Adaptation of the Career Decision Making Profile Measurement Tool for Students in Indonesia

Nandita Tamara Putri[1*], Hery Susanto[1]
[1]Faculty of Psychology, Padjadjaran University, Indonesia

Abstract. In recent years, there was an increasing interest in the importance of individual differences in career decision making, which reflected the strategy pattern adopted by individuals. Optimal decisions were made by several individual when these strategies were adaptive. Therefore, this study aimed to adapt the measurement tool known as Career Decision Making Profile developed by Gati et al. (2010). To achieve this objective, a quantitative approach was employed, and a convenience sampling technique was used to select a sample of 204 Indonesian students. The results showed that the measurement tool had good internal consistency, with Cronbach's Alpha values ranging from .707 to .762. The Confirmatory Factor Analysis also indicated that the measurement tool model fulfilled the criteria for goodness of fit. Therefore, this tool in the Indonesian language was measured the pattern of career decision making strategies among students.

Keywords: Career decision making, measurement tool adaptation, validity, reliability

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[*] Corresponding author: Faculty of Psychology, Padjadjaran University, Sumedang, Indonesia
E-mail: nandita15002@mail.unpad.ac.id

Introduction

Career is the pivotal role played by an individual in a lifetime (Abdullah, 2018). Furthermore, it is formed through the interaction and integration between individuals and their environment, roles, and life events. Individuals have the developmental task of making career decisions in early adulthood (Lent & Brown, 2013; Rasyidi et al., 2021; Super, 1956). In Indonesia, students are a group of individuals categorized into the early adulthood category. Therefore, they are expected to prepare for their careers (Anastiani, 2019). Many students still face difficulties in making career decisions (Chuang et al., 2020; Shin & Kelly, 2015). A study conducted by Murniarti & Siahaan (2019) with 260 students showed that the majority of participants experienced moderate difficulty in career decision-making, with males experiencing higher results than females.

Career decision-making is a complex process influenced by internal and external factors such as the availability of information, social environment, and family (Di Fabio & Saklofske, 2014; Sharf, 2013). In this modern era, individuals are faced with numerous career choices. Identifying difficulties in the decision-making process becomes important to assist and facilitate individuals (Gati & Levin, 2014). Typically, the first step in career counseling is to identify the focus of the client's difficulties in making career decisions, information processing abilities, and goals (Sharf, 2013). Another important factor is characterizing how individuals make their career decisions (Gadassi et al., 2013; Gati & Levin, 2014). Furthermore, it is important to identify the approach or strategy in making these decisions. Individuals can make optimal decisions when the adopted approach is adaptive (Perez & Gati, 2017).

In recent years, there has been an increasing interest in the importance of individual differences in career decision-making. According to Gati et al. (2010), previous studies produced taxonomies that describe decision-making styles. This is based on the assumption that the styles are relatively stable personality dispositions. Furthermore, the style refers to the characteristic of observing and responding to career decision-making tasks in making decisions (Violina, 2018). It delineates the methods employed by individuals during their career transitions and while making pivotal career choices (Bimrose & Mulvey, 2015). Previous investigations predominantly centered around the categorization of individuals into distinct archetypes according to their prominent traits. Simultaneously, a subset of studies has concentrated on a circumscribed range of characteristics, exemplified by Bimrose & Mulvey's (2015) delineation of

evaluative, strategic, aspirational, and opportunistic styles.

The identified styles appear inadequate in elucidating the inherent variations among individuals, and their comprehensiveness falls short of facilitating a diagnostic approach that can effectively aid individuals in advancing through the career decision-making process (Gati et al., 2010). In addition, individuals may be better characterized by a combination of styles and be more informed to consider a range of behaviors rather than looking at "dominant types" to characterize how individuals make career decisions. According to Gati, the term "profile" is more suitable than "styles." The Career Decision-Making Profile shows the strategy pattern adopted by individuals, considering both personality factors and situational influences on behavior. A comprehensive multidimensional measurement tool was developed to describe individual differences in career decision-making profiles. Specifically, Gati referred to career decision-making profiles instead of styles for two main reasons, namely (1) to indicate that individuals are dealing with a complex multidimensional construct rather than a single dominant trait. Therefore, multiple characteristics are needed to adequately characterize how decisions are made. (2) Styles imply a focus on personality characteristics, while profiles refer to personality and situational influences on decision-making behavior.

The multidimensional model proposed by Gati is based on seven assumptions, namely (1) Individuals differ in their approaches to career decision-making, as well as in characteristic profiles of career decision-making, (2) The individual's decision-making process can be better described by multidimensional profiles than single dominant characteristics, (3) Each dimension represents a continuum between two extreme poles that characterize individuals, (4) The dimensions are dependent and has a unique contribution, (5) Like personality measures (and unlike career decision-making difficulties), the dimensions cannot be combined to produce a single total score, (6) Depending on the dimension, one pole is often more adaptive than the other, and (7) Several dimensions are related to personality and more consistent across situations. Meanwhile, others are more situational and may depend on the specific decision task faced by the individual or the stage of the decision-making process.

Based on systematic study, Gati classified the Career Decision Making Profile into 12 dimensions, namely 1) Information gathering (being careful and thorough in collecting and organizing information), 2) Information processing (analyzing information into components and processing it based on those components); 3) Locus of control (believing that they can control their future career and the decisions affect career opportunities, or alternatively believing career is determined by external forces such as fate or luck), 4) Effort invested in the process (investing time and mental effort in the decision-making process), 5) Procrastination (avoiding or delaying starting or progressing in the career decision-making process), 6) Speed of making the final decision (making a final decision quickly after gathering and organizing information), 7) Consulting with others (seeking consultation during various stages of the decision-making process), 8) Dependence on others (relying on others to make decisions for them), 9) Desire to please others (seeking to fulfill the expectations of significant others such as parents, partners, friends), 10) Aspiration for an "ideal occupation" (striving for a perfect job), 11) Willingness to compromise (being flexible about alternatives when facing difficulties in actualizing a career), and 12) Using intuition (relying on internal feelings when making decisions).

The explanation shows that the measurement tool is multidimensional and refers more to personality and situational influences on career decision-making behavior. The advantage is that it provides more accurate information about clients' specific traits and needs (Kulcsar et al., 2019).

Additionally, Gati examined the stability and structure of the measurement tool. Using a sample of students from Hebrew University Jerusalem, Gati compared the reliability and stability over 2 weeks and 1 year of the Career Decision-Making Profile for the 12 dimensions. The median Pearson correlation was .81 (2-week test-retest) and .62 (1-year test-retest). Consequently, the structure of the 12 dimensions is compatible with the underlying model and stable across administrations. This measurement tool has also been adapted in several countries such as the United States, China, and Germany (Ebner et al., 2018; Guan et al., 2015; Tian et al., 2014), with results showing adequate psychometric properties and structural validity. For example, the adaptation in Germany (Ebner et al., 2018) with a sample of 300 participants reported evidence of validity and reliability based on Confirmatory Factor Analysis results of ($\square\square^2(509) = 900.86$, $\square^2/df = 1.77$, $p < .001$, CFI = .92, RMSEA = .05, SRMR = .08) and Cronbach's Alpha ranging from .69 to .90.

A study comparing samples in the United States, Israel, and China showed that high scores on the locus of control and speed of making the final decision dimensions, as well as low scores on procrastination and dependence on others dimensions, were associated with fewer difficulties (Willner et al., 2015). Therefore, the Career Decision Making Profile can be used by students, career counselors, and psychologists to identify individual strategies. They could identify more adaptive ways to reduce problems (Gadassi et al., 2013;

Perez & Gati, 2017). The approach used also influenced their intention to persist in their careers (Fahima & Akmal, 2018).

The use of the Career Decision Making Profile is relatively unfamiliar. Based on a literature review, there has been no development of this measurement tool in Indonesia. Previous studies only used it as a supporting measurement tool to gather data but the use had not been developed. Furthermore, a series of adaptation processes need to be carried out, including testing item analysis, reliability, and validity. This adaptation process is necessary to create an Indonesian version of the Career Decision Making Profile measurement tool, ease individuals to use it, as well as enhance its effectiveness and efficiency. Based on these considerations, this study adapts the Career Decision Making Profile measurement tool supported by good validity and reliability evidence for use.

Methods

This study employed a non-experimental quantitative method, particularly a descriptive design, to elucidate the psychometric properties of the adapted measurement tool. The adaptation process was based on the guidelines provided by the International Test Commission (2017). There were 7 stages involved in the process of this measurement tool, as shown in Figure 1. The first stage involved communication through email and obtaining permission from the original author of the measurement tool, Itamar Gati, to adapt the Career Decision Making Profile questionnaire into Indonesian. The original format was obtained directly, along with the blueprint as presented in Table 1.

The second stage involved translating the Career Decision Making Profile questionnaire into Indonesian, considering the cultural context. The translation process was carried out using the forward-backward translation method. The translation from English to Indonesian (forward translation) was conducted by a translator with proficiency in English and a background in Psychology. Meanwhile, the forward translation was translated back into English, known as backward translation, by another translator. This study synthesized the translations by analyzing the results from both translators to produce a draft of the Indonesian version of the Career Decision-Making Profile.

The third stage involved reviewing the translated draft. This review was conducted by SMEs to assess the content and language suitability. The experts were three psychologists with expertise in career theory. Each expert provided ratings for the items by using a scale (1 = not relevant, 2 = somewhat relevant, 3 = quite relevant, 4 = highly relevant) and provided comments. The ratings were calculated using the content validity index for items (I-CVI) and the content validity index for the scale (S-CVI) (Lynn, 1986).

The fourth stage involved cognitive interviews. After the statement items were compiled into a questionnaire using Google Forms, a pilot test was conducted with five students who matched the characteristics of the participants. This was followed by online cognitive interviews using the Zoom application. This process was performed to examine the appropriateness of the response process with the constructs measured. The interview guide and coding process were based on the cognitive model proposed by Tourangeau (in Willis, 2015), including comprehension, retrieval, judgment, and response selection.

The fifth stage involved formatting the instructions and statement items into a layout presented to the participants. The sixth stage involved testing the measurement model's fit for each dimension of the Indonesian version through item analysis, including reliability and item discrimination using SPSS version 20. In addition, reliability estimation was conducted using internal consistency Cronbach's Alpha (Peters, 2014). Confirmatory Factor Analysis (CFA) was performed using JASP 16.4 software to test the fit of the measurement model with the empirical data (Geldhof et al., 2014). The final stage involved documentation, such as writing a user manual for the measurement tool accompanied by evidence of reliability and validity to support its use in other populations.

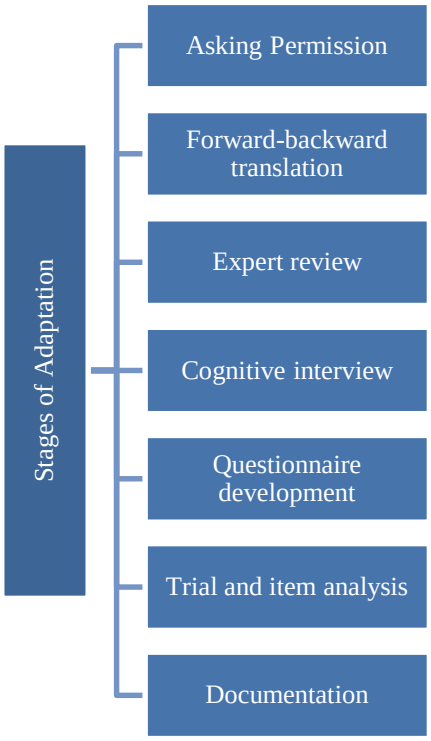

Figure 1. Stages of Adaptation

Table 1
Career Decision-Making Profile Grid

Dimensions	Item Number
Warm-up	1
Information gathering	2; 15; 28
Information-processing	3; 16; 29
Locus of control	4; 17; 30
Effort invested in the process	5; 18; 31
Procrastination	6; 19; 32
Speed of making the final decision	7; 20; 33
Consultation with others	8; 21; 34
Dependence on others	9; 22; 35
Desire to please others	10; 23; 36
Aspiration for an ideal occupation	11; 24; 37
Willingness to compromise	12; 25; 38
Using intuitive	13; 26; 39
Validity item	14; 27

The population of this study consisted of students in Indonesia. The sample criteria included (1) Indonesian citizens, (2) enrolled in Indonesian universities, and (3) aged over 18 years. Furthermore, a convenience sampling technique was used to select the sample. The information about the study through social media was disseminated. Before starting the questionnaire, potential participants were provided with explanations about the identity and contact information, the study objectives, the required criteria, the estimated duration of questionnaire completion, instructions to follow during the process, and data confidentiality. Participants who agreed to participate filled out a consent statement provided demographic data, and completed the Career Decision Making Profile questionnaire to obtain a sample size of 204 individuals.

Results and Discussion

The demographic data of the participants were presented in Table 2. The majority of participants were female (76%), and 82% had a Bachelor's degree (S1). Age was relatively distributed across all categories, with the highest percentage in the 21 years age group (17%).

The testing of the Career Decision Making Profile measurement tool began with the collection of valid evidence based on test content. This was highly recommended in instrument development (Taherdoost, 2016). The ratings obtained from the assessment of three experts showed that all items received an I-CVI score of 1, except for 4, 5, 13, 16, 23, 30, 31, 36, and 37, receiving an I-CVI score of .67, as well as S-CVI/Ave at .92. According to Lynn's criteria (Polit & Beck, 2006), an I-CVI value of 1 was considered good, and S-CVI/Ave > .90 indicated good content validity. Based on the validity evidence, the tool had good S-CVI. Therefore, the scale in this measurement tool is considered relevant to the construct being measured and there were nine items with an I-CVI below 1.

Table 2
Demographic Data of Participants (N=204)

Category	Frequency	Percentage
Gender		
Female	155	76%
Male	49	24%
Age (M=21.57; SD=2.184)		
18	18	9%
19	23	11%
20	33	16%
21	35	17%
22	15	8%
23	27	13%
24	32	16%
25	21	10%
Education Level		
Diploma 3	12	6%
Diploma 4	11	5%
Bachelor Degree	168	82%
Master Degree	13	7%

After further review, these items were considered irrelevant by the experts due to reasons such as ineffective wording and inappropriate language use. Improvements were made to these nine items, as presented in Table 3. These results indicated that each translated item was used to describe the intended construct.

Table 3
Sentence Revision

Dimension	Revisions
Information-processing	I usually make decisions after comparing several characteristics of each option.
Locus of control	I am not solely responsible for the outcomes of my decisions. Fate and luck will influence my future career.
Locus of control	It does not matter what I select, ultimately, destiny will impact my future career.
The effort invested in the process	I put a lot of effort into the career decision-making process.
The effort invested in the process	When I need to make a decision, I invest a significant amount of time and energy into the process.
Desire to please others	In the end, I will select an option that will please the people closest to me.
Desire to please others	The expectations of my closest ones are the most important factor in the decisions I make.
Dependence on others	I prefer others to take responsibility for my decisions.
Using intuitive	When I make a decision, I rely on my intuition.

Table 4
Results of the Cognitive Interview

No	*Original Items*	*Coding*	*Revised Items*
12	If I am not accepted into my first-choice major or training program, I will **compromise** and switch to the second choice.	*Comprehension*	If I am not accepted into my first-choice major or training program, **I will accept it** and switch to the second option.
25	If I cannot realize my first choice, I am willing to **compromise.**	*Comprehension*	If I cannot realize my first choice, I will be **willing to accept it**.
38	If I am unable to get into the study program in my chosen field, I will **compromise** and look for another suitable option for me.	*Comprehension*	If I am unable to get into the study program in my selected field, **I will accept it** and look for another suitable option for me.
13	When making decisions, I primarily rely on my **intuition**.	*Comprehension*	When I make a decision, I rely on my **intuition**.

Table 5
Results of Cronbach Alpha

Dimensions	*Cronbach's Alpha*
Information gathering	.717
Information-processing	.718
Locus of control	.714
The effort invested in the process	.728
Procrastination	.755
Speed of making the final decision	.749
Consultation with others	.743
Dependence on others	.718
Desire to please others	.707
Aspiration for an ideal occupation	.762
Willingness to compromise	.755
Using intuitive	.749

Furthermore, validity evidence based on the response process was collected through cognitive interviews. This method was employed to identify items unclear in the measurement tool and to assess content and response process validity evidence (Peterson et al., 2017). Based on the cognitive interviews, the majority of the measurement tool items were understood and did not pose any problems in the cognitive process. However, four items were revised because participants had difficulty understanding the wording (Table 4).

Reliability analysis using Cronbach's Alpha is presented in Table 5. Referring to Kaplan and Saccuzzo (2009) regarding the quality of Cronbach's Alpha values, a measurement tool is considered acceptable in terms of reliability when it achieves a value of at least .70. Therefore, this measurement tool is consistent in measuring the intended construct. The analysis of the item discrimination index also shows that the items have values higher than .30. Almost all items are under the category of "very good," while item 22 falls under the category of "reasonably good" (Ebel & Frisbie, 1991). It can be concluded that the items in this measurement tool have good discriminatory power.

Validity evidence based on the internal structure of the test was obtained through CFA analysis. Figure 2 presented the measurement model diagram of the Career Decision Making Profile measurement tool, consisting of 12 dimensions, namely Information Gathering (IG), Information Processing (IP), Locus of Control (LC), Effort Invested in the Process (EI), Procrastination (PR), Speed of Making the Final Decision (SP), Consulting with Others (CO), Dependence on Others (DO), Desire to Please Others (DP), Aspiration for an "Ideal Occupation" (AI), Willingness to Compromise (WC), and Using Intuition (IN).

Assessment in CFA was conducted using model fit testing with several indices categorized into absolute, incremental, and parsimonious fits, as recommended by Hair (2019). The model fit criteria and the results of the goodness-of-fit calculations for the adapted measurement tool were presented in Table 6.

The overall model fit was good (Hair, 2019), confirming that the Career Decision-Making Profile measured the 12 dimensions describing individuals' career decision-making. The loading factor values in the CFA analysis indicated that all items had significant loadings above .50, hence, the constructs were effectively measured (Hair, 2019). Meanwhile, items 2 (.492) and 22 (.457) had slightly lower loadings that were retained (Marsh et al., 2019). These results indicated that the adapted measurement tool was capable of measuring individual career decision-making strategies. The results showed that the Indonesian version of the Career Decision-Making Profile was consistent and represented the measured constructs. The items were not eliminated from this measurement tool. Therefore, the Indonesian version had the same number of items as the original, which was 39.

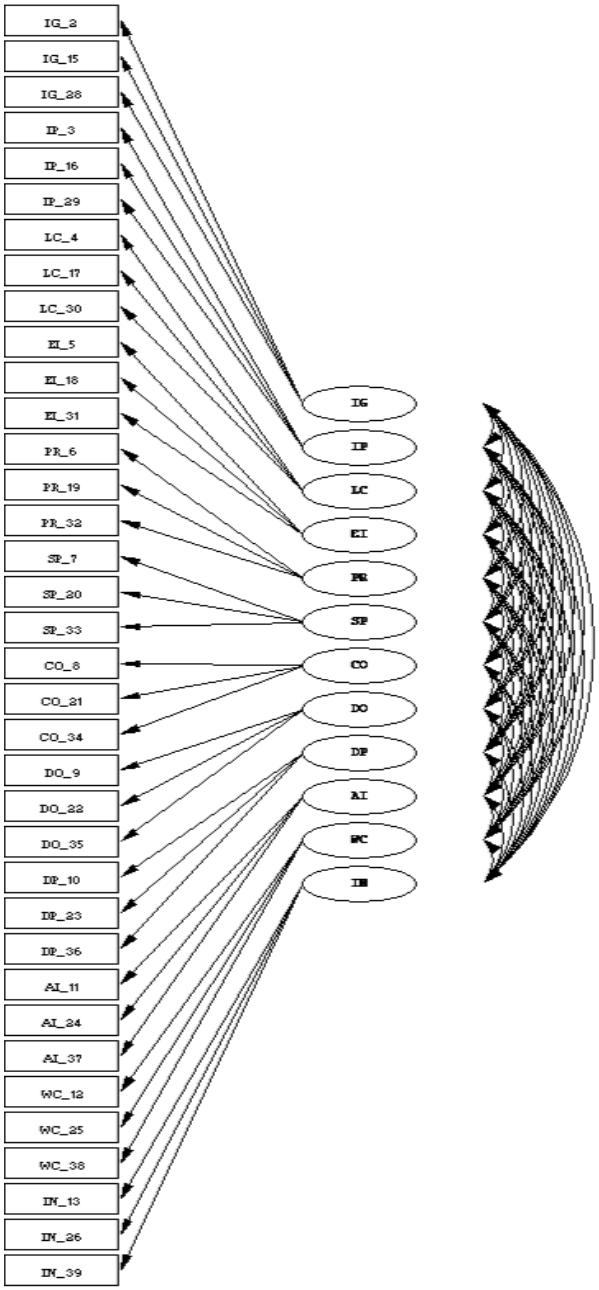

Figure 2. Career decision making profile model diagram

Table 6

Criteria and Results of Confirmatory Factor Analysis

Category	Index	Criteria	Results
Chi-square	Chi-square	P-value > .05	< .001
Absolute fit	GFI	> .90	.961
	RMSEA	< .08	.076
	SRMR	< .08	.070
Incremental fit	NFI	> .90	.916
	NNFI	> .90	.943
	CFI	> .90	.952
Parimonious fit	PNFI	> .90	.767

The results also confirmed the proposed structure of the 12 dimensions as valid and reliable in the Indonesian context. This measurement tool consistently reproduced results and accurately measured the proposed constructs (Souza et al., 2017). The findings aligned with those obtained in several countries, such as the United States, China, and Germany. It strengthened the assumption that career decision-making was reflected in multidimensional strategies (Gati et al., 2010). Furthermore, participants from Indonesia had a similar understanding of the fundamental characteristics of career decision-making as participants from other countries. Cultural factors also influenced the career behavior and outcomes of individuals (Ozek & Ferraris, 2020). For example, the descriptive results indicated that the dimension of willingness to compromise was strongly supported by participants from China, but the scores were relatively low among those from the United States and Israel (Willner et al., 2015). By establishing the structural equivalence of the Career Decision Making Profile in the Indonesian context, this study also paved the way for further analysis of how culture shapes career decision-making.

The Career Decision Making Profile can be used to measure the strategies of Indonesian students for study and counseling purposes. This measurement tool by career counselors or psychologists to explain individual career decision-making patterns aided in creating optimal decisions. Individuals who made optimal decisions were better equipped to confront dynamic circumstances and career paths (Super, 1956). However, this study did possess certain limitations, such as a restricted participant pool that may not accurately reflect the entirety of the Indonesian student population. The absence of validity evidence derived from the correlation between the scores of the adapted measurement tool and other instruments measuring the same construct was not gathered. It was advisable to conduct further studies to augment the validity evidence and encompass a more representative sample of participants.

Conclusion

In conclusion, the Career Decision Making Profile measurement tool in the Indonesian language, consisting of 39 items, was supported by adequate reliability and validity evidence. This measurement tool was multidimensional, comprising 12 dimensions, namely information gathering, information processing, locus of control, effort invested in the process, procrastination, speed of making the final decision, consultation with others, dependence on others, desire to please others, aspiration for an ideal occupation, willingness to compromise, and using intuition. This

was suitable for measuring career decision-making strategies among Indonesian students.

References

Abdullah, S. (2018). Career decision making in college students. *GUIDENA: Jurnal Ilmu Pendidikan, Psikologi, Bimbingan dan Konseling*, *8*(1), 30–39. http://dx.doi.org/10.24127/gdn.v8i1.1192

Anastiani, A. (2019). Masihkah keterlibatan orang tua berkontribusi dalam pengambilan keputusan karier mahasiswa tingkat akhir?. *INQUIRY Jurnal Ilmiah Psikologi*, *10*(1), 57–71. https://doi.org/10.51353/inquiry.v10i1.260

Bimrose, J., & Mulvey, R. (2015). Exploring career decision-making styles across three European countries. *British Journal of Guidance & Counselling*, *43*(3), 337–350. http://dx.doi.org/10.1080/03069885.2015.1017803

Chuang, N., Lee, P., & Kwok, L. (2020). Assisting students with career decision-making difficulties: Can career decision-making self-efficacy and career decision-making profile help?. *Journal of Hospitality, Leisure, Sport & Tourism Education*, *26*. https://doi.org/10.1016/j.jhlste.2019.100235

Di Fabio, A., & Saklofske, D. (2014). Comparing ability and self-report trait emotional intelligence, fluid intelligence, and personality traits in career decision. *Personality and Individual Differences*, *64*, 174–178. https://doi.org/10.1016/j.paid.2014.02.024

Ebel, R., & Frisbie, D. (1991). *Essentials of educational measurement* (5th ed.). Prentice-Hall, Englewood Cliffs.

Ebner, K., Thiele, L., Spurk, D., & Kauffeld, S. (2018). Validation of the German career decision-making profile—An updated 12-factor version. *Journal of Career Assessment*, *26*(1), 111–136. https://doi.org/10.1177/1069072716679996

Fahima, R. R., & Akmal, S. Z. (2018). Peranan kebimbangan karier terhadap intensi pindah jurusan kuliah pada mahasiswa. *Psympathic: Jurnal Ilmiah Psikologi*, *5*(1), 83–94. https://doi.org/10.15575/psy.v5i1.1639

Gadassi, R., Gati, I., & Wagman-Rolnick, H. (2013). The adaptability of career decision-making profiles: Associations with self-efficacy, emotional difficulties, and decision status. *Journal of Career Development*, *40*(6), 490–507. https://doi.org/10.1177/0894845312470027

Gati, I., Landman, S., Davidovitch, S., Asulin-Peretz, L., & Gadassi, R. (2010). From career decision-making styles to career decision-making profiles: A multidimensional approach. *Journal of Vocational Behavior*, *76*(2), 277–291. https://doi.org/10.1016/j.jvb.2009.11.001

Gati, I., & Levin, N. (2014). Counseling for career decision-making difficulties: Measures and methods. *The Career Development Quarterly*, *62*(2), 98–113. https://doi.org/10.1002/j.2161-0045.2014.00073.x

Geldhof, G., Preacher, K., & Zyphur, J. M. (2014). Reliability estimation in a multilevel confirmatory factor analysis framework. *Psychological Methods*, *19*(1), 72–91. https://doi.org/10.1037/a0032138

Guan, Y., Chen, S., Levin, N., Bond, M., Luo, N., Xu, J., & Zhang, J. (2015). Differences in career decision-making profiles between American and Chinese university students: The relative strength of mediating mechanisms across cultures. *Journal of Cross-Cultural Psychology*, *46*(6), 856–872. https://doi.org/10.1177/0022022115585874

Hair, J. (2019). *Multivariate data analysis*. Cengage Learning EMEA.

International Test Commission. (2017). *The ITC guidelines for translating and adapting tests* (Second edition). www.InTestCom.org

Kaplan, R., & Saccuzzo, D. (2009). *Psychological testing: Principles, applications, and issues* (7th ed.). Wadsworth.

Kulcsar, V., Dobrean, A., & Gati, I. (2019). Challenges and difficulties in career decision making: Their causes, and their effects on the process and the decision. *Journal of Vocational Behavior*, *116*(1), 103346. http://dx.doi.org/10.1016/j.jvb.2019.103346

Lent, R., & Brown, S. (2013). Social cognitive model of career self-management: Toward a unifying view of adaptive career behavior across the life span. *Journal of Counseling Psychology*, *60*(4), 557–568. https://doi.org/10.1037/a0033446

Lynn, M. R. (1986). Determination and quantification of content validity. *Nursing Research*, *35*(6), 382–385. https://doi.org/10.1097/00006199-198611000-00017

Marsh, H., Guo, J., Dicke, T., Parker, P., & Craven, R. (2019). Confirmatory factor analysis (CFA), exploratory structural equation modeling (ESEM), and SetESEM: Optimal balance between goodness of fit and parsimony. *Multivariate Behavioral Research*, *55*(1). http://dx.doi.org/10.1080/00273171.2019.1602503

Murniarti, E., & Siahaan, L. (2019). Millennials' career decision-making difficulties (CDMD) in Indonesian university students. *Advances in Social Sciences Research Journal*, *6*(9), 268–276.

Ozek, H., & Ferraris, A. (2020). A cross-cultural analysis on career decision making of the students: The role of self-awareness and self-efficacy .

Global Business and Economics Review, *23*(1), 1. http://dx.doi.org/10.1504/GBER.2020.108391

Perez, M., & Gati, I. (2017). Advancing in the career decision-making process: The role of coping strategies and career decision-making profiles. *International Journal for Educational and Vocational Guidance*, *17*(3), 285–309. https://doi.org/10.1007/s10775-016-9334-x

Peters, G. (2014). The alpha and the omega of scale reliability and validity. *The European Health Psychologist*, *16*(2), 56–69.

Peterson, C., Peterson, N., & Powell, K. (2017). Cognitive interviewing for item development: Validity evidence based on content and response processes. *Measurement and Evaluation in Counseling and Development*, *50*(4), 217–223. http://dx.doi.org/10.1080/07481756.2017.1339564

Polit, D.E. and Beck, C.T. (2006) Essentials of Nursing Research. 6th Edition, Lippincott Williams & Wilkins, Philadelphia.

Rasyidi, S., Akhmad. S, Sudrajat, D., & Nadhirah, N. (2021). The career adaptability among young adulthood: A systematic literature review. *Journal of Professionals in Guidance and Counseling*, *2*(1), 14–19. http://dx.doi.org/10.21831/progcouns.v2i1.39472

Sharf, R. (2013). *Applying career development theory to counseling*. Cengage.

Shin, Y., & Kelly, K. (2015). Resilience and decision-making strategies as predictors of career decision difficulties. *The Career Development Quarterly*, *63*(4), 291–305. http://dx.doi.org/10.1002/cdq.12029

Souza, A., Alexandre, N., & Guiradello, E. (2017). Psychometric properties in instruments evaluation of reliability and validity. *Applications of Epidemiology*, *26*(3), 649-659. http://dx.doi.org/10.5123/S1679-49742017000300022

Super, D. E. (1956). *The psychology of careers: An introduction to vocational development*. Harper & Bros.

Taherdoost, H. (2016). Validity and reliability of the research instrument: How to test the validation of a questionnaire/survey in a research. *International Journal of Academic Research in Management (IJARM)*, *5*(3), 28–36. http://dx.doi.org/10.2139/ssrn.3205040

Tian, L., Guan, Y., Chen, S., Levin, N., Cai, Z., Chen, P., Zhu, C., Fu, R., Wang, Y., & Zhang, S. (2014). Predictive validity of career decision-making profiles over time among Chinese college students. *Journal of Career Development*, *41*(4), 282–300. https://doi.org/10.1177/0894845313495590

Violina, E. (2018). Gaya pembuatan keputusan karier mahasiswa baru program studi bimbingan konseling universitas muhammadiyah Sumatera Utara tahun ajaran 2017-2018. *Jurnal Penelitian Bimbingan dan Konseling*, *3*(1), 1-8. http://dx.doi.org/10.30870/jpbk.v3i1.3194

Willis, G. (2015). *Analysis of the cognitive interview in questionnaire design*. Oxford University Press.

Willner, T., Gati, I., & Guan, Y. (2015). Career decision-making difficulties: A cross-cultural comparison among US, Israeli, and Chinese samples. *Journal of Vocational Behavior*, *88*, 143–351. https://doi.org/10.1016/J.JVB.2015.03.007