Career Development Support, Career-Related Internet Information Search and Usefulness, and Career Decision-Making Difficulties in 12th Grade Students in Ontario

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Abtract

While the negative impact of work-related tasks on life satisfaction among adult workers has been largely documented, similar phenomena receive little attention in student populations. Research has underlined 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 role of career development support in this relation among 1094 grade 12 high school students in Ontario, Canada. Findings supported the negative impact of career decision-making difficulties on students' life satisfaction. Surprisingly, unlike counsellors' support, only teachers' and parental support were significant drivers of students' life satisfaction, with parental support exhibiting a strong effect. Furthermore, although support from each source partially mediated decision-making difficulties and life satisfaction, parental support was strongest in reducing the negative impact of difficulties on students' life satisfaction. Implications for research and practice are discussed.

Keywords: career support, career decision making, career information, canada.

Selecting a career can be one of the most significant and challenging decisions that can be made throughout one's life. This kind of decision can be overwhelming when considering the numerous avenues one could take concerning one's career. This is especially true for high school students, who sometimes are subject to a hectic physical, cognitive, and emotional development period (Jansen & Kiefer, 2020). In addition, Grade 12 high school students usually have to decide what post-secondary program or training they would like to pursue in the prospect of a future career (Gati & Levin, 2014). This kind of decision can potentially affect their future as adults. Indeed, this kind of decision has the potential to determine their psychological and economic well-being and their lifestyle in general (Gati & Levin, 2015; Hartung, 2011). Many high school students have shown difficulties in identifying a career or a program of study because of the complexity and uncertainties related to this decision-making process. For example, according to a study conducted on 920 Grade 12 students in Ontario, 49 percent of participants reported severe career decision-making difficulties or indecision (Samson & Bastien, 2018; Sovet et al., 2017).

Career indecision can be defined as all difficulties associated with decision-making related to college or university program choice and, ultimately, career choice (Gordon & Steele, 2015). However, career indecision is not constrained to the capacity to make a choice but also includes the various difficulties related to imagining oneself in a certain career path. In summary, career indecision could affect an individual's state of being and

sense of self (Fauri & Giacometti, 2017).

Many factors can influence career development and generate degrees of career indecision. In this regard, Social Cognitive Career Theory (SCCT) offers a comprehensive frame of reference by identifying the main processes by which students make a career decision (Kaminsky & Behrend, 2015; Lent et al., 2000; Lent & Brown, 2019). This model assumes that vocational development and career decision-making would be at the confluence of the interaction between personal factors (e.g., gender, interests, and sense of self-efficacy) and contextual factors (e.g., financial support, quality of exposure to educational experiences, and perceived social support). The interaction between these various factors would condition (by strengthening or reducing) high school students' ability to plan their professional career and avoid career indecision (Akosah-Twumasi et al., 2018; Garcia et al., 2015; Kulcsár et al., 2020).

More precisely, SCCT posits that social support is likely a factor in career decision-making and vocational development (Lent et al., 2000; Lent, 2008). Research by Lacoste, Esparbès-Pistre, and Tap (2005) suggests that the quality of social support is essential throughout this process. They asserted that a lack of support is likely to lead to difficulties in developing and pursuing a vocational goal, which can, in turn, become a significant source of stress. Moreover, they showed that women were more likely to be affected by a lack of social support, particularly regarding their self-esteem, while men felt more of an impact in terms of feeling overwhelmed by the process. A study conducted by Chan (2020) supported these findings, showing that social support positively correlates with feelings of career self-efficacy, directly impacting vocational development. Similarly, social support has been shown to promote the development of skills necessary for the transition from postsecondary education to informed choices about a potential career (Constantine et al., 2005; Lacoste et al., 2005; Lopez & Ann-Yi, 2006; Restubog et al., 2010; Shaw & Chin-Newman, 2017; Simões & Soares, 2010). Furthermore, individuals with social support are more likely to maintain a positive attitude toward their career development and thus would be better equipped to adapt to their chosen career (Öztemel & Yildiz-Akyol, 2021).

In summary, social support plays a vital role in the vocational development and career decision-making of high school students (Atitsogbe et al., 2019; Hirschi, 2009; Kracke, 2002; Rogers, Creed, & Glendon, 2008; Shaw & Chin-Newman, 2017; Simões & Soares, 2010). Adequate social support within career development can significantly influence their vocational development, feelings of career self-efficacy, general self-esteem, and adaptation to their future career (Chan, 2020; Öztemel & Yildiz-Akyol, 2021).

Vallerand (2006, p. 366) defines social support as "interpersonal exchanges of resources in which one person helps another to enable them to meet their needs or achieve important goals". Several forms of social support can be relevant to career decision-making: Instrumental support, which includes physical and material assistance; Informational support, which relates to the sharing of advice or feedback; and Emotional support, which manifests as empathy or affection (Vallerand, 2006). Literature suggests that social support, both real and perceived, positively influences self-esteem, stress management, and general health (Baumeister & Vohs, 2007).

Regarding the focus of this research, empirical evidence indicates that social support influences decisions related to career choice (Constantine et al., 2005; Lacoste et al., 2005; Lopez & Ann-Yi, 2006; Restubog et al., 2010; Simões & Soares, 2010). For our study, three sources of social support within student career development (Lauzier, Côté, & Samson) have been selected as they pertain to and are generally associated with a high school student's social environment: support from parents, teachers, and guidance counsellors.

Parental support significantly influences their children's educational and career development (Bryant et al., 2006; Dahling & Thompson, 2010). Social support from parents can take many forms. These include

the attitudes, expectations, values, and information conveyed (Bryant et al., 2006; Christenson et al., 1992; Poll, 2003). This type of support decisively influences the choice of career goals and the development of vocational identity (Malecki & Demaray, 2003; Poll, 2003; Restubog et al., 2010). In summary, research indicates that parental support plays a significant role in the educational and career development of students and their eventual choice of career.

The support offered by teachers is also an important factor in high school students' career development process (Berardi-Demo, 2012; Bright et al., 2005; Wilkenfeld, & Earl, 2005). Since teachers spend most of their working time interacting with their students, their support is essential (Poll, 2003). Research by Bright et al. (2005) demonstrated how teachers' interventions can play a role in the vocational development of their students. These interventions can manifest in different ways, such as the subject taught, the quality of teaching, the teacher's enthusiasm, the time spent with the students, and/or the variety of vocational learning activities. Whether it be regarding their motivation in school, perception of school, or self-esteem, teachers play a crucial role in their students' overall adjustment and progress in school. This will eventually directly impact their self-esteem, career self-efficacy, and general career development (Ali & McWhirter, 2006; Metheny, McWhirter & O'Neil, 2008). Thus, it can be argued that the support shown by teachers, which is beyond instructional in nature (Furman & Buhrmester, 1985; Malecki & Demaray, 2003; Simões & Soares, 2010), helps guide students throughout their time spent in high school. For example, teachers can help students find sources of information about labor market conditions and potential career avenues (Lacoste et al., 2005; Poll, 2003). In short, relevant research clearly shows that the support offered by teachers has a decisive influence on their high school students' career development, consequently preventing career indecision.

A third source of social support can be seen in career and guidance counsellors within the school system. The purpose of a career and guidance counsellor is to support students throughout their process of career development. This process includes, among other things, exploration of self-knowledge, knowledge of the labor market, and consideration of different training and career possibilities (Cabrera & La Nasa, 2000; Osipow, 1999). The support offered by career and guidance counsellors has been associated with students' feelings of self-efficacy Restubog et al., 2010), their choice of career (Berardi-Demo, 2012), and their feeling of life satisfaction (Uthayakumar et al., 2010). In other words, the literature suggests that career and guidance counsellors play a significant role in students' overall career readiness.

Decision-Making and Seeking Information on the Internet

Online information seeking has been documented as a frequently implemented task to solve problems or make decisions in several domains, such as work, health, and education. The plethora of information accessible on the internet could generate conflicting information processing in individuals. On the other hand, users need to sort through information, as some information sources are not always neutral and seek to influence internet users (Roscoe et al., 2016). As Wiley et al. (2009) stated, the ability to discriminate between reliable and unreliable information is one characteristic of successful students. Therefore, finding relevant and useful sources of information could be crucial in the decision-making process (Tombros et al., 2005). This is particularly true for students seeking career-related information within a career decision-making process. However, little is known about the link between online information search and career decision-making difficulties. More especially, the effect of internet use (in terms of frequency) in seeking information and the perceived usefulness of the gathered information on unreliable information difficulties is still unanswered.

The Present Study

In summary, literature indicates that support from parents, teachers, and career

guidance counsellors can positively influence student career development and prevent career indecision (Malecki & Demaray, 2003). As such, the objectives of this research will be to (1) test the associations between overall social support and the total career decision-making difficulties score among grade 12 students that want to pursue postsecondary studies; (2) explore the associations between the main scales and subscales of the Career Decision Difficulties Questionnaire (CDDQ) and various sources of social support; and (3) assess if the frequency of internet use for searching career-related information is associated with the main scale of Unreliable information. Concerning these specific objectives, we will address the following hypotheses:

Hypothesis 1: Overall social support score will negatively correlate with overall career decision-making difficulties score.
Hypothesis 2.1: Social support subscales will predict career decision-making difficulties main scales.
Hypothesis 2.2: Social support subscales will negatively predict the ten career decision-making difficulties subscales.
Hypothesis 3.1: The frequency students use the internet in searching for career-related information will be positively related to Unreliable information.
Hypothesis 3.2: Perceived usefulness of the searched information will be positively related to Unreliable information.

Methods

Participants

A total of 1094 grade 12 students enrolled in high schools in Ontario, Canada, participated in this study. In Ontario, grade 12 is the final year of secondary studies, meaning students must opt for a post-secondary (college or university) program. Participants completed the questionnaire two months before graduation when their acceptance to post-secondary programs had been received. The sample is made up of 636 (51.1%) females and 455 (41.6%) males, and three (0.3%) participants did not disclose information about sex. Participants were aged between 15 and 21 years (M = 17.42; SD = .60).

Instruments

Social Support Scale (Lauzier et al., 2015)

This scale assesses the quality (as perceived by the student) of combined and distinct support offered by parents, teachers, and guidance counsellors, yielding a global social support score and separate subscale scores. These subscales consist of fifteen items: five items to measure parental support (e.g., "My parents try to help me when I have questions about my professional future or my post-secondary education plans"); five items to measure teacher support (e.g., "Teachers take the time to explain why we need to think about our professional future or our post-secondary education plans"); as well as five items to measure counsellor support (e.g., "The guidance counsellor helps me get to know myself better so that I can make a career choice or post-secondary studies"). This metric uses a seven-point Likert-type response scale (1 = Strongly disagree to 7 = Strongly agree). A high score on these subscales indicates a high level of social support. The internal consistency indices (Cronbach's alpha) observed for subscales of teachers, parents, and counsellors were .88, .85, and .95, respectively. Cronbach's alpha for the total score was .90.

Career Decision-Making Difficulties Questionnaire (CDDQ)

Career indecision is "the state of being undecided regarding occupational interest or career path" (Foley et al., 2006, p. 109) and results from various difficulties encountered before and during the career decision-making process. CDDQ builds upon a taxonomy of career decision-making difficulties and is an important tool in career counselling practice (Gati et al., 1996). The CDDQ comprises 34 items and uses a nine-point Likert-type response scale (1 = Strongly disagree to 9 = Strongly agree).

The questionnaire measures three domains of career indecision: Lack of Readiness, Lack of Information, and Inconsistent Information. Participant difficulties are summarized in a 10-scale score profile corresponding to 10 difficulty categories, each representing the mean of their respective item scores. The internal consistency index (Cronbach's alpha) observed for this scale ranged from .69 to .94. The CDDQ has been broadly used to assess career decision-making difficulties among various populations (Gati, 2013), including Canadian adolescents and young adults (Julien,1999; Morgan & Ness, 2003; Sovet, DiMillo, Samson, 2015).

Frequency of Internet use in Searching Career-Related Information and the Usefulness of the Searched Information

Two distinct items were created to evaluate both aspects of the information search. A single item was used to assess the extent to which students use the internet to search for information about occupations or professions (i.e., "I've already conducted personal research (e.g., on the internet), outside normal school hours, to find out about post-secondary programs, occupations or professions that might interest me"). The item was rated on a 5-point Likert-type scale ranging from 1 (not at all) to 5 (very often). Furthermore, the usefulness of the searched information was assessed using the item "the searched information were…", rated on a 5-point scale ranging from *Not useful at all* (1) to *Very useful* (5). We designed those items for two main reasons. Firstly, to capture the variables of interest, (internet use in searching information on careers and the usefulness of the gathered information) as there seems to be no scale measuring these specific variables. Secondly, developing new scales would lengthen research times and certainly add constraints in terms of questionnaire length. Indeed, several researchers have developed new items or used a single-item measure to address such limitations (e.g., Duffy & Sedlacek, 2007; Nauta et al., 1998).

Procedures

Students' participation in this study was solicited through their school as part of a mandatory course. Those wishing to respond to the questionnaire completed a consent form indicating that their participation was voluntary, that they could withdraw at any time (without prejudice), and that their anonymity was assured. A letter was also sent to parents informing them of the nature of the study. No rewards were offered to participants. The administration of the measurement scales, incorporated into a questionnaire containing other variables, was carried out electronically. Participants had access to the online questionnaire using an access code provided by their teacher. The code, individualized for each participating school, only worked once and for three hours. The questionnaire was available online for a period of three months. The administration of the questionnaire took an average of twenty-five minutes.

Analyses

The normal distribution of data was assessed using the Shapiro-Wilk test (with p-values greater than .05 expected as reviewed by Shapiro & Wilk, 1965; Razali & Wah, 2011) and Skewness (S) and Kurtosis (K) coefficients. Perfectly normally distributed data should exhibit 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). Bivariate correlations were computed to assess the relatedness of one to another of overall social support and the career decision-making difficulties total score. Furthermore, hierarchical regressions were computed to assess the relation between social support components and CDDQ (main scales and subscales, respectively). Finally, simple regressions were used to evaluate the relations between the CDDQ unreliable information score and the frequency of internet use in seeking career-related information and the usefulness of the searched information, respectively.

Results

Descriptive statistics of study variables are summarized in Table 1. The Shapiro-Wilk tests were significant ($p \leq .001$) for all study variables, indicating that the data distribution does not follow a perfectly normal distribution. Nevertheless, the absolute values of S (ranging from .02 to 1.34) and K (ranging from .04 to 1.80) reported in Table 1 for all the variables under study suggest that the data distribution is close to normal (the departures from normality are not severe). Correlations between the overall social support score and its subscale scores ranged from strong (.65) to very strong (.83). In contrast, those between subscale scores ranged from weak (.28) to moderate (.49). Regarding CDDQ, the total score's correlation with all the scale and subscale scores were all above .57 except for dysfunctional beliefs (.32). In contrast, those between scales and subscale scores ranged from very weak, .07 (lack of information about occupations [Lo]-lack of information about the self [LS]) to very strong, .90 (lack of information [L]−lack of information about occupations [Lo]). Finally, the frequency of internet use in searching information correlated (relatively) strongly with the usefulness of the searched information (.61).

Association Between Overall Social Support and Overall Career Decision-Making Difficulties

As reported in Table 1, our results confirmed hypothesis 1 regarding the link between overall social support and total career decision-making difficulties score. Specifically, we found that social support was negatively correlated with career decision-making difficulties ($r = -.19$, $p < .001$) in grade 12 students but to a weaker extent. This finding suggests that higher levels of the social support composite score (teachers, parents, counsellors) are associated with lower overall career decision-making difficulties and vice versa.

Effects of Teachers, Parental, and Counsellors' Support on CDDQ Three Main Scales of Lack of Readiness, Lack of Information, and Inconsistent Information

To assess the effect of the three social support subscales (i.e., teachers, parents, and counsellors) on the CDDQ three main scales of Lack of Readiness, Lack of Information, and Inconsistent Information, hierarchical regressions were performed by entering gender and age in a first step, followed by the social support subscales in a second step, to control for demographics. Age was associated only with Lack of readiness (Step 2, $\beta = .06$, $p = .048$), while sex was related to none of the CDDQ main scales.

Furthermore, none of the social support components significantly affected the Lack of readiness. However, unlike teachers' support, only parental support and counsellors' support had significant effects on the CDDQ subscales of Lack of information ($\beta = -.11$, $p = .001$ vs. $\beta = -.15$, $p < .001$) and Inconsistent information ($\beta = -.24$, $p < .001$ vs. $\beta = -.08$, $p = .029$). In summary, higher parental and counsellors' support levels were negatively related to lower levels of lack of information and difficulties related to inconsistent information, partially confirming hypothesis 2.1.

Effects of Teachers, Parental, and Counsellors' Support on CDDQ Ten Subscales

When controlling for demographics as in previous analyses, hierarchical regressions showed a significant effect of gender on Lack of Motivation (Step 2, $\beta = -.15$, $p < .001$) in favor of women and General Indecisiveness (Step 2, $\beta = .24$, $p < .001$) in favor of men and a significant effect of age on Internal Conflicts Step 2, $\beta = .07$, $p = .020$) in favor of younger students.

Teachers' support was associated with none of the ten CDDQ subscales regarding social support. Moreover, higher levels of parental support were significantly associated with lower levels of Lack of Motivation ($\beta = -.09$, $p = .005$), The stages of the career decision-making

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Table 1

Bivariate Correlations, Means, and Standard Deviation of Study Variables

	SocS–Global	SocS–Teacher	SocS–Parents	SocS–Counsellors	CDDQ–Global	CDDQ–F.1	CDDQ–F.2	CDDQ–F.3	CDDQ–RM	CDDQ–RI	CDDQ–RD
SocS–Global	-										
SocS–Teacher	.78*	-									
SocS–Parents	.65*	.28*	-								
SocS–Counsellors	.83*	.49*	.30*	-							
CDDQ–Global	-.19*	-.10*	-.20*	-.15*	-						
CDDQ–F.1 (R)	-.06*	-.04	-.07*	-.03	.73*	-					
CDDQ–F.2 (L)	-.20*	-.12*	-.16*	-.18*	.93*	.54*	-				
CDDQ–F.3 (I)	-.21*	-.09*	-.26*	-.13*	.89*	.52*	.75*	-			
CDDQ–RM	-.14*	-.09*	-.13*	-.11*	.60*	.67*	.49*	.45*	-		
CDDQ–RI	.01	-.02	.03	.02	.57*	.76*	.44*	.39*	.27*	-	
CDDQ–RD	.00	.03	-.05	.01	.32*	.61*	.15*	.22*	.14*	.18*	-
CDDQ–LP	-.15*	-.08*	-.14*	-.13*	.80*	.50*	.87*	.61*	.42*	.41*	.17*
CDDQ–LS	-.16*	-.09*	-.14*	-.14*	.83*	.50*	.88*	.68*	.47*	.41*	.12*
CDDQ–LO	-.19*	-.12*	-.12*	-.18*	.83*	.45*	.90*	.66*	.44*	.39*	.07
CDDQ–LA	-.20*	-.11*	-.16*	-.19*	.81*	.45*	.86*	.68*	.39*	.35*	.17*
CDDQ–IU	-.15*	-.07*	-.15*	-.12*	.82*	.45*	.75*	.85*	.39*	.37*	.17*
CDDQ–II	-.19*	-.09*	-.19*	-.15*	.83*	.50*	.73*	.89*	.48*	.37*	.16*
CDDQ–IE	-.19*	-.08*	-.32*	-.08*	.65*	.40*	.47*	.83*	.32*	.27*	.23*
Web use frequency	.16*	.13*	.13*	.11*	-.13*	-.04	-.16*	-.11*	-.14*	.00	.06
Inform. usefullness	.23*	.20*	.14*	.18*	-.21*	-.09*	-.23*	-.18*	-.19*	-.02	.02
M	5.15	4.73	5.79	4.92	3.65	3.97	3.68	3.29	2.76	5.00	4.15
SD	1.04	1.35	1.17	1.59	1.42	1.26	1.83	1.72	1.74	2.09	1.69
S	-.59	-.51	-1.34	-.72	.39	.31	.40	.55	1.07	-.02	.28
K	.14	-.23	1.80	-.17	-.29	.31	-.53	-.40	.65	-.85	-.44
α	.90	.88	.85	.95	.94	.69	.94	.90	.70	.70	.66

Table 1. continued

Bivariate Correlations, Means, and Standard Deviation of Study Variables

	CDDQ–LP	CDDQ–LS	CDDQ–LO	CDDQ–LA	CDDQ–IU	CDDQ–II	CDDQ–IE	Web use frequency	Inform. usefulness
CDDQ–LP	—								
CDDQ–LS	.70*	—							
CDDQ–LO	.70*	.73*	—						
CDDQ–LA	.65*	.66*	.73*	—					
CDDQ–IU	.61*	.67*	.66*	.68*	—				
CDDQ–II	.58*	.68*	.67*	.64*	.73*	—			
CDDQ–IE	.39*	.42*	.41*	.44*	.48*	.61*	—		
Web use frequency	-.18*	-.14*	-.12*	-.12*	-.12*	-.11*	-.06*	—	
Inform. usefullness	-.21*	-.19*	-.21*	-.21*	-.19*	-.18*	-.08*	.61*	—
M	3.79	3.64	3.95	3.34	3.61	3.32	2.95	3.80	4.08
SD	2.05	2.05	2.20	2.04	2.06	1.75	2.24	1.04	.87
S	.45	.51	.38	.60	.48	.52	1.03	-.64	-.85
K	-.58	-.56	-.80	-.50	-.65	-.41	.04	-.15	.50
α	.86	.87	.86	.79	.83	.80	.88	—	—

*Note. SocS = Social Support; CDDQ = Career Decision-making Difficulties Questionnaire; F.1 = Factor 1: Readiness; F.2 = Factor 2: Lack of Information (about); F.3 = Factor 3: Difficulties related to inconsistent information; RM = Lack of motivation; RI = General indecisiveness; RD = Dysfunctional beliefs; LP = The stages of the career decision-making process; LS = Self; LO = Occupations; LA = Ways of obtaining additional information; IU = Unreliable information; II = Internal conflicts; IE = External conflicts; * Significant correlation (p < .05; 2-tailed).*

process (β = −.11, p = .001), Lack of Information about the self (β = −.17, p = .0021), Lack of Information about occupations (β = −.07, p < .05), La (β = −.11, p = .001), Unreliable Information (β = −.13, p < .001), II (β = −.15, p < .001) and External Conflicts (β = −.33, p < .001).

Furthermore, higher levels of counsellors' support were significantly associated with lower levels of the stages of the career decision-making process (β = −.09, p < .012), Lack of information about the self (β = −.11, p = .001), Lack of information about occupations (β = −.16, p < .001), La (β = −.16, p < .001), Unreliable information (β = −.09, p = .009), and Internal conflicts (β = −.12, p = .001).

Effects of Internet use Behaviors on Career Decision-Making Related to Unreliable Information

Simple linear regression analyses were computed to evaluate the effect of the frequency of the students' use of the internet in searching career-related information and the usefulness

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Table 2

Hierarchical Regression Results With Social Support predicting CDDQ Main Scales, Controlling for Age and Sex

Step	Predictors	Lack of Readiness			Lack of Information			Inconsistent Information		
		B	SE	β	B	SE	β	B	SSE	β
1	Sex	.02	1.12	.01	-.04	.11	-.01	-.14	.11	-.04
	Age	.13	.08	.06*	.10	.09	.03	.15	.09	.05
	F	1.98			.69			2.37		
	R2	.01			.04			<.01		
2	Sex	.04	.08	.01	<.01	.11	<.01	-.07	.10	-.02
	Age	.13	.06	.06*	.13	.09	.04	.15	.08	.05
	Teachers' support	-.02	.03	-.02	-.01	.05	-.01	.02	.04	.02
	Parents' support	-.06	.04	-.06	-.17	.05	-.11***	-.36	.05	-.24***
	Counselors' support	-.01	.03	-.01	-.17	.04	-.15***	-.08	.04	-.08*
	F	1.75			10.48			17.75		
	R2	.09			.05			.08		
	ΔR2	.01			.05			.07		

Note. * p < .05, ** p < .01, *** p < .001.

of the searched information on difficulties related to unreliable information. Results showed that higher levels of internet use were associated with lower difficulties related to unreliable information (β = −.13, p < .001), and does not support hypothesis 3.1. Similarly, the perceived usefulness of the searched information was negatively associated with the unreliable information outcome (β = −.19, p < .001), meaning that the higher the searched information is useful for the students, the lower the unreliable information difficulties they could face. Hypothesis 3.2 is not supported.

The subscales of social support were negatively correlated with most of the three factors of the CDDQ and with the ten scales of the CDDQ, partially confirming hypotheses 2.1 and 2.2. The Readiness CDDQ factor was not related to perceived support from teachers and counsellors. General indecisiveness and Dysfunctional beliefs CDDQ scales did not significantly relate to any of the social support variables. Finally, social support predicted career decision-making difficulties in grade 12 students.

Discussion

The current study aimed to investigate the relations between social support and career decision-making difficulties on the one hand and the effect of career-related information search behaviors (i.e., frequency of internet use and usefulness of the searched information) on difficulties related to unreliable information on the other hand.

In hypothesis 1, we stated that higher levels of social support would be negatively correlated with overall career decision-

Table 3

Hierarchical Regression Results With Social Support predicting CDDQ Subscales, Controlling for Age and Sex

		RM			RI			RD			LP			LS		
Step	Predictors	B	*SE*	β	B	SE	β	B	*SE*	β	B	*SE*	β	B	*SE*	β
1	Sex	-.57	.11	.16***	1.00	.12	.24***	-.36	.10	-.10	-.06	.13	-.02	-.10	.13	-.02
	Age	.12	.09	.04	.11	.10	.03	.14	.09	1.68	.11	.10	.03	.04	.10	.01
	F	15.97			32.56			7.59			.73			.38		
	R2	.03			.06			.01			<.01			<.01		
2	Sex	-.54	.11	.15***	.10	.13	.24***	-.35	.10	-.10	-.02	.13	-.01	-.06	.13	-.01
	Age	.13	.09	.05	.11	.10	.03	.14	.09	.05	.13	.10	.04	.06	.10	.02
	Teachers' support	-.05	.05	-.04	-.07	.05	-.05	.06	.04	.04	-.02	.05	-.01	-.01	.05	-.01
	Parents' support	-.13	.05	-.09**	.04	.06	.02	-.08	.05	-.06	.19***	.06	-.11***	-.17**	.06	-.10
	Counselors' support	-.06	.04	-.06	.04	.05	.03	<.01	.04	<.01	-.11*	.05	-.09*	-.15**	.05	-.11
	F	11.02			13.45			3.89			6.31			6.85		
	R2	.05			.06			.02			.03			.03		
	ΔR2	.02			<.01			<.01			.03			.03		

		LO			LA			IU			II			IE		
	Predictors	B	SE	β	B	SE	β	B	SE	β	B	SE	β	B	SE	β
1	Sex	.07	.14	.02	-.07	.13	-.02	-.05	.13	-.01	-.10	.11	-.03	-.26	.14	-.06
	Age	.12	.11	.03	.14	.10	.04	.10	.10	.03	.19	.09	.06*	.16	.11	.04
	F	.68			1.13			.50			2.68			3.04		
	R2	<.01			<.01			<.01			.01			.01		
2	Sex	.11	.13	.03	-.02	.12	-.01	.00	.13	.00	-.05	.11	-.02	-.17	.13	-.04
	Age	.16	.11	.04	.18	.10	.05	.11	.10	.03	.20	.09	.07*	.15	.11	.04
	Teachers' support	-.02	.06	-.02	<.01	.05	<.01	.02	.05	.01	.01	.05	.01	.04	.06	.02
	Parents' support	-.12	.06	-.07*	-.19	.06	-.11***	-.22	.06	.13***	-.23	.05	-.15***	-.62	.06	-.33***
	Counselors' support	-.22	.05	.16***	-.21	.04	.16***	-.12	.05	.09**	-.13	.04	-.12***	<.01	.05	<.01
	F	9.01			11.19			6.82			11.35			25.91		
	R2	.04			.05			.03			.05			.11		
	ΔR2	.04			.05			.03			.05			.10		

Note. RM = Lack of motivation; RI = General indecisiveness; RD = Dysfunctional beliefs; LP = The stages of the career decision-making process; LS = Self; LO = Occupations; LA = Ways of obtaining additional information; IU = Unreliable information; II = Internal conflicts; IE = External conflicts.

Note. * p < .05, ** p < .01, *** p < .001.

making difficulties, which was supported. This finding aligns with the Social cognitive career theory (see Lent et al., 2001), which suggests that social support facilitates a person's career choices, goals, and actions. Social support can provide a source of stress reduction, guidance, and encouragement throughout the career decision-making process, as highlighted by several researchers (Phillips et al., 2001; Schultheiss et al., 2001).

Selecting a career can be one of the most significant and challenging decisions a student can make. As Gati and Levin (2014) aptly pointed out, people often feel overwhelmed when considering the numerous avenues they could take concerning their careers. This is especially true for high school students, who are often going through a tumultuous period of physical, cognitive, and emotional development and facing choices about what programs or major to pursue. The ramifications of career indecision can be far-reaching, including physical consequences related to financial strain, time dedicated to changing college programs and/or schools, and psychological consequences relating to a negative self-image, low self-efficacy, and loss of career aspirations (Feldman, 2003; Boo & Kim 2020).

A major finding of this research was the predictive value of social support on career decision-making difficulties in general and on the three separate factors that comprise the CDDQ questionnaire. Specifically, we found that as social support increased, career decision-making difficulties decreased within our sample of students. Within the realm of vocational literature, social support has been gaining traction in career decision-making.

This research aimed to gain insight into the role social support from parents, teachers, and guidance counsellors had on career decision-making difficulties within a sample of Grade 12 students. Our results suggest that, with some notable exceptions, social support can predict career decision-making difficulties for students reaching the end of their Secondary studies.

Regarding hypothesis 2.1. (i.e., social support subscales will predict career decision-making difficulties main scales), an interesting result generated from this research is the lack of significant effect between social support and career readiness when that social support comes from teachers or guidance counsellors. Our results indicate that students' parents are the most influential in reducing career decision difficulties. These findings parallel those of prior research in the context of vocational decisions. For example, Garcia et al. (2012) found that both student and parental ratings of parental support moderated the relationship between learning goal orientation and career decision-making self-efficacy. It has also been shown that parents are highly likely to motivate their children and provide them with tools to grow and enhance their self-esteem throughout their development. This support and other physical supports (food/housing/financial assistance) can foster greater career-oriented goals and aid in completing educational tasks (Schultheiss et al., 2001). Oftentimes, the higher the level of formal education that a parent has received, the greater the chance their children will be ready for their academic and vocational futures. Building on this, how a parent chooses to *raise their children* can greatly impact their children's ability to make a career decision. Positive parenting styles have been repeatedly shown to improve their children's career development. Children of parents who display consistent acts of love, affection, and interest display greater senses of responsibility and career decision-making efficacy during their college years (Liu, 2008; Hou et al., 2013). Conversely, negative parenting styles (such as adopting more authoritarian approaches) have been shown to increase career decision-making difficulties (Cenkseven-Onder et al., 2010; Koumoundourou et al., 2011). Unsurprisingly, unsupportive parental environments where parents have been found to be either indulgent or neglectful are linked with higher career decision-making difficulties (Sovet & Metz, 2014).

By contrast, no correlation existed between social support and career readiness for the teacher and guidance counsellor groups. Normally such a result would be confusing given the central supporting role teachers and

guidance counsellors hold in a student's life. However, given the context of guidance counselling and teaching professions within Ontario and emerging literature into their vocational role, such a finding starts to make sense. For example, while most states and provinces in North America require that guidance counsellors hold a master's degree in areas related to counselling psychology and/or school counselling, guidance counsellors in Ontario are only required to be certified teachers with a recommendation that they complete three additional qualifications (AQ) courses. These AQ courses would be the equivalent of three undergraduate courses and do not meet the recognized standards set by the International Association for Educational and Vocational Guidance (IAEVG, 2004; Samson et al., 2018). As a result, *teachers-turned-guidance counsellors* may sometimes be limited in their training (Keats & Laitsch, 2010). Recent literature suggests that Ontario guidance counsellors perceive themselves as lacking sufficient knowledge required in school and guidance counselling, specifically when using career models to facilitate decision-making (Samson et al., 2018). Finally, literature by Lauzier et al. (2015) found that when comparing parents, teachers, and guidance counsellors, parents had the most positive influence on the decision to pursue post-secondary education, supporting our findings.

Regarding hypothesis 2.2. (i.e., social support subscales will negatively predict the ten career decision-making difficulties subscales), a finding of note came from a lack of significant effect between social support and general indecisiveness and dysfunctional beliefs. This finding can be explained, in part, by the increasing level of internet use that students engage in when individually researching potential post-secondary programs or career paths. Indeed, our study results highlight internet use as a primary source of information related to career decision-making. Given that Grade 12 students are generally independent in using the internet (without support from parents, teachers, or guidance counsellors), it could result in a statistical lack of social support in relation to general indecisiveness and dysfunctional beliefs.

More precisely, our results showed that parental and counsellors' support significantly reduced difficulties related to the stages of the career decision-making process, unreliable information, internal conflicts (with relatively high weight in favor of parents), lack of information about the self, lack of information about occupations, and ways of obtaining additional information (with relatively high weight in favor of counsellors). Finally, only parental support specifically reduced difficulties related to the lack of motivation and external conflicts. One explanation for these findings could be that parents are concerned about their childrens' career development as they get involved in supporting them to *solve difficulties* prior to their engagement in the decision-making process (i.e., lack of motivation) and during the decision-making process, as counsellors also do. Another explanation could be that the support of counsellors seems to shift toward providing information rather than individualized counselling. Indeed, guidance counsellors in Ontario are certified teachers who are required to complete additional 96 credit courses to serve as counsellors, contrasting with the standards in North America, where most jurisdictions require at least a master's degree (Nadon et al., 2016).

Our results indicate that counsellors seem to be active in providing students with career-related information. However, they have been reported to lack knowledge in several counselling domains, including the use of theoretical models in helping students make better career decisions. It has been documented that most of their daily tasks are unrelated to career counselling, implying that counsellors should be trained to implement career counselling interventions (Samson & Bastien, 2018; Samson et al., 2018), for example, based on CDDQ features.

Conclusions

Some literature suggests that internet use can positively impact student career management skills. However, it must be noted

that internet use is one element within a mixed system of career provision and not a replacement for face-to-face support (Howieson & Semple, 2013). However, other studies indicate that with increasing internet use, adolescent adaptability in the career decision-making process weakens, and the decision-making process proceeds at a slower rate than it does for adolescents who use the internet for less time (Sinkkonen et al., 2018). This is a contradiction of the results of our study, especially regarding hypothesis 3.1. (i.e., the frequency the students use the internet in searching career-related information will be positively related to Unreliable information) and 3.2 (i.e., the perceived usefulness of the searched information will be positively related to Unreliable information). According to our findings, higher levels of internet use (H3.1.) and perceived usefulness of the internet-searched information (H3.2.) were associated with lower difficulties related to unreliable information. One explanation for these findings could be that, as grade 12 students are faced with decision-making, they usually rely on relevant websites to seek career-related information, allowing them to gather relevant specific information about the choice they must make. More research into the utility and use of the internet with career decision-making (and social support) needs to be conducted for concrete conclusions to be made.

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