

Is Academic Agency Relevant for the School-to-Work Transition of Lower Attainers?

Evidence from Canada and England

Abstract

Academic agency is recognized as an important predictor of higher education attainment among the general population during the school-to-work transition. However, there is little evidence on whether a) academic agency is associated with higher education attainment among young people facing education difficulties (i.e., lower attainers), b) academic agency is associated with a smooth entry in a meaningful job among lower attainers, and c) these associations vary across educational contexts. This study draws on longitudinal data from lower attainers in the province of Québec ($M_{\text{age}} = 16.31$, $SD = 0.98$; 48% females) and in England ($M_{\text{age}} = 15.86$, $SD = 0.72$; 42% females), two regions with similar education systems, yet different vocational training provision. In both samples, fewer than one in four participants reach higher education by age 20. Also, in both countries academic agency is associated with a greater likelihood of being in higher education compared to other employment and education outcomes at age 20, but not with rapid entry into meaningful employment. Thus, focussing on higher education attainment and academic-related factors such as academic agency is of limited relevance for understanding lower attainers' success over school-to work transitions. For them, understanding this transition also requires considering rapid entry in meaningful employment, as well as non-academic forms of agency supporting such work-oriented outcomes.

Keywords: Academic agency; School-to-work transition; Meaningful employment; Educational attainment; Lower attainers; International comparison

Introduction

For young people facing academic difficulties, also referred to as lower attainers, the school-to-work transition represents an important challenge (e.g., Lupton et al., 2021). In most developed countries, there is a strong assumption that a successful school-to-work transition necessarily implies higher education (Webb, 2022). However, considering the relatively small proportion of lower attainers who «succeed against the odds» by reaching and graduation from higher education (Fishman, 2022), rapid entry into a meaningful job aligned with a young person's aspirations should also be considered a valid path (Mortimer & Staff, forthcoming). To support a smooth transition to the labour market not involving higher education, recent policy efforts have focused engaging employers and their recruitment practices (Cohen, 2023). However, upper secondary schools also contribute to prepare students' post-secondary transitions, notably by supporting the development of career relevant attitudes (Schoon & Henseke, 2023). Previous studies have found that academic agency, which involves young people's academic self-concept, goal engagement and their expectations regarding future educational attainment, is associated with higher education participation among the general population (Schoon & Lyons-Amos, 2017). Additionally, certain components of agency such as self-concept and future expectations have been associated with desirable employment outcomes for college students (Akkermans & Tims, 2017). Nevertheless, little is known about how academic agency relates to academic achievement and meaningful employment outcomes among lower attainers, for whom academic institutions and systems may not provide adequate support (Schoon & Heckhausen, 2019). Drawing from two samples of academically at-risk adolescents followed into early adulthood in French Canada (province of Québec) and England, the present study aims to determine, in both samples, 1) whether the links between academic agency and educational attainment observed in general population samples can be observed among lower attainers; and 2) whether academic agency is associated with meaningful employment outcomes. Before examining these issues, the level of academic agency is also compared across the two samples. These two samples were chosen because they comprise youth who come of age within similar liberal education systems, that are nonetheless different regarding high school-level vocational training (Bathmaker & Orr, 2022; Masdonati et al., 2015). Testing the association between academic agency and transition outcomes in education and employment in two different cultural settings will help to better understand the interplay between agency and opportunities provided by these different systems.

Agency in the School-to-Work Transition

Agency is the capacity to influence one's own life trajectory (Mortimer & Shanahan, 2007) and is particularly relevant during transition periods when individuals must make choices that direct them towards specific paths (Heckhausen & Buchmann, 2019). The school-to-work transition is such a life period, as young people must choose and engage in education and/or work trajectories (Schoon, 2015). In fact, some young people continue in higher education after compulsory schooling, whereas others go directly into the labour market (with or without training), and a small proportion are not in education, employment or training (Schoon & Lyons-Amos, 2017).

Academic Agency and Higher Education. Many studies have linked one form of domain-specific agency, that is, academic agency, with one form of school-to-work transition outcome, that is, higher education attainment (e.g., Burger, 2021). In these studies, academic agency is conceptualized as a multidimensional construct (Schoon, 2021) that typically involves: a self-concept dimension, which reflects students' beliefs about their ability to perform in specific subjects or in school in general (Steinmayr et al., 2019); a dimension related to educational

aspirations, reflecting students' future orientation and the level of education they wish to reach (Beal & Crockett, 2010); and an expectancy value dimension reflecting the subjective value given to schoolwork and the effort the individual is willing to expend in the educational domain (Eccles, 2005). This last dimension can be measured through different components of school engagement, such as emotional (e.g., liking school) or behavioural (e.g., working hard in school) engagement (Archambault et al., 2022). A recent study examining the relative role of these different components of academic agency measured during high school found that they were all independently associated with higher education attainment at age 20 (Schoon & Cook, 2021).

This study, like much school-to-work transition research, drew on a general population sample, focused on higher educational attainment and not on employment outcomes, and did not examine factors and processes relevant for lower attainers specifically. Thus, it is not clear whether academic agency helps lower attainers and young people who do not enrol in higher education. This evidence gap is significant considering that across OECD countries, tertiary graduation rates remain under 50% (OECD, 2023) and that a significant number of young people do not participate in higher education but rapidly pursue work-oriented trajectories upon exiting compulsory schooling. For example, in England, such trajectories involve over 40% of young people aged 16 to 25 (Schoon & Lyons-Amos, 2017).

Academic Agency and Meaningful Employment. Considering how academic agency relates to employment outcomes in the school-to-work transition is important not only because rapid entry into employment is common, but also because agency is thought to be especially important when making choices that are not mainstream and thus less well marked out (Heckhausen & Buchmann, 2019). In societies that largely accept higher education as the most desirable pathway to job integration, rapid entry into the labour market implies facing crossroads and taking alternative paths, which should require more agency (Schoon & Heckhausen, 2019). Rapid entry into the labour market can represent a risk or an opportunity, depending on the job's structural characteristics, such as its salary and stability (Duffy et al., 2017). Recently, in addition to structural characteristics, particular attention has been paid to young adults' perception of their jobs. Jobs that are meaningful from the young person's own perspective, in other words, that foster a sense of purpose and of belonging, are associated with various benefits (Masdonati et al., 2022). For instance, among young adults who rapidly enter employment after compulsory schooling, those with meaningful jobs have better mental health outcomes than their counterparts in jobs perceived as "fill-in" positions while waiting for something better (Thouin, Dupéré, Denault, et al., 2023). To understand these youth's experiences over the school-to-work transition, it thus appears important to adopt a broader definition of success that includes meaningful employment without higher education involvement (Masdonati et al., 2022).

Academic agency in adolescence could support rapid entry into meaningful employment in early adulthood via school-related processes. Academic agency is inversely related to exiting schooling prematurely. Because many jobs require at least upper secondary credentials, keeping young people in school longer increases the odds of participation in the labour market regardless of higher education enrolment (Archambault et al., 2022). Additionally, academic agency could help young people access meaningful employment by facilitating enrolment and success in vocational training programs, particularly among those who do not want to continue in higher education. To our knowledge, no research directly explores the association between academic agency during compulsory schooling in adolescence and rapid entry into meaningful employment. It thus remains unclear whether academic agency, an aspect considered central in preparing young people for school-to-work transitions involving higher education, also helps to prepare work-

oriented transitions. From the perspective of secondary schools, it is critical to determine whether fostering academic agency is sufficient to prepare post-secondary transitions for all students, including those seeking rapid entry into employment, or whether other types of agency should also be fostered to adequately equip these students for the future.

Besides school-related processes, academic agency could also influence employment-related outcomes more directly. In the vocational literature, a related form of agency, often referred to as career adaptability, is associated with positive work outcomes and career meaningfulness (Akkermans et al., 2021). Even though agency is often conceptualized differently in the educational and vocational literatures, the concept shares many characteristics in the two domains and can be broken down into mirror concepts. For instance, career adaptability encompasses individuals' self-perception of career-related abilities, future work orientation and perceived control over the shaping of their future careers (Medvide et al., 2019), constructs that are closely related to the academic agency dimensions previously described, although in a different domain. Academic agency and career adaptability (career agency) are both thought to support favourable school-to-work transition outcomes (Masdonati et al., 2022). Furthermore, in a study conducted among university students, career adaptability was associated with students' school engagement and academic performance, suggesting that academic and work agency can influence each other (Akkermans et al., 2018). This evidence implies that academic agency could be associated with meaningful employment outcomes via spillover effects considering the relationship between the two domains, but further studies are needed to better explore this premise, especially among understudied populations, such as lower attainers.

Constraints on Academic Agency in the School-to-Work Transition

According to the socioecological model of agency, young people exert their agency within bounds and structural constraints defined by educational systems and individuals' interactions with these systems (Schoon and Heckhausen, 2019). Young adults' transition to higher education or meaningful employment therefore depends on the interplay between agency and sociodemographic factors such as parental socio-economic status, ethnic minority status and gender (Schoon & Cook, 2021) as well as opportunities provided by educational institutions (Walther, 2022).

Lower Attainers in the School to Work Transition. Lower achievement during secondary school is a major barrier to accessing opportunities provided by educational institutions to facilitate school-to-work transitions (Galla et al., 2019), which in turn can limit labour market integration possibilities (Medvide et al., 2019). Low achievement in secondary education might relate to later education and employment outcomes partly through its association with lower academic agency (Chase et al., 2014; Marsh & Martin, 2011). Yet, the meaning of academic agency and its association with transition outcomes could differ among lower than higher achievers, as lower achievers tend to be confronted with multiple challenges affecting opportunities not limited to the academic sphere (Fishman, 2022). For instance, developing a strong sense of agency might be particularly demanding among lower attainers who, on average, face harsher life circumstances than their more academically successful counterparts (Dupéré et al., 2018). Besides, among youth facing overwhelming hardships, academic agency could be insufficient to support successful school-to-work transitions. Despite the challenges that they face, lower attainers do not constitute a homogenous group and are not bound to experience a difficult school-to-work transition (Thouin, Dupéré, Denault, et al., 2023). Recently, researchers have stressed the importance of considering heterogeneity in groups at risk of marginalization

such as lower attainers to better understand the factors that may foster resilience when facing adversity during the school-to-work transition (Masdonati et al., 2022). To do so, a closer focus on these groups is warranted.

Sociodemographic Characteristics in the School-to-Work Transition. Understanding how individual processes like agency shape resilience in academically vulnerable groups demands that other, non-academic factors be considered. School difficulties can originate in or be exacerbated by socioeconomic and demographic factors that can further threaten the school-to-work transition. Young people from less privileged backgrounds generally face greater school difficulties than their more privileged counterparts (Pensiero & Schoon, 2019). They are also underrepresented in higher education and have less access to meaningful employment (Blustein et al., 2002; Jerrim & Vignoles, 2015). Moreover, socioeconomic disadvantage is moderately associated with poorer academic self-concept (Chevalère et al., 2022) and lower school engagement (Tomaszewski et al., 2020; Schoon & Cook, 2021). However, the link between socioeconomic disadvantage and educational aspirations has weakened in recent cohorts, suggesting more equality in young people's future outlooks (Reynolds & Johnson, 2011; Schoon, 2010). This trend can be explained, in part, by the normalization of higher education participation in most developed countries, based on the "college for all" ethos (Rosenbaum, 2001). In any case, socioeconomic circumstances need to be considered when assessing links between academic agency and educational and employment outcomes.

When assessing these links, it is also necessary to factor in ethnicity and gender, as these aspects also influence school achievement and school-to-work transition outcomes. On average, females in Western countries today are higher achievers and go further in school than males (Voyer & Voyer, 2014). Females also generally have higher levels of academic agency, although the effect of agency on school attainment seems to be similar across genders (Schoon & Cook, 2021). However, when considering work outcomes among lower attainers, females tend to have lower wages and reach meaningful employment in a smaller proportion than males (Thouin, Dupéré, Denault, et al., 2023). With respect to ethnicity, there are inequalities in many Western countries regarding the educational attainment of ethnic minorities (Blanden, 2020). Notably, in Canada and the United Kingdom, young people from an immigrant background have, on average, higher academic achievement, are more engaged and have higher educational and career aspirations than their non-immigrant peers from similar socioeconomic backgrounds (Kamanzi et al., 2022; Strand, 2014). However, this advantage does not necessarily translate to advantageous outcomes in the job market, as ethnic minorities generally face greater systemic barriers to employment (Quillian & Midtbøen, 2021).

Educational Institutions and Academic Agency

Beyond individual academic and sociodemographic factors, young people's agency and its impact on transition pathways depends on opportunities offered by the local transition system, framed, to a large degree, by educational institutions (Schoon and Heckhausen, 2019). These systems create channelling processes that make certain school-to-work paths more salient than others (Walther, 2022). For instance, the accessibility of vocational training or social norms about the necessity of higher education to attain career success contribute to steer young people's choices towards certain transition paths (Wheelahan, 2022). The interplay between educational institutions and young people's agency is complex and varies depending on countries' specific transition systems (Schulenberg & Schoon, 2012). International comparisons are needed to map out the strengths and limitations of different systems (e.g., Heckhausen & Chang, 2009) and to

provide useful insights on the generalizability of the findings across different cultural contexts. Such comparisons allow to replicate evidence and test the robustness of findings, which is often missing in social science (Duncan et al., 2014). Comparing countries or regions that share similarities but that also differ in specific aspects of interest offers precious insights into each system (Raffe, 2011). England and the province of Québec share Anglo-Saxon structures and similar liberal transition systems characterized by their flexibility and the importance attached to higher education (Wheelahan, 2022). However, when looking more closely at both education systems, some differences appear (Jerrim & Vignoles, 2015).

Similarities Between Systems and Implications for Agency. The province of Québec is a predominantly French-speaking province within Canada, whereas England is an English-speaking country within the United Kingdom. The province of Québec is about 10 times larger than England in terms of land, but it has only a sixth of its population. Both Québec and England have education systems that are distinct from the rest of their country or Kingdom (Arnold et al., 2018; Reeve & Gallacher, 2022).

The education systems in Québec and in England share similarities in that they are flexible and do not require young adults to choose a trajectory early on. Indeed, in Québec and in England, most young people follow a general path until grade 11 (16yo). Typically, young people choose between an academic or a vocational path only after obtaining a high school diploma (Diplôme d'études secondaires (DES) or General Certificate of Secondary Education (GCSE)). Even after this juncture, choices are reversible, meaning that either path may lead to university. This flexibility allows individuals more opportunities to exercise agency and act on their educational trajectory (Heckhausen & Buchmann, 2019). Moreover, the education systems in Québec and in England share the same hierarchical vision of the education system, where the academic path holds higher prestige and is better marked out than the vocational path (Wheelahan, 2022). Therefore, young people often aim for higher education and overlook the vocational path that could have been a better fit for their particular set of skills and interests (Wheelahan & Moodie, 2017). Taking the academic path, which corresponds to social norms, can therefore be assumed to require less agency than the vocational trajectory (Schoon and Heckhausen, 2019).

Differences Between Systems and Implications for Agency. In England, the secondary level (until grade 11) concentrates on general education. In contrast, after completing grade 9, young people in Québec can attend lower-level vocational training and learn applied skills relevant to a specific occupation (Muja et al., 2021). This early vocational training is of significance to young people with academic difficulties because it can provide an effective path to a well-paid, stable and meaningful job (Wheelahan, 2022). However, such opportunities are underutilized, in part because in liberal transition systems, vocational training typically has a lower status compared to higher education (Wheelahan & Moodie, 2017). Young people are aware of this social stigma which influences their educational aspirations and choices (Masdonati et al., 2015). This difference in vocational training provision has implications for agency. Choosing a vocational path generally requires significant agency when it goes against the grain, such as when there is a general bias favouring higher education as a means to attain meaningful employment (Schoon and Heckhausen, 2019). Yet, lower attainers in the province of Quebec should need less agency to enter this path, because education institutions provide a structure that can sustain such rapid transitions into meaningful work (Schoon, 2021). Finally, international comparison studies suggest that there are different patterns of education inequalities in Canada and in the United

Kingdom. Indeed, there is a weaker link between parental education and student achievement during high school in Canada than there is in the United Kingdom, suggesting that there are fewer social inequalities in Canada (Jerrim, 2012). This translates in a wider higher education participation in Canada than in the UK (OECD, 2023). Against this backdrop, agency might play a more central role in the United Kingdom to compensate for barriers to social mobility (Heckhausen & Buchmann, 2019).

Current Study

The school-to-work transition represents an important challenge for lower attainers. Higher education is often assumed to be paramount for success in this transition. However, considering the relatively small proportion of lower attainers reaching higher education, rapid entry into a meaningful job should also be considered a valid path. Previous studies have shown that academic agency is an important predictor of higher education attainment among the general population. However, it is unclear whether academic agency plays the same role among lower attainers. Also unclear is whether academic agency also sustains smooth entry in meaningful employment. The present study assesses the role of academic agency in shaping educational and occupational pathways of students facing educational difficulties. Drawing on samples of lower attainers from two longitudinal studies based in the province of Québec and in England, the current study seeks to determine how the different dimensions of academic agency in adolescence are associated with higher education participation and meaningful employment outcomes in early adulthood. This study is theoretically based within the socioecological model of agency and considers how the interplay between agency and social structure contributes to shape young people's life trajectories. The first aim of the study is to determine whether the links between academic agency and educational attainment observed in earlier studies can be replicated among lower attainers and in different settings. Based on earlier studies among general population samples, academic agency should be associated with higher education participation in both settings (Hypothesis 1). The second aim of the study is to establish whether there is a link between academic agency and meaningful employment in both settings. This objective is exploratory because of the lack of studies examining the association between academic agency and work-related outcomes among lower attainers. A complementary aim of the study is to compare the levels of academic agency among lower attainers in Québec and in England. The levels of academic agency should be similar across the two samples (Hypothesis 2), considering their similarities in terms of system and academic profile (e.g., youth in liberal transition system at risk of not completing their high school diploma/secondary qualification).

Method

Data

This study draws on data from two different studies: the *Parcours* project from the province of Québec and the *Longitudinal Study of Young People in England* (LSYPE). An established collaboration between two research teams in the UK and Canada made the project feasible in terms of data access. It appeared strategic to leverage this collaboration to conduct a comparative project, since finding robust results across two national contexts adds value regardless of the specific choice of locales. Both studies cover the same age range, from 16 to 20 years, and feature comparable indicators, allowing for direct comparisons between the two samples.

The *Parcours* project (Dupéré et al., 2018) was originally designed to document the proximal circumstances leading to high school dropout among at-risk youth. Participants were drawn from 12 public high schools with elevated dropout rates located in socioeconomically disadvantaged areas in and outside the City of Montreal in the province of Québec. The

participants were recruited over three academic years (2012–13, 2013–14, 2014–15). The recruitment procedure started with a screening operation, during which all students aged 14 years and older were asked to complete a short questionnaire assessing sociodemographic characteristics (e.g., gender, parental education) and school-related variables strongly associated with educational attainment (e.g., grades, retention). A vast majority of students gave their consent and participated in the initial screening (97%, $N_{\text{screening}} = 6,773$). A subset of adolescents was selected to participate in individual semi-structured face-to-face interviews aimed at detailing their life context. The interviewed subset was selected to overrepresent academically struggling adolescents who dropped out of high school or who were at high risk of doing so. Overall, 71% of those targeted for the interviews agreed to participate ($N_{\text{Phase 1}} = 545$). Four years later (between 2016 and 2020), when participants were around 20 years of age, they were recontacted to participate in a second face-to-face interview. The main objective of this second interview was to gather information about their life circumstances marking the transition to adulthood and integration into the workforce. In total, $N_{\text{Phase 2}} = 386$ youths (71% of the original sample) took part in this second phase of the study.

The LSYPE study recruited 15,770 young people in England aged 13–14 years in 2004, with annual follow-ups until ages 19–20 (DfE, 2011; UCL, 2023). The LSYPE was developed to study educational attainment and the progression from compulsory education through the school-to-work transition. Ethnic minorities and schools in deprived areas were oversampled. Annual face-to-face interviews were conducted with young people and their parents between 2004 and 2010. The data collection in 2010, at age 19/20, comprised 8,682 participants. To match the Parcours sample that overrepresented academically struggling adolescents, a subsample of the participants in the LSYPE sample ($N = 3,049$) was chosen based on the highest academic qualification studied at age 16/17. More precisely, we selected participants with low GCSE (high school) grades (not including 5 passes including Math and English) who were unable to directly enter higher education pathways. Thus, we excluded participants who studied for A-levels (college level) and those who obtained GCSE grades that enabled further education participation.

Measures

Academic Agency. The multidimensional aspect of academic agency is measured using multiple indicators. The self-concept dimension is measured by academic self-concept, the future orientation is measured by educational aspirations, and the self-regulation dimension is measured by school engagement. Academic self-concept was assessed at age 13/14 in England and at age 15/16 in Québec. Young people's belief in their ability to perform in school was measured by asking them how good they thought they were in Math and their first language (English in England and French in Québec). Responses were coded on a 4-point scale ranging from 1 = Not good at all to 4 = Very good. A last item asked participants how they perceived their overall academic performance. This item was rated on a 5-point scale ranging from 1 = Not good at all to 5 = Very good. Educational aspirations were assessed at age 15/16 in England and at age 15/16 in Québec. Responses in the LSYPE survey were coded to match the Parcours sample coding: 1 = I don't know what I want to do in school, 2 = I aim to finish high school/GCSE, 3 = I want to have some college education, 4 = I want to have a university degree. This ordinal variable was treated as continuous in the analysis. School engagement was measured at age 15/16 in both England and Québec with two statements that are worded similarly in both samples. The first statement was about liking school (e.g., "On the whole, I like being at school"). The second item was about working hard in school (e.g., "I work as hard as I can in school"). Responses were coded on a 4-point scale ranging from 1 = Strongly disagree to 4 = Strongly agree.

Transition outcomes at age 20. The education and employment outcomes were measured using the young people's socioeconomic status at age 20, following the classification used by Thouin, Dupéré, Denault, et al. (2023). The variables were coded using five categories: 1) Not in education employment or training (NEET); 2) Working as a stepping-stone; 3) Working in a meaningful job; 4) Lower education; 5) Higher education. The differentiation between working as a stepping-stone and having a meaningful job was based on the participants' perception of their work. The young people were asked directly whether they considered their job to be linked to their desired career, thereby reflecting the meaning they gave to it. Jobs considered to be career-related also had better objective characteristics, such as a better hourly wage and schedule (Thouin, Dupéré, Denault, et al., 2023). Regarding educational outcomes, those in the lower education category were still pursuing secondary/GCSE studies by age 20, whereas the higher education category included all students attending college or university.

Family Socioeconomic Resources (SES) and Demographic Variables. In England, parental education was assessed at age 14/15 and parental social class at age 15/16. Both SES indicators were measured at age 15/16 in Québec. The highest parental education and social class were used in the analysis, according to the dominance principle. Parental education was coded using two categories: 1) Lower education, including parents with a high school/GCSE diploma or less; 2) Higher education, including parents with a college or university education. In the LSYPE survey, parental social class was originally coded using the National Statistics Socio-Economic Classification (NS-SEC). Canada [Québec] has a similar classification system called the National Occupational Classification (Gouvernement of Canada, 2016). The coding was harmonized to fit the Canadian classification and derived two categories: 1) Lower employment status, including unemployed and routine/manual occupations; 2) Higher employment status, including intermediate and professional occupations. The analysis include young people's gender (0 = female / 1 = male) and ethnicity (0 = white / 1 = other ethnic group).

Modeling Strategy

First, a measurement model was created for academic agency using confirmatory factor analysis (CFA). The model has a total of two latent factors, one based on the three indicators for academic self-concept, and one based on the two indicators for school engagement. The third dimension of academic agency was measured by the single indicator of educational aspiration. Both sets of data were pooled to test the model invariance across samples. Metric invariance was reached with satisfying fit indices (not shown, full results available upon request)¹. Afterwards, a structural model of academic agency was created with the pooled data by regressing the academic agency measurement model on the SES and demographic variables (figure 1). Finally, the main analysis consisted of multinomial logistic regressions, where the three components of academic agency, SES and the demographic variables were used to predict educational and occupational outcomes at age 20. Two different multinomial regression models were tested: one contrasting participation in higher education with other transition outcomes, and the other contrasting a meaningful job outcome with other transition outcomes. This modeling strategy allows for the study of two different types of successful school-to-work transitions at the same time, giving equal importance to academic and work-related outcomes. The data analysis was performed using Mplus 8.4

¹ The measurement model reached metric invariance but not scalar invariance. Considering that the main goal of the study is not to compare latent means but rather to compare coefficients across groups, metric invariance is sufficient (Putnick & Bornstein, 2016).

(Muthén & Muthén, 2017). Missing data were handled using the maximum likelihood robust estimator.

[Figure1]

Results

Table 1 shows the descriptive statistics for all variables in the Parcours and LSYPE samples. Both samples were pooled to perform mean comparison using t-tests (for continuous variables) or chi-square tests (for proportions). At the $p < .05$ level, there is a significantly larger proportion of participants in higher education at 20 years old in the Parcours sample compared to the LSYPE sample, which is in line with differences between Canada and the United Kingdom documented elsewhere (OECD, 2023). The proportion of participants working in either stepping-stone jobs or in meaningful jobs is comparable in both samples. Most academic agency indicators are significantly higher in the LSYPE sample, except the first language self-concept, which is similar in both samples, and the school engagement indicator related to schoolwork, which is of greater magnitude in the Parcours sample. Parental education is significantly higher in the Parcours sample, but parental social class is roughly the same in both samples. There is a larger proportion of males in the LSYPE subsample, whereas the proportion of participants from an ethnic minority (non-white) is comparable in both samples.

[Table 1]

Structural Model of Academic Agency

Figure 1 represents the academic agency structural model in both sets of data, including the three dimensions of academic agency and the SES and demographic variables. Goodness-of-fit indices are presented at the bottom of Figure 1. When running pooled analyses, the model fits the data well with the RMSEA coefficient falling within usual guidelines (.060) (Hu & Bentler, 1999) and the CFI falling within widely accepted more liberal guidelines (.90) (Wen et al., 2004). In each diagram, the three self-concept indicators are loaded on an academic self-concept latent factor, and the two engagement variables are loaded on a school engagement latent factor. The loadings of the different indicators on their respective latent factors are presented using standardized coefficients. The error terms of the math self-concept indicator and the first language indicator were correlated to account for similarity in the items wording (Brown, 2015). The single educational aspirations indicator remains at the manifest variable level and is therefore presented with a square shape in both diagrams. Correlations between the three agency factors are represented using double-headed curved arrows. All three academic agency factors are correlated in both models, and the correlation between educational aspirations and school engagement is stronger in the Parcours sample.

Figure 1 also represents the linear regression standardized coefficients of the three academic agency factors on the SES and demographic variables in both samples. The association patterns are very similar in both samples, although associations are generally stronger in Parcours. Specifically, being male is inversely associated with educational aspirations and school engagement in both samples. Belonging to an ethnic minority is positively associated with all three factors of academic agency in both samples. Higher parental education is associated with higher educational aspirations in both samples. Higher parental social class is not associated with academic agency in either sample.

[Table 2]

Academic Agency and Higher Education

Table 2 shows the associations between the three dimensions of academic agency and higher education enrolment at age 20 for the Parcours and LSYPE samples. In the Parcours sample (Table 2, upper part), academic self-concept is not associated with greater odds of being in higher education. Conversely, higher education aspirations are associated with greater odds of being in higher education compared to all other employment and education categories. School engagement is associated with greater odds of being in higher education compared to being NEET or in lower education. Higher parental education is consistently significantly associated with higher education, whereas higher parental social class, gender and ethnic minority are not. In the LSYPE sample (Table 2, lower part), all three dimensions of academic agency are associated with greater odds of being in higher education compared to all other studied categories, with few exceptions. Academic self-concept is not associated with greater odds of being in higher education compared to being in a stepping-stone job, and school engagement is not associated with greater odds of being in higher education compared to being in lower education. Higher parental education is associated with greater odds of being in higher education compared to all other categories except lower education. Higher parental social class only differentiates participants in higher education from those in the NEET group. Being male is only associated with greater odds of being in lower education compared to being in higher education. Belonging to an ethnic minority is associated with greater odds of being in higher education compared to all categories except NEET.

[Table 3]

Academic Agency and Meaningful Employment

Table 3 shows the associations between the three dimensions of academic agency and meaningful employment at age 20 in the Parcours sample and the LSYPE sample, respectively. In the Parcours sample (Table 3, upper part), there is no significant association between academic agency and meaningful employment. Higher parental social class is associated with greater odds of being in a meaningful job compared to being NEET. Being male is associated with greater odds of being in a meaningful job compared to being in lower education. In the LSYPE sample (Table 3, lower part), academic self-concept and school engagement are not associated with meaningful employment. Educational aspirations are associated with greater odds of being in meaningful employment compared to being NEET and compared to being in a stepping-stone job. Higher parental social class is associated with greater odds of being in meaningful employment compared to being NEET only. Male sex is associated with greater odds of being in lower education compared to being in a meaningful job. Belonging to an ethnic minority is associated with greater odds of being in meaningful employment compared to being in lower education and compared to being in a stepping-stone job.

Discussion

Previous theoretical and empirical research suggests that developing academic agency in adolescence supports successful school-to-work transition later on, in early adulthood. However, most empirical research focused on the general population, leaving subgroups in particularly complex transition situations, such as lower attainers, largely unaccounted for. Additionally, the few studies of the school-to-work transition of vulnerable young people have mainly focused on those succeeding in higher education against the odds while there is a scarcity of studies focusing on another common and viable pathway to vocational success, via rapid and successful entry into the labour market. This study addresses these gaps by considering how academic agency in high

school relates to later educational and vocational outcomes among lower attainers. Moreover, this study considers the larger interplay between agency and social structure by testing associations in two countries with distinct transition systems.

The results show differences and similarities regarding academic agency among lower attainers in the province of Québec and England. In line with Hypothesis 1 and previous studies, academic agency is associated with higher education participation in both samples. In contrast, academic agency is not (in Québec) or only modestly (in England) associated with meaningful employment. Beyond these general trends, specific academic agency dimensions show different associations with both outcomes in the two samples. Additionally, contrary to Hypothesis 2, levels differed for some dimensions of academic agency between the two samples.

Academic Agency as a Partial Support for Lower Attainers' School-to-Work Transition

The results suggest that academic agency contributes to promoting higher education enrolment among lower attainers, just as it does among the general population (Schoon & Cook, 2021). It thus seems that fostering academic agency among lower attainers could facilitate their access to higher education, perhaps especially if coupled with academic support (Fishman, 2022). However, the results also show that only a minority of lower attainers “succeed against the odds” and enroll in higher education (24.6% in Québec and 16.6% in England). Among this group, rapid transitions to employment are considerably more frequent than transition pathways involving higher education (for similar results, see Murray et al., 2021). In fact, half of the participants in this study (50.8–52.3%) had a rapid transition towards employment, with about a third being in a stepping-stone job (34.0–34.7%) and one in six being in a meaningful job (16.8–17.6%). Taken together, the results stress the importance of considering the complexity of the school-to-work transition of lower attainers by including both educational and vocational outcomes. They also challenge normative assumptions based on “college for all” perspectives and calls for broader views of what constitutes a successful school-to-work transition that can accommodate multiple paths leading to success according to young peoples’ own evaluation. In that respect, the results support the critical importance of considering the fit between characteristics of the person (such as their career expectations) and the chosen career to understand adaptability over the school-to-work transition (Akkermans et al., 2021).

Considering both educational and vocational outcomes underscored the partial relevance of academic agency for rapid transitions into the job market, but also its limitations. Indeed, only a few associations between academic agency and rapid entry in meaningful employment were observed and only in one sample (the English one). These mixed results suggest that even as certain aspects of academic agency seem to generalize to other domains, only considering academic agency is not sufficient to understand factors underlying successful, rapid transitions to the labour market among lower attainers. These results are in line with theories suggesting the importance of considering both domain-specific and general agency to predict relevant outcomes (Bandura, 2001). That said, the vocational literature on adaptive school-to-work transitions suggests that fostering work-related dimensions of agency (such as self-awareness, self-management, and future orientation) alongside academic agency could create a synergy that could support both academic and work outcomes (Akkermans et al., 2021). Likewise, the psychology of work theory, which models the attainment of meaningful and decent work, emphasizes the role of career adaptability (comprising self-awareness, self-management and future orientation) as well as domain-specific and general self-efficacy as crucial predictors of success across different domains of vocational development, including educational and occupational decision-making (Madonati et al., 2022). In short, secondary schools should aim to

foster both educational and vocational agency to better equip their students for different types of school-to-work transition pathways.

International Differences in Academic Agency

Academic agency is associated with participation in higher education in both samples. However, differences emerged in the mean level of academic agency indicators and in the associations between specific agency indicators and higher education. First, agency indicator levels are generally higher in England than in Québec, in particular regarding educational aspirations and academic self-concept. Second, in England, academic self-concept is associated with higher education enrolment, but it is not in Québec. Third, educational aspirations are higher in England, but their association with higher education is similar in both samples. Although many reasons could account for these differences, the next section will focus on social comparison processes and education policies.

Academic self-concept is to a large extent shaped by social comparison to other students' performance. When young people are surrounded by others who succeed relatively well academically, they may perceive themselves less positively academically, by comparison (Marsh et al., 2018). This comparison can be made at the class level, the school level and the country level simultaneously (Marsh et al., 2020). This has implications regarding stratification of education and concentration of similarly achieving peers in tracking systems. Paradoxically, gathering lower attainers together in lower educational tracks does not impede their academic self-concept and could theoretically be beneficial, as it diminishes perceived achievement gaps within the group (Dumont et al., 2017). However, such stratification limits social mobility because lower academic tracks tend to lead to fewer educational opportunities, thus creating inequalities in educational outcomes (Kamanzi, 2019). In addition to comparison at the class level, social comparison can occur at the country level, which could explain the differences observed in this study. Indeed, at the national level, Canadians tend to have better grades and participate in higher education in a greater proportion than their counterparts in the United Kingdom (OECD, 2014, 2023). A comparison at the national level could therefore lower Canadians' academic self-concept and partially explain the mean difference in academic self-concept and the difference in association with higher education between the two regions.

Policies in education aimed at promoting school perseverance and higher education participation also shape different dimensions of academic agency. For instance, in the United Kingdom, raising young people's educational aspirations has been the focus of specific policies (Spohrer, 2016) following recommendations based on state-funded reports (Cabinet Office, 2009). This could explain why educational aspirations are higher and practically unrelated to parental SES in England. Although higher education participation policies were also established in the province of Québec (Chenard & Doray, 2013), young people's aspirations were not targeted to the same extent. Despite these differences in the mean level, educational aspirations are associated with higher education in both samples. These results show the similarity between both transition systems, which are flexible enough to allow young people's aspirations to become reality, at least to some extent (Wheelahan & Moodie, 2017).

Academic agency is unrelated to meaningful employment in Québec, whereas one indicator of academic agency, educational aspirations, is related to meaningful employment in England. This might be explained by differences in vocational training availability at the secondary level in Québec. Vocational training at the secondary level provides opportunities for young people to access meaningful employment after a short training period (Masdonati et al., 2015). With such opportunities, academic agency might be needed to a lesser extent to foster

successful, rapid entry in the job market. Conversely, in a system where meaningful employment is only accessible with lengthier education (as in England), academic agency, in particular academic aspirations, might have a greater importance for employment outcomes (Schoon & Heckhausen, 2019).

Implications for Practice

Our results suggest that academic agency helps certain lower attainers pursue higher education, whereas its influence on meaningful employment outcomes is more limited. These findings suggest that improvements might be necessary from the school component within the school-to-work transition. In particular, it may be necessary to understand how secondary schools can foster work-related agency during secondary education (see also Schoon & Henseke, 2023), as fostering academic agency alone does not appear sufficient to support all forms of successful school-to-work transition pathways among lower attainers. Certain lower attainers could have limited agency due to a history of stigmatization and negative school experiences (Chase et al., 2014; Marsh & Martin, 2011). Besides improving lower attainers' experiences and learning opportunities in school, offering alternative opportunities for young people to test and develop their skills through vocational training could lead to positive experiences and success, which could, in turn, foster agency (Masdonati et al., 2015). In this regard, the Québec example could serve as a model, as it offers vocational training opportunities from grade 9 (age 15) integrated into the general academic track, which avoids canalization effects that could otherwise exacerbate social inequalities (Heckhausen & Buchmann, 2019; Masdonati et al., 2015). However, in liberal transition systems, vocational training is stigmatized, despite its documented benefits (Masdonati et al., 2015). Universal information campaigns should aim to provide relevant information on the potential benefits of such vocational training programs to encourage participation. Such efforts could complement policy developments targeting employers' practices regarding higher education requirements for jobs that did not traditionally call for college degrees (Cohen, 2023).

Some studies have suggested that specific job-seeking skills, such as application behaviour, could help lower attainers become employed (Holtmann et al., 2017). Although finding employment is important in and of itself, job search interventions should also aim to support a search for employment that is meaningful from the young person's own perspective. To find a meaningful job, young people must first have a sense of how work might add meaning for them. Scholars have highlighted the importance of identity development processes during the transition to adulthood and their connection with the development of agency (Schwartz et al., 2005). In this regard, interventions aimed at fostering work and school identity development should help young people develop a clearer understanding of their strengths and interests, which could, in turn, sustain commitment to school or work-oriented goals (Thouin, Dupéré, & Denault, et al., 2023). In line with the best practices in participative approaches to vulnerable youth, practitioners working with lower attainers should position themselves as facilitators in these young people's identity development and provide an open space where they can freely express their needs and ambitions, as well as concrete resources supporting the actualization of these ambitions (Augsberger et al., 2019).

Strengths and Limitations

The strengths and limitations of the present study must be considered when interpreting the findings. International comparison analyses can provide rich and robust findings (Duncan et al., 2014), which are especially needed for understudied vulnerable youth, such as lower attainers (Lupton et al., 2021). However, international comparisons also impose constraints on

measurement. Compromises had to be made regarding the timing of the measurement of some items, such as the academic self-concept items that were measured at age 13/14 in England and at age 15/16 in Québec. Differences in measurement timing can partially account for the observed difference in the mean self-concept, as it tends to diminish over time during high school (Marsh et al., 2018). Additionally, the items used to measure academic agency were comparable but worded slightly differently in the two samples. Furthermore, relevant control variables such as actual (as opposed to perceived) academic performance or grade retention could not be incorporated because measurement schedules did not correspond in the two data sets. This is an important limitation considering that grades during secondary education are important predictors of further attainment (Jerrim & Vignoles, 2015) that could explain a part of the apparent role of academic agency in this study. Finally, while both samples represented young people born in the 1990s, the LSYPE cohort represented the beginning of the decade, whereas the *Parcours* participants were born toward the end. Therefore, they may have faced different historical realities in their transition to adulthood, for example, coming of age during or after the 2008 Great Recession.

The multidimensional approach used to measure academic agency is a strength of the study as it allows to simultaneously capture the influence of a variety of predictors discussed in the school-to-work transition literature. Nevertheless, considering multiple dimensions at once implies that each is not examined as extensively as they are in studies focusing on a single indicator such as academic self-concept (Marsh & Martin, 2011) or educational aspirations (Fishman, 2022).

Linking academic agency to both educational and employment outcomes among lower attainers is a strength of this study, as it better reflects the complexity of their school-to-work transition. Considering both types of outcomes help to better understand how academic agency relates to school-to-work transitions. Yet, merely focussing on academic agency only partially portrays the role of agency. Future studies should use both academic agency and work-oriented agency to better account for the dual reality of school-to-work transition (Akkermans et al., 2021).

Finally, educational and employment outcomes were measured at one point in time at age 20, which could induce some bias, as young adults' occupational status and perception of their jobs can change rapidly (Thouin, Dupéré, Denault, et al., 2023). Future studies should also consider following lower attainers longer in their transition to adulthood to measure the stability of occupational outcomes.

Conclusion

In knowledge-based societies, the school-to-work transition presents particular challenges for adolescents who struggle academically within secondary education. The findings of the present study, obtained in two countries with liberal transition systems, show that despite these challenges, many lower attainers successfully navigate this transition either by enrolling in higher education against the odds, or by rapidly entering into meaningful employment. Considering both educational and employment outcomes is thus of particular importance when studying the transition of lower attainers for whom a lengthy academic path should not be considered as the only viable route to success. The results also suggest that supporting the development of a sense of academic agency in high school, for instance by fostering strong educational aspirations or school engagement, can support lower attainers' successful school-to-work transitions that imply participation in higher education. However, this form of agency is not consistently linked with rapid entry into meaningful employment. To support such outcomes, fostering other forms of

agency, such as vocational agency, might be necessary. Overall, the findings highlight the relevance of academic agency, even in a population that is not academically oriented, while also showing the limitations of only focusing on academic agency when considering work-related outcomes. Furthermore, as the specific components of academic agency that were associated with transition outcomes were not always the same across transition systems, the results also underscore the importance of considering both individual and structural influences when studying the school-to-work transition. Given the specificity of results as a function of transition outcomes and systems, it appears warranted to tailor interventions and policies to youth's specific needs and to the broader social contexts in which school-to-work transitions unfold.

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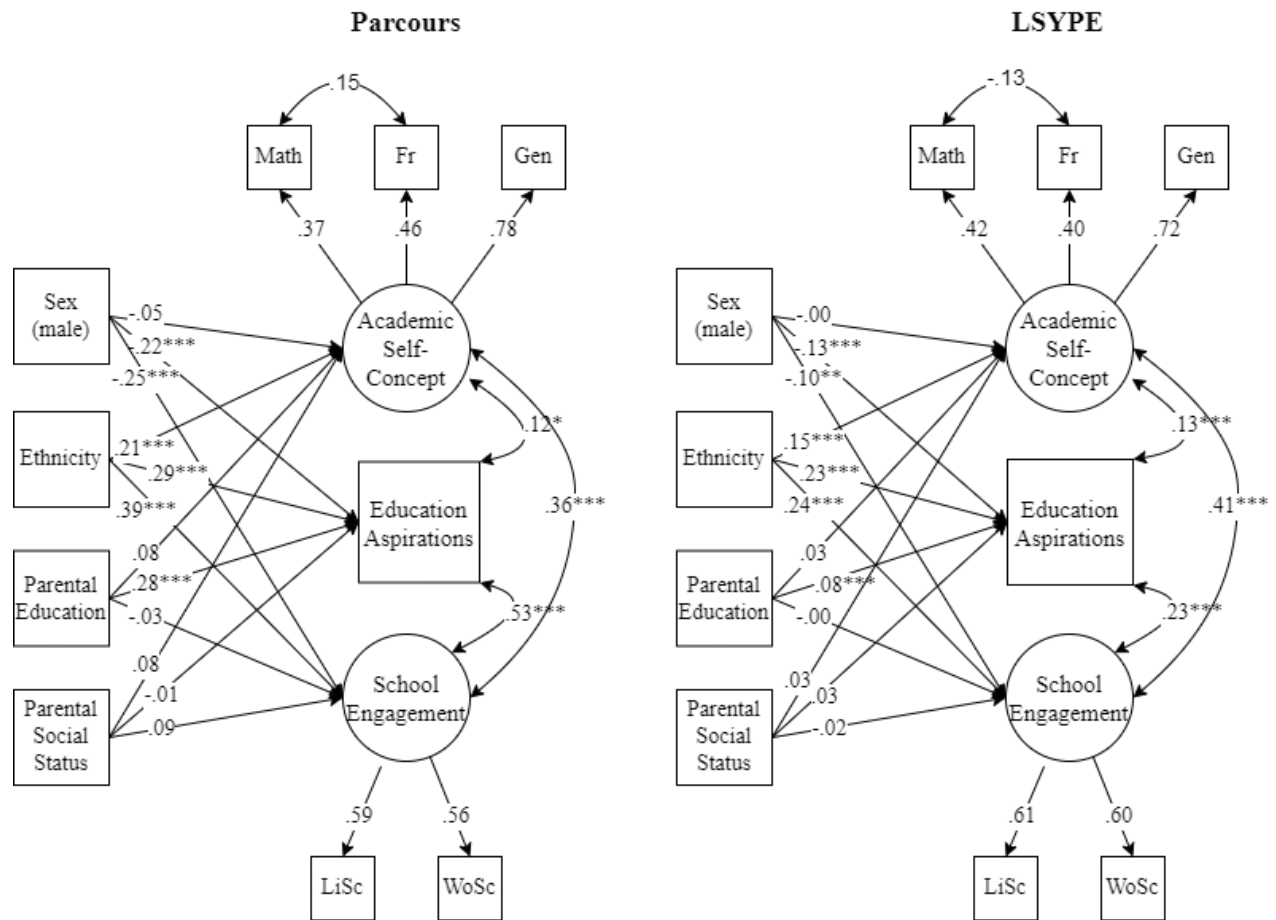
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Figure 2

Academic agency structural models for both samples including SES and control variables



Note. Coefficients presented are standardized linear regression and loading coefficients. * $p < .05$, ** $p < .01$, *** $p < .001$. Math : mathematics self-concept ; Eng/Fr: first language self-concept ; Gen : general school self-concept ; LiSc : emotional school engagement ; WoSc : behavioural school engagement.

Model fit indices: Chi-square ($\chi^2_{(39)} = 168.37, p < .05$; CFI = .91 ; RMSEA = .052

