



The influence of career indecision on life satisfaction among grade 12 Ontario students: career choice support as mediator and moderator

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Abstract

This study investigated to what extent career decision-making difficulties (CDMD) impact students' satisfaction with life and the potential mediating and moderating role of career choice support in this relation among 1094 grade 12 students in Ontario, Canada. Findings supported the negative impact of CDMD on students' life satisfaction. Surprisingly, unlike counselors' support, only teacher and parental support were significant drivers of students' life satisfaction, with parental support exhibiting a solid effect. Furthermore, although support from each stakeholder partially mediated between CDMD and life satisfaction, parental support was identified as the strongest in reducing the negative impact of difficulties on students' life satisfaction. Moderation effects were not supported.

Keywords Career decision-making difficulties · Career choice support · Life satisfaction

Résumé

Cette étude a examiné dans quelle mesure les difficultés de prise de décision de carrière (DPC) affectent la satisfaction de vie des élèves et le rôle potentiel de médiation et de modération du soutien au choix de carrière dans cette relation parmi 1094 élèves de 12e année en Ontario, Canada. Les résultats ont confirmé l'impact négatif des DPC sur la satisfaction de vie des élèves. Étonnamment, contrairement au soutien des conseillers, seul le soutien des enseignants et des parents étaient des facteurs significatifs de la satisfaction de vie des élèves, le soutien parental ayant un effet solide.

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De plus, bien que le soutien de chaque partie prenante ait partiellement joué un rôle de médiation entre les DPC et la satisfaction de vie, le soutien parental a été identifié comme le plus fort pour réduire l'impact négatif des difficultés sur la satisfaction de vie des élèves. Les effets de modération n'ont pas été confirmés.

Zusammenfassung

Diese Studie untersuchte, inwieweit Schwierigkeiten bei der Berufsentscheidung (CDMD) die Zufriedenheit der Schüler mit dem Leben beeinflussen und welche mögliche vermittelnde und moderierende Rolle die Unterstützung bei der Berufswahl in dieser Beziehung unter 1094 Schülern der 12. Klasse in Ontario, Kanada, spielt. Die Ergebnisse bestätigten den negativen Einfluss von CDMD auf die Lebenszufriedenheit der Schüler. Überraschenderweise waren im Gegensatz zur Unterstützung durch Berater nur die Unterstützung durch Lehrer und Eltern signifikante Treiber der Lebenszufriedenheit der Schüler, wobei die elterliche Unterstützung einen soliden Effekt zeigte. Darüber hinaus vermittelte die Unterstützung von jedem Stakeholder teilweise zwischen CDMD und Lebenszufriedenheit, wobei die elterliche Unterstützung als die stärkste bei der Reduzierung der negativen Auswirkungen von Schwierigkeiten auf die Lebenszufriedenheit der Schüler identifiziert wurde. Moderationseffekte wurden nicht unterstützt.

Resumen

Este estudio investigó hasta qué punto las dificultades en la toma de decisiones sobre la carrera (CDMD) afectan la satisfacción con la vida de los estudiantes y el potencial papel mediador y moderador del apoyo en la elección de carrera en esta relación entre 1094 estudiantes del 12° grado en Ontario, Canadá. Los hallazgos respaldaron el impacto negativo de CDMD en la satisfacción con la vida de los estudiantes. Sorprendentemente, a diferencia del apoyo de los consejeros, solo el apoyo de los profesores y de los padres fueron factores significativos en la satisfacción con la vida de los estudiantes, con el apoyo parental mostrando un efecto sólido. Además, aunque el apoyo de cada interesado medió parcialmente entre CDMD y la satisfacción con la vida, el apoyo parental fue identificado como el más fuerte en reducir el impacto negativo de las dificultades en la satisfacción con la vida de los estudiantes. Los efectos de moderación no fueron respaldados.

Introduction

The following research explores the impacts of career decision-making on life satisfaction among grade 12 high school students. The role of social support in this relationship will be of particular interest. To achieve this goal, the career decision-making process, life satisfaction, and social support will be explored. Reviewing the current literature, social support themes, and how they relate to life satisfaction and career development will be examined.

Career indecision and well-being

One of the challenges that high school students can face when considering their future academic avenues is career indecision (Sovet et al., 2016). Career indecision refers to a state of indecisiveness regarding career paths and occupational interests (Foley et al., 2006), which can result from various difficulties before or during career decision-making (Sovet et al., 2016). Different theoretical models have been proposed to identify, classify, and study the most significant career decision-making difficulties, such as vocational readiness. Vocational readiness is consistently associated with students' adaptation to their postsecondary studies and their overall life satisfaction (Samson et al., 2021), which can be defined as a cognitive evaluation that one's life and circumstances are positive and contribute to overall mental health (Diener et al., 1985; Zelenski, 2020). However, there is limited scientific knowledge about career indecision among grade 12 high school students, specifically their well-being and overall life satisfaction.

The lack of knowledge around career indecision in relation to well-being and life satisfaction among grade 12 high school students is relevant when considering what they are currently experiencing. A significant percentage of students experience a high level of vocational indecision when they arrive at university or college. Indeed, 42.9% of participants in a study of Ontario grade 12 students indicated that they felt generalized indecision, and 29.3% developed irrational beliefs about their career choices (Samson & Bastien, 2018). In short, vocational indecision, or the absence of a career plan, can be the source of various difficulties (Argyropoulou et al., 2007; Ng & Feldman, 2009), such as low self-esteem, anxiety, and a lack of future structure, which in turn can lead to students not pursuing postsecondary education (Denault et al., 2019).

High school students must also navigate what they describe as an uncertain, fluctuating, and difficult-to-predict professional future (Negura & Samson, 2008). The current globalization of the workforce has ended the notion of a lifetime job (Rossier, 2015; Savickas et al., 2009). These challenges of career indecision could potentially impact students' well-being, which can be defined as "a state of happiness and contentment, with low levels of distress, overall good physical and mental health and outlook, or good quality of life" (American Psychological Association, 2023). High levels of career indecision have been linked not only to a decrease in career motivation, but also to a decrease in well-being, as reviewed by Ng and Feldman (2009). All these challenges aside, social support has been found to have some predictive power in student's well-being (Lauzier et al., 2015). With that in mind, we must look more closely at the role of social support in career development to better understand related findings.

Social support, career decision-making, and career development

Social support is the information that conveys the feeling of being cared for, esteemed, valued, and belonging to a network of obligations and communication

in the context of social relationships and interactions (Cobb, 1976; Lauzier et al., 2015; Vallerand, 2006). Vallerand (2006) defined social support as “interpersonal exchanges of resources, where one person helps another to satisfy needs or achieve important goals” (p. 366). There is considerable literature on social support and its role in the development of individuals. Despite this enthusiasm and given the complexity of this concept, there is still no consensual definition, leading to a variety of instruments developed to operationalize it. In a review aimed at clarifying the concept, Beauregard and Dumont (1996) identified three main dimensions of social support: the support network resources, the supportive behavior, and the subjective appraisals of support. The approach to social support in the current study (as measured within the Social Support Scale by Lauzier et al., 2015) is based on the third dimension, as it involves a cognitive evaluation (present or absent, sufficient or not) of the help received from three sources (i.e., parents, teachers, and guidance counselors) by the students, an evaluation based on their needs and expectations. According to House et al. (1985), help or assistance can take various forms, including emotional (e.g., empathy), instrumental (e.g., financial aid), or persuasive (e.g., verbal encouragement). From this perspective, social support can be defined as the set of resources individuals can mobilize from others to cope with a challenging situation or adjust to the difficulties they encounter (Cohen & Wills, 1985). This perspective is echoed in Social Cognitive Career Theory (SCCT; Lent et al., 1994), which highlights the role of social support in defining and implementing actions and achieving performance. More specifically, individuals are less likely to transform their goals into actions if they have low social support. Conversely, when individuals perceive strong social support, it becomes easier for them to achieve their objectives and overcome barriers (Lent et al., 2000).

Studies have shown that family, friends, mentors, and teachers are the primary sources of social support that contribute to the psychosocial development of adolescents and students (Atitsogbe et al., 2019; Ikiz & Cakar, 2010; Lent et al., 2002; Pössel et al., 2018; Samson et al., 2014; Wang et al., 2023). The conceptualizations of social support used in these studies included emotional (e.g., caring, counting on others), instrumental (financial support), persuasive (e.g., encouragement), or tangible features (e.g., helping in doing homework assignments). It is important to note that conceptualizations of social support often encompass broad, generalized aspects. For instance, items that assess the extent to which individuals can rely on their family for assistance or advice in times of difficulty (e.g., Dubow & Ullman, 1989) typically lack specificity regarding the precise nature or context of the support provided. This could explain why the generalized concept of social support is predominantly employed in literature. Furthermore, some researchers have coined the generalized concept of social support to a scale assessing support students receive when they must make a career choice (Lauzier et al., 2015). This could be a source of ambiguity as specific support within career choice can be mistaken for general support.

Social support has been shown to have a significant impact on career decision-making. Some studies suggest a direct relationship between career decision-making and social support and that some factors of career development can play a mediating role between career decision-making and social support (Hou et al., 2019;

Jemini-Gashi et al., 2021; Turan et al., 2014). In a study exploring the association between social support, career indecision, and career self-efficacy, three types of social support were measured: parental support, school and teacher support, and perceived peer support (Jemini-Gashi et al., 2021). These support types were analyzed among 700 grade 12 students. Career indecision and career self-efficacy were also evaluated for each participant. Results indicated significant negative correlations between career indecision and social support and between career indecision and each of the three measured types of social support (i.e., parental, school/teacher, and peer support). These correlations suggest that students with high levels of social support report lower levels of career indecision, with parental support having the most significant impact of the three support types (Jemini-Gashi et al., 2021). In the same study, it was found that career self-efficacy, which can be defined as a person's self-confidence in their abilities during the process of career decision-making, was negatively correlated with career indecision and played a mediating role between social support and career indecision, meaning that social support impacted career decision-making through career self-efficacy.

Similar results were found in a longitudinal study that measured perceived social support, career decision-making self-efficacy (CDMSE), and career adaptability among undergraduate students (Hou et al., 2019). Results revealed that perceived social support significantly correlated with and predicted CDMSE over time. In other words, students with more social support had higher levels of CDMSE. Perceived social support was also found to positively affect career adaptability through the mediation of CDMSE (Hou et al., 2019). These results highlight the importance of social support in establishing trust and confidence when facing career choice and planning. Finally, this study demonstrates social support's indirect effect on coping with career development requirements, career change, and career-related stress.

Career exploration is an important process that guides and informs career decision-making and planning (Esters, 2008; Kosine & Lewis, 2008; Turan et al., 2014). In a study that examined the relationship between career exploration and perceived social support, the two variables were measured in a sample of 718 middle school and high school students in Turkey (Turan et al., 2014). Results revealed a significant positive correlation between career exploration and perceived social support from family, friends, and significant others. Further analysis revealed that perceived social support from those three sources predicts career exploration. As perceived social support increases, so does career exploration, contributing to career decision-making and development. Similarly, studies have also shown the effect of career or guidance counselors' support on students' career decision-making and career development (Choi et al., 2015; Stipanovic et al., 2017). For example, Stipanovic et al. (2017) found that, after benefitting from a career orientation program and career counseling, senior high school students reported increased levels of academic and career self-efficacy. This manifested in being motivated to put more effort into their courses, take more challenging courses that align with their future aspirations, and report an increased sense of preparedness for college and work.

The above findings align with Lent et al.'s (2000) Social Cognitive Career Theory (SCCT), which aims to explain how cognitive person-related, environmental, and experiential variables influence career interests, decisions, and development.

This theory is particularly relevant to the present study, given that social support is an environmental factor that could contribute to career development and decision-making.

Social support and life satisfaction

Life satisfaction is related to numerous variables encountered in students' academic and vocational lives (Fisher et al., 2022; Kojanagh et al., 2020; McDougall & Wright, 2018). This construct has consistently demonstrated positive relatedness to social support in adults (Fisher et al., 2022; Harasemiw et al., 2019). Some research indicated that social support is a significant predictor of life satisfaction for students (McDougall & Wright, 2018). Specific facets of social support have clear impacts on student life satisfaction. Namely, parental perceptions of youths' strengths and family-related factors positively relate to student life satisfaction (Cherry et al., 2020; Chow, 2008). Furthermore, students who spend more time engaging in extracurricular activities and less time on homework and studying reported greater life satisfaction (Chow, 2008). This suggests that students are being exposed to more opportunities to develop valuable personal, coaching, and mentoring relationships that provide them with higher levels of social support (Chow, 2008; Dworkin et al., 2003; Smith, 2003).

High school students preparing for postsecondary education face transitional issues such as career decision-making and exploration (Fidan & Nas, 2021; Samson & Negura, 2008). In this critical period, social support can significantly influence overall life satisfaction. Social support from family, friends, and colleagues can influence students' life satisfaction by interfering with other variables related to academic satisfaction, such as academic adjustment (Friedlander et al., 2007) and academic self-efficacy (Sharma & Nasa, 2014). For example, among a sample of 621 first-year undergraduate university students, perceived social support was positively correlated with and significantly influenced life satisfaction, academic self-efficacy, and academic adjustment (Akanni & Oduaran, 2018). It was also found that academic adjustment mediated the effect of perceived social support on students' life satisfaction (Akanni & Oduaran, 2018). These results indicate that through the mediation of variables related to the student context, such as their adjustment to their studies and academic satisfaction, social support from different sources influences the students' life satisfaction. Exploring other variables linked to life satisfaction in this context may also be relevant.

In contrast to social support, social exclusion negatively correlates with life satisfaction (Arslan, 2020), highlighting the importance of promoting social support for students through family, peers, and mentors (i.e., coaches and counselors; Fisher et al., 2022; Harasemiw et al., 2019). However, there remains little research investigating how career counselors impact career decision-making difficulties and life satisfaction for secondary school students, suggesting the importance of investigating social support through coaches, counselors, and peers. Therefore, more research needs to be done to investigate the impact of school work-related tasks on student

life satisfaction and social support's mediating role in this relationship. Understanding life satisfaction and its antecedents from a student's perspective is critical.

The present study

While the negative impact of work-related tasks on life satisfaction among adult workers has mainly been documented, similar phenomena receive little attention from the student population. Research has stressed career decision-making as a stressful task for students. As such, it is reasonable to expect career decision-making difficulties to harm their satisfaction with life. Moreover, social support has been shown to increase life satisfaction. Therefore, this study investigated to what extent career decision-making difficulties impact students' satisfaction with life and the potential mediating and moderating role of career choice support in this relation.

The negative impact of career decision-making difficulties on life satisfaction

Career decision-making does play a role in impacting grade 12 high school students' life satisfaction. Specifically, when students face career indecision, they experience lower levels of well-being (Fort & Murariu, 2018). Similarly, vocational readiness has been associated with high levels of life satisfaction (Samson et al., 2021; Sovet et al., 2016). Social support also demonstrates a significant impact on career decision-making. Namely, students with higher social support reported lower career indecision levels (Jemini-Gashi et al., 2021). Additionally, social support has a robust positive association with life satisfaction (Akanni & Oduaran, 2018; Crede et al., 2015; McDougall & Wright, 2018; Peker & Cengiz, 2023). Accordingly, it is reasonable to expect social support tied to career choice to mediate the relationship between career decision-making and life satisfaction among grade 12 high school students.

The moderating role of social support

Social support has been frequently investigated as a moderator (Liu et al., 2017), especially in research where it might reduce the negative effects of negative antecedents on health outcomes (Ouyang et al., 2021). Such a model examines whether high social support levels weaken the impact of negative antecedents on well-being outcomes (e.g., Wilks, 2008; Zhong, 2009). However, empirical results often show mixed findings regarding social support as a moderator (e.g., Pouwelse et al., 2011). Sometimes, social support does not significantly alter the strength of the relationship between stress and outcomes. Therefore, it is relevant to investigate whether career choice support from various sources will act as a moderator between stressful variables (e.g., career decision-making difficulties) and health outcomes (e.g., life satisfaction) in a school setting.

Framing career choice support as a mediator between decision-making difficulties and life satisfaction

Several researchers have emphasized the importance of examining the mediating role of variables within a more dynamic, longitudinal framework rather than relying solely on cross-sectional designs (e.g., Hofmann et al., 2020; Li et al., 2022). This approach allows for a more accurate understanding of how mediation processes unfold over time. In the present study, career choice support from the three sources (i.e., parents, teachers, and guidance counselors), while somewhat static, might still play a mediating role as it may mitigate the negative impact of career decision-making difficulties on life satisfaction, thereby serving as a protective factor rather than a traditional mediator. This study is the first to conceptualize social support specifically tied to career choice as a mediator between career decision-making difficulties and life satisfaction. There is robust evidence supporting the protective role of social support in mitigating the negative effects of stress on life satisfaction and well-being in both static and dynamic models (Emam et al., 2023; Fisher et al., 2022; Mensah, 2021; Yang et al., 2018). Given that career decision-making is recognized as a stressful task, related difficulties within the school context can be considered analogous to stress in the models mentioned above. Therefore, we argue that framing social support as a mediator between career decision-making difficulties and students' life satisfaction is theoretically sound and well-supported by the existing literature.

Research hypotheses

This research seeks to answer the following questions. How do career decision-making difficulties impact student life satisfaction? How does support tied to career choice impact student life satisfaction? Which sources of social support (i.e., teacher, parent, and counselor) are the most effective at promoting student life satisfaction? Finally, does career choice support mediate or moderate the relationship between career decision-making difficulties and student life satisfaction?

Career decision-making difficulties are hypothesized to negatively impact student life satisfaction (H1). Conversely, it is hypothesized that social support tied to career choice (i.e., parental, teacher, and counselor) will positively impact student life satisfaction (H2a). In accordance with the previous hypothesis, it is supposed that parental support will outperform teacher and career guidance counselor support in predicting student life satisfaction (H2b). Furthermore, it is hypothesized that career choice support will mediate the relationship between career decision-making difficulties and student life satisfaction (H3a), with parental support being the most vital mediator (H3b). Finally, career choice support will act as a moderator between career decision-making difficulties and student life satisfaction (H4).

Method

Participants

This investigation engaged 1094 grade 12 students from 25 high schools in Ontario, Canada. In the Ontario educational system, grade 12 marks the conclusive phase of secondary studies, mandating students to elect a postsecondary (college or university) trajectory. Before high school graduation and after having applied to their chosen postsecondary programs, these participants responded to a questionnaire. The sample comprised 51.1% female participants ($N = 636$), 41.6% male participants ($N = 455$), and 0.3% participants who did not disclose their gender ($N = 3$). The participants' ages ranged from 15 to 21 years ($M = 17.42$; $SD = 0.60$).

Instruments

The Social Support Scale (Lauzier et al., 2015) was used to assess the career choice support received from parents, teachers, and career counselors. This scale allows for computing overall social support and individual scores for the three subscales. Each of these subscales comprises five items evaluating parental support (e.g., “My parents attempt to assist me when I have inquiries about my professional future or post-secondary education plans”), teachers' support (e.g., “Educators take the time to elucidate why we should contemplate our professional future or post-secondary education plans”), and guidance counselors' support (e.g., “The guidance counselor aids in my self-awareness to facilitate career or post-secondary study decisions”). Respondents use a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). Higher scores on these subscales indicate more significant levels of social support. The internal consistency reliabilities (Cronbach's alpha) for the subscales of parents, teachers, and counselors were 0.85, 0.88, and 0.95, respectively. The overall scale presented Cronbach's alpha of 0.90.

The Career Decision-Making Difficulties Questionnaire (CDDQ; Gati & Saka, 2001; Gati et al., 1996), a comprehensive and frequently used 34-item questionnaire, assessed the challenges associated with career indecision. It encompasses 32 decision-making difficulty items alongside two validity items, excluded from the scoring process. Participants must express their degree of agreement with each statement using a 9-point Likert-type scale, ranging from 1 (does not describe me) to 9 (describes me well). High scores on this scale indicate pronounced challenges in making career decisions. The CDDQ provides insights on ten distinct career decision-making difficulties, categorized into three primary difficulty domains, namely lack of readiness (R; e.g., “It is usually difficult for me to make decisions”), lack of information (L; e.g., “I find it difficult to make a career decision because I do not have enough information about the variety of occupations or training programs that exist”), and inconsistent information (I; e.g., “I find it difficult to make a career decision because I have contradictory data about the existence or the characteristics of a particular occupation or training program”), in addition to presenting a composite

score for overall difficulties. R, L, I, and the overall scale presented Cronbach alphas of 0.69, 0.94, 0.90, and 0.94, respectively.

The Satisfaction With Life Scale (SWLS; Diener et al., 1985), a 5-item questionnaire, assessed students' subjective well-being. A sample item of this scale is "So far, I have gotten the important things I want in life." Each item was rated on a 7-point Likert-type scale, ranging from strongly disagree (1) to strongly agree (7). The cumulative score of the five items generates an overall life satisfaction score. The Cronbach's α coefficient for this scale was 0.85.

Procedure

Students were recruited through a mandatory school course. Those interested completed a voluntary consent form with assurances of anonymity and the option to withdraw from the study at any time. Parents were informed about the study, and no incentives were provided to the participants. The questionnaire was administered online and was available for 3 months. Participants used unique access codes from their teachers, valid for one use within 3 h. The average completion time was 25 min.

Analyses

Prior to hypotheses assessment analyses, the normal distribution of data was assessed using the Shapiro–Wilk test with expected p -values greater than 0.05 (Razali & Wah, 2011; Shapiro & Wilk, 1965) complemented by the inspection of skewness (S) and kurtosis (K) values. Data adhering perfectly to a normal distribution present S and K values of 0, while those close to a normal distribution have absolute S and K values between 0 and 2 (Johari et al., 2018). Furthermore, we tested whether our data were subjected to common method bias. Harman's single-factor test is one of the most commonly employed methods to assess the presence of common method variance in research (Podsakoff et al., 2003). This technique involves subjecting all variables in a study to an exploratory factor analysis to determine whether significant common method variance exists. This can be indicated if (a) a single factor emerges from the analysis, or (b) one general factor accounts for the majority of the covariance among the variables. In our case, we tested for (b), and no significant common method bias is present in the data if the variance explained by a single factor remains below 50%. The above tests have been conducted using SPSS 29.0 software.

Simple and multiple regressions were computed to assess direct path hypotheses (H1: negative impact of career decision-making difficulties on student life satisfaction, H2: the positive influence of the three sources of career support on life satisfaction), respectively. To test our assumption that career choice support will serve as a mediator between career decision-making difficulties and students' satisfaction with life (Hypothesis 3a) and that parental support will be the strongest mediator in this relation (Hypothesis 3b), we conducted three separate mediation analyses with respect to the three social support mediators (i.e., teachers', counselors', and parents')

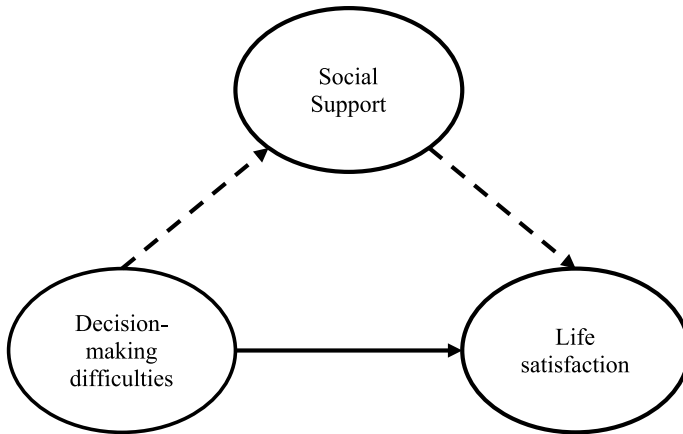


Figure 1 Hypothesized model depicting the mediation role of the three distinct social support subscales (teachers, counselors, and parents) between overall career decision-making difficulties and life satisfaction in students. *Note* — — — — — Indirect effect

support) (Figure 1). In each model, we considered latent variables of overall career decision-making (with the lack of readiness, lack of information, and inconsistent information scores set as observed variables), career choice support (corresponding item scores as observed variables), and life satisfaction (corresponding item scores as observed variables). Following the recommendations of earlier researchers (Preacher et al., 2007; Shrout & Bolger, 2002), a bootstrapping technique with 5000 samples was applied using R syntax implemented in Jamovi software. The indirect effect was computed considering 95% confidence intervals and standard errors. Paths presenting a confidence interval not encompassing zero are considered significant (Shrout & Bolger, 2002). Finally, the moderating effect of each of the three career development support sources on the relation between decision-making difficulties and student life satisfaction was examined using Hayes' (2017) SPSS PROCESS macro procedure (version 4.3), with 5000 bootstrapping samples. The interaction between career development support and decision-making difficulties is expected to be significant to conclude on the significance of support as mediator.

Results

Descriptive statistics for variables under study are summarized in Table 1. All study variables exhibited Shapiro–Wilk's $p < 0.001$, indicating that data were not perfectly normally distributed. However, given that all S and K absolute values ranged from 0.14 to 1.80 across all scales, all can be considered not severely departing from normality, making them eligible for multivariate tests. Furthermore, Harman's single-factor test indicated no significant issue with common method bias in this dataset, as the total variance explained by a single factor is 24.00%, well below the recommended threshold of 50%.

Table 1 Descriptive statistics of the study variables

	Total sample			Female		Male		<i>t</i>	<i>p</i>	<i>d</i>
	α	<i>S</i>	<i>K</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Social support	0.90	-0.59	0.14	5.15	1.05	5.19	1.01	1.09	0.107	-0.10
Parents	0.85	-1.34	1.80	5.79	1.17	5.86	1.14	1.19	0.024	-0.14*
Teachers	0.88	-0.51	-0.23	4.73	1.35	4.77	1.32	1.38	0.342	-0.06
Counselors	0.95	-0.72	-0.17	4.92	1.59	4.96	1.59	1.60	0.475	-0.04
CDDQ total score	0.94	0.39	-0.29	3.65	1.42	3.62	1.39	1.46	0.503	0.04
Lack of readiness	0.69	0.31	0.31	3.97	1.26	3.98	1.16	1.39	0.789	-0.02
Lack of inform.	0.94	0.40	-0.53	3.68	1.83	3.66	1.85	1.80	0.668	0.03
Inconsistent inform.	0.90	0.55	-0.40	3.29	1.72	3.22	1.69	1.77	0.154	0.09
Satisfaction with life	0.85	-0.85	0.60	5.33	1.20	5.32	1.17	1.23	0.742	0.02

Cohen's *ds* are positive when male participants scored higher than female participants and negative when female participants scored higher; * $p < 0.05$

Table 2 Correlations between study variables

	1	1.1	1.2	1.3	2	2.1	2.2	2.3	3
1. Total support	–								
1.1. Support from parents	0.79***	–							
1.2. Support from teachers	0.65***	0.28***	–						
1.3. Support from counselors	0.83***	0.30***	0.49***	–					
2. CDDQ total score	–0.20***	–0.20***	–0.10***	–0.15***	–				
2.1. Lack of readiness	–0.06	–0.07*	–0.04	–0.03	0.73***	–			
2.2. Lack of information	–0.20***	–0.16***	–0.12***	–0.18***	0.93***	0.54***	–		
2.3. Inconsistent information	–0.21***	–0.26***	–0.09**	–0.13***	0.89***	0.52***	0.75***	–	
3. SWLS	0.44***	0.45***	0.33***	0.26***	–0.19***	–0.12***	–0.15***	–0.22***	–
Age	0.04	0.03	–0.01	0.07*	0.05	0.06	0.03	0.05	
Sex	0.05	0.03	0.07*	0.02	–0.02	0.01	–0.01	–0.04	

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Except for the CDDQ Lack of Readiness scale, which showed a nearly satisfying internal consistency coefficient (0.69), Cronbach's alphas ranged from 0.85 to 0.95 for the other scales. Correlations between all variables are reported in Table 2. Career decision-making difficulty total score negatively correlated with social support total score ($r = -0.20, p < 0.001$). Furthermore, satisfaction with life correlated positively with overall support ($r = 0.44, p < 0.001$) and its subscales (r ranging from 0.26 to 0.45, $p < 0.001$) and negatively with overall career decision-making difficulties ($r = -0.19, p < 0.001$) and its subscales (r ranging from -0.12 to $-0.22, p < 0.001$).

Overall career decision-making difficulties and life satisfaction

As presented in Table 2, age and sex did not influence substantially any of the variables under study. Significant correlations were found between age and counselors' support ($r = 0.07, p < 0.05$) and between sex and parental support ($r = 0.07, p < 0.05$). As observed, these correlations are very weak. As the substantial influence of these demographics on the other variables seems negligible, we did not control for them in our analyses. A simple regression analysis indicated a negative impact of overall career decision-making difficulties on life satisfaction ($\beta = -0.19, p < 0.001$), confirming Hypothesis 1. This result suggests that the higher the students' overall career decision-making difficulties, the lower their satisfaction with life.

Career choice support and student life satisfaction

A multiple regression analysis was conducted considering life satisfaction as a dependent variable and entering the three career choice support subscale scores simultaneously as independent variables (i.e., teachers, guidance counselors, and parental support). Results are presented in Table 3. As observed, teachers', counselors', and parental support explained 25% of satisfaction with life variance (adjusted R^2). Moreover, among the three categories of support, only teachers' ($\beta = 0.20, p < 0.001$) and parents' support ($\beta = 0.38, p < 0.001$) significantly influenced students' satisfaction with life, suggesting that higher levels of received support from teachers and parents are associated with higher satisfaction with life among students. In contrast, the nonsignificant influence of counselors' support on students' life satisfaction ($\beta = 0.05, p = 0.118$) was unexpected. These results partially confirmed our assumption regarding the positive influence of social support on students' life

Table 3 Multiple regression analysis predicting students' satisfaction with life from social support

Life satisfaction (adjusted $R^2 = 0.25$)						
Variable	<i>B</i>	<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% CI
Intercept	2.05		0.18	11.69	< 0.001	
Teachers	0.18	0.20	0.03	6.70	< 0.001	[0.14, 0.26]
Counselors	0.14	0.05	0.02	1.56	0.118	[-0.01, 0.11]
Parents	0.39	0.38	0.03	13.48	< 0.001	[0.32, 0.43]

Table 4 Fit indices for the three mediation models from career decision-making difficulties to life satisfaction

Mediators	χ^2	<i>df</i>	χ^2/df	<i>p</i>	CFI	TLI	RMSEA
Teachers' support	300.25	62	4.84	< 0.001	0.966	0.957	0.059
Counselors' support	528.16	246	1.59	< 0.001	0.910	0.899	0.067
Parents' support	511.54	62	8.25	< 0.001	0.936	0.920	0.081

Table 5 Social support mediation indirect effects between CDMD and life satisfaction

	Point estimate	SE	Bootstrapping 95% CI		<i>b</i>	<i>p</i>
			Lower	Higher		
<i>Mediator</i>						
Teachers' support	-0.05	0.02	-0.09	-0.02	-0.04	0.003 ^a
Counselors' support	-0.05	0.01	-0.09	-0.03	-0.04	< 0.001 ^a
Parents' support	-0.16	0.03	-0.23	-0.10	-0.13	< 0.001 ^a

CDMD career decision-making difficulties

^a95% CI does not include zero, indicating a significant indirect effect

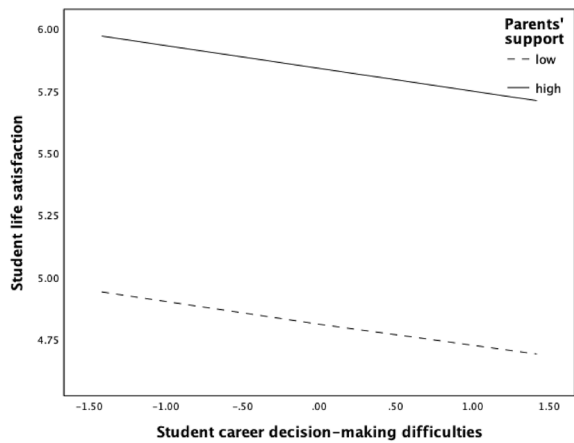
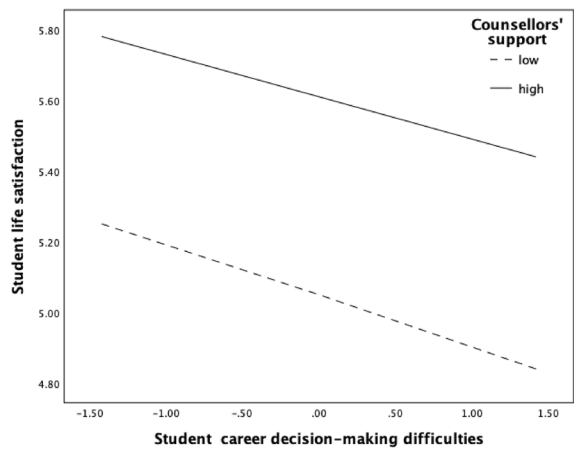
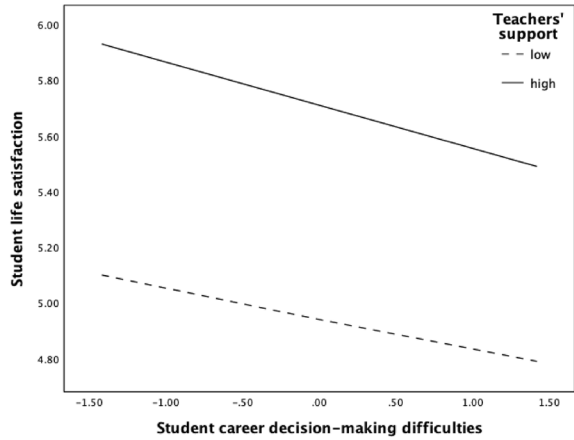
satisfaction (Hypothesis 2a). Furthermore, as expected, parental support exhibited the strongest effect and predicted students' life satisfaction above educators' support (i.e., teachers and guidance counselors), confirming Hypothesis 2b (Table 3).

Career choice support as a mediator and moderator between decision-making difficulties and life satisfaction

Fit indices for each of the mediation models are presented in Table 4. As presented in Table 5, a significant indirect effect was observed in the three mediation models, supporting the mediating role of support from teachers ($\beta = -0.04$, $p < 0.01$; CI [-0.09, -0.02]), guidance counselors ($\beta = -0.04$, $p < 0.001$; CI [-0.09, -0.03]), and parents ($\beta = -0.13$, $p < 0.001$; CI [-0.23, -0.13]) in the relation between overall career decision-making difficulties and satisfaction with life. As observed, parental support exhibited the strongest effect in reducing the negative impact of difficulties on students' life satisfaction. These findings supported our Hypotheses 3a and 3b.

Regarding the moderating effect of career development support on the relation between decision-making difficulties and student life satisfaction, none of the interactions between each of the support sources and life satisfaction were significant: parents (effect 0.00, SE 0.02, 95% CI -0.2; 0.03, $p = 0.90$), teachers (effect -0.02, SE 0.02, 95% CI -0.05; 0.01, $p = 0.29$), guidance counselors (effect 0.01, SE 0.01, 95% CI -0.02; 0.04, $p = 0.60$). The interactions are plotted in Figure 2. As can be seen, for each of the three support sources, the impact of difficulties on life

Figure 2 Career choice support did not moderate the relation between career decision-making difficulties and student life satisfaction



satisfaction is generally similar, regardless of support level (in each case, regression lines are nearly parallel).

Discussion

The current study investigated the impact of career decision-making difficulties and career choice support students receive from different sources (i.e., teachers, guidance counselors, parents) on their life satisfaction. Furthermore, on the basis of prior conceptualization of social support as a mediator (Yildiz & Karadas, 2017), we assessed whether each category of support attenuated the negative impact of decision-making difficulties on students' satisfaction with life. In each of the above relations implying career choice support, we investigated whether parental support outperformed educators' support (i.e., teachers and counselors).

Consistent with H1, results suggested that overall career decision-making difficulties were negatively related to satisfaction with life. In other terms, higher levels of career decision-making difficulties were associated with lower levels of students' satisfaction with life. Our result aligns in some ways with that of Parola and Marcionetti (2022), who reported negative correlations between both constructs across a Swiss combined sample of middle school, high school, and university students. Beyond correlations, our study has the merit to expand the literature regarding the predictive power of career decision-making on life satisfaction among a student population. Indeed, Creed et al. (2005) demonstrated that decided students experience higher life satisfaction compared to undecided students cross-sectionally and over time. Furthermore, by using a German student sample, Jaensch et al. (2015) have shown that trait career indecisiveness, a stable component of career indecision, negatively impacted life satisfaction. Although the number of studies regarding career decision-making difficulties and life satisfaction in students is dramatically low compared with those in workers, our finding that difficulties in career decision-making harm students' life satisfaction converged with the above studies. Like other life domains, school should be a setting that contributes to students' well-being. As lower levels of life satisfaction impact mental health (Fergusson et al., 2015), our findings suggest the importance of effective support for students in their career decision-making process.

The current study also replicated previous findings on the contribution of support from teachers to student life satisfaction (Danielsen et al., 2009). Although these authors conceptualized social support from the self-determination perspective (Reeve, 2005, 2006; Ryan & Deci, 2000) by considering constructs such as relatedness, competence, and autonomy, our findings align with their results given that career choice support from teachers and parents in the present study could be viewed as a foundation that enables them to develop career decision-making skills. Surprisingly, guidance counselors' support did not significantly contribute to student life satisfaction (H2). Two explanations can be put forward. It is possible that Ontario grade 12 students perceive counselors' support as marginal. As Nadon et al. (2016) demonstrated, in Ontario, guidance counselors' interventions are limited to providing information about postsecondary programs rather than individualized help in

making career decisions. While most states and provinces in North America require guidance counselors to hold a Master's degree in fields such as counseling psychology or school counseling, Ontario guidance counselors are only required to be certified teachers, with the recommendation to complete three Additional Qualification (AQ) courses. These AQ courses, equivalent to three undergraduate courses, do not meet the standards established by the International Association for Educational and Vocational Guidance (Repetto, 2008; Samson et al., 2018). They perceive themselves as incompetent "when it comes to some of the essential tasks associated with career and guidance counseling" (Samson et al., 2018, p. 1). Consequently, teachers transitioning into guidance counseling roles may have limited formal training in the field (Keats & Laitsch, 2010). Recent studies indicate that Ontario guidance counselors often perceive themselves as lacking the requisite knowledge for school and guidance counseling, particularly in applying career models to facilitate decision-making (Samson et al., 2018). Furthermore, research by Lauzier et al. (2015) demonstrated that, when comparing parents, teachers, and guidance counselors, parents had the most positive influence on students' decisions to pursue postsecondary education, aligning with Samson et al.'s (2024) findings. As Samson et al. (2024) noted, guidance counselors in Ontario primarily play an active role in providing students with career-related information rather than providing students complex individualized counseling practices. Therefore, it is possible that their contribution to students is limited. Moreover, guidance counselors should not only be called upon when students face difficulties related to their career choices, but should situate their actions within a broader approach to positive psychology as well. They should assist students in preventing career-related challenges at an earlier stage. This implies that counselors need to be trained and equipped to guide students through various career-related difficulties as conceptualized in Gati et al.'s (1996) CDDQ taxonomy (Samson et al., 2024). In other words, guidance counselors must have the proper education and training to offer professional services that are efficient.

While the indirect effect of social support (from teachers, parents, and classmates) on student life satisfaction has been demonstrated (Danielsen et al., 2009; Parola & Marcionetti, 2022), the present study first introduced social support (teachers, counselors, and parents) as a mediator between career decision-making difficulties and life satisfaction (H3). Results supported our assumption that support from each of the three stakeholders will mediate decision-making difficulties and student life satisfaction. Furthermore, parental support was the most significant in reducing the negative impact career decision-making difficulties have on student life satisfaction, while counselors' support was marginal in mediating this relation. An explanation for these results could be found in the nature of the outcome variable of life satisfaction. Indeed, life satisfaction is a general construct that cannot be restricted to the school context. It is a cognitive evaluation of satisfaction tied to several life domains (e.g., work, leisure), which includes the relationship between individuals and their environment, such as family and economic resources (Diener et al., 1999; Sovet et al., 2016). Of the three players, it is obvious that parents interact the most with the students, considering the different life domains where their support is the most significant among others. The marginal effect exhibited by guidance counselors' support consolidates the crucial importance of relevant academic and clinical

training. Such a finding could also result in a lack of working alliance between guidance counselors and students (Masdonati et al., 2009, 2014). A space for developing working alliance could increase appreciation of guidance counselors' contribution to students' career development (Milot-Lapointe et al., 2020). Our findings are in line with Mensah's (2021) study that showed that job stress exerts a detrimental effect on the mental well-being of working adults, with social support acting as a significant mediator reducing such negative effect. The findings underscore the critical role of workplace support, particularly from colleagues and supervisors, in alleviating job-related stress and enhancing mental well-being. It also supports previous investigations highlighting the protective role of social support in mitigating the negative effects of stress on life satisfaction and well-being (e.g., Emam et al., 2023; Fisher et al., 2022; Mensah, 2021; Yang et al., 2018).

Regarding teachers, their support has been documented to foster student well-being (Guess and McCane-Bowling, 2016), which is replicated within the present study with the precision that support within career construction has been investigated. As students spend most of their school time with teachers, they tend to be perceived as significant others by students (Tatar, 1998). As such, their contribution to student well-being is very important, and their support goes beyond future careers. As Guess and McCane-Bowling (2016) reviewed, the assessment of teachers' support should be complemented by several variables as conceptualized in Tardy's (1985) comprehensive model (i.e., care and helping behaviors, feedback, and advice). Such support would have an additional effect in reducing the negative impact of school work-related difficulties (career decision-making difficulties) on student satisfaction with life.

Regarding moderation (H4), findings showed that career choice support from the three sources (teachers, parents, counselors) did not moderate the relationship between career decision-making difficulties and student life satisfaction. As our study is the first attempt to investigate such relations, an effort has been made to discuss findings with similar studies. A recent review on first-year university students found that while social support is crucial for mental health, it did not consistently moderate the impact of stress on well-being, implying that high support levels did not necessarily lessen stress's effects on all students (Maymon & Hall, 2021). On the contrary, our findings contrast with Ouyang et al. (2021) among grade 10 Chinese students. These researchers found that perceived social support moderated the direct path between stressful life events and subjective well-being, with the link between stressful life events and well-being being weaker for adolescents with high levels of perceived social support compared with those with low levels of support. Zhong (2009) also found similar results, with social support moderating the link between academic stress and subjective well-being. Together with our mediation findings, it can be concluded that social support acts more as a buffer against difficulties in a general sense (by partially mediating) rather than dynamically altering the link between decision-making difficulties and life satisfaction on the basis of its presence or absence (no moderation). Career choice support from the three sources is helpful but does not fundamentally change how difficulties affect life satisfaction across different individuals. Instead, it partially explains the pathway through which difficulties can reduce life satisfaction by alleviating some of the negative impact.

Practical implications

On the basis of our mediation and moderation findings, we suggest that interventions to improve life satisfaction might focus on strengthening career choice support systems (teachers, parents, and guidance counselors). Such support system may not make the students immune to career decision-making difficulties. Rather, increasing the support system can help reduce the negative effects of difficulties for most students, even if it would not fully eliminate or modulate that impact.

Limitations and further directions

This study is not without its limitations. The main limitation falls in its cross-sectional nature. A robust longitudinal study including, for example, a three-time data collection would provide more generalizable results regarding the relationship between career decision-making difficulties, support within career construction, and student life satisfaction. The results within the current study should be interpreted considering the specific Ontario context, where guidance counselors are limited in providing standard vocational guidance and career counseling services. Further studies in contexts where career counselors provide standard services and where students could benefit from individualized counseling could provide more insight into the support of guidance counselors along with the support they receive from other stakeholders (e.g., teachers and parents).

Secondly, students' positive evaluations of social support related to career choice may primarily reflect their overall strong relationships with parents and teachers, rather than specific career-focused assistance. Introducing a scale to assess general, non-career-related social support could have clarified the distinction between general emotional or psychological support and targeted career-related support. By controlling general support, the study could have more accurately isolated and identified the specific impact of career-related support on students' career decision-making and life satisfaction. This would enhance the study's precision in understanding the unique role of career-focused support within the context of broader social relationships.

The third limitation falls in the mediator characteristics. When a variable acts as a mediator, it should typically reflect a more dynamic process that transmits the effect of the independent variable (career decision-making difficulties) to the dependent variable (life satisfaction). The passive and static nature of the perceived support measure in our study may indeed limit its capacity to fully meet these criteria. To address such a limitation of measuring social support as a static variable, future studies should adopt a more dynamic approach to assess how actively seeking and receiving career choice support might mediate the relationship between career decision-making difficulties and life satisfaction over time.

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Declarations

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

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