

Abstract

For non-college-bound youth, swiftly finding a satisfying job upon exiting compulsory schooling might support adjustment. Yet, youths' own job perceptions have rarely been considered in school-to-work transition research. Sequence analysis of monthly occupational status over four years (ages 16 to 20) in a low-SES Canadian sample overrepresenting academically-vulnerable youth (N = 386; 50% male; 23% visible minority) generated five school-to-work pathways: two work-bound ones with jobs perceived as aligned with career goals (*Career Job*, 10%) or not (*Fill-In Job*, 26%), alongside three others (*Disconnected* [15%], *Prolonged Secondary Education* [25%], *Postsecondary Education* [24%]). Mental health was strongest in the *Career Job* pathway. Male sex and adolescent employment were precursors to this advantageous pathway, underscoring the crucial role of work experience.

Keywords: school-to-work transitions; non-college-bound youth; mental health.

Public significance statement: This study shows that among socioeconomically disadvantaged youth without a postsecondary degree, rapid and satisfactory integration into a “real” job perceived as career-related is possible but not common, and that this type of school-to-work transition is associated with favorable mental health outcomes. Also, male sex and prior work experiences during adolescence appear to facilitate rapid integration into a job perceived as career-related.

Beyond College for All: Portrait of Rapid and Successful School-to-Work Transitions Among Vulnerable Youth

Despite generally rising rates of tertiary education enrollment, better employment opportunities, and higher levels of life satisfaction and mental health for college and university graduates (Hout, 2012; Marshall & Symonds, 2021; Settersten & Schneider, 2018), a college degree remains elusive for a majority of young adults. In fact, tertiary graduation rates remain under 45% across OECD countries (OECD, 2020a). Also, post-secondary enrollment does not always translate into desirable outcomes. For non-academically oriented or socioeconomically disadvantaged youth, the high monetary, time, and cognitive costs of college sometimes prove unsustainable and lead to college dropout, uncompleted degrees, and heavy debts uncompensated by improved job prospects (DeLuca et al., 2016; Gelbgiser, 2018; Rosenbaum et al., 2015).

It is thus crucial to identify alternative school-to-work transition (SWT) pathways capable of supporting strong mental health outcomes among young people who are unwilling or unable to successfully engage in college. Such alternative pathways are likely to involve rapid employment in jobs experienced by young people as meaningful, satisfying, and aligned with their career goals. Theories and empirical work on occupational well-being underscore the critical role of workers' job perceptions (Medvide et al., 2019; Mortimer et al., 2008; Salmela-Aro, 2009). Yet, youths' own job perceptions have been overlooked in most previous longitudinal studies on the SWT, especially as they relate to the experiences of youth who enter adulthood with low odds of college enrollment and success. The goal of this study is to address this gap by examining whether some socioeconomically disadvantaged, academically struggling youth rapidly engage in pathways characterized by employment in jobs they perceive as a relevant stepping stone in their career, and if so, in what proportion, with what mental health

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consequences, and in relation to what antecedents in high school. Beyond perceived career relevance, the structural characteristics (salary, schedule, sector) of jobs associated with this pathway (if applicable) will also be examined.

Conceptualizing the SWT in Historical and Socioeconomic Context

This study adopts a broad life course perspective on the SWT (Schoon & Heckhausen, 2019). In addition to emphasizing how role transitions shape developmental trajectories, this perspective underscores the importance of considering historical and socioeconomic contexts. This appears particularly relevant for the SWT, which currently unfolds in more complex, diverse, and protracted ways compared to previous generations who primarily transitioned from full-time education to full-time work in a linear and predictable fashion (Settersten et al., 2005). Now, fluctuations and overlaps between major occupational statuses, such as being a student, a worker, or neither (not in education, employment, or training; "NEET"), are experienced by most youth (Marshall & Symonds, 2021; Settersten & Schneider, 2018). This increased complexity reflects the volatility of labor markets in Western societies, in which job opportunities with decent conditions (e.g., adequate salary and benefits) are becoming scarcer, especially for young workers. Unfortunately, this trend has been accelerated by recent global economic crises such as the Great Recession of 2008 and COVID-19-related economic disruptions (Chancer et al., 2018; Kalleberg & Vallas, 2018; OECD, 2020b). Even those who are lucky enough to find a good job in such times are at a disproportionately high risk of losing it because of "last hired, first fired" practices and because youth are overrepresented in sectors strongly affected by economic downturns (OECD, 2020b).

These general historical trends affect youths differently depending on their socioeconomic and educational situation, with a particular impact on those with low levels of

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education. Recent unemployment figures in Canada illustrate trends observed across OECD (2020b) countries, with unemployment rates more than twice as high among youth aged 15-24 years old than among older adults in 2019 (11.1% vs. 4.8%, respectively), with particularly high rates (17.1%) among youth without a high school diploma (Statistics Canada, 2021a).

Employment difficulties in turn pose mental health risks for low-educated youth, as young adults who do not engage in an SWT pathway leading to meaningful employment with adequate wages and benefits disproportionately experience depression, anxiety, and substance use problems later in life (Case & Deaton, 2020).

In the aftermath of these deep structural changes in the labor market affecting young adults with low levels of education disproportionately, there is a critical need to examine the SWT among non-college-bound youth who often strive for rapid job integration. At present, these youth are rarely the focus of trajectory studies examining the SWT (for an exception, see Murray et al., 2021). Moreover, these youth, especially those without a high school diploma, are often absent or misrepresented in the literature on young adulthood. Many studies of this life stage are based on convenience samples that overwhelmingly focus on youth enrolled in college or university, even though many youths attend other types of educational programs (e.g., vocational training, adult general education), work, or are in neither work nor education (Côté, 2014). This problem also affects population-based panel studies to some extent, as they often exclude by design significant proportions of highly vulnerable youth such as those who dropped out of high school (Rosenbaum et al., 2015), those involved in the juvenile system, or those with special needs (e.g., Statistics Canada, 2020). Even when vulnerable youth are included in the initial sampling frame, non-college-bound ones, especially those without a high school diploma,

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often become misrepresented over time because of high cumulative attrition rates (Dupéré et al., 2015; Reynolds & Kirkpatrick Johnson, 2011).

Heterogeneity in Work-Oriented SWT Longitudinal Pathways

Adequately studying the SWT requires researchers to derive longitudinal trajectories depicting, at least from late high school to early adulthood, the sequence, duration, and timing of youth's main occupation in education, employment, or NEET (Elder & Shanahan, 2007). Within these broad occupational statuses, additional distinctions are warranted. For instance, among young adults staying in education after compulsory schooling, profiles, experiences, and outcomes vary to a significant degree depending on program level and type (e.g., postsecondary vs. secondary, two-year vs. four-year college; Lorentzen et al., 2019; Ranasingue et al., 2019). Among youth who seek rapid job integration upon exiting high school, a pivotal distinction, at least in theory, revolves around their perceptions of their first job experiences as satisfactory and career-relevant or not. According to the occupational well-being literature, such perceptions of whether one's job is meaningful and corresponds with one's professional goals are paramount, whereas structural characteristics such as employment schedule (full-time vs. part-time) or stability are not, although these contribute to shape job perceptions (Medvide et al., 2019; Salmela-Aro, 2009).

Yet, extant studies on the SWT generally ignore youths' job perceptions, and instead focus on jobs' structural characteristics. As a result, these studies typically derive work-oriented pathways characterized either by full-time, stable employment or by job instability and part-time work, and show that the former is associated with more favorable outcomes compared to the latter (Corrales-Herrero & Rodríguez-Prado, 2016; Lorentzen et al., 2019; Ranasinghe et al., 2019; Schoon et al., 2001; Symonds et al., 2016). While informative, these findings probably

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miss a significant proportion of unsatisfactory job situations, since many youths working full-time in a stable job can nevertheless feel deeply unsatisfied and consider their job as unrewarding and a dead end (Chancer et al., 2018). Some youth from socioeconomically disadvantaged backgrounds indeed describe feeling stuck in an unsatisfying full-time job they initially sought not out of inclination but because of financial or care responsibilities (DeLuca et al., 2016). The need to consider youths' job perceptions is more important than ever, as the problem of full-time jobs being experienced as unsatisfying is likely on the rise, with the increasing concentration of "good jobs" in high-skilled sectors (Schoon & Bynner, 2019). Yet, despite these trends, some youth still manage to find a satisfying job that meets their professional goals without pursuing postsecondary education (see for example, Schoon & Henseke, 2021; Symonds et al., 2016). To fully capture these successful pathways, trajectory studies on the SWT need to move beyond structural characteristics like work schedules and consider youths' perceptions of their job as aligned with their career plans or rather as only a stopgap, less bad alternative.

Antecedents of Successful SWT Pathways

After deriving longitudinal SWT pathways and identifying those that are favorable for functioning and adjustment, the next step typically involves identifying the antecedents apparently helping youth to embark on such favorable pathways. To do so, contrasts are generally organized with reference categories representing pathways considered either most "ideal" or "vulnerable," usually implying higher education or disconnected "NEET" profiles respectively. As a result, the antecedents specifically associated with pathways that fall in between, not being considered as particularly favorable or detrimental – namely, the work-oriented ones – are not as well understood (for an exception, see Schoon & Lyon-Amos, 2016).

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Still, extant research using disconnected or education-oriented pathways as benchmarks provide relevant (although often indirect) information about the antecedents of work-oriented SWT pathways. In terms of socio-demographics, these studies generally find that male youth are overrepresented in work-oriented pathways (Anders & Dorsett, 2017; Murray et al., 2021; Ranasinghe et al., 2019), possibly because low-skilled job opportunities with advantageous working conditions (e.g., high salary, benefits), such as construction work, are typically accessible and attractive mostly to men (Uppal, 2017). Conversely, some studies find that women are overrepresented in disconnected compared to work-oriented SWT pathways, in part reflecting women's greater involvement in non-paid care for significant others (Allmang & Franke, 2020; Murray et al., 2021; Struffolino & Borgna, 2021). Finally, youth from more privileged backgrounds tend to be overrepresented in education-oriented compared to work-oriented and disconnected pathways, particularly the latter (e.g., Schoon & Lyons-Amos, 2016).

Besides socio-demographics, the same studies show that academic profiles in high school are associated with SWT pathways, with higher levels of achievement predicting education-oriented pathways. Also, working during high school has been associated in some studies with a higher probability of following work-oriented SWT pathways instead of education-oriented or disconnected ones (Ling & O'Brien, 2013), potentially because having a job exposes youth to a variety of experiences which build skills, work values, and workplace and self-knowledge (Mortimer et al., 1999; Staff et al., 2015). Regarding psychological factors, the role of mental health, self-concept, values, and goal engagement have been highlighted (Huegaerts et al., 2020; Murray et al., 2021; Schoon & Heckhausen, 2019).

While relevant, these studies provide little information about the factors distinguishing work-related SWT pathways from each other. In particular, there is little information about the

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antecedents of work-related pathways characterized by employment in jobs perceived as meaningful and career-related or not, given the general lack of attention to young adults' own perceptions about their first jobs.

Current Study

A better understanding of heterogeneity in work-oriented pathways is needed in the SWT literature, notably to verify whether such pathways can support adequate mental health for non-academically oriented young adults for whom postsecondary education is often not a possibility or a good fit. This study aimed at deriving SWT pathways among youth unlikely to successfully attend college, a crucial but less well-studied group of young people. Moreover, we consider young adults' perceptions of their job as a meaningful/satisfying "career job" aligned with their professional goals, rather than just a fill-in job while waiting for something better. It was expected that alongside education-oriented and NEET SWT pathways, at least two work-oriented ones would emerge, distinguishing those rapidly finding a "career job" aligned with professional goals and those staying in unsatisfying "fill-in" jobs. Generally, based on theoretical models of occupational well-being, it was expected that pathways characterized by early integration into a meaningful job fitting one's career goals would be associated with favorable mental health profiles, whereas being stuck in temporary jobs would instead be related to problems such as anxiety, depression, and substance use. Also, it was expected that jobs' structural characteristics (e.g., wage, sector, stability) would vary across the two expected work-oriented pathways, again with an advantage for those with jobs deemed satisfying and fitting with career goals.

Method

The study draws on data from the Pathways project, collected between 2012 and 2020. The study participants were interviewed face-to-face twice over a four-year period, before and

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after transitioning out of high school (with institutional review board approval and youths' informed consent). Recruitment procedures were designed to oversample among students attending low-SES public high schools and academically struggling adolescents at high risk of dropping out of high school before graduation.

Participants and Design

Base population: Students attending 12 socioeconomically disadvantaged public high schools. The sample was selected among a population of students attending 12 disadvantaged public high schools with high dropout rates located in and around Montréal (Québec, Canada) during either the 2012-13, 2013-14, or 2014-15 academic year (three, four, and five of the twelve targeted schools participated in each of these years, respectively). All students at the targeted schools aged at least 14 years old were invited to fill in a short screening questionnaire at the beginning of the school year (approximately in October), measuring basic socio-demographics (e.g., parental education), as well as school- (e.g., grade retention) and work-related (e.g., part-time work during the school year) variables (see Measures and Table 1). Almost all students (97%) gave their active consent and participated in the initial screening operations ($N_{\text{screening}} = 6,773$). This high participation rate was achieved by visiting each school multiple times and by closely collaborating with school staff to reach frequently absent students.

Phase 1: Initial high school face-to-face interview (late adolescence, ≈ 16 years old). A subset of the base population was selected to participate in detailed individual interviews later during the year, with the goal of interviewing about 45 youths in each school about their life circumstances and mental health, notably. This subset was selected so that the sample comprised about one third of adolescents who had left high school without a diploma recently (after the initial screening, but before the interview), one third of matched peers still in school at the time

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of the interview but at high risk of dropping out before graduating (see Dupéré et al., 2018 for details), and one third with an average dropout risk close to their school's average. Overall, 71% of the students targeted for participation in the detailed interviews agreed to do so. In total, 545 of the initially screened adolescents participated in the individual face-to-face semi-structured interviews (≈ 90 minutes). These first interviews took place between 2012 and 2016, when participants were aged about 16 years old (Phase 1; $N = 545$, $M = 16$ years old; $SD = 0.9$). In the gap years between the first and second face-to-face interviews (see next section), the participants were contacted by phone twice, one year and two years after their first interview. The goal of these short follow-up phone calls (≈ 10 minutes) was to update contact information and gather basic data about employment and education (see Measures) in preparation for Phase 2.

Phase 2: Follow-up face-to-face interview (early adulthood, ≈ 20 years old). The second face-to-face interviews were conducted between 2016 and 2020, four years after Phase 1. The goal was to re-interview the participants, by then in their early twenties and out of high school, using the same semi-structured interview protocol but adapted to this life stage. Self-reported questionnaires were also used to measure mental health outcomes and update socio-demographics. In total, 71% of the original sample took part in the second interview ($n = 386$), a high retention rate compared to other flagship studies following academically struggling youth during the SWT, such as the National Longitudinal Transition Study-2 (e.g., see Newman et al., 2011). These 386 participants were retained in the analytic sample since the primary analysis (sequence analysis, see Analytical Plan) is likely to introduce bias when applied to incomplete data. As shown in Table 1, the analytic sample was about evenly split as a function of sex and included about a quarter of visible minority youth. In bivariate analyses (available upon request), no significant differences were found between youth who participated throughout and those lost

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to attrition in terms of Phase 1 socio-demographics, school- and work-related variables listed in Table 1.

Measures

Monthly employment/education status over four years (≈ 16 to ≈ 20 years old). Monthly statuses were established by classifying participants' main activity or occupation on a five-level categorical variable, for each month of the four-year window between the two face-to-face interviews conducted in high school (≈ 16 years old) and in early adulthood (≈ 20 years old). The possible categories were: (1) NEET, (2) in secondary education (general or vocational programs), (3) in postsecondary education (college or university), (4) in a "fill-in" job while waiting for something better, and (5) in a "career job" perceived as corresponding to one's professional goals. In the province of Québec (Canada), secondary education includes general education (grades 7 to 11, accessible to minors ≤ 18 years old), adult general education (roughly corresponding to the General Equivalency Diploma in the U.S., accessible starting at 16 years old) and vocational training, which takes place mostly in educational institutions, with workplace internships (Ministère de l'Éducation du Loisirs et du Sport, 2010; Ministère de l'Éducation et de l'Enseignement supérieur, 2021). Postsecondary education programs are divided into two levels: college education, which includes technical training (e.g., nursing) and pre-university programs (Fédération des CÉGEPs du Québec, 2019), and university education.

These statuses over the focal four-year window were coded based on information obtained during the brief telephone follow-up interviews conducted one and two years after the initial face-to-face interview (at ≈ 17 and ≈ 18 years old), and during the second face-to-face interview, conducted four years after the initial one (at ≈ 20 years old). During the brief phone follow-up interviews, research assistants (RAs) asked participants to list all the educational

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programs they had enrolled in and all the jobs they had held in the previous twelve months, along with start and end dates and schedules (hours/week). Then, for each job listed, they asked participants whether they generally perceived it either as (1) a temporary, "fill-in" job while waiting for something better; or rather (2) as a "real" career job aligned with their professional goals and placing them on track to attain them. Also, for each educational program, RAs specified whether it was secondary or postsecondary.

A similar process unfolded during the early-20s face-to-face interview. RAs first asked youths to confirm, and correct if necessary, the information they had previously provided over the phone about their past educational programs and jobs. Then, RAs asked them, with help from life history calendar techniques, to update this information by listing more recent jobs and education enrollments (with start- and end dates, schedules, etc.), in the last two years of the observation window (i.e., between ≈ 18 and ≈ 20 years old). Again, for each new educational program listed, RAs indicated its level (secondary, postsecondary) and, for each additional job, participants indicated whether they viewed it as "temporary" or "career-related," using the same guidelines.

These data were then codified to represent monthly occupational statuses over the four-year observation window (48 months), from adolescence ($M_{\text{age}} = 16$ years old) to the beginning of adulthood ($M_{\text{age}} = 20$ years old). Statuses represent the main educational or professional activity during a given month, between the five options listed above. In months when participants were both working and studying, the main activity (i.e., in which they were engaged most of the time) was retained (e.g., full-time studying over part-time working).

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Structural characteristics of most recent job (≈ 20 years old). Both for validation purposes and to better understand the nature of eventual rapid insertion to work pathways (if applicable), key structural characteristics of the last job held by the youth were also coded, including work schedule (0 = part-time or < 25 h/week; 1 = full-time ≥ 25 h/week), work sector based on the North American Industry classification (Statistics Canada, 1996), and hourly wage. To assess job stability, the total number of jobs held over the four years covered was also compiled.

Table 1

Participant Characteristics and Descriptive Statistics for the Antecedent and Outcome Variables

	N	M/%	S.D.	Skewness	Kurtosis
Antecedents in adolescence (≈ 16 years old)					
Socio-demographics					
Age	386	16.3	0.9	0.2	-0.2
Male	386	50.0	–	–	–
Visible minority	386	23.0	–	–	–
Parental education	386	2.6	1.0	0.2	-1.1
School- and work-related					
Retention	386	2.0	1.0	0.6	-0.7
High school dropout	386	32.0	–	–	–
Working during the school year	386	32.0	–	–	–
Mental health functioning					
Depressive symptoms	386	0.8	1.5	2.6	8.6
Anxiety symptoms	385	0.4	1.0	3.1	10.2
Substance use					
Alcohol	383	0.1	0.6	5.2	26.2
Cannabis	384	0.6	1.3	1.9	2.0
Mental health outcomes in early adulthood (≈ 20 years old)					
Depression scale	367	20.0	6.7	1.7	3.2
Anxiety scale	361	20.0	6.4	0.3	-0.7
Substance use outcomes in early adulthood (≈ 20 years old)					
Alcohol use	380	5.0	5.1	0.4	-1.5
Cannabis use	376	3.2	5.1	1.2	-0.5
Other drug use	369	0.5	1.9	4.8	23.6

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Mental health and substance use outcomes in early adulthood (≈ 20 years old).

Depressive and anxious symptoms were assessed in Phase 2 by summing items answered on a four-point Likert scale from two subscales (14 depression items such as "I have no worth as a person," $\alpha = .92$ and nine anxiety items such as "I'm always worrying about something," $\alpha = .78$) of the *Personality Inventory for the DSM-5* (American Psychiatric Association, 2013). For substance use, participants were asked whether they used alcohol, cannabis, or any "other substance," and, if so, how many times per month (treated as a continuous variable ranging from 0 = "none" to 13 = "more than 41 times"). The "other substance" category aggregated a range of illegal substances (e.g., cocaine, magic mushrooms, acid, mescaline, morphine, heroin) with low occurrences.

Antecedents during adolescence (≈ 16 years old). All antecedents were measured during Phase 1, either via screening questionnaires or face-to-face interviews. They capture basic socio-demographics, school- and work-related variables, and mental health functioning in high school. *Socio-demographics and grade retention* were collected through the screening questionnaire administered at the beginning of the school year, in which participants were asked to report their age, sex, their parents' education level (from 0 = "primary" to 4 = "university"), and their visible minority status. Regarding the latter, we used the Canadian government's definition of "visible minority," which refers to any Canadian non-white (and non-Aboriginal) person, regardless of place of birth (Statistics Canada, 2021b). According to this definition, 88 youths (23%) in the sample were categorized as Canadian visible minorities. These youths or their ancestors immigrated to Canada from various regions of the world: Sub-Saharan Africa (33%), Latin America (28%), the Middle East and North Africa (15%), the Philippines (9%), South Asia (8%),

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and Southeast Asia (4%). The remaining 3% were (or had backgrounds) from other regions of the world or of mixed origins.

Grade retention was reported via a question with four anchor points (1 = "never retained" to 4 = "retained three times or more"). *Other school- and work-related antecedents* were measured a few months later, at the time of the initial face-to-face interview. High school dropout was captured via a variable indicating a permanent departure from high school before graduation at the time of the initial interview (0 = "no"; 1 = "yes"), confirmed through school administrative records (see Dupéré et al., 2018 for details). During the interviews, RAs also asked participants about their work experiences; specifically, whether they had a paid job or not during the last academic year (0 = "no" and 1 = "yes").

Finally, *mental health functioning* and *substance use* were also assessed during the interviews. The frequency of cannabis and alcohol use in the past year (other substances were not assessed in Phase 1) was measured by directly asking participants about their typical level of use for each substance, on a scale ranging from 0 = "no use" to 4 = "everyday use." The frequency of cannabis and alcohol use in the past year (other substances were not assessed in Phase 1) was measured by directly asking participants about their typical level of use for each substance, on a scale ranging from 0 = "no use" to 4 = "everyday use." The number of clinically significant anxious and depressive symptoms in the past year was measured using an adapted version of the *Structured Clinical Interview for the DSM-IV* (SCID; First et al., 2012, see Dupéré et al., 2018 for details). The SCID version based on the DSM-IV was used to measure mental health antecedents in adolescence because data collection in Phase 1 started in 2012, before the publication of the DSM-V. In contrast, mental health outcomes in early adulthood were captured with an instrument based on the fifth version of the DSM, which was available by the time Phase

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2 started in 2016. It is important to note that for depressive and anxiety disorders, changes between the two editions of the DSM have been minimal (Substance Abuse and Mental Health Services Administration, 2016).

Analytic Plan

Building the SWT Pathways with Sequence Analysis

Longitudinal SWT pathways were derived using sequence analysis (SA; Abbott & Forrest, 1986), a method designed to create typologies of longitudinal sequences for categorical outcomes; in this case, the five-level monthly employment/education status over the four-year observation window. SA has been widely applied to study the SWT in Europe (e.g., Brzinsky-Fay, 2007; Lorentzen et al., 2019) and recently in North America (e.g., Lu et al., 2021). SA was performed with the R Software TraMiner and WeightedCluster packages (Gabadinho et al., 2010; Studer, 2013) using the optimal matching procedure (Abbott & Forrest, 1986). Following common practice, the dissimilarity matrix was determined with indel costs set to 1, and substitution costs based on each status's transition rates (Studer & Ritschard, 2015). Alternative cost specifications (e.g., constant costs) were tested, with very stable results.

Based on the dissimilarity matrix, cluster analyses were then deployed to create the SWT pathways. We tested configurations including two to eight clusters, using two types of clusters: hierarchical clustering (HC) and partitioning around the medoid (PAM). Four fit indices gauged the quality of the various cluster solutions: Hubert's Gamma (HG), the Average Silhouette Width, the Calinski-Harabasz square index r , and Hubert's C index. Even though both the HC and PAM strategies yielded almost identical results, we retained the PAM solution because it had the best quality metrics (see Results and Table S1 for the PAM solution; HC metrics available upon request). The clusters' robustness was also checked by reproducing them with various split

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samples (e.g., younger *vs.* older participants). In the eventual case where, as predicted, more than one early work-oriented pathway would emerge, validity checks involving mean comparisons were also planned, contrasting these pathways in terms of structural job characteristics (work sectors, schedule, and wages), following a strategy similar to that of Murray et al. (2021).

Early Work-Oriented SWT Pathways: Mental Health Outcomes and Antecedents

To further validate the SWT pathways derived via SA and for substantive purposes, linear and multinomial regressions were used to examine outcomes and antecedents associated with the identified pathways. Outcomes were considered first to determine whether some non-college oriented SWT trajectories were associated with favorable mental health outcomes in early adulthood, as hypothesized. Then, the antecedents of these alternative pathways were examined, with a focus on the experiences facilitating engagement on favorable alternative pathways.

Associations with mental health outcomes were examined via linear regression analyses incorporating SWT pathways as predictors via dummy codes, using a work-oriented pathway as the reference category to highlight contrasts between these pathways and the others (results using other pathways as reference categories are available upon request). Each mental health and substance use outcome was predicted in a separate regression, controlling for basic socio-demographics and initial symptoms reported during adolescence (since "other substance use" was not assessed during Phase 1, "cannabis use" was used as a control for this outcome).

The antecedents of the SWT's pathways were examined via multinomial logistic regressions, incorporating as predictors socio-demographics, school- and work-related variables, as well as mental health variables during adolescence. Again, reference categories were set to highlight contrasts between the early work-oriented SWT pathways and the other pathways.

Results

Clustering Assessment

After comparing two- to eight-cluster solutions, the five-cluster configuration was retained because of its empirical and substantive superiority. This solution had the best value on the four fit indices (see Supplemental Table 1). Substantively, it reproduced SWT pathways theoretically expected and obtained in previous studies (e.g., Elder & Shanahan, 2007; Ranasinghe et al., 2019). The four- and six-cluster solutions were rejected respectively because of the lack of a theoretically important category (representing youth who transition to their desired career) or because the new cluster had little added value (it separated the fill-in work cluster into two quite similar subclusters distinguished only in terms of slightly earlier or later timing of the transition into work).

Figure 1 depicts sequence index plots representing each of the SWT pathways. Two work-oriented pathways emerged, together representing approximately a third of the sample (36%). In these pathways, youth started their trajectories in secondary education and eventually moved to the labor market, for most roughly around the second or third year of the observation window (i.e., around 18 years old). The main difference was related to job perception. Youth in the most prevalent pathway, the *Fill-In Job* pathway (26%), spent most of their employment time in jobs they perceived as temporary, filling in while waiting for something better. Youth in the less prevalent pathway, the *Career Job* pathway (10%), mainly occupied jobs they perceived as corresponding to their desired career. Some found such coveted jobs right after exiting secondary education, while others did so after being in a temporary, "fill-in" job.

There were also two education-oriented pathways, together comprising around half of the sample (49%). The first consists of youth essentially staying in a *Prolonged Secondary*

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Education (25%) trajectory apparently unsuccessfully trying to gain basic secondary qualifications. Some eventually transitioned to employment around the end of the period, but most stayed in secondary education all along. The second subgroup comprises youth who moved to *Postsecondary Education* (24%). The timing of the transition to higher education varies from person to person, but youth who followed this pathway all ended up in college or university by the end of the observation window.

The last SWT pathway, the *Disconnected* pathway, comprises 15% of the sample and includes youth who were mostly NEET during the four-year window. Some of them held a job or returned to school for short periods of time, but the most frequent status throughout was NEET.

Bivariate Analyses

Before contrasting each work-oriented pathway with the other SWT pathways on outcomes and antecedents, they were contrasted against one another in terms of jobs' structural characteristics to verify whether the young adults' subjective notion of "career-related" jobs also corresponded to advantageous work settings. Results presented in Table 2 show several significant differences. In terms of work sectors, youth in the *Career Job* pathway are overrepresented in the health care and social assistance, construction, and professional, scientific, and technical services sectors, whereas those in the *Fill-In Job* pathway mostly work and are overrepresented in the customer service sector (retail, accommodation, food services). The proportion of full-time workers is high in both pathways, but higher in the *Career Job* one. Salaries are 30% higher on average in the *Career Job* pathway (CAD\$18.5 vs. CAD\$13.0). There was no difference, however, in terms of job stability (number of jobs held during the four-year observation window).

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Table 2

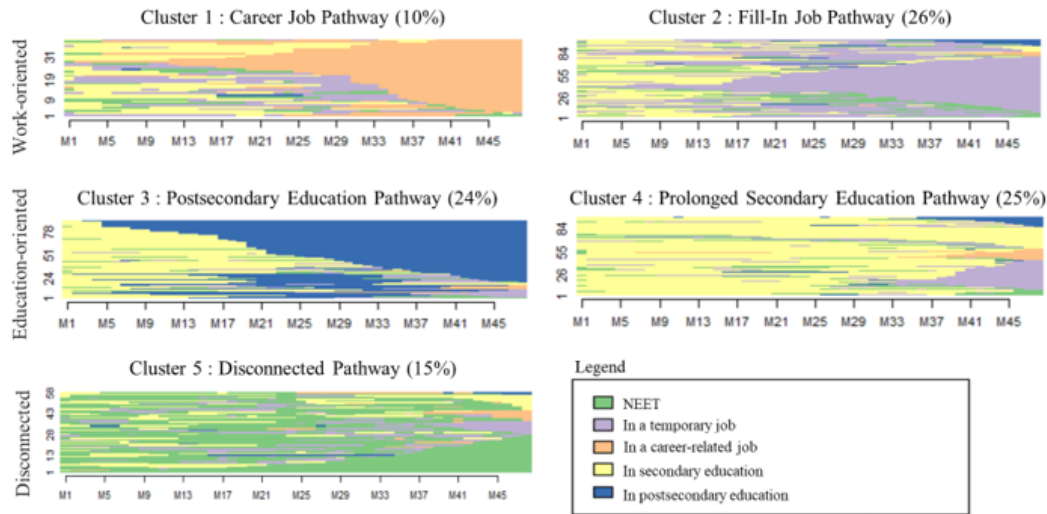
Bivariate Analyses Comparing Work Characteristics Between Youth Involved in the Fill-In Job Pathway and Those in the Career Job Pathway

	Fill-In Job (n=100)		Career Job (n=39)	
	M (S.D)	%	M (S.D)	%
Work sector				
Health care and social assistance		1.0*		7.7*
Customer services ¹		55.0*		15.4*
Construction		6.0*		35.9*
Manufacturing		11.0		7.7
Transporting and warehousing		4.0		5.1
Professional, scientific, and technical services		3.0*		15.4*
Other sectors ²		20.0		12.8
Work schedule				
Full time		77.0*		92.3*
Part time		23.0*		7.7*
Hourly wage (in CAD\$)	13.0 (2.9)*		18.5 (6.7)*	
Number of jobs held since initial interview	3.5 (1.9)		3.3 (1.5)	

Note. Means and percentages sharing asterisk (*) in each row differ significantly at $p < .05$, based on ANOVAs (for means) or chi-2 tests (for percentages).¹The customer services category includes both retail and accommodation and food services sectors since they offer similar work conditions.²The other sectors category includes sectors that summed to less than 5% of youth in both types of pathway, and comprise sectors like agriculture, forestry, fishing, and hunting, finance and insurance, real estate and rental and leasing and waste management and remediation services, arts, entertainment, and recreation.

Figure 1

Sequence Index Plots of SWT Pathways



Note. This figure illustrates the composition of the five clusters (SWT pathways) found in our sample. In each cluster, the y-axis represents the number of participants, and the x-axis represents time (in months, from 1 to 48).

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Regression Analyses

Two series of multiple regressions were performed. A first series focused on mental health outcomes in early adulthood with SWT pathways as predictors. A second series focused on high school antecedents of membership in these pathways.

Mental Health and Substance Use Outcomes in Early Adulthood. Linear regressions were used to predict mental health outcomes. They incorporated as predictors the dummy-coded SWT pathways alongside control variables measured in adolescence. In line with our focus on the work-oriented SWT pathways, they were conducted in two steps, first with the *Career Job* pathway as the reference category, and second with the *Fill-In Job* pathway as the reference category.

Step 1 – Career Job versus the other SWT pathways. Results with the *Career Job* pathway as the reference category, presented in Table 3, show that compared to the *Disconnected* SWT pathway, youth in the *Career Job* reported significantly lower levels of anxiety, depression, and alcohol and illicit drug use (other than cannabis) in early adulthood, with particularly marked differences for depression. In fact, young adults in the *Career Job* pathway were significantly less depressed in comparison with all the other pathways, including the *Postsecondary Education* one. The results were thus particularly robust and stable for depression. To gauge effect sizes, the betas capturing the differences in depression symptoms in favor of the *Career Job* pathway were standardized. These standardized betas ranged between $\beta = 0.18$ (for the *Career Job* vs *Fill-In Job* contrast) and $\beta = 0.27$ (for the *Career Job* vs *Prolonged Secondary Education* contrast), corresponding to small effect sizes according to Cohen's (1988) benchmarks.

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Table 3

Linear Regression Models Predicting Mental Health and Substance Use Outcomes During Adulthood with Career Job Pathway as the Reference Category

	Anxiety		Depression		Alcohol Use		Cannabis Use		Other Substance Use	
	<i>b</i>	SE	<i>b</i>	SE	<i>b</i>	SE	<i>b</i>	SE	<i>b</i>	SE
Control Variables (≈ 16 y.o.)										
Age	0.22	0.37	0.38	0.39	0.34	0.29	-0.15	0.27	0.06	0.11
Male	-2.75***	0.68	1.19†	0.72	0.75	0.53	0.88†	0.50	0.33†	0.20
Visible minority	-1.05	0.85	-0.47	0.89	-1.74**	0.66	-0.38	0.61	-0.20	0.24
Parental education	-0.02	0.37	-0.05	0.40	0.88**	0.29	-0.06	0.27	0.02	0.11
Sx/use in adol. ¹	0.13	0.33	0.37	0.23	0.94*	0.44	1.46***	0.19	0.40***	0.07
STW Pathways										
<i>Career Job (ref) vs.</i>										
Disconnected	2.88*	1.30	4.89**	1.46	-0.63	1.08	0.25	1.02	0.99*	0.40
Prolonged Sec. Education	0.62	1.26	4.12**	1.34	-0.41	0.98	-0.01	0.92	0.10	0.36
Postsec. Ed.	0.51	1.32	3.57*	1.41	-0.27	1.03	-0.49	0.97	0.16	0.38
Fill-In Job	1.06	1.23	2.80*	1.31	-0.38	0.96	1.63†	0.90	0.37	0.34

Table 4

Linear Regression Models Predicting Mental Health and Substance Use Outcomes During Adulthood With Fill-In Job as the Reference Category

	Anxiety		Depression		Alcohol		Cannabis		Other Substance	
	<i>b</i>	SE	<i>b</i>	SE	<i>b</i>	SE	<i>b</i>	SE	<i>b</i>	SE
Control Variables (≈ 16 y.o.)										
Age	0.22	0.37	0.38	0.39	0.34	0.29	-0.15	0.27	0.06	0.11
Male	-2.75***	0.68	1.19†	0.72	0.75	0.53	0.88†	0.50	0.33†	0.20
Visible minority	-1.05	0.85	-0.47	0.89	-1.74**	0.66	-0.38	0.61	-0.20	0.24
Parental ed.	-0.15	0.37	-0.05	0.40	0.88**	0.29	-0.06	0.27	0.02	0.11
Sx/use in adol. ¹	0.13	0.33	0.37	0.23	0.94*	0.44	1.46***	0.19	0.40***	0.07
STW Pathways										
<i>Fill-In Job (ref) vs.</i>										
Disconnected	1.80†	1.07	2.09†	1.14	-0.24	0.85	-1.38†	0.79	0.62*	0.31
Prolonged Sec. Education	-0.50	0.94	1.32	1.00	-0.03	0.74	-1.64*	0.68	-0.27	0.27
Postsec. Ed.	-0.55	1.01	0.77	1.08	0.12	0.80	-2.11**	0.74	-0.20	0.29
Career Job	-1.06	1.23	-2.80*	1.31	0.38	0.96	-1.63†	0.90	-0.37	0.35

Note. † $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$. ¹ Symptom of 1) anxiety and 2) depression and average use of 3) alcohol and 4) cannabis measured in the first phase when participants were adolescents. Since "other substance use" was not systematically assessed during the first phase, "cannabis use" is the control variable for "other substance use" during adulthood. Adol. = Adolescence. Ed. = Education. Sec. = Secondary. Sx = Symptoms.

Step 2 – Fill-In Job versus the other SWT pathways. Table 4 shows results from analyses with the *Fill-In Job* pathway as the reference category. This time, only one significant difference emerged in comparison with the *Disconnected* pathway, related to illicit drug use, with lower use

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among young adults in the *Fill-In Job* pathway. However, they used significantly more cannabis compared to the two education-oriented pathways (and marginally more compared to *Career Job* and *Disconnected* ones). No significant differences emerged for anxiety, depression, and alcohol use, except for depression in comparison with the *Career Job* pathway as reported.

Antecedents during Adolescence. Multinomial regressions were used to predict SWT pathways from antecedents in adolescence. Again, reference categories were set up to highlight predictors of the *Career Job* pathway and the *Fill-In Job* pathway compared to the other ones.

Step 1 – Career Job versus the other SWT pathways. Regarding antecedents during adolescence, Table 5 shows some socio-demographic differences between youth in the *Career Job* and the other SWT pathways, with males significantly overrepresented in all comparisons. Also, youth in the *Career Job* pathway had significantly less educated parents than peers in both education-oriented pathways. Visible minority youth were underrepresented in this pathway but only compared to the *Postsecondary Education* benchmark.

Concerning school- and work-related antecedents, dropouts were overrepresented in the *Career Job* pathway compared to those in both education-oriented pathways. However, youth in the *Career Job* pathway were less likely to have repeated a grade during high school compared with peers in the *Prolonged Secondary Education* and *Disconnected* pathways. In general, youth in the *Career Job* pathway were no different from those in the *Fill-In Job* pathway during adolescence, except for one element: they were more likely to have worked during high school. This overrepresentation of youth with work experience in high school was reproduced when the *Career Job* pathway was compared to all the other SWT pathways.

Finally, no mental health indicators during adolescence predicted membership in the *Career Job* pathway compared to the others, except for substance use. That is, youth from the

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Career Job pathway had significantly higher levels of alcohol use compared to those in the *Prolonged Secondary Education* pathway, but lower levels of cannabis use compared to those from the *Disconnected* pathway (and marginally lower compared to those from the *Fill-In Job* and *Prolonged Secondary Education* pathways).

Effect sizes were calculated for the main results showing a consistent (i.e., across all contrasts with other pathways) overrepresentation of males and of youth who worked in high school in the *Career Job* pathway. The magnitude of these effects was gauged using Chen et al.'s (2010) criteria for interpreting odds ratios (ORs) in terms of Cohen's (1988) classic benchmarks, according to which ORs of 1.68, 3.47, and 6.71 respectively corresponds to Cohen's d values for "small" ($d = 0.20$), "medium" ($d = 0.50$), and "large" ($d = 0.80$) effect sizes. Chen et al.'s (2010) criteria accommodate ORs ≥ 1 representing positive associations, but not ORs < 1 representing negative associations. Thus, when necessary, alternative models reversing reference categories or reversing variable coding (e.g., entering "female" instead of "male" for the sex variable) were run to transform ORs < 1 into corresponding ORs ≥ 1 (full results available upon request). The results showed that the overrepresentation of males in the *Career Job* pathway was of a medium magnitude when contrasts involved the *Disconnected* (OR = 5.78, 95% CI: 2.13-15.63), *Postsecondary Education* (OR = 4.64, 95% CI: 1.77-12.15) and *Prolonged Secondary Education* (OR = 4.14, 95% CI: 1.66-1.31) pathways, and of a small-to-medium magnitude for the comparison against the *Fill-In Job* pathway (OR = 2.81, 95% CI: 1.16-6.77). For the overrepresentation of youth who had worked in high school in the *Career Job* pathway, the effect sizes were in the small-to-medium spectrum, with ORs ranging between 2.45 (95% CI: 1.04-5.76, against the *Fill-In Job* pathway) and 4.41 (95% CI: 1.60-12.22, against the *Disconnected* pathway), with results falling in between this range for the contrasts involving the

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two education-oriented pathways (OR = 2.69, 95% CI: 1.04-6.97 and OR = 3.38, 95% CI: 1.36-8.86 for the *Postsecondary Education* and the *Prolonged Secondary Education* pathways, respectively).

Step 2 – *Fill-In Job versus the other SWT pathways.* Table 6 shows results from analyses now using the *Fill-In Job* pathway as the reference category. Regarding socio-demographics, some findings are similar to those obtained with the *Career Job* pathway; youths in the *Fill-In Job* pathway are also more likely to have low-educated parents than those in the two education pathways, and also comprise fewer visible minority youths, but in this case, compared to both the *Prolonged Secondary Education* and the *Postsecondary Education* pathways. They also include fewer females, but only compared to the *Disconnected* pathway.

In terms of school- and work-related variables, the results are somewhat similar to those reported above with the *Career Job* pathway as the reference category. First, youth who had repeated a grade were also underrepresented in the *Fill-In Job* pathway compared to those in the *Disconnected* and *Prolonged Secondary Education* ones, but overrepresented when compared to the *Postsecondary Education* pathway. Second, youth from the *Fill-In Job* pathway were more likely to have dropped out of high school than those following the *Postsecondary Education* one. However, some findings emerged only with regards to the *Fill-In Job* pathway and not the *Career Job* one. Namely, youth following the *Fill-In Job* pathway were significantly less likely to have dropped out of high school compared to those in the *Disconnected* one. Also, they were not different from peers in other non-work-oriented SWT pathways in terms of work experiences during high school. Finally, youth in the *Fill-In Job* pathway were also quite similar to all the other SWT pathways regarding mental health during adolescence, with one exception: they used significantly more cannabis than youth who followed the *Postsecondary Education* pathway.

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Table 5

Multinomial Logistic Regression Predicting School to Work Transition Pathway Membership With the Career Job Pathway as the Reference Category, From Antecedents Measured in High School

	Postsecondary education vs. Career Job		Prolonged Sec. Education vs. Career Job		Disconnected vs. Career Job		Fill-In Job vs. Career Job	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Socio-demographics								
Age	0.83	0.49-1.10	0.61*	0.38-0.99	0.56*	0.33-0.97	1.00	0.63-1.59
Male	0.22**	0.08-0.56	0.24**	0.10-0.60	0.17**	0.06-0.47	0.36*	0.15-0.87
Visible minority	4.01*	1.24-12.9	2.45	0.78-7.73	0.54	0.12-2.43	0.75	0.23-1.59
Parental ed.	2.70***	1.63-4.47	1.61*	1.00-2.58	1.24	0.73-2.12	1.07	0.63-1.59
School- and work-related antecedents								
Grade retention	0.57†	0.31-1.03	1.75*	1.08-2.85	1.93*	1.14-3.26	1.06	0.65-1.71
HS dropout	0.11***	0.04-0.34	0.28**	0.11-0.70	1.57	0.59-4.16	0.54	0.23-1.28
Working in HS	0.37*	0.14-0.96	0.30**	0.12-0.73	0.23**	0.08-0.63	0.41*	0.17-0.96
Mental health antecedents								
Depression sx.	1.25	0.85-1.83	1.28	0.89-1.82	1.41†	0.98-2.04	1.26	0.89-1.79
Anxiety sx.	1.28	0.76-2.12	1.14	0.68-1.90	1.17	0.69-1.99	1.13	0.69-1.85
Substance use antecedents								
Alcohol	1.12	0.49-2.57	0.43*	0.18-0.97	0.54†	0.26-1.10	0.56†	0.30-1.04
Cannabis	0.82	0.45-1.52	1.49†	0.97-2.27	1.54*	1.00-2.38	1.44†	0.95-2.17

Note. † $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$. Ed. = Education. HS = High school. Sx = Symptoms.

Table 6

Multinomial Logistic Regression Predicting School to Work Transition Pathway Membership With Fill-In Job Pathway as the Reference Category, From Antecedents Measured in High School

	Postsecondary education vs. Fill-In Job		Prolonged Sec. Education vs. Fill-In Job		Disconnected vs. Fill-In Job		Career-Job vs. Fill-In Job	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Socio-demographics								
Age	0.83	0.54-1.26	0.61**	0.43-0.87	0.56**	0.37-0.86	1.00	0.63-1.59
Male	0.61	0.30-1.21	0.68	0.37-1.25	0.47†	0.23-1.02	2.81*	1.16-6.77
Visible minority	5.34***	2.22-12.8	3.26**	1.41-7.54	0.72	0.20-2.59	1.33	0.40-4.38
Parental ed.	2.52***	1.71-3.72	1.50*	1.06-2.12	1.16	0.77-1.77	0.93	0.59-1.48
School- and work-related antecedents								
Grade retention	0.54*	0.33-0.88	1.66**	1.18-2.33	1.24**	1.24-2.70	0.95	0.59-1.48
HS dropout	0.21**	0.08-0.53	0.52†	0.26-1.03	1.37**	1.37-6.12	1.85	0.78-4.37
Working in HS	0.91	0.43-1.90	0.73	0.37-1.42	0.25	0.25-1.26	2.45*	1.04-5.76
Mental health antecedents								
Depression sx.	0.99	0.78-1.26	1.01	0.83-1.24	0.90	0.90-1.40	0.79	0.56-1.53
Anxiety sx.	1.13	0.83-1.56	1.01	0.74-1.39	0.73	0.72-1.47	0.89	0.54-1.46
Substance use antecedents								
Alcohol	2.00†	0.90-4.46	0.75	0.35-1.61	0.51	0.51-1.82	1.79†	0.96-3.34
Cannabis	0.57*	0.34-0.96	1.04	0.82-1.31	0.84	0.84-1.37	0.70†	0.46-1.05

Note. † $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$. Ed. = Education. HS = High school. Sx = Symptoms.

Discussion

The goal of this study was to describe the diversity of SWTs among low-SES, non-academically oriented youth, with a focus on rapid insertion in the labor market after compulsory schooling. Such work-oriented pathways were common, even though half of the youths in our sample were primarily involved in education at the secondary (25%, *Prolonged Secondary Education* pathway) or postsecondary (24%, *Postsecondary Education* pathway) levels. Two types of work-oriented SWT pathways emerged: one in which young adults found a satisfying job corresponding to their career goals (10%, *Career Job* pathway) and one in which they did not (26%, *Fill-In Job* pathway). It is thus still possible for youth without postsecondary education to rapidly find a job in which they see the potential to build a career, even though most seeking rapid job integration remain in jobs perceived as unsatisfying and unrelated to their career goals, if they find a job at all. It is indeed likely that many youths in the remaining *Disconnected* (15%) pathway, who were primarily NEET for the initial years of their adult life, were unsuccessfully seeking employment.

Separating career jobs and fill-in jobs is not a distinction without a difference: in line with basic premises of occupational well-being theory (Medvide et al., 2019; Salmela-Aro, 2009), youth in the *Career Job* pathway had better mental health outcomes (i.e., lower depression symptoms) than peers in the *Fill-In Job* pathway and, in fact, compared to those in all other pathways, including the *Postsecondary Education* one, with non-negligible effect sizes (ranging between 0.18 and 0.27 in terms of standardized regression β). Youths' positive perceptions of their job as "career-related" were apparently anchored in better working conditions: compared to fill-in jobs, career jobs were characterized by better salaries (by 30%) and were concentrated in sectors offering advantageous benefits. However, youth who found a job corresponding to their

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desired career during their first years of adulthood did not necessarily find these jobs right away, as they held on average 3.3 different jobs over the four-year observation window, an average virtually identical to peers following the *Fill-In Job* pathway. Thus, frequent job changes were not incompatible with eventually satisfying job integration. Also, youth in both the *Career Job* and *Fill-In Job* pathways mostly worked full time, although full-time work was more frequent in the former (92% and 77%, respectively). Finally, two main factors, being a male and employment during high school, predicted engagement on the *Career Job* rather than the *Fill-In Job* pathway, again with non-negligible effect sizes (with ORs of 2.81 and 2.45, respectively). Other factors, like low parental education or high school dropout, predicted engagement on both job-oriented pathways compared to one or both education-oriented ones but did not distinguish between the *Career Job* and *Fill-In Job* pathways.

Early Work-Oriented SWT Pathways and Mental Health during Early Adulthood

Youth who followed a *Career Job* pathway had better mental health outcomes. Not only were they less depressed than youth on the *Fill-In Job* pathway, but also compared to youth from all the other SWT pathways, including the *Postsecondary Education* one. This result is surprising since SWTs involving postsecondary education usually stand out as the most adapted ones in the literature (e.g., Anders & Dorsett, 2017), although other studies have also found better adjustment among youth in non-academic tracks such as vocational training, apprenticeships, or full-time employment (see Symonds et al., 2016). Considering youths' perceptions of their jobs in future research might help resolve such inconsistencies, as those finding a satisfying career from their own point of view apparently present different mental health profiles than those in jobs that are disconnected from career goals. When these pathways are conflated, the apparently better mental health outcomes of those finding a meaningful job

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might be masked by the greater number of peers stuck in unsatisfactory employment situations and become undetectable.

Alternatively, this result might be specific to academically at-risk and socioeconomically disadvantaged young adults, who were overrepresented in this study. For them, postsecondary education can exert intense pressure because of large demand-resource gaps in academic and financial terms and thus not confer well-being benefits to the same degree as those observed in general-population samples (Plenty et al., 2018). Young adults in the *Career Job* pathway were potentially less likely exposed to such pressures, notably because they overwhelmingly worked full-time on a salary substantially higher than the minimum wage. Also, given that they worked in a job fitting their career goals, they may have experienced a better sense of self and identity, compared with peers trying to pursue education despite significant barriers and maybe not entirely because of their personal inclination but in part because of normative pressures (see Thouin et al., 2022).

Viewed in a reverse perspective, these considerations can also partly explain the higher depressive symptoms observed among youth in the *Fill-In Job* pathway compared to youth in the *Career Job* pathway. Youth in the *Fill-In Job* pathway earned low wages on average and worked in sectors often offering suboptimal working conditions. Furthermore, unlike youth in the two education-oriented pathways who were, despite possible academic and economic challenges, actively accumulating skills and knowledge to increase their chances of future professional success, youth in the *Fill-In Job* pathway seemed stuck in place, waiting for something better to happen, switching from one job to another without clear progress. The continuous lack of correspondence between their employment situation and their professional goals was potentially a burden affecting their mental health, since the level of fit between one's job and career goals is

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a central component of occupational well-being, as stated before (Medvide et al., 2019; Salmela-Aro, 2009). Also, it is essential to note that youth in the less meaningful career pathway felt more depressed than those in the *Career Job* pathway even though they generally worked full time (72%). This result echoes recent data on employment (Kreshpaj et al., 2020), revealing that a full-time schedule does not prevent job precariousness anymore, especially when wages are low and working conditions are unsatisfactory.

Precursors of Rapid Integration into Jobs Reflecting Career Goals

While our results demonstrate that a quick entry into the labor market during SWT can lead to a satisfying job aligned with young people's career goals and fewer depressive symptoms in early adulthood, they also show that this scenario is, unfortunately, quite rare. Indeed, less than one in five of those who sought rapid employment directly after (or before) graduation from high school experienced this kind of transition. What are the characteristics and experiences that distinguish them from youth in the other pathways?

Results first revealed few differences between youth from the two work-oriented pathways (*Career Job* and *Fill-In Job*). This is in part encouraging because it suggests that successful rapid integration into the labor market is not accessible only to narrow subgroups of adolescents with specific socio-demographic or academic profiles in high school. However, the *Career Job* pathway was much more accessible to one group: men, with a particular large difference when compared to the *Disconnected* pathway (OR = 5.92 [CI: 2.18-16.03]). This likely reflects gaps between men and women previously discussed in terms of access to well-paid low-skilled job opportunities and the burden of care that women are more likely to shoulder (e.g., Struffolina & Borgna, 2021). Among youth who are not planning to pursue higher education,

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particular attention must be paid to young women since they are more at risk of disconnecting during their passage to adulthood and of holding jobs not matching their vocational goals.

Beyond socio-demographics, one antecedent during adolescence stood out as a predictor of the *Career Job* pathway: working during high school. Holding a job during secondary education appears to be beneficial, echoing results found in prior research associating adolescent employment with the acquisition of skills and knowledge valuable for future job prospects (Mann et al., 2020; Staff et al., 2015). Furthermore, being introduced early to the workforce and experiencing different tasks and responsibilities might help youth identify the kind of jobs they would like to occupy later, and start to create networks of coworkers that might support their future job search (Arbex et al., 2019; Thouin, 2022; Glitz, 2017). In turn, they could potentially seek and settle into a job matching their aspirations earlier than their peers who did not work during high school. However, prior research on adolescent employment also highlights some potentially detrimental effects of working during high school (Staff et al., 2020). Negative repercussions typically occur when work schedules exceed 20 hours per week and mainly concern school issues, like lower grades, lower school attendance, and, ultimately, high school dropout. For non-academically oriented adolescents, these consequences may not appear significant in the short term, especially if they rapidly find themselves on a *Career Job* pathway. Yet, even for those who rapidly find a satisfying and career-aligned job, not having sufficient education and academic skills may represent a burden in the long term if they wish to (or must) reorient themselves towards a profession requiring further qualifications, which may well happen given the ongoing loss of good industrial low-skilled jobs. Thus, working in high school should be encouraged with caution and within bounds, particularly among adolescents at risk of

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dropping out, since the absence of this basic qualification may severely limit employment prospects later in life (see Murray et al., 2021).

Strengths, Limitations, and Future Research

Our results highlight the importance of considering youths' perceptions of their employment situation to better understand the SWT pathways among youth who enter the labor market early. This contribution was supported by key methodological strengths. Namely, non-academically oriented and socioeconomically disadvantaged youths were successfully recruited, including high school dropouts who are notoriously underrepresented in extant studies (Dupéré et al., 2015; Murray et al., 2021; Reynolds & Johnson, 2011). These youths were followed longitudinally starting in high school and until their early twenties, with comparatively high retention rates. Also, they were interviewed in detail in person, in a way that allowed the complete reconstruction of their SWT pathways over the critical first few years of adulthood, and while incorporating their perceptions of each job held during that period.

Despite these strengths, the results must be interpreted in light of significant limitations. First, the study was conducted in the Canadian context; thus, the results may not generalize to other countries, especially those with vocational systems emphasizing workplace training rather than in-school training.

Second, only the period between the end of adolescence and the very beginning of adulthood was covered. Thus, we cannot ascertain whether young people who found a job aligned with their career goals were able to keep it in the long run and, if so, whether they maintained lower symptoms of depression over the years. Also, youths' perceptions of their first jobs were measured only once, at the outset of adulthood. Importantly, however, youths'

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perceptions might change in meaningful ways as they further progress into adulthood. To capture these developmental processes, further research with longer follow-ups is needed.

Third, although we considered different demographic, educational, and occupational characteristics that might have played a role in predicting SWTs, we did not include all relevant antecedents or outcomes. For example, personality traits and social networks were omitted, although studies have shown they can influence SWTs (Marshall & Symonds, 2021). In terms of outcomes, other key aspects of life in early adulthood should be considered beyond mental health, such as living arrangements, family formation, parenthood, and broader life satisfaction. Moreover, beyond considering additional antecedents and outcomes, future studies should examine the developmental processes underpinning some of the key findings. Notably, identity-related processes require attention. Identity development is preeminent during the transition from adolescence to adulthood, and as such represents a key candidate for understanding why working in high school might facilitate rapid entry into a career job (see Thouin, 2022). Future studies also need to sort out synergies and intersections involving different types of factors associated with youths' engagement in different school-to-work transition pathways. Paying due consideration to the interactions between structural/contextual and individual/internal factors appears especially important if research is to be better attuned to the specific realities and needs of particular subgroups, defined among other things along racial and ethnic lines (Archambault et al., 2017).

Finally, this study is correlational in nature, which precludes causal interpretations. Even though control variables (including some capturing the initial level of the dependent variable) were incorporated in the regression models, selection effects related to omitted or unobserved variables might still underlie at least in part some (or all) of the findings. However, given that the

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effect sizes associated with the key findings tended to be non-trivial (especially those regarding the overrepresentation of males in the *Career Job* pathway), independent associations (i.e., beyond the controls already considered) between unmeasured variables and the outcomes would need to be substantial to completely explain away the findings (see Frank, 2000).

Conclusion and Policy Implications

The SWT trajectories derived in our sample (overrepresenting academically vulnerable youth coming of age in Canada) indicate that a majority were stranded in unsatisfactory situations, because they either remained in substandard fill-in jobs, struggled to complete their basic secondary education, or were not in education, employment, or training for extended periods of time. In fact, only one in ten of the young people in our sample found a meaningful job that corresponded to their career goals and benefited from associated mental health advantages. Rapid and satisfying integration into the labor market following compulsory schooling is thus possible but infrequent, and apparently requires a confluence of prior personal experiences (e.g., working in high school) and structural advantages (e.g., male sex).

Successful employment integration is thus apparently very challenging for non-academically oriented youth. One approach for supporting better transitions revolves around the promotion of low-intensity work while still in education, in addition to providing relevant career guidance and information (for an example, see Miller et al., 2018). Also potentially helpful are integrated vocational training provision (VET) systems found in some European countries (e.g., Germany, Austria) based on a close collaboration between schools and employers. Although the VET system is often criticized for its tendency to reproduce social stratifications (see Protsch & Solga, 2016), there is also evidence showing that countries with strong VET programs generally facilitate a smooth and sustainable early entry to the labor market for work-oriented youth

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(Quintini & Manfredi, 2009; Schoon & Bynner, 2019). Policies reducing precariousness among lower-wage employees could also contribute to improving the work situations of many young adults (Godøy & Reich, 2019). In particular, better social and financial recognition of jobs typically held by women such as those in care professions (e.g., early childhood education) could help to reduce the gender pay gap and contribute to the creation of greater work opportunities for women seeking rapid job integration (World Economic Forum, 2021). Policies that economically support pregnancy and maternity leave are also known to reduce women's employment difficulties (Blau & Kahn, 2013).

Developing such approaches facilitating successful SWTs is a priority area for future research, given the negative mental health and social consequences throughout adulthood associated with unsatisfying SWTs. Such approaches are particularly needed to support youth from disadvantaged backgrounds and those facing other challenges like learning disabilities, who are disproportionately affected (Marshall & Symonds, 2021).

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