

Self-Concept, Attitudes Toward Career Counseling, and Work Readiness of Malaysian Vocational Students

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The authors examined the relationship between self-concept, attitudes toward career counseling, and work readiness among 574 Malaysian vocational students. Attitudes toward career counseling have been studied in Western cultures; however, little is known about how career counseling is perceived in Eastern cultures. Attitudes toward career counseling were examined as a potential mediator of the relationship between self-concept and work readiness. The authors applied structural equation modeling to explain these relationships. Value of career counseling was found to significantly mediate the link between self-concept and work readiness. Results supported a direct relationship between positive self-concept and work readiness skills. This may be due, in part, to a heightened value of career counseling among vocational students that increases career awareness and thus enhances work readiness. Future research could include samples with more female participants and additional constructs, such as self-efficacy and career adaptability.

Keywords: work readiness, self-concept, value, stigma, career counseling

Work and the workplace are rapidly changing because of a number of factors, including increased competition from globalization and associated politics, rapid technological changes, and the impact of these changes on family and society. Within this changing context, Malaysia reports one of the best economic records, ranking sixth in Asia in 2014–2015 and 25th in the world in 2016–2017 (Schwab, 2016). Yet, Verma et al. (2018) identified work readiness as a top challenge of employers in the Asia-Pacific region (i.e., Malaysia, Indonesia, and Australia). As a developing country, Malaysia requires a large percentage of skilled workers to maintain economic stability (Government of Malaysia, 2015). The Malaysian government has attempted to increase the number of skilled workers through the establishment of industrial training institutes and community colleges (Omar, Bakar, & Rashid, 2012). As youth complete

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their training and education, it is critical to identify factors that can support the development of a steady skilled workforce for Malaysia and other industrialized nations (Makki, Salleh, Memon, & Haryanni, 2015).

Notably, youth who possess high work readiness are described as having transferable work skills, a clear employment goal, a feeling of optimism about their future, and the ability to be resilient when they encounter obstacles (Phillips, Blustein, Jobin-Davis, & White, 2002). In this study, we investigated potential factors that contribute to work readiness in Malaysia. Specifically, we examined the relationship between self-concept, attitudes toward career counseling, and work readiness among Malaysian vocational students enrolled in industrial training institutes. Little is known about the effects of self-concept and attitudes toward career counseling on work readiness. A negative self-concept may be a powerful factor that impedes work readiness, and obtaining career counseling could be an intervention that positively influences work readiness. Therefore, we also examined how Malaysian youth perceive career counseling because it is an unexplored factor that may significantly affect work readiness.

Work Readiness

Work readiness has emerged as a way to define the skills needed for employment success in the developed world (O'Neil, 1997; Phillips & Blustein, 1994; Taylor, 2005). Such readiness has been defined as workers' ability to possess the attributes that prepare them for success in the workplace (Caballero & Walker, 2010). According to Brady (2010), work readiness skills include being able to adjust to a new work culture, being willing and having the capacity to learn new things, being flexible in adapting to change, having a good work ethic, having interpersonal skills, and keeping physically fit and mentally alert. There is a prevalent assumption that work readiness relates to one's ability to know oneself, to know one's skills, and to obtain the appropriate corresponding job match (e.g., Taylor, 2005).

An important aim of work readiness research is to identify and then assist individuals to develop the specific job-search and job-attainment skills needed prior to graduation. In South Africa, Raftopoulos, Coetzee, and Visser (2009) found that oral and written communication skills, self-discipline, time management, interpersonal skills, teamwork, problem-solving skills, and a positive work ethic were important skills for securing employment. In Australia, higher order thinking, creativity, problem-solving, and collaborative teamwork were the most problematic domains of skills development and competence in undergraduates' perceptions of their employability (Cavanagh, Burston, Southcombe, & Bartram, 2015). Furthermore, studies of health care professionals reinforce the concept that work readiness comprises multiple nondisciplinary dimensions, such as organizational acumen, clinical competence, and social intelligence, that can predict job satisfaction and work engagement (Walker & Campbell, 2013; Walker et al., 2013). In a study of Serbian medical students that focused on their perception of specific skills, Gazibara et al. (2015) found that a lack of confidence was associated with a self-perceived deficit in work readiness. Finally, in the United States, work readiness research is preparing underrepresented youth for

future careers in science, technology, engineering, and mathematics fields (Erdogan & Stuessy, 2015; Gushue & Whitson, 2006).

Growing evidence suggests that work readiness is an important global construct with implications for secondary and higher education in industrialized countries (Cavanagh et al., 2015; Gazibara et al., 2015; Raftopoulos et al., 2009). Creating opportunities for students to learn about themselves, their strengths and weaknesses, and their skill sets may increase work readiness. Furthermore, it is important to create opportunities for students to identify careers that are a good match with their skill sets. Despite growing evidence for the importance of work readiness, many questions remain about what psychological factors, including self-concept, could influence its development in youth.

Self-Concept as a Predictor of Work Readiness

Self-concept is defined as “the individual’s belief about himself or herself, including the person’s attributes and who and what the self is” (Baumeister, 1999, p. 5). Super (1963) posited that self-concept is foundational to career choice and development processes that involve developing and implementing occupational self-concepts through the integration of one’s abilities, personality, needs, values, interests, and traits (Brown, 2012; Osipow, 1983). Self-concept was identified as important to the retention of Australian nursing students (Cowin & Hengstberger-Sims, 2006) and served as a mediator of career aspirations in science students in 54 cultures (Nagengast & Marsh, 2012). A qualitative study of first-generation college students in the United States found that a negative self-concept was a significant factor in delaying college and thus career choices (Byrd & Macdonald, 2005).

Self-concept is well established as a powerful cross-cultural motivational construct that affects one’s thoughts and behaviors across multiple domains (Gaertner et al., 2012). Zheng, Xiao, Wei, and Chen (2018) concluded that “the primacy of the individual-self is a universal phenomenon in various cultural groups including China” (p. 1). With respect to career development, self-concept has been shown to be generally beneficial; however, some research indicates that there may be cultural differences in its effects on aspects of career development and working. For example, Hughes (2011) examined self-concept among high school students in Thailand and Australia using an individualism-collectivism paradigm and discovered significant differences pertaining to attitudes toward career planning. Although Australian students with positive academic self-concepts were likely to have positive attitudes toward career planning, this was not true of the Thai students. These findings highlight the need for more research to investigate how self-concept might interact with self-perceptions of work readiness, especially across cultures, given that the experience does not appear to be wholly universal.

Attitudes Toward Career Counseling

Self-concept research such as that reviewed above suggests that if individuals possess an underdeveloped assessment of their skills and abilities, counselors might naturally recommend a career intervention. Nevertheless, little research has been conducted that assesses how attitudes toward career counseling might influence career help-seeking

behavior. Although the research is limited, counseling interventions may be particularly effective when they include attention to academic performance and retention, along with support in career exploration and decision-making (Lee, Olson, Locke, Michelson, & Odes, 2009; Whiston & Rahardja, 2008).

A series of studies to develop and validate the Attitudes Toward Career Counseling Scale (ATCCS; Rochlen, Mohr, & Hargrove, 1999) found that the perceived value of seeking career counseling was inherently different from the perceived value of help seeking in general. Those who placed more value on career counseling tended to use the help of others in decision-making and were more likely to seek career counseling. Attitudes toward career counseling were explored through two factors—Value of Career Counseling (Value) and Stigma Related to Career Counseling (Stigma)—which allowed for distinct applications to demographic variables and personality variables. Participants who valued career counseling were also more open to general help seeking; less prone to spontaneous decisions; more likely to seek formal help in other ways; and, finally, more likely to seek career counseling. Participants with higher Value subscale scores also reported greater satisfaction with a completed career decision-making class (Rochlen et al., 1999).

Assessment of the ATCCS Stigma subscale indicated that those with higher stigma beliefs toward career counseling “tended to procrastinate in making decisions, express less likelihood of using career counseling services, and perceive using psychological support services as a secretive process used primarily for people with serious problems” (Rochlen et al., 1999, p. 204). Men tended to score higher on the Stigma subscale yet maintained the same perceptions of the value of career counseling as women did (Rochlen et al., 1999). Thus, men may be less likely to seek career counseling help when career decision-making support is warranted. Similarly, in a study in the United Arab Emirates, Al-Darmaki (2012) found that men had higher stigma and value levels than women did. For both genders, self-esteem and self-efficacy were positively correlated with the Value subscale and were negatively correlated with the Stigma subscale of the ATCCS.

Attitudes toward career counseling have been studied in Western cultures (Rochlen et al., 1999) and in the United Arab Emirates (Al-Darmaki, 2012); however, little is known about how attitudes toward career counseling are perceived in Eastern cultures. Nam and Park (2015) assessed the construct validity of the ATTCS using a sample of Korean college students. Their results supported the two-factor model (i.e., Value and Stigma) across several variables, including “self-disclosure, attitudes toward seeking professional help, self-stigma, public stigma, work-exploration, self-exploration, intention to seeking help, and career decision self-efficacy” (p. 478). Among these Korean college students, higher levels of career decision self-efficacy were associated with lower levels of career counseling stigma, such that those who might need the help the least were the most likely to seek career counseling.

Purpose of the Study

We examined relationships between self-concept, attitudes toward career counseling, and work readiness among Malaysian vocational students.

Specifically, we examined whether the perceived value of career counseling and the stigma related to career counseling mediated the relationship between self-concept and work readiness. We used structural equation modeling to test the hypothesized relationships among the latent variables of work readiness, self-concept, value of career counseling, and stigma related to career counseling. Figure 1 contains both our hypothesized and final model based on the results of our analyses. We tested the following hypotheses:

Hypothesis 1: Self-concept will be positively associated with work readiness.

Hypothesis 2: Value of career counseling will mediate the relationship between the latent variables of self-concept and work readiness. Self-concept will be positively correlated with the value of career counseling, which will be correlated with work readiness.

Hypothesis 3: Stigma related to career counseling will mediate the relationship between self-concept and work readiness. Self-concept will be negatively correlated with the stigma related to career counseling, which will be negatively correlated with work readiness.

Method

Participants

Participants comprised 574 vocational students recruited from Malaysian industrial training institutes. These students are comparable to U.S. community college or junior college students. The participants' mean age was 17.52 years (*SD* = 0.78, range = 17–19). There were 533 (92.9%) men and 41 (7.1%) women, which reflects the student population of the institutes. Participants were enrolled in various vocational technology courses, including automotive (*n* = 126, 22.0%), arc and gas welding (*n* = 105, 18.3%), electric (*n* = 105, 18.3%), refrigeration and

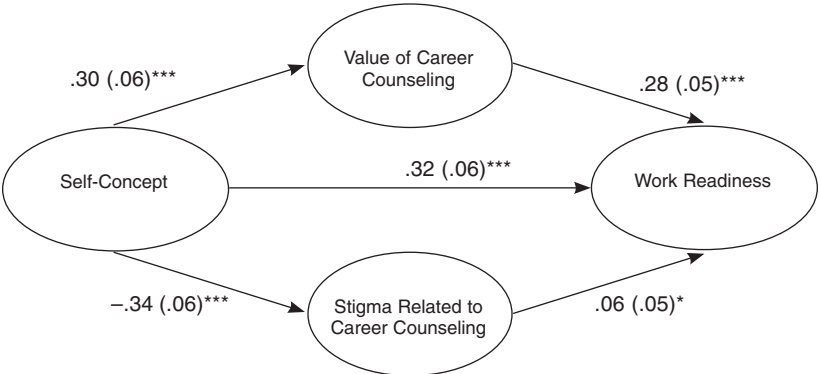


FIGURE 1
Hypothesized and Final Model

Note. Values in parentheses are standard errors.
p* < .05. **p* < .001.

air-conditioning ($n = 61$, 10.6%), industrial mechanics ($n = 31$, 5.4%), heavy commercial vehicle technology ($n = 29$, 5.1%), general machining ($n = 26$, 4.5%), metal fabrication ($n = 25$, 4.4%), industrial instrumentation ($n = 17$, 3.0%), mechatronic ($n = 14$, 2.4%), plastics ($n = 14$, 2.4%), manufacturing ($n = 11$, 1.9%), and construction ($n = 10$, 1.7%).

Measures

Self-concept. We used the short form of the Tennessee Self-Concept Scale: Second Edition (TSCS:2; Fitts & Warren, 1996) to measure self-concept. The TSCS:2 short form contains 20 self-descriptive statements that reflect a person's self-view across six aspects of self-concept: physical, personal, moral, family, social, and academic/work. Respondents rate each item using a 5-point Likert-type scale ranging from 1 (*always false*) to 5 (*always true*). Scores range from 20 to 100, with higher scores representing a more positive self-concept. The internal consistency of the TSCS:2 short form is .84 for the adult form ($N = 972$). In the current study, the coefficient alpha for the total score was .72. The Malay version of the first edition of the TSCS (Fitts, 1965) was used by Jamaain (1998) and was deemed suitable.

Attitudes toward career counseling. We used the ATCCS (Rochlen et al., 1999) to measure attitudes toward career counseling. The ATCCS contains 16 items and two subscales: Value (eight items) and Stigma (eight items). Items are rated on a 4-point Likert-type scale ranging from 1 (*disagree*) to 4 (*agree*). The Value subscale consists of items related to the perceived value and usefulness of career counseling, with higher scores indicating greater perception of the value of career counseling. By contrast, the Stigma subscale contains items related to the stigma associated with seeking professional career counseling (e.g., shame, negative feelings). Higher scores on this subscale indicate greater stigma associated with seeking career counseling.

Rochlen et al. (1999) reported correlations between the Attitude Toward Seeking Professional Psychological Help—Short Form (Fischer & Farina, 1995) and the ATCCS Value ($r = .34$, $p < .001$) and Stigma ($r = -.35$, $p < .001$) subscales as evidence of the discriminant validity of the ATCCS. Using a sample of Korean college students, Nam and Park (2015) noted that the Value subscale was associated with positive attitudes toward seeking professional psychological help ($r = .42$, $p < .01$) and self-exploration ($r = .42$, $p < .01$). The Stigma subscale was positively linked to self-stigma ($r = .43$, $p < .01$) and negatively associated with self-disclosure ($r = -.22$, $p < .05$). In addition, internal consistency ranged from .72 to .91. In the current study, the coefficient alphas of the Value and Stigma subscales were .82 and .71, respectively.

Work readiness. We used the Work Readiness Inventory (WRI; Brady, 2010) to measure work readiness. The WRI consists of 36 items and six subscales: Responsibility, Flexibility, Skills, Communication, Self-View, and Health and Safety. Respondents rate each item on a 5-point Likert-type scale ranging from 1 (*not concerned*) to 5 (*very concerned*). The negative items were reverse scored for the purpose of this study. Thus, higher scores represented less concern regarding one's readiness to work. In support of concurrent validity, Brady (2010) found that greater concern about work readiness was negatively associated with higher Job

Longevity Index scores among working adults. In the current study, the internal consistency of the WRI total score was .92. The Malay version of the WRI was used by Letchemenen (2010) and was deemed suitable.

Procedure

Approval for this study was obtained from the Government of Malaysia’s Ministry of Human Resources and Manpower Department, as well as from the institutional review boards of participating industrial training institutes. Data were collected from the 30-minute pencil-and-paper survey in various classes with the assistance of counselors. Informed consent ensured that the survey was confidential, anonymous, and voluntary. All the items were in Malay and English. The translation of the questionnaires was conducted with the back-translation technique (Brislin, 1970). A language expert proficient in English and Malay first translated the questionnaires into Malay. Another competent language expert then performed back-translation into English without referring to the original questionnaire. A third language expert compared the translated English questionnaire with the original English version. In addition, three local Malaysian experts in the fields of career counseling, school counseling, and counseling psychology were asked to review the item pool for content validity. The results indicated complete agreement (Fleiss’s $\kappa = 1$) among experts.

Results

Preliminary results, including means, standard deviations, and intercorrelations, are presented in Table 1. We used the Value and Stigma subscales of the ATCCS to measure attitudes toward career counseling. Self-concept was significantly and positively correlated with value of career counseling ($r = .27, p < .001$) and work readiness ($r = .28, p < .001$). In addition, self-concept was significantly and negatively correlated with stigma related to career counseling ($r = -.24, p < .001$). Value of career counseling was significantly and positively correlated with stigma related to career counseling ($r = .13, p < .01$) and work readiness ($r = .33, p < .001$). Gender was associated only with value of career counseling ($r = -.09, p < .05$). Because it correlated with only one endogenous variable, gender was not considered a confounding variable (Pourhoseingholi, Baghestani, & Vahedi, 2012).

TABLE 1
Descriptive Statistics and Correlations for the Observed Variables

Variable	<i>M</i>	<i>SD</i>	<i>PR</i>	<i>Skew</i>	<i>Kurt</i>	1	2	3	4
1. Self	70.70	7.23	20–100	-0.16	0.09	—	.27***	-.24***	.28***
2. Value	24.96	3.85	8–32	-0.46	0.70		—	.13**	.33***
3. Stigma	21.48	4.02	8–32	-0.20	-0.10			—	.08*
4. Work	140.94	16.01	36–180	-1.01	0.55				—

Note. *N* = 574. PR = possible range; Skew = skewness; Kurt = kurtosis; Self = self-concept; Value = value of career counseling; Stigma = stigma related to career counseling; Work = work readiness.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Finally, because participants were disproportionately men, gender was not included in our main analyses. The study contained no missing data.

We applied structural equation modeling to examine the hypothesized model with Mplus (Version 7.2; Muthén & Muthén, 2012). The measurement model was first tested to assess whether the latent variables were adequately represented by the manifest variables. We then tested the hypotheses by analyzing the structural model to determine the relationships among the latent variables (Kline, 2016). We used the maximum likelihood estimation method with robust standard errors to accommodate violations of multivariate normality. We also applied item parcels to reduce the number of manifest variables in the study. According to Little, Cunningham, Shahar, and Widaman (2002), the strengths of item parceling include fewer parameters and a stronger model fit. Self-concept was indicated by six item parcels based on the subscales of the TSCS:2 short form. The latent variable of work readiness was formed by six item parcels corresponding to the WRI subscales. Item parceling was not applied for attitudes toward career counseling because the ATCCS comprises two subscales that measure this construct separately.

We used Hu and Bentler's (1999) two-index presentation strategy to determine model fit. A combination of a root-mean-square error of approximation (RMSEA) of .06 or lower and a standardized root-mean-square residual (SRMR) of .09 or lower was used to indicate a good fit. Finally, bias-corrected bootstrapping was used to test the hypothesized mediation effects. We calculated the means of 5,000 estimated indirect effects by producing 5,000 bootstrap samples with random sampling by replacement. Mediation effects were considered statistically significant if zero was not included in the 95% confidence intervals.

As shown in Table 2, the measurement model (Model A) exhibited adequate fit, $\chi^2(344, N = 574) = 874.46$, comparative fit index (CFI) = .88, nonnormed fit index (NNFI) = .87, SRMR = .07, RMSEA = .05, $p < .01$. Although the chi-square statistic indicated that the null hypothesis in the measurement model was rejected, chi-square statistics are known to be sensitive to sample size, especially if the sample size is large (>200; Kline, 2016). Thus, we used other fit indices that are not affected by sample size, including CFI, NNFI, SRMR, and RMSEA, to examine the model fit. In addition, all the factor loadings were significant ($p < .001$) for all measured variables, and the latent variables were adequately represented by the observed variables. We deemed our measurement model a good fit. Self-concept was positively correlated with work readiness ($\beta = .87$, $SE = .16$, $p < .001$). Hence, Hypothesis 1 was supported. It is important to note that the correlation between self-concept and work readiness reflects a total effect, which is different from the direct effect from self-concept to work readiness depicted in Figure 1. We continued to test the hypothesized structural mediation model based on the findings of the measurement model.

The hypothesized structural model (Model B) also achieved adequate fit, $\chi^2(345, N = 574) = 880.85$, CFI = .88, NNFI = .87, SRMR = .07, RMSEA = .05, $p < .01$ (see Table 2). Figure 1 illustrates that

TABLE 2

Summary of Data Model Fit Statistics for the Measurement Model and the Structural Model

Model	df	Scaled χ^2	RMSEA	90% CI	CFI	SRMR	NNFI	UC	95% CI ^a
Model A: Measurement model	344	874.46	.05	[.05, .06]	.88	.07	.87		
Model B: Hypothesized structural model (Figure 1)	345	880.85	.05	[.05, .06]	.88	.07	.87		
Mediation effects ^b									
Self-concept → Value → Work readiness								.35	[.20, .58]
Self-concept → Stigma → Work readiness								-.08	[-.26, .06]

Note. *N* = 574. All scaled chi-square values were significant at *p* < .001. The standardized coefficient provides the completely standardized indirect effect (see Equation 9 of Preacher & Kelly, 2011). RMSEA = root-mean-square error of approximation; CI = confidence interval; CFI = comparative fit index; SRMR = standardized root-mean-square residual; NNFI = nonnormed fit index; UC = unstandardized coefficient; Value = value of career counseling; Stigma = stigma related to career counseling.

^aUnstandardized. ^bBased on Model B.

self-concept positively predicted the value of career counseling ($\beta = .30, p < .001$) and negatively predicted the stigma related to career counseling ($\beta = -.34, p < .001$). In addition, value of career counseling positively predicted work readiness ($\beta = .28, p < .001$), as did stigma related to career counseling ($\beta = .06, p < .05$). The direct effect from self-concept to work readiness was also significant ($\beta = .32, SE = .06, p < .001$). Self-concept explained 9.6% of the variance in the value of career counseling and 12.0% of the variance in the stigma related to career counseling. Collectively, self-concept, value of career counseling, and stigma related to career counseling explained 22.3% of the variance of work readiness.

Following Holmbeck's (1997) mediational testing procedure, we determined the paths in Model B from (a) self-concept to value of career counseling, (b) self-concept to stigma related to career counseling, (c) self-concept to work readiness, (d) value of career counseling to work readiness, and (e) stigma related to career counseling to work readiness to be statistically significant, which fulfilled the requirements for further testing of mediation effects. As shown in Table 2, value of career counseling mediated the relationship between self-concept and work readiness, providing support for Hypothesis 2. The mediation effect for self-concept to the value of career counseling to work readiness was significant. Self-concept was significantly and negatively correlated with stigma related to career counseling, but positively correlated with work readiness. However, the mediation effect for self-concept to stigma related to career counseling to

work readiness was not significant (see Table 2). Thus, Hypothesis 3 was not supported.

Discussion

We examined the relationship between self-concept and work readiness, as well as the role of attitudes toward career counseling as mediators of this relationship, in a sample of Malaysian vocational students. Our results indicated that self-concept was associated with the value of career counseling, which was positively correlated with work readiness. When applied to youth, work readiness encompasses the psychological constructs of adaptability and flexibility (Blustein, Juntunen, & Worthington, 2000; Super, Savickas, & Super, 1996), which are also often framed as the “soft skills” that employers in the Asia-Pacific region especially demand (Verma et al., 2018). If the process of career development involves developing and implementing occupational self-concepts, then work satisfaction depends on the extent to which individuals find adequate outlets for their abilities, needs, values, interests, personality traits, and self-concepts. Therefore, seeking professional career counseling services increases opportunities for youth to find their desired match in the workplace.

Our results indicated a positive correlation between self-concept and attitudes toward seeking career counseling among a sample of Malaysian students. Value of career counseling significantly mediated the relationship between self-concept and work readiness. Recall that Rochlen et al. (1999) found that participants who valued career counseling were more likely to seek career counseling. Therefore, our study builds on previous research by identifying that if individuals have a more positive self-concept, then they are more likely to value career counseling and potentially use and benefit from this support. The participants in this study who valued career counseling reported greater work readiness. We know of no other research that addresses the role of self-concept in this manner. We now understand that students with lower self-concept may be more likely to avoid seeking career counseling, which could influence their work readiness and eventual overall career satisfaction.

Perhaps our most interesting study outcome is that the construct of stigma related to career counseling was not a significant mediator of the relationship between self-concept and work readiness. This is a potentially important finding because overcoming implicit and explicit stigma and bias can be challenging (Johnson & Saboe, 2011). Interventions can be developed to focus on increasing the value of career counseling and overcoming the barriers of stigma associated with it. Programs may choose to focus on increasing perceptions of the value of career counseling and creating opportunities for increasing self-awareness in work readiness domains, such as through workshops or embedded curriculum.

Limitations and Directions for Future Research

Our study has several limitations worth noting. First, participants in our study were mostly men. Future studies could make efforts to recruit samples with more equal gender balance. Second, our study used self-report measures and could be improved through multisource or

multiwave data (Zhao, Hwang, & Lee, 2016). Finally, we used cross-sectional data. Consequently, it is impossible to infer causal conclusions about the pathways within the structural model.

Despite these limitations, our study carries important implications for career counseling, especially in understanding the types of variables that may strengthen work readiness skills. Interventions and programs designed to promote crystallization of self-concept (e.g., Liu, Wu, & Ming, 2015; O'Callaghan, & Cunningham, 2015; Prince & Nurius, 2014) in children and youth can operate at an implicit level, which has the power to influence work readiness attitudes and behaviors. Strategies or curricula that are delivered within secondary or postsecondary training programs may be particularly helpful in traditionally male-dominated professions (e.g., Kim & Sax, 2018). A new area of inquiry, based on the findings of our study, is programming that specifically focuses on the value of career counseling. Such programs should not be overly concerned with overcoming negative perceptions and stigma associated with this form of help seeking.

Our findings suggest a direct link between positive self-concept and work readiness. Interventions aimed at increasing specific domains of self-concept (e.g., beliefs about one's academic ability) can have an impact on work readiness as well as increase Malaysian students' perceptions of the value of career counseling to enhance their career decision-making. By providing initial empirical evidence for new pathways to improve work readiness skills, our study offers avenues for continued research in this line of inquiry.

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