy with 1 indicating that the student disagrees with the statement and 0 otherwise	25	.04	.2	0	1
se neutral	Indicator variable for self-efficacy with 1 indicating that the student is neutral with the statement and 0 otherwise	25	.56	.507	0	1
agree	Indicator variable for self-efficacy with 1 indicating that the student agrees with the statement and 0 otherwise	25	.4	.5	0	1

overall autonomy score	Overall autonomy score across all decisions at home and at school	25	1.974	.253	1.471	2.588
total autonomy home	Total autonomy score at home	25	2.096	.315	1.222	2.5
total autonomy sch~l	Total autonomy score at school	25	1.816	.353	1.2	2.857

Appendix I: Summary Statistics - Parents

Variable	**Description**	**N**	**Mean**	**SD**	**Min**	**Max**
p relation	Relation of the respondent to student	16	1.188	.403	1	2
p age	Age of the respondent	16	43.688	3.877	36	50
p age spouse	Age of the spouse of the respondent	15	47.067	8.093	38	63
p eur	Indicator variable, where 1 indicates that the respondent is from Europe and 0 otherwise	16	.562	.512	0	1
p asia	Indicator variable, where 1 indicates that the respondent is from Asia and 0 otherwise	16	.188	.403	0	1
p americas	Indicator variable, where 1 indicates that the respondent is from Americas and 0 otherwise	16	.125	.342	0	1
p africa	Indicator variable, where 1 indicates that the respondent is from Africa and 0 otherwise	16	.125	.342	0	1
p partner eur	Indicator variable, where 1 indicates that the partner of the respondent is from Europe and 0 otherwise	16	.438	.512	0	1
p partner asia	Indicator variable, where 1 indicates that the partner of the respondent is from Asia and 0 otherwise	16	.188	.403	0	1
p partner americas	Indicator variable, where 1 indicates that the partner of the respondent is from Americas and 0 otherwise	16	.188	.403	0	1
p partner africa	Indicator variable, where 1 indicates that the partner of the respondent is from Africa and 0 otherwise	16	.125	.342	0	1
p yrsinnl	Number of years lived in the Netherlands	16	4.969	4.633	.3	15
married p	Indicator variable for marital status, taking the value 1 if the respondent is married and 0 otherwise	16	.938	.25	0	1

divorced p	Indicator variable for marital status, taking the value 1 if the respondent is divorced and 0 otherwise	16	.062	.25	0	1
bachelors	Indicator variable for highest level of education, taking the value 1 if the respondent's highest level is bachelor's degree and 0 otherwise	16	.25	.447	0	1
masters	Indicator variable for highest level of education, taking the value 1 if the respondent's highest level is master's degree and 0 otherwise	16	.688	.479	0	1
phd	Indicator variable for highest level of education, taking the value 1 if the respondent's highest level is PhD and 0 otherwise	16	.062	.25	0	1
fulltime	Indicator variable for employment status, taking the value 1 if the respondent is employed full time and 0 otherwise	16	.688	.479	0	1
unemployed	Indicator variable for employment status, taking the value 1 if the respondent is unemployed and 0 otherwise	16	.25	.447	0	1
romcath	Indicator variable for religion, taking the value 1 if the respondent is roman catholic and 0 otherwise	16	.25	.447	0	1
protestant	Indicator variable for religion, taking the value 1 if the respondent is protestant and 0 otherwise	16	.188	.403	0	1
muslim	Indicator variable for religion, taking the value 1 if the respondent is Muslim and 0 otherwise	16	.125	.342	0	1
hindu	Indicator variable for religion, taking the value 1 if the respondent is Hindu and 0 otherwise	16	.125	.342	0	1
none	Indicator variable for religion, taking the value 1 if the respondent is does not follow any religion and 0 otherwise	16	.312	.479	0	1
hi score	Horizontal individualism score	16	5.1	.842	3.4	6.6
vi score	Vertical individualism score	16	4.333	1.333	1.667	6.333
hc score	Horizontal collectivism score	16	5.516	.798	4.25	7
vc score	Vertical collectivism score	16	4.766	.868	3	5.75
att score	Authoritative parenting style score	16	4.236	.485	3.333	4.889
atn score	Authoritarian parenting style score	16	2.275	.536	1.6	3.6

per score	Permissive parenting style score	16	2.604	.896	1	4.333
app h p score	Autonomy score for appearance given by respondent	16	2.062	.772	1	3
freetime h score	Autonomy score for freetime given by respondent	16	2.312	.479	2	3
chores p score	Autonomy score for chores given by respondent	16	2.062	.68	1	3
mobility p score	Autonomy score for mobility given by respondent	16	2.188	.655	1	3
screenuse h p score	Autonomy score for screen use given by respondent	16	2.25	.683	1	3
screentime h p score	Autonomy score for screen time given by respondent	16	1.562	.629	1	3
extracurr p score	Autonomy score for extracurriculars given by respondent	16	2.125	.719	1	3
homework-time p score	Autonomy score for homework time given by respondent	16	2	.632	1	3
playtime p score	Autonomy score for play time given by respondent	16	2.688	.479	2	3
socrel p score	Autonomy score for social relations given by respondent	16	2	.516	1	3
total avg score p	Total average autonomy score across all decisions	16	2.125	.321	1.5	2.8

Appendix J: Shapiro-Wilk's Test on Autonomy Scores for Students

Domain	Decision	N	W Statistic	p-value
Personal	Appearance	16	0.96345	0.72458
Leisure/Recrea-	Free time	15	0.93566	0.33089
tion	Play time	16	0.91547	0.14261
	Extracurriculars	14	0.82672	0.01089
Responsibilities	Chores	16	0.87349	0.03076
	Homework Time	16	0.87877	0.03713
Technology	Screen Use	16	0.9533	0.54366
	Screen Time	16	0.99773	1
Movement	Mobility	16	0.97151	0.86244
Social	Social Relations	16	0.99806	1

Note: p-values less than 0.05 indicate non-normal distribution

Appendix K: Shapiro-Wilk's Test on Autonomy Scores for Parents

Domain	Decision	N	W Statistic	p-value
Personal	Appearance	16	0.99599	1
Leisure/Recreation	Free time	15	0.93566	0.33089
	Play time	16	0.91818	0.15766
	Extracurriculars	14	0.96312	0.77402
Responsibilities	Chores	16	0.99582	1

	Homework Time	16	0.99749	1
Technology	Screen Use	16	0.95178	0.51835
	Screen Time	16	0.86422	0.02221
Movement	Mobility	16	0.97414	0.90038
Social	Social Relations	16	0.99806	1

Note: p-values less than 0.05 indicate non-normal distribution

Appendix L: Summary of Paired t-Test: Differences Between Student and Parent Autonomy Scores by Decision

Decision	N	Mean Diff	Stan Err	95% CI (Paired t)	p-Value (two-tailed)
Appearance	16	0.313	0.176	-0.0627174 to -0.6877174	0.096
Free time	15	0.000	0.169	-2.063116 to -2.603551	1.000
Play time	16	-0.313	0.176	-0.6877174 to 0.0627174	0.096
Screen Use	16	0.000	0.091	-0.1945738 to 0.1945738	1.000
Mobility	16	-0.313	0.198	-0.7351666 to 0.1101666	0.136
Social Relations	16	0.000	0.183	-0.3891477 to 0.3891477	1.000

Note: Mean differences reflect student minus parent scores. Positive values indicate higher student scores. A p-value < 0.05 indicates statistical significance.

Appendix M: Summary of Wilcoxon Signed-Rank Test: Differences Between Student and Parent Autonomy Scores by Decision

Decision	N	Sum of Positive Ranks	Sum of Negative Ranks	Exact p-value
Extracurriculars	14	47.5	47.5	1.000
Chores	16	22	93	0.092
Homework Time	16	89	26	0.107
Screen Time	16	88	12	0.063

Note: Exact p-values have been used to determine statistical significance owing to the small sample size. A p-value < 0.05 indicates a statistically significant difference.

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