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Students' Academic Habitus and Its Relation to Family Capital: A Latent Class Approach to Inequalities among Secondary School Students[1] *

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Habitus plays a crucial part in Bourdieu's theory of sociocultural reproduction for understanding the persistence of inequalities in the education system. According to Bourdieu, students from homes that are heavily equipped with cultural capital develop a specific kind of habitus, that is, modes of perceiving, thinking, and acting, remarkably well-adjusted to the expectations of teachers and educational institutions. However, research has rarely tried to measure what we refer to as students' academic habitus to highlight the different types of habitus that students might express toward school. Drawing on data from secondary students in Luxembourg, we employ a latent class approach to operationalize, measure, and explore students' academic habitus. Our investigation comprises three main steps: First, we develop a multifaceted understanding of students' habitus integrating diverse dispositions toward school and learning; second, we identify different academic habitus types: the habitus of excellence, the habitus of goodwill and loyalty, and the habitus of disengagement. Third, we examine how the three habitus types relate to different axes of inequality: socioeconomic status, cultural capital, family employment, gender, and immigrant background. Our typology of habitus bridges the qualitative literature on habitus with existing quantitative operationalizations. The findings show that students with a habitus of excellence are likely to hail from families with favorable parental employment and high cultural involvement.

Introduction

Debates on educational inequality often center on parental resources. However, students' ambition, educational aspirations, attitudes toward school, occupational expectations, and participation in class are equally important aspects of sociocultural reproduction and socioeconomic inequality in the school context (e.g., Barone 2006; Calarco 2011; Farkas 2008; Reardon and Portilla 2016; Tramonte and Willms 2010; Wildhagen 2010). Sociologists of education have long argued that educational institutions reward those dispositions (Bourdieu and Passeron 1990). For example, Farkas et al. (1990) found that teacher judgments of work habits strongly affect students' grades above and beyond cognitive skills. Accordingly, Harker (1984, 119) argues that "schools reward with 'success' only those students who acknowledge the criteria of that success and the authority of the school and its teachers to dispense it." In an attempt to distinguish cognitive abilities from variables such as effort, discipline, and self-confidence, the latter have been labeled as non-cognitive skills or dispositions (Heckman, Stixrud, and Urzua 2006; Farkas 2003). However, drawing on sociocultural reproduction theory (Bourdieu 1977, 1984). we argue that non-cognitive traits

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are expressions of students' habitus. As Bourdieu argued, teachers misrecognize and reward a students' habitus as indicative of performance in its own right (for recent evidence, see: Jæger and Møllegaard 2017). Teachers' expectations ultimately reflect the *rules of the game* (Bourdieu, 1984) that "privilege some actions more than others" (Lareau et al. 2016, 280) in the field of schooling. The theory claims that habitus varies by social class and that children from the (upper) middle classes have acquired a habitus better aligned with schools' behavioral norms and evaluative standards than working-class students, for example, no disruptions, concentration, and discipline.

Over the past two decades, the concept of habitus has received renewed interest, both in theoretical reflections and empirical studies (e.g., Bodovski 2013; Dumais 2002; Edgerton, Peter, and Roberts 2014; Edgerton and Roberts 2014; Edgerton, Roberts, and Peter 2013; Ivemark and Ambrose 2021; Lee 2021; Lizardo 2004; Nash, 2002b; Stich and Crain 2023; Tan and Liu 2022). Analogous to cultural capital and field, the habitus concept aims at better understanding social stratification processes and the reproduction of societal inequalities in various fields, such as education. In Bourdieu's (1977, 82) words, habitus refers to "transposable dispositions" that orient students' actions in the school context.

While Bourdieu did not provide a clearcut definition of habitus outlining the specific dispositions that will prove advantageous in school, he referred to the dispositions as "permanent manners of being, seeing, acting and thinking" (Bourdieu 2005, 43), yielding a "system of internalized structures, schemes of perception, conception, and action common to all members of the same group or class" (Bourdieu 1977, 86). Further clarifying what dispositions might be criteria for school success, Nash (1990) argues that a student's habitus provides "evidence of 'readiness' for school knowledge" (436). The specific types of dispositions that facilitate learning and will be rewarded by schools include "attending classes, listening to the teacher, taking note, reading books, completing in-class and homework assignments" and result from "high aspirations, positive self-concepts, and a willingness to identify with school" (Nash 2002a, 273). While there seems to be a high level of agreement in the sociology of education about the high relevance of non-cognitive dispositions for educational success (Covay and Carbonaro 2010; Davies et al. 2016; Hsin and Xie 2017; Kerstetter 2016), the concept of habitus as a unifying theoretical underpinning is still rarely used to guide sociological inquiries into students' approaches to learning and school. Importantly, habitus is acquired in class-based socialization processes, thus rooted in parenting practices and cultural upbringing (Nash 1990). With their educational background, material resources, and communication styles, middle-class parents impact their children's lives in ways that transmit strong confidence in their educational opportunities (Lareau 2011). As habitus reflects the effective internalization of parental resources (Dumais 2002), it may help explain why working-class students do not regularly receive the same rewards as students from more privileged backgrounds.

However, instead of linking non-cognitive dispositions to a Bourdieusian framework, sociologists of education often borrow concepts from psychology to theorize about non-cognitive dispositions (e.g., Bodovski 2013; Gaddis 2013). Yet, we argue that these concepts are driven by individualistic considerations of student personality and may be unsuited for exploring *sociocultural* effects on students' actions. Moreover, the selection of student traits is often arbitrary, not rooted in theory or research, and owing to mere availability. The proliferation of constructs and an insufficient grounding in sociological theory are possible detriments of using psychological concepts to test sociological research questions. Nevertheless,

multiple attempts within the discipline have been made, especially by qualitative and ethnographic researchers, to conceptualize students' dispositions within a Bourdieusian framework (e.g., Cui 2015; Lehmann 2014; Nash 2002b). Until now, quantitative researchers using the habitus concept have often primarily relied on the variables available in secondary data sets. Such "off-the-shelf" variables mainly stem from psychology – for example, the locus of control scale used by Bodovski (2013).

However, authors such as Dumais (2002, 2006), Gaddis (2013), and Bodovski (2013) have repeatedly called for increased efforts to operationalize habitus and examine how a student's habitus relates to key background variables such as family's cultural capital and social class. Gaddis' (2013, 1) claim remains valid to date that there is a persisting "need for new attempts to operationalize and analyze habitus," particularly since the existing data sets have often limited past efforts to *quantify* habitus. For example, Dumais (2002) used a single item to measure students' habitus. Moreover, despite the longstanding tradition of quantification in Bourdieu-inspired research, particularly in the American context (Lamont 2012), there have been few attempts at measuring habitus using survey data (Ambrasat et al. 2016).

Furthermore, there is a noticeable gap between qualitative and quantitative methodologies regarding how both approaches are applied to study habitus as a critical driver of inequalities in academic success. From an epistemological point of view, qualitative research is advantageous over quantitative approaches in discovering relevant dimensions of habitus beyond available data sets and in developing new concepts. Quantitative analysis allows measuring habitus in broader student populations and can show whether and how social groups differ in habitus.

Before turning to our research questions, we review the literature in the sociology of education on habitus in search of the critical components of academic habitus. We evaluate how qualitative and quantitative studies have considered dispositions toward school and learning that make up a student's academic habitus. The empirical part of this paper contains an investigation of habitus using exploratory methods (latent class analysis, multinomial regression analysis). We address two main research questions: *First*, we develop a latent class model to measure different types of habitus by a set of indicators that represent five key aspects of academic habitus. As an approach for detecting qualitative differences among groups, latent class analysis is particularly suited to bridge both methodological paradigms because the resulting classes can relate the survey data to insights from qualitative research. Our *second* question examines how habitus relates to various axes of inequality: socioeconomic status, cultural and social capital, gender, and immigrant background.

Contextualizing the Luxembourgish Education System

Our analysis uses primary data from secondary school students in Luxembourg. While our main interest lies with the conceptual and empirical questions outlined before, Luxembourg provides a meaningful case regarding educational inequality in general, which has drawn much attention in comparative education research (e.g., Gorard and Smith 2004; Hadjar, Scharf, and Hascher 2021; Hadjar and Uusitalo 2016). Luxembourg has a highly stratified and selective school system like its neighboring country Germany and other Central European nations, with a similar persistence of unequal opportunities (Lasso De La Vega, Lekuona, and Orbe 2020). After 6 years of primary education, students enter different secondary school tracks based on prior performance, school recommendations, and parental choices. Luxembourg has three distinct general secondary school tracks, including academic and vocational tracks. Early tracking

and low permeability are defining features of school systems that contribute to social inequalities in school achievement and attainment (Holm et al. 2013; Maaz et al. 2008). Students from privileged backgrounds have a higher likelihood of transitioning to higher tracks. In contrast, a profound proportion of students – particularly students of low socioeconomic status, immigrant background, and male gender – are oriented toward the lower tracks (Backes and Hadjar 2017). Thus, Luxembourg's education system offers unequal opportunities for students to attend vocational post-secondary education or higher education after graduation from secondary education pathways that prepare for vocational training. However, degrees obtained in post-secondary vocational education may lead to certificates that grant access to higher education. Still, upper secondary general education is usually considered the ideal path to income and success, particularly in Luxembourg's vast service sector.

Conceptualizing Academic Habitus and Cultural Capital

Cultural Capital as a Catch-all Term and the Limited Engagement with Habitus

One significant shortcoming of sociocultural reproduction research in education has been its inability to develop a theory-driven measurement of Bourdieu's key concept of habitus. Reay (2004, 440) concludes that researchers reference habitus more often than they use the construct in their analyses, making it seem "that it is the 'gravitas of habitus' that is desired rather than its operationalization." Simultaneously, cultural capital has become a catch-all term referring to an array of socially distinct practices and attitudes from highbrow cultural activities (Aschaffenburg and Maas 1997), parenting practices, and parents' interventions in schools (Lareau 2011), parent–child discussions (Deutschlander 2017) to students' self-image as a cultivated person (DiMaggio and Mohr 1985), all of which can aid students in their educational career.[2] As Lizardo (2004) notes, few scholars who embed their research in a Bourdieusian framework "truly engage the concept of *habitus* in what could be a potentially rewarding effort to disentangle its correct meaning and application with the expectation that it might illuminate current puzzles and problems in social theory and research" (378–379).

In addition, there still is a methodological divide in how scholars use Bourdieu's theory. Most education research on habitus uses qualitative methods, and over the past decade, there has been an increased worldwide interest in habitus in studies on higher education (e.g., for Sweden: Ivemark and Ambrose 2021; Canada: Lehmann 2014; for Italy: Romito 2022; China: Xie and Reay 2020) as well as in research on schooling and elite reproduction in the Global South (e.g., Ayling 2019; Khalil and Kelly 2020). Qualitative researchers frequently refer to habitus to explore and describe matching and mismatching processes that students face in educational institutions (Barrett and Martina 2012). We do not want to conceal that quantitative researchers have also examined the concept of habitus during this period (e.g., Bodovski 2015; Roksa and Robinson 2017). However, their number is much lower, and the fundamental problem of operationalization is far from being conclusively addressed. We will discuss this point further.

Contrasting Qualitative and Quantitative Approaches

Understanding the existing body of research on the habitus concept necessitates a consideration of the methodological debates that revolve around habitus and its distinction from another prominent Bourdieusian concept, cultural capital. This section will briefly examine

the key differences among various methodological approaches to habitus, particularly between the quantitative and qualitative research paradigms.

Quantitative research on habitus often places cultural capital at the forefront (Lamont, 2012). Cultural capital has engendered debates, notably in North American sociology of education (Lamont and Lareau, 1988). Researchers have extensively explored cultural capital empirically and theoretically, investigating its associations with social class, gender, immigration, and other social and cultural categories (e.g., Antony-Newman 2020; Cartwright 2022; Gupta 2023; Johnson 2022; Löw et al. 2022; Richards 2020; Watkins 2020). While there have been occasional attempts to boost quantitative measurements of habitus (e.g., Cockerham and Hinote 2009), such efforts remain relatively rare. As argued in this paper, these quantifications often focus on specific facets of habitus, such as aspirations (Dumais 2002), or consider habitus primarily as a meta-theoretical framework underlying psychological measures of non-cognitive dispositions (e.g., Bodovski 2013). This scarcity of quantitative measurement of habitus may stem from the challenges in achieving a consensus on its conceptualization. Some regard habitus as a "fuzzy concept" with, at best, meta-theoretical potential (Kingston 2001), while others advocate for its underexplored explanatory power in educational research (Edgerton and Roberts 2014; Nash 1999; Tan and Liu 2022). A few scholars have measured habitus as a multifaceted construct, incorporating various dispositions and expectations related to teachers, school, and one's educational trajectory (e.g., Edgerton et al. 2013). Quantitative approaches to quantifying Bourdieu's work often assume causal or quasi-causal relationships between his concepts, focusing on habitus as a mediating variable (e.g., Bodovski 2013, 2015; Edgerton et al. 2013, 2014).

Qualitative researchers have taken a more direct approach by employing habitus to describe the biographical processes and practices involved in students' adaptation to the norms and cultures of educational institutions (e.g., Barrett and Martina 2012). In a comprehensive review of ethnographic literature, Tan and Liu (2022) synthesized the various roles that habitus plays throughout students' educational journeys, identifying recurring dimensions of habitus to which qualitative researchers frequently refer. These dimensions encompass habitus' role in motivating students' learning activities and forming the foundation of their aspirations. Habitus transcends cognitive and socioemotional aspects, influencing how students approach their learning experiences.

Lareau's (2011) study on family life exemplifies that ethnographic approaches tend to align more closely with descriptive and exploratory research. They focus on unraveling the connections between social class, cultural capital, and lifestyles or practices, reconstructing elements of a social class habitus. Lareau (2011) contends that middle-class parenting, characterized by orchestrated activities, extended communication, and active school involvement, and working-class families' more laissez-faire style of childrearing are "aspects of the habitus of the families" (362). Both parenting styles contribute to developing "a set of dispositions that children learn, or habitus" (362). Lareau describes how middle-class parents instill a *sense of entitlement* in their children that is advantageous at school (also see Calarco 2014), while working-class children acquire an academically hampering *sense of constraint*. This notion echoes Bourdieu and Passeron's (1990) observation that the working-class ethos often leads to academic self-elimination among students. Similarly, Calarco (2011, 4) elucidates how social class disparities in "dispositions that guide children's interactions" correlate with differences in educational opportunities. For instance, middle-class children tend to utilize teacher support more effectively within the classroom and navigate the educational system more successfully.

In summary, these methodological approaches to habitus research, both quantitative and qualitative, offer distinct perspectives on how to capture and understand Bourdieu's complex theory. However, the quantitative approach emphasizes cultural capital but rarely in its relationship with habitus. In contrast, the qualitative approach delves into the intricate processes and practices shaped by cultural capital and habitus in students' educational experiences. So far, quantitative scholars have measured habitus as a continuous construct, not always representing the multifaceted nature of habitus adequately. Qualitative studies tend to take a typological approach, often identifying different types of practices and dispositions in relation to students' social class. Our study bridges the qualitative-quantitative divide in habitus research by leveraging the strengths of quantitative analysis to explore different types of students' habitus.

Defining Academic Habitus and Variations of Cultural Capital

As Bourdieu did not explicitly tailor his general habitus concept to address the field of education by specifying relevant dispositions related to academic achievement, he created a conceptual void. This prompted some researchers to attempt to clarify and apply it, but ultimately, it resulted in habitus being overlooked as a pertinent concept for empirical research by many. In this paper, we mainly draw on the empirically grounded conception brought forth by Nash (2002b). Nash (2002b) refers to the *educated habitus* as a unifying term for students' positive dispositions toward school, their desire to participate in education, and be recognized as 'good' and well-adjusted students by teachers. Based on his findings, Nash (2002b) asserts "that relative progress at secondary school was strongly associated with certain non-cognitive personal dispositions of students" (27). He points out "high aspirations, positive academic self-concepts, and favourable perceptions of the school and teachers" (27) as the main features of successful students. Nash (2002b) argues that in combination with ambitiousness, self-confidence, and responsiveness, "these personal characteristics are unified by a more fundamental concept" (28) that quantitative research usually fails to uncover. Edgerton and Robertson (2014) build on Nash's work and his realist framework for the study of sociocultural reproduction (Nash 2002a) to outline what they describe as a structure–disposition–practice explanatory scheme for educational inequality. They argue that habitus – alongside other Bourdieusian concepts such as cultural capital, field, and practice – bears substantial explanatory power to increase our understanding of how educational inequalities are reproduced. Essentially, Edgerton and Robertson's framework aims to reconcile the relational conceptualization of Bourdieu's concepts prevalent in qualitative studies with the more positivist reading of Bourdieu in quantitative research. This approach can lead to a more complete consideration and integration of Bourdieu's concepts in analyses of social reproduction in education. For example, DeWiele and Edgerton (2021) use parents' habitus and the three forms of capital, social, cultural, and economic, to explain the growing popularity of French immersion schools among Canadian middle-class parents. Edgerton et al. (2013) measure families' capital (resources), academic *practices*, and habitus, operationalized by students' aspirations and dispositions toward teachers and schools.

For our analysis, we build on Nash's work but use the term *academic habitus* to emphasize the expressive part of a student's habitus that reveals their "feel for the game" (Bourdieu and Wacquant 1992, 223) in the social context of school, that is the *field* of education with its distinct norms, rules, and expectations in terms of learning, work, and behaviors.[3] Some might note that such a definition of habitus in educational contexts

resembles what Farkas (2003) defines as cultural capital, that is a set of academically relevant *skills*, *habits*, and *styles*, in other words, "the usual teacher-demanded work habits of homework, class participation, effort, organization, and lack of disruptiveness" (545). Indeed, Lareau and Weininger (2003) argue that cultural capital should be considered more often in its *embodied* form, focusing on skills and dispositions relevant to the school context. However, we argue that insisting on diverse definitions and manifestations of cultural capital may further obscure its true effects and permanently detach cultural capital from a coherent "structure, disposition, practice scheme" (Nash 2002a, 284), neglecting the necessary distinctions between different concepts that explain educational inequality. Instead, following Barone (2006, 1045), we believe that the "best yardstick to judge the validity of the measures of cultural capital" remains Bourdieu's (1986) discussion of its different forms and operationalizations. Furthermore, cultural capital needs to be examined *in conjunction with* habitus (e.g., Dumais 2002; Edgerton et al. 2013; Gaddis 2013). The close relatedness between both concepts becomes apparent when considering how disadvantaged students "lack the capital necessary to fit in as well as higher-SES students" (Dumais 2002, 46).

With occupations and other indicators of economic capital, Bourdieu (1984) uses institutionalized cultural capital, that is, educational certificates, to measure people's social position and explore how social position, practice, and habitus are intertwined. Objectified cultural capital, such as works of art and literature, is an indicator of a family's resources and provides at best a distal measure of practices. Thus, cultural objects should not be confounded with incorporated cultural capital (Barone 2006). The incorporated form has frequently been measured by focusing on highbrow cultural practices (e.g., Aschaffenburg and Maas 1997) or, in a different vein, by educational practices such as reading and enrolling children in organized activities (Covay and Carbonaro 2010; De Graaf, De Graaf, and Kraaykamp 2000).

Although Lamont and Lareau (1988) famously questioned the value of highbrow cultural capital in the American context[4], recent studies from Europe and Asia still demonstrate its relevance for academic success or even a rising valuation of Western-style highbrow cultural competence within the emerging middle classes of China (Li 2021). Comparing the relevance of cultural capital for reading performance across several European countries, including Eastern Europe, Bodovski, Jeon, and Byun (2016) show that the classical DiMaggio (1982) style definition of *beaux-arts* cultural capital (e.g., museum visits) still holds predictive power for students' achievement. Moreover, Notten et al. (2015) find that the connection between highbrow cultural participation and the level of education is strongest in societies with a stratified education system and low social mobility. Given the persistently high correlation between socioeconomic status and student performance in Luxembourg's stratified secondary school system, we expect highbrow practices to still significantly influence students' educational opportunities. For example, following Barone (2006, 1045), through highbrow cultural practices, parents instill familiarity with specific learning contents in their children *and* a self-confident attitude or, as we argue, an academic habitus.

Structural Determinants of Academic Habitus

Gender Differences in Habitus

Habitus may differ by social class, cultural resources, and ethnicity, or in the European context, more often to immigration (Cui 2015; Horvat 2001; Riel 2021; Schneider and Lang 2014). Bourdieu (2001) discussed gendered norms and expectations as being socially

constructed and internalized by social actors as part of their habitus, which subsequently plays a role in the reproduction of gender inequalities in the education system. However, while acknowledging the relevance of gender for habitus, Bourdieu did not provide a theoretical account of how gender might affect habitus in a specific field (Miller 2016). Following Edgerton et al. (2014), "gender disparities in the opportunity structure reflect in the differing messages internalized by boys and girls and come to inform their habitus in important ways" (188).

Despite theoretical groundwork by Reay (1997) and Mickelson (2003) on the gendered character of habitus (also see Krais 2006) and longstanding research on gender differences in educational opportunity and attainment (Breen et al. 2010; Hadjar and Buchmann 2016; Meinck and Brese 2019), research on gender differences in habitus still needs to expand. Qualitative scholars have been more engaged with gendered patterns in students' habitus. For instance, Tarabini and Curran (2019) highlight that beyond social class, gender also mediates the beliefs of students about their own abilities and capabilities, reflecting dominant patterns of thinking about gender differences. Meanwhile, a Chinese mixed methods study found that working-class students are less influenced by gendered patterns in their educational decision making (Sheng 2015).

Analyzing Canadian data from the *Programme for International Student Assessment* (PISA), Edgerton et al. (2014) found that girls had a more academically inclined habitus than boys. However, interestingly girls did not benefit as much from a pro-school habitus as boys did in terms of habitus effects on school achievement. Dumais (2002) finds a strong effect of habitus on achievement for both boys and girls. However, Dumais' (2002) operationalization of habitus only involved students' aspirations. By contrast, Edgerton et al. (2014) use a multi-item scale.

Nevertheless, girls also showed stronger ambition than boys. The sex-role socialization hypothesis would imply that girls are better adjusted to schools' behavioral norms and expectations because they have been raised to behave well and obey the rules (Mickelson 1989). By contrast, McClelland (1990) reports a less favorable academic habitus for girls. Most quantitative studies on habitus in educational settings were conducted in North America and Asia, while findings for Europe remain desirable.

Habitus and Immigrant Background

Being an immigrant is commonly associated with educational disadvantage (Lenkeit, Caro, and Strand 2015). Closely related to the academic habitus is the concept of immigrant optimism (Kao and Tienda 2002), which refers to the recurring finding that immigrant youth tend to express higher expectations and ambition than non-immigrant students while at the same time faring worse in status attainment processes (Salikutluk 2016). Optimism in educational settings is also reflected in our construct of academic habitus regarding self-confidence and effort. Evidence shows that immigrant youth have stronger educational values, and self-beliefs than their autochthonous peers (Alivernini et al. 2018; Hadjar and Scharf 2019).

However, quantitative research has not adequately examined immigrant youth's academic habitus. Some qualitative studies suggest that immigrant students' specific habitus either blends with the dispositions of socioeconomically disadvantaged social groups or operates on an additional axis of inequality and disadvantage. Accordingly, scholars have mainly looked at how immigrant students navigate their new home country's education system, often trying to reconcile their family's values and ambition with imposed characterizations and

expectations from schools. Schneider and Lang (2014) argue that immigrants' *habitus of origin* resembles a working-class habitus, which in combination, may lead to increased feelings of alienation from the education system and impede social mobility. Cui (2015) contends that racism and ethnic discrimination generate a *racialized habitus* of immigrant youth, placing them at a disadvantage in the educational field above and beyond established social class patterns of inequality. As with Cui's study, research on immigrant students' habitus has mainly been conducted within a postcolonial framework. For example, Griffin et al. (2012) describe how black immigrant students in the United States are strongly motivated by gaining prestige through education and grow up in a family atmosphere that places high value on educational achievements under the condition of financial constraints. Kayaalp (2016) notes that language discrimination and linguistic requirements in the education system pose a significant challenge for immigrant students that can also undermine their efforts and aspirations and require careful navigation through the system. These studies align with Gogolin's (2011) assertion that the monolinguistic character of many education systems is at odds with a growingly diverse student population and might create an environment that discourages students from fitting in. In the bilingual school system of Luxembourg, French and German are the dominating languages, potentially making it difficult for students from non-native language backgrounds to navigate the learning contents and interactions in school. Hence, in our study, we focus on relating students' immigrant background to academic habitus as a set of general dispositions toward school instead of focusing on features of the immigrant experience. The goal is to gain insights into immigrant students' adaptation to school norms and expectations to highlight inequalities, also in conjunction with other axes of inequality.

Family Structure

Family structure is an axis of inequality alongside social class, cultural capital, immigration, and gender that might shape students' habitus. Bourdieu's model of sociocultural reproduction refers to the family structure as a dimension of social capital. However, his theory does not propose measuring social capital and how it relates to one's habitus. Our conceptualization of family structure builds on the idea that parents' availability, presence, and function in the family indicate the *structural* social capital (Coleman and Hoffer 1987). Important aspects of family structure are family type and parental employment.

Due to time constraints, single parents often find it harder to promote educational success. In addition, single parenthood typically limits social relations within the community. Two-parent families and full-time employment will help build a more robust support system and significantly benefit children's socialization and participation at school. Employment status affects how parents serve as role models of perseverance and functioning in society. Research shows that children in single-parent families are disadvantaged at school (Bernardi and Boertien 2017; Pong, Dronkers, and Hampden-Thompson 2003). Parental unemployment is a cause of stress (Nomaguchi and Johnson 2016), affecting parents' ability to support their children's learning. Employment influences the time available to parents to invest in the parent–child relationship (Roeters, Van Der Lippe, and Kluwer 2010), affecting the extent to which parents may serve as role models of perseverance and functioning in society. For this reason, we consider any form of full-time employment by one or two parents as indicative of an advantageous family structure. We reflect the changing role of women in the family by considering dual-earner families and non-traditional employment situations as equally beneficial for academic development as traditional family forms.

The number of families with both parents working outside the home has increased throughout Europe (see Family Database of the Organization for Economic Co-operation and Development 2023). Fathers often play an essential role in raising children, and equal involvement in children's schooling has become ideologically and practically more common (Altintas and Sullivan 2017; Goldscheider, Bernhardt, and Lappegård 2015; Offer and Kaplan 2021; Perry-Jenkins and Gerstel 2020). Two-parent families and full-time employment likely help build a robust support system and benefit children's socialization and participation at school. Therefore, we consider full-time employment by one or two parents indicative of a family's structural social capital.

Methodology

Our study utilizes a primary quantitative student sample and a combination of latent class and regression modeling to answer our two exploratory research questions.

Sampling Procedure and Data

This study uses cross-sectional quantitative survey data from 7th graders in Luxembourg. We collected the data between 2015 and 2019. The quantitative sample has N = 387 students aged M = 12.67 years (SD = .64; min = 11 to max =15), of which 57% are boys and 43% are girls. Luxembourg has a tracked secondary school system with four different school types. Our data include students from all four tracks (36% in the high track, 25% in the middle track, 23% in the low track, and 16% in a comprehensive preparatory track). Girls are underrepresented in all but the highest track, so our sample contains more boys than girls. The quantitative analyses consider the design effect by adjusting the standard errors accordingly.

Analytical Strategy

Our analytical strategy comprises two steps. We first conduct a latent class analysis using manifest indicators representing five dimensions of students' academic habitus based on Nash's (2002b) qualitative reconstruction of habitus characteristics and Bourdieu's (1984) conceptualization of classed habitus. The analysis results in three types of habitus. Second, we further validate our habitus typology using important structural variables in a covariate latent class model and subsequently as predictors of students' habitus in a multinomial regression model.

Variables

Dependent Variable: Habitus. We focus on *five* elements of students' academic habitus. (1) *Diligence* describes how students accomplish school-related tasks. Diligence comprises the extent to which students take learning and academic duties seriously. For example, students might start learning immediately after their teachers have revealed the contents of a test. (2) *Self-confidence* refers to students' beliefs concerning their capabilities in the school context. (3) *Internalized school norms and educational values* refer to the extent of students' identification with the behavioral expectations in the school context. Students might believe in the high importance of education and fulfill their tasks even though they do not enjoy all of them. (4) The *academic ambition* describes a student's attitude toward academic learning and achievement. (5) *Scholastic autonomy* refers to students' engagement in the school context. Students' participation and academic

engagements reveal their degree of academic independence. These five elements form the basis for our latent class analysis to further explore and measure students' habitus on a larger scale. Five categorical items measured on 4-point scales (1 = *disagree* to 4 = *agree*, or 1 = *never* to 4 = *often*) represent the different elements of academic habitus in the latent class analysis (see Table 1).

Independent Variables. We include a range of independent variables to estimate the latent class covariate model and the subsequent multinomial regression model (see Table 2).

Family Capital. We distinguish between different kinds of parental capital to locate a family's position in the social hierarchy. Being a high-income country, occupation, and education alone might not be sufficient indicators of social advantage and disadvantage.

Socioeconomic status (SES). Our measure of SES is a composite variable giving equal weight to four indicators that have been commonly used in the PISA (Programme for International Student Assessment) and International Mathematics and Science Study (TIMSS) studies (Broer et al. 2019, Eriksson et al. 2021). The indicator on highest parental occupational status shows that 16% of the students grow up in homes with parents conducting so-called unskilled labor, 53% have at least one parent doing skilled manual work, and 31% have at least one parent in the service class. Our data on the mother's and father's education (academic or non-academic) reveal that in 47% of the families, neither parent holds an academic degree. In comparison, 23% of the students have one parent with an academic degree, and for 30%, both parents have obtained academic degrees. The fourth indicator is home possessions, measured by the number of books in the home as measured on a five-point scale, the median being $Md = 3$, which stands for possessing 26 to 100 books. About 9.5% of families own more than 500 books. According to Eriksson et al. (2021), books at home and parental occupations are the most predictive SES indicators for student achievement.[5] We combined the four indices to form a standardized mean composite ($M = .00$, $SD = 1.00$).

Cultural capital. We considered the family's highbrow cultural practices by asking students whether their family frequently visits the theater, concerts, and public lectures (1 = *not true*, 2 = *rather not true*, 3 = *mostly true*, 4 = *true*).

Table 1 Descriptive Statistics of Habitus Indicators

Indicator	Dimension	*M*	*SD*
I carefully fulfill school tasks.	Diligence	3.17	.71
Many school tasks are easy for me.	Self-confidence	2.97	.79
Going to school is essential for achieving a valuable degree.	Internalized school norms and values	3.85	.40
I participate well in class to receive good grades.	Academic ambition	3.26	.76
After school, I try to find additional information on topics we are covering in school.	Scholastic autonomy	2.27	.94

Note: Statistics on the valid cases for each indicator; *N* varies between 359 and 383. Values range from min = 1 to max = 4.

Table 2 Descriptive Statistics for Independent Variables

Variable	*M*	*SD*	Min	Max
Socioeconomic status (z-standardized)	.00	1.00	2.11	−1.91
Cultural Capital	1.99	.96	1	4
Family employment				
traditional paternal employment	.36		0	1
dual earner	.31		0	1
non-traditional maternal employment	.05		0	1
Family type: *nuclear*	.77		0	1
Immigrant background: *yes*	.69		0	1
Gender: *male*	.57		0	1

Note: The total sample size is $N = 387$; available data for the independent variables lies between $N = 366$ and $N = 384$ with maximum missingness of 5.4% for family employment status.

Family employment status. We distinguished between "unemployed," "part-time," and "full-time work" of the father and the mother. Then, we classified families as 0 = *low family employment* (combinations of parental unemployment or part-time work), 1 = *traditional male breadwinner model* (mother unemployed or part-time employed, father full-time working), 2 = *dual-earner families*, 3 = *non-traditional maternal employment* (unemployed or part-time employed father, full-time working mother).

Family type. We construct a dichotomous variable with 0 = *non-nuclear* and 1 = *nuclear* family. The non-nuclear category contains mostly single-parent families and six students who grew up with a foster parent or relative.

Immigrant Background. We use a dichotomous variable to measure students' origin (0 = *autochthonous students with both parents born in Luxembourg*, 1 = *at least one parent of foreign origin*).

Gender. We include a binary variable coded 0 = *female* and 1 = *male*. Since there were no non-binary students in our sample, the conventional measure seems adequate for the analyses.

Missing Data

Depending on the model estimation procedure, missing data procedures were employed in two different ways. First, the final latent class model included cases with missing values on some indicators or covariates. The latent class analysis uses a maximum likelihood-based method to estimate the most likely latent class membership based on all available data. The method facilitates estimating students' habitus type, irrespective of missing independent variables. Missingness in the independent variables varies between .8% and 5%. Second, due to the negligible rate of missing values, we used listwise deletion to subsequently estimate a multinomial logit model on $n = 356$ cases.

Reconstructing Academic Habitus

Developing a Typology of Academic Habitus

In this section, we turn to our first research question. There has been a longstanding debate about using latent trait models or latent classes to model latent characteristics measured by Likert-scale items (Rost 1988). Which approach researchers prefer often depends on their disciplinary background: in education and psychology, many prefer IRT; in sociological measurement, latent class analysis has a long tradition (Lazarsfeld 1950).

We run our latent class analysis in Latent Gold, Version 4.5 (Vermunt and Magidson 2005), using Stata 14.1 for the descriptive statistics and all subsequent analyses. In addition, we compute an alternative model based on Item Response Theory (IRT) to compare our latent class approach, which assumes a categorical latent variable, to a more common way of measuring latent traits. The generalized partial credit model (GPCM) introduced by Muraki (1992) assumes a continuous latent variable measured by observed Likert-style items, that is, the habitus indicators. We check how this model compares to the best-fitting latent class model using the model fit statistics implemented in Latent Gold.

We do not hypothesize a specific number of latent classes, that is, habitus types. Therefore, we compare multiple latent class models. We use multiple steps to determine a useful number of classes before optimizing the best-fitting model and comparing the latent class model to a latent trait model. The initial series of latent class analyses with an increasing number of classes (c = 1–5) implies that the model with c = 3 best fits our empirical data (see Table 3). We base this evaluation on three indicators and considerations of

Table 3 Model Fit Evaluation, Comparison, and Selection

Latent Class Model Selection	LL	BIC (LL)	*N*par	L^2	*df*	*p*	Class Error	Bootstrap *p*-value
1-class (LCA)	−1711.64	3510.84	15	527.00	328	.00	.00	.000
2-class (LCA)	−1638.01	3398.60	21	379.74	322	.015	.11	.000
3-class (LCA)	−1618.26	3394.13	27	340.24	316	.17	.10	.071
4-class (LCA)	−1610.02	3412.68	33	323.77	310	.28	.12	.027
5-class (LCA)	−1604.37	3436.41	39	312.47	304	.36	.15	.005
Continuous Latent Variable Models								
Generalized Partial Credit Model (GPCM)	−1625.79	3368.34	20	355.31	323	.10	.00	.041
Covariate Models Including Missing Values								
3 − class (LCA) order-restricted	−1646.96	3728.89	73	3293.92	314	<.001	.07	.176

Note: N = 343 complete cases on all indicator variables; the final covariate models use the total sample of N = 387, including cases with missing data on any indicator. *N*par is the number of parameters; class error is the error rate of the modal-assignment procedure.

parsimony: the likelihood ratio with its accompanying *p*-value and the likelihood-based *Bayesian Information Criterion* (BIC). The likelihood ratio X^2-statistic (L^2) indicates to what degree the model explains the relationships between the observed indicators. Larger L^2 values suggest a poorer fit of the model to the empirical data. The null hypothesis is that the model holds in the population; a significant *p*-value means that the model does not sufficiently explain the empirical data. However, when the sample size is small, and data are sparse, like in our study, L^2 likely does not follow a chi-square distribution. A bootstrapped *p*-value is better suited to assess model fit in such cases. In addition, the BIC facilitates the assessment of fit and model comparison. The BIC adjusts the −2 restricted Log-Likelihood to penalize model complexity and emphasize parsimony. Thus, a non-significant *p*-value indicates a good model fit, and the BIC aids in selecting the most economical yet best-fitting model.

The three-class solution has the lowest BIC value (3394.13) and a non-significant *p*-value of .17 for the likelihood ratio chi-square statistic (L^2 = 340.24). The likelihood ratio value signifies to what extent the model does not explain the relationships between the indicator variables; greater values imply a poor fit. Latent class analyses tend to show non-significant likelihood statistics when the number of latent classes increases. The first model with a *p*-value above .05 is preferred. Considering the small sample size and the high number of possible response patterns (Finch and Bronk 2011), the chi-square test statistic may be invalid.

For this reason, we report the bootstrap *p*-value based on 1,000 random samples drawn from the original sample. The bootstrapping procedure confirms the selection of the three-class model (bootstrap p = .071, SE = .008). Hence, we may not reject the null hypothesis that the three-class model holds in the population. Indeed, the bootstrap *p*-values for the four and five-class models show significant *p*-values and a poorer fit to the data.

Next, we estimate a generalized partial credit model with one latent continuous variable. The resulting model shows a BIC value of 3368.34 – lower than the 3-latent class model – and a non-significant fit statistic (L^2 = 355.31, p = .10). However, the bootstrap *p*-value is below the significance threshold of 5%, denoting a poor fit. Furthermore, contrary to the lower BIC, the larger L^2 statistic indicates a poorer fit for the generalized partial credit model. Overall, we select the three-class model as the best-fitting model.

We apply a *classify-analyze approach* (Bray, Lanza, and Tan 2015) by building a covariate model based on the best-fitting latent class model to classify cases into their most likely class (*modal assignment*). This avoids bias in the subsequent regression analysis. The complete covariate model is estimated for n = 387 students and includes 16 covariates in addition to the five indicator variables.[6] The covariates include all independent variables and additional variables that might improve the model's explanatory power: school track, educational aspiration, age, and grade point average on the Luxembourgish grading scale. Wald tests for the five observed variables show that each indicator discriminates significantly between the three classes. Furthermore, communality estimates show that the model explains between R^2 = 9% and 47% in the variance of the different indicators, with the highest values for the measures of diligence and ambition.

Three Types of Academic Habitus

The habitus types profoundly differ in their frequency in our sample. The first type encompasses 6% of students with negative attitudes about school and learning. About 67%

of students belong to the second type and score around the overall sample mean or slightly below average on all five habitus indicators. The third type comprises about 27% of students with the highest scores on every habitus indicator.

Our interpretation of the latent class model draws on evaluating the marginal conditional probabilities (Table 4). These show the probability of each possible response given that a student belongs to the respective class. In addition, we provide the mean response for each indicator within the three latent classes.

Except for the variable on internalized school norms, on which students score well above average, the first latent class comprises students with a negative response pattern concerning school (6%). Furthermore, ambition and effort are shallow among this group, indicating a *habitus of academic disengagement*, making these students prone to self-elimination on their educational pathway (Bourdieu and Passeron 1990). The second level contains the proportion of students (67%) demonstrating a *habitus of goodwill and (institutional) loyalty*, characterized by solid agreement with school norms while scoring an average on the variables related to learning and behavior. Finally, the third latent class comprises 27% of students and is marked by high preferences for all indicators, thereby displaying a *habitus of academic excellence*.

Interestingly, negative predispositions to school are generally not accompanied by a devalorization of school and educational credentials, which students in the disengaged habitus latent class highly regard. This finding hints at a certain ambivalence in disengaged students' mindsets. Moreover, it underscores Bourdieu's notion of *Doxa*, that is, that the norms and culture of the middle- and upper classes are legitimized and shared by all, even those who cannot live by these norms.

If students belong to Latent class 3, the probability of agreeing with the statement "I carefully fulfill school tasks" is 90%. Thus, the *habitus of academic excellence* features almost unanimous conformity to school norms and motivation to receive good grades.

Predicting students' Habitus Type by Patterns of Social Advantage and Disadvantage

To answer our third research question, we estimate a multinomial logit model to predict students' habitus by using family capital, gender, and immigrant background (Likelihood Ratio $X^2 = 70.52$, $p < .001$). McFadden's Pseudo R-squared = 12.4%, and the sample size using complete cases is $N = 356$. In the model, immigrant background, family type, and employment status emerge as the strongest predictors of students' habitus, followed by moderate but significant effects of cultural capital and, interestingly, null effects of socioeconomic status.

We base the interpretation of the results on average marginal effects (AME) and predictive margins. Table 5 shows the *changes* in probabilities associated with the three habitus types. Increasing cultural capital by one standard deviation leads to a 5% higher probability for a habitus of excellence. Family type significantly predicts one's chances of belonging to the disengaged latent class. However, the family employment status shows that male and female breadwinner models increase students' probability of belonging to the excellent habitus group by over 20%.

The effects graph (Figure 1) illustrates that family employment status sets students with an excellent habitus apart from lower-positioned students. Non-nuclear parenting is particularly relevant for the disengaged habitus. According to our data, visits to the theater increase the probability of maintaining a habitus of excellence.

Table 4 Class Response Percentages Within Variables Based on the Latent Class Covariate Model

	Latent Class 1: Habitus of academic disengagement	Latent Class 2: Habitus of goodwill and loyalty	Latent Class 3: Habitus of academic excellence
Latent Class Size	.06	.67	.27
Indicators			
I carefully fulfill school tasks			
Disagree	.18	.01	.00
Rather disagree	.43	.15	.00
rather agree	.38	.71	.09
Agree	.01	.13	.90
Mean	2.22	2.97	3.90
Many school tasks are easy for me			
Disagree	.22	.03	.00
rather disagree	.47	.25	.07
rather agree	.28	.53	.45
Agree	.03	.19	.47
Mean	2.12	2.87	3.39
Going to school is important for achieving a valuable degree			
Disagree	.03	.00	.00
rather disagree	.06	.01	.00
rather agree	.36	.14	.03
Agree	.55	.85	.97
Mean	3.43	3.84	3.97
I participate well in class to receive good grades			
Never	.38	.00	.00
Sometimes	.52	.11	.00
Often	.10	.60	.10
very often	.00	.28	.90
Mean	1.72	3.16	3.90
After school, I try to find additional information on topics we are covering in school			
Disagree	.49	.25	.09
rather disagree	.40	.44	.32
rather agree	.10	.23	.35
Agree	.02	.08	.24
Mean	1.64	2.13	2.75

Note: The table shows the conditional probabilities of each response category of the indicator variables within the latent classes and the mean values per class for each indicator. These probabilities sum to 1 within each class—rounding errors for better readability. The probabilities are based on the latent class model with 16 covariates.

Table 5 Average Marginal Effects on Academic Habitus Types

	Habitus of academic disengagement	Habitus of goodwill and loyalty	Habitus of academic excellence
Overall probability	.062	.677	.261
Cultural capital			
+ 1 *SD*	−.024	−.028	.053
p-value	.028	.244	.021
Family type			
Nuclear vs. non-nuclear	−.123	.078	.045
p-value	.007	.227	.397
Family employment status			
Traditional vs. low	−.081	−.152	.233
p-value	.042	.012	.000
Non-traditional vs. low	−.115	−.164	.279
p-value	.001	.006	.000
Non-traditional vs. traditional	−.034	−.012	.046
p-value	.166	.845	.437
Gender			
Male vs. female	−.004	−.079	.083
p-value	.878	.109	.062
Immigrant background			
Immigrant vs. non-immigrant	.076	−.067	−.009
p-value	.000	.213	.860
Socioeconomic status			
+ 1 *SD*	.009	−.016	.007
p-value	.601	.559	.774

Note: For continuous independent variables, the table shows the change in the prediction that occurs if the independent variable increases by one standard deviation from its observed value. The table contains the average discrete differences between all pairs of categories for categorical and binary independent variables. $N = 356$.

Finally, we use predictive margins to describe and compare students that are characterized by (1) social advantage, both immigrants and non-immigrants, and (2) different patterns of social disadvantage (see Table 6). (1) Students with high cultural capital and non-immigrant nuclear families with high employment status have an almost 0% probability of belonging to the disengaged habitus type. Interestingly, gender differences look more profound in this (descriptive) comparison. Privileged girls are highly likely to be in the latent class of goodwill and loyalty. In contrast, privileged boys have the highest probability of belonging to the highly academically inclined habitus type. The same difference appears among the privileged immigrant students, with about a 50% (male) versus just under 40%

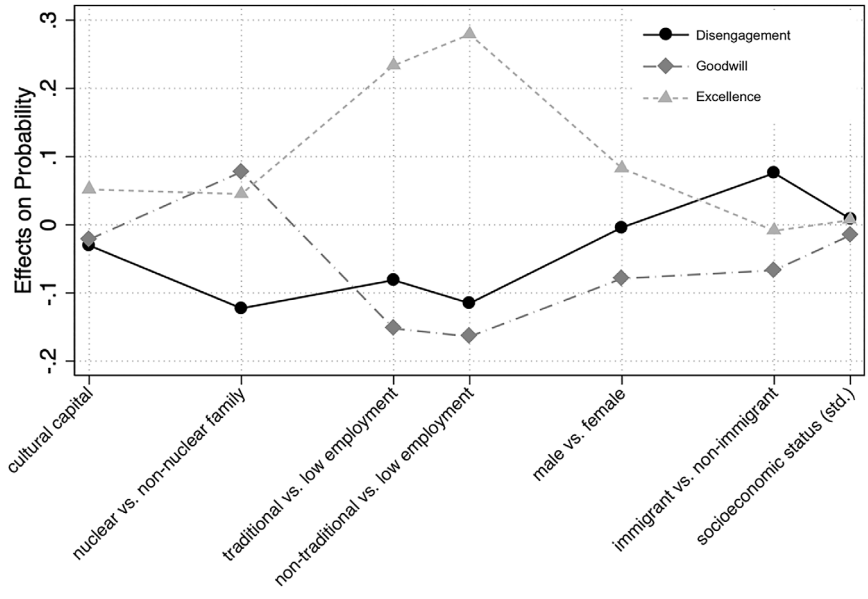

Figure 1 Average marginal effects on the probability of different habitus types.

(female) probability of belonging to the excellence type. (2) To explore differences among socially disadvantaged students, we compared similar immigrant students from nuclear and non-nuclear families. While the disadvantage is consistent with a very low adjusted probability of having a habitus of excellence, the family type substantially impacts whether disadvantaged students are in the disengaged or loyal habitus type. Students from non-nuclear families are far more likely to be disengaged. This difference does not play out similarly for non-immigrant students from disadvantaged backgrounds. The family form does not make such a decisive difference for these students. Disadvantaged students without an immigrant background are most likely to be in the loyal habitus type.

The adjusted predictions reveal two patterns that add to the complex differences in habitus type among students with diverse family capital. First, for privileged students, gender is of higher importance for one's academic habitus than for underprivileged students. Second, for disadvantaged students, especially immigrant students, the family type substantially impacts whether they exhibit an academically disengaged habitus or habitus of goodwill and loyalty.[7]

Discussion

Our paper makes three contributions to the literature. *First*, we build a methodological bridge between the traditionally qualitative literature on students' habitus (e.g., Barrett and Martina 2012; Nash 2002b) and quantitative research working with Bourdieu's concepts but often overlooking the habitus concept as an essential tool in the Bourdieusian toolkit. Therefore, we reconcile the two methodological paradigms that in the past often used to build on Bourdieu's concepts in different ways. *Second*, we developed and validated a latent class

Table 6 Adjusted Predictions of Habitus Type at Representative Values

Hypothetical Case	Habitus of Disengagement		Habitus of Goodwill and Loyalty		Habitus of Excellence	
	Adjusted probability	95% CI	Adjusted probability	95% CI	Adjusted probability	95% CI
Privileged students, non-immigrant						
High cultural capital, nuclear family, non-traditional family employment, female student, non-immigrant, mean SES	.000	[−.001; .001]	.581	[.392; .770]	.419	[.229; .608]
High cultural capital, nuclear family, non-traditional family employment, male student, non-immigrant, mean SES	.000	[−.001; .001]	.462	[.264; .660]	.538	[.339; .736]
High cultural capital, nuclear family, traditional family employment, female student, non-immigrant, mean SES	.001	[−.002; .004]	.621	[.446; .796]	.378	[.203; .553]
High cultural capital, nuclear family, traditional family employment, male student, non-immigrant, mean SES	.001	[−.002; .003]	.504	[.318; .690]	.495	[.309; .682]
Privileged immigrant students						
High cultural capital, nuclear family, non-traditional family employment, female student, immigrant, mean SES	.004	[−.003; .012]	.572	[.399; .745]	.424	[.250; .598]
High cultural capital, nuclear family, non-traditional family employment, male student, immigrant, mean SES	.003	[−.004; .010]	.454	[.280; .627]	.543	[.369; .717]

Table 6
(continued)

Hypothetical Case	Habitus of Disengagement		Habitus of Goodwill and Loyalty		Habitus of Excellence	
	Adjusted probability	95% CI	Adjusted probability	95% CI	Adjusted probability	95% CI
High cultural capital, nuclear family, traditional family employment, female student, immigrant, mean SES	.011	[−.008; .031]	.608	[.440; .776]	.381	[.211; .550]
High cultural capital, nuclear family, traditional family employment, male student, immigrant, mean SES	.009	[−.011; .029]	.493	[.323; .662]	.498	[.327; .670]
Disadvantaged immigrant students						
Low cultural capital, non-nuclear family, low family employment, female student, immigrant background, mean SES	.577	[.243; .911]	.405	[.083; .726]	.018	[−.004; .041]
Low cultural capital, non-nuclear family, low family employment, male student, immigrant background, mean SES	.573	[.333; .813]	.398	[.171; .625]	.029	[−.003; .062]
Low cultural capital, nuclear family, low family employment, female student, immigrant background, mean SES	.188	[−.021; .398]	.772	[.567; .976]	.040	[.006; .075]
Low cultural capital, nuclear family, low family employment, male student, immigrant background, mean SES	.185	[.052; .318]	.752	[.617; .887]	.063	[.013; .114]
Disadvantaged non-immigrant students						

Table 6
(continued)

Hypothetical Case	Habitus of Disengagement		Habitus of Goodwill and Loyalty		Habitus of Excellence	
	Adjusted probability	95% CI	Adjusted probability	95% CI	Adjusted probability	95% CI
Low cultural capital, non-nuclear family, low family employment, female student, non-immigrant background, mean SES	.106	[−.123; .334]	.856	[.633; 1.080]	.038	[−.005; .081]
Low cultural capital, non-nuclear family, low family employment, male student, non-immigrant background, mean SES	.104	[−.124; .332]	.836	[.613; 1.059]	.060	[−.007; .127]
Low cultural capital, nuclear family, low family employment, female student, non-immigrant background, mean SES	.020	[−.024; .063]	.933	[.873; .993]	.047	[.004; .091]
Low cultural capital, nuclear family, low family employment, male student, non-immigrant background, mean SES	.019	[−.023; .061]	.907	[.829; .984]	.074	[.007; .141]

Note: Predicted probabilities for belonging to the three habitus types are based on the multinomial logit model with $N = 356$.

typology of students' academic habitus. *Third*, our results add to substantive debates about the relationship between students' dispositions toward school and learning (*academic habitus*) on the one hand and structural determinants of students' lives on the other. We want to elaborate on two findings:

1 The habitus of academic excellence is not significantly associated with the traditional measure of parental socioeconomic status. However, it shows clear connections to highbrow cultural capital and, more notably, to immigration and structural social capital, that is, family type and parental employment status. Thus, the effect of family background is more complex than sociocultural reproduction theory suggests. While we did not necessarily expect parental employment to stand out in such a way in shaping children's habitus, this finding fits in with previous research on employed-mother households. For example, Zick, Bryant, and Österbacka (2001) found for the U.S. that if the mother is employed, both parents spend more time on reading and homework with their children than parents in male breadwinner households. They also found that these activities correlate to higher grades and fewer behavioral problems, such as bullying and frequent arguing. Youn, Leon, and Lee (2012) cast a more nuanced light on the effects of mothers' employment on U.S. kindergarten children's educational development. Their research indicates that mainly part-time employment leads to more time spent with the child and higher learning rates. However, in a German study, there was no evidence for significant long-term effects of parental employment in early childhood on children's educational attainment in secondary school (Schildberg-Hoerisch 2011). Given that the studies above use longitudinal data, we believe that more research and longitudinal data will be needed to analyze the effects of the parental employment situation on youth academic habitus.
2 Our findings provide weak support for the notion of a *gendered habitus* (Edgerton et al. 2014) while at the same time contradicting the expectation that girls are more likely to show a habitus of excellence. On the contrary, while boys are more likely to be in the excellence latent class, girls are more likely to express the mainstream habitus of goodwill and loyalty. We find no gender difference in the habitus of disengagement. For privileged students, gender appears to be of higher importance for one's academic habitus than for underprivileged students. This finding is puzzling, considering evidence showing that gendered orientations are stronger among low-achieving and working-class youth (Ingram 2009) and that variations in gender socialization cause young boys' and girls' different self-beliefs, regardless of sociocultural disparities (Eccles 2011). However, as Connolly and Neill (2001) note, gender differences in educational success among working-class students are relatively small compared to the wide performance gap between working-class and privileged students. The same is true in the case of habitus, only this time for the advantaged group. Gender differences among elite students regarding their likelihood of having a habitus of excellence are less pronounced than their overall advantage over underprivileged students. Accordingly, gender is not significantly associated with habitus type, whereas cultural capital, social capital, and immigrant background significantly affect habitus.

Our study also adds to the growing body of quantitative research on students' habitus. We build upon previous work done by Bodovski (2013), Gaddis (2013), Dumais (2002, 2006), and Edgerton et al. (2013). However, Bodovski and Gaddis use imported constructs

from psychology, such as self-concept. By contrast, we chose a more genuinely sociological approach that adopts Bourdieu's original notion of habitus as a behavioral and cognitive pattern or schema of perceptions, actions, and ways of thinking. Also, both Bodovski (2013) and Gaddis (2013) use cognitive measures of habitus to capture young people's competency beliefs, values, or locus of control. We also chose a different approach from Dumais (2002), who did not use psychological instruments but borrowed from the rational-choice tradition in sociology by using items such as students' expectations to go to college. By drawing on qualitative studies to identify the relevant elements of students' academic habitus, we also work on the theoretical and conceptual foundations of habitus (Edgerton and Roberts 2014). Our study builds on Nash's (2002b) findings. Nash identified self-confidence, perception of schooling, and aspirations as crucial habitus features. These aspects closely match our habitus elements of self-confidence, internalized school logic, and academic ambition. Including diligence and scholastic autonomy adds a behavioral focus to the study of habitus (cf. Gaddis 2013). Our contribution, thus, goes beyond previous approaches while adding the advantage of a more extensive and diverse sample.

Limitations

Our study has several limitations, mainly due to the relatively small cross-sectional dataset that results from our data collection in a small country like Luxembourg.

First, the small size of Luxembourg may raise concerns about the generalizability of our findings beyond the national context. However, studying Luxembourg is like exploring an exemplary European microcosm. Luxembourg has a very diverse population, with about half the population consisting of foreign citizens, which also reflects in the ethnically diverse multilingual student bodies at the country's schools. In this regard, the situation in Luxembourg is perhaps a bit more extreme than, for example, in its neighboring countries, France, Belgium, and Germany. Yet, these countries deal with similarly diverse populations in their major cities. In addition, other Central European countries like Austria and Germany share many characteristics of Luxembourg's education system with its tracked secondary schools. Therefore, our findings are also interesting to the broader European context.

Second, aside from the small sample size, the cross-sectional nature of our study makes it impossible to conclude trends in students' habitus development on the one hand and the education system on the other. Moreover, our analyses remain correlational, and we cannot establish causal relationships between the habitus types and the predictor variables. Yet, given the structural character of our independent variables, we assume that they point to specific advantages and disadvantages that accumulate among diverse student populations in Luxembourg. Naturally, only a longitudinal study can draw strong conclusions about causal mechanisms.

Third, the dataset has the limitation that we must rely on students' self-reports. This may introduce response biases due to inaccuracies regarding students' self-perceptions and influence the validity of the information on parental occupations as part of the SES variable. Students might not have been very accurate in conveying information on their parent's careers, thus biasing the results SES and potentially leading to non-significant findings. It is possible that parental employment status, measured as part of the family structure variables, is the more reliable estimator of students' position in the social hierarchy.

Fourth, although we are using primary data to measure students' academic habitus, our items are not yet ideal reflections of habitus. Future research in this area should focus on developing reliable measures of habitus and try to replicate or extend our typology by using more indicators in the latent class analysis that allow a more nuanced representation of habitus. Additionally, a longitudinal design could help capture temporal dynamics and changes in students' academic habitus, ideally beginning in the primary school years.

Concluding Remarks

Along with preceding efforts (e.g., Bodovski 2013; Dumais 2002; Gaddis 2013; Edgerton et al., 2013), we consider our study a forerunner of a sociological measurement of habitus. While our measures of habitus are not grounded in the existing literature and rely on less conventional item batteries, we conceptualize and operationalize habitus in a more multifaceted way than prior approaches. *First*, we include behavioral and non-cognitive dispositions at the same time. *Second*, our typology captures qualitative differences in how students approach learning. *Finally*, by choosing a typological approach to measuring habitus, our study bridges the quantitative measurement with inductive reconstructions of students' academic habitus based on interviews and ethnographic data.

Nevertheless, our study is only a first step toward measuring habitus through a grounding of sociological theory and emancipating the concept from psychological understandings of personality.[8] Whenever psychologists consider socioeconomic status, they typically use it as a control variable or ask which variable has the more substantial effect on academic performance: individual student characteristics or family background (Lee and Stankov 2018). While sociology is interested in similar constructs, their theoretical embeddedness is quite different. *First*, drawing on habitus theory, we view socioemotional, behavioral variables and self-perceptions as facets of habitus, not as different aspects of personality that compete for significance or the most substantial effect. We are interested in how these dispositions are intertwined and how their unique constellation shapes students' educational experiences and success in the education system. Hence, a typological approach to habitus that views students as social actors who are members of distinct groups is valuable. *Second*, using habitus as a concept is motivated by the desire to shed light on processes of sociocultural reproduction and identify mechanisms that perpetuate educational inequality. Therefore, further research on habitus will focus on measurement and its embeddedness in structural factors, analyze cultural match-mismatch problems between habitus and school, and how habitus mediates between structural factors and students' performance. Habitus is a critical variable in this potentially causal network. Further establishing a well-grounded way of measuring habitus will aid in moving beyond explanations that only look at cultural capital.

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Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ENDNOTES

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[2]For an overview of the use of cultural capital in educational research, see Davies and Rizk 2018, Lareau and Weininger 2003, Winkle-Wagner 2010.

[3]In general, Bourdieu's notion of field aims to describe how conflicts arise in society between dominant and subordinate groups as they contend for specific resources, for example, educational certificates, prestigious titles, and status. There are many different fields or battlegrounds in society, and different kinds of capital prove to be most valuable in each field. The habitus functions as a compass to navigate a specific field and make ideal use of one's resources to gain what is at stake, for example, a school degree or access to prestigious institutions of higher education. Put simply, to get good grades in school, a student might deploy their parents' economic and cultural capital to get tutoring, buy and understand how to use educational materials, and needs to know how to put these accumulated resources to use in the classroom.

[4]In this context, also consider Ostrower's (1998) powerful and rich description of participation in the arts among American elites, which rather shows a more nuanced link between high status and highbrow culture than its insignificance for class reproduction in the United States. Most recently, Yuksek, Dumais, and Kamo (2019) observed a decreasing association between cultural and economic capital and highbrow arts participation.

[5]With the rising popularity of digital books and the prevalence of digital devices among children, it may seem outdated to measure the number of physical books at home for educational research. Nevertheless, as demonstrated by the studies cited above, owning physical books still signifies a high social status and is connected to significant educational outcomes.

[6]The methodological literature rarely addresses the question of how many indicators are sufficient to identify a set of latent classes given a specific sample size. Including additional indicators – like estimating more latent classes – creates more possible patterns of responses (Magidson and Vermunt 2004). Some of these patterns may not occur frequently, possibly causing problems like data sparseness and making it difficult to test the resulting model's goodness-of-fit using the chi-square test. Other problems can result from boundary parameters, that is, probabilities of either zero or one, which are highly unlikely in the real world. Thus, adding more indicators can decrease the latent class model's parsimony and goodness of fit. One possible issue arising from a low number of indicators is model under-identification. In our case, five polytomous indicators are enough to identify the best-fitting three-class model. Wurpts and Geiser (2014) estimated different latent class models with sample sizes smaller than 500, a common scenario in substantive research. They found that increasing the number of indicators and covariates can help avoid non-convergence. Although we did not face convergence issues in the non-covariate and our final covariate model, using covariates helped stabilize the model solution, as seen in the improved class assignment probabilities.

[7]Although not reported here in more detail, we could not find such strong patterns among privileged students from immigrant and non-immigrant families.

[8]Psychological notions of students' personality consider variables such as self-efficacy that share similarities to our measures of habitus (e.g., Fonteyne, Duyck, and De Fruyt 2017).

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