Career Self-Management Scale (CEDLE scale) In The Indonesian Version of The Social Cognitive Model

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Abstract. This study aimed to measure the adaptability of the Indonesian version of the Career Self-Management Scale (CEDLE Scale) and obtain a model fit from that scale. The CEDLE Scale was developed by Lent, et al in 2017. The process of adapting the CEDLE scale using the backward-translation technique method is translating the original scale into the Indonesian version, consulting with linguists, and translating back to the original language version. The population in this study were students in the province of South Sulawesi who registered in the 2021/2022 academic year. The sampling technique used stratified random sampling. The sample of this research is 320 students; 170 females and 150 males. This research instrument uses the CEDLE scale, which consists of 3 (three) indicators, namely Personal mastery (PM), Verbal persuasion (VP), and Vicarious learning (VL). The CEDLE scale consists of 12 items, and 8 items related to the emotions felt when conducting career exploration. The data analysis technique used a validity test concerning the corrected correlation item value and item reliability concerning Cronbach and McDonald's alpha values. Furthermore, the data were analyzed using confirmatory factor analysis (CFA). The results showed that the adaptation of the CEDLE scale was in the Fit Index category with values of chi-square (90.263/51), RMSEA (0.053), GFI (0.950), CFI (0.963), GFI (0.952).

Keywords: *CEDLE scale, Indonesian Version, Social Cognitive Model*

INTRODUCTION

A Career is an aspect of human development that lasts a lifetime. Career awareness is the skill that supports one's future success and as part of 21st-century skills (Sulam et al., 2019). Careers awareness in the industrialization era 4.0 is not only about what a person wants to be, but also, what they hope to be achieved. Also, career is an aspect of skills where a person needs to understand himself, understand his interests, talents, and potential, identify the types of careers that suit his potential, choose appropriate career paths, and develop the goals to be achieved and in the direction of the career goals that have set (Samson et al., 2021; Sinring & Umar, 2021; Umar, 2021). Therefore, the career needs to be developed and managed. So, it is directed and does not deviate from previously determined.

The era of Industrialization 4.0 is a very challenging period for workers and prospective workers. This is because various types of jobs will be replaced with new jobs that tend to work at virtual levels. Thus, this challenge also contributes to career choices that will be taken not only by the community but also by students before entering college (Basri & Umar, 2020; Zhang et al., 2019). Therefore, the pattern of career guidance in schools, both at the junior high school to high school / vocational school levels, needs to undergo changes related to career choice fields.

Some research results show that the career guidance model should be able to explain how a person can manage a career strategically, how to adapt and be flexible throughout a career, and how to negotiate boundaries between work and non-work (Kirikkanat & Soyer, 2018; Ulas & Yildirim, 2019). This career model is known as the career self-management model. Career self-management is an attempt to understand one's career development based on social cognitive theory (Lent et al., 2002).

Career self-management is a long-standing career regulation process (Penn & Lent, 2019). Based on the theory of self-regulation, individuals are seen as active agents and develop themselves to create, set, monitor, and overcome obstacles related to achieving the goals that have been set (Aryani et al., 2020; Umar et al., 2021). In addition, self-regulation includes skills on how to translate goals into action plans, implement plans through various behaviors, monitor actions and results achieved, and process feedback to change goals and develop new action plans and appropriate behaviors (Baumeister et al. al., 2018; Perry et al., 2018).

Therefore, an instrument is needed to measure one's career management skills at the tertiary level. Career management instruments have been developed by Lent (Lent et al., 2017). The career management instrument is built from the Career Self-Management (CSM) model where one's career management is built from self-efficacy and expectations of the results achieved (Lent et al., 2000, 2017; Penn & Lent, 2019). Self-efficacy and outcome expectations are understood as cognitive motivators that enable the process of achieving goals, actions, and outcomes to occur. The process of achieving goals, actions, and results is referred to as a learning experience. According to (Betz, 2007; Budiningsih et al., 2012), self-efficacy consists of four domains namely personal mastery experience (eg, success and failure), verbal persuasion (eg, social encouragement or discouragement), learning

experience (ie, observational modeling), and physiological and affective states and reactions (eg, positive and negative emotions associated with the performance of a particular task).

The CSM instrument in SCCT theory is measured in three main indicators, namely personal mastery, verbal persuasion, and vicarious learning (Ireland & Lent, 2018). The results of previous studies indicate that the measure of outcome expectations in the career decision-making process produces a moderate internal consistency reliability coefficient. Therefore, several additional scale items are developed by adapting the self-efficacy items from CEDSE-BD, Bandura (1997). In summary, this study was designed primarily to expand the applicability of the SCCT CSM model to career exploration and decision-making activities. The focal point is the development of a new measure of experiential career decision learning that can be used in testing the CSM model. In addition to their theoretical relevance, such research can contribute to practice by clarifying how and to what extent different types of experiences inform self-efficacy and outcome expectations, with potential implications for structuring career exploration and decision-making interventions. This study was also designed to adapt measures of self-efficacy, outcome expectations, and intentions, for use in further research on CSM models in the Indonesian context.

RESEARCH METHOD

Research design

The design in this study is a quantitative descriptive research design to know the quality of each item from the career self-management scale (CEDLE scales) developed by Lent (Lent et al., 2017). In addition, the purpose of this study was to determine the relationship between the factors of each item on the CEDLE scale both on the scale construction material and the language aspect of each scale item.

Research sample

The population of this research was university students from Makassar State University in South Sulawesi, the academic year 2020/2021. The sample of the research was obtained through proportional stratified random sampling in which parts of the population are identified based on similar characteristics (Zhang et al., 2019).

The samples were generated through the following strategy: (1) obtaining the number of students in Makassar State University from each faculty; (2) based on the data, the authors selected nine faculties. It consists of education, language and literature, technique, mathematics and natural science; economics and business, social sciences; psychology, sport sciences, and art and design; (3) based on the results obtained from the selected students from each faculty. There were 47,502 students at Makassar State University. The samples were generated through Slovin's method (Ryan, 2013) with a probability value of .05. Therefore, the samples were 320 students; 170 females and 150 males. The range of age was 19-22 years old. The sample from each faculty consists of 36 students in educational faculty, 35 students language and literature faculty, 32 students from technique faculty, 38

students from mathematics and natural science faculty; 35 students from economics and business faculty, 36 students from social sciences faculty; 35 students from psychological faculty, 34 students from sports sciences faculty, and 37 students from art and design faculty.

Research Instruments

Personal Data Questionnaire

Personal data form was developed by authors to obtain the data on descriptive characteristics of the samples. The form involved age, sex, grade, and academic achievement questions.

Career Self-Management Scale (CEDLE)

The Career Self-Management Scale was developed by Lent (Lent et al., 2017). The CEDLE scale consists of 3 main indicators, namely Personal mastery (PM); Verbal persuasion (VP), and Vicarious learning (VL). The CEDLE Scale consists of 12 statements with 8 additional statements related to the emotions felt when exploring a career with the following explanation "When you have approached career exploration and decision-making tasks over the past year, to what extent have you felt".

The CEDLE scale uses a Likert model but on this scale, it is adapted into 4 answer choices concerning the condition that Indonesians tend to choose neutral answers. Therefore, the answer choices consist of strongly agree, agree, agree, and strongly disagree. With a score from 1 to 4.

Data analysis

The procedure for adopting the test kit is to translate the test kit that we have adapted using the backward-translation technique. Where we translate the original test kits into Indonesian. Then we consult the results of the translation to a linguist. After that, we translated it back into the original language of the test kit and consulted again with a linguist. After consulting with a linguist, re-translates into Indonesian. And again consults with a linguist, the aim is to avoid any errors in the meaning of the contents of the test items and to test the validity of the content, namely through professional judgment or expert review.

The studies were carried out by measurement experts and linguists. The test run may be enough once or more to get items that meet the criteria. The research was conducted by giving measuring instruments to the research subjects to be filled out completely. Data analysis includes item analysis and the reliability of measuring instruments. Quantitative item analysis was carried out using JASP software. From the printout of the program, further analysis was carried out to see the characteristics of items that met the criteria. Item analysis aims to obtain empirical evidence regarding the discriminatory power and reliability of measuring instruments. Item selection criteria for trials, discriminatory power parameters can be accepted if > 0.30. The reliability used is Cronbach Alpha and Mc Donald. In addition, to produce a relationship between factors between each item, a confirmatory factor analysis (CFA) test was carried out using the JASP application.

RESULT AND DISSCUSSION

Based on the results of data analysis using JASP, it was found that the validity value based on the corrected correlation item value was more than 0.3 (> 0.3) and the reliability on Cronbach and McDonald's alpha values was more than 0.6. Values of validity and reliability can be seen in table 1.

Table 1. Data Validity and Reliability per Item

Skala	Indikator	Item	Cronbach	McDonald	Item Corrected Correlation	SD
CEDLE (*Career Self Management Scale*)	*Personal Mastery*	Cara saya dalam menentukan keputusan terkait karir sangat berguna bagi saya dimasa lalu	0.871	0.869	0.394	0.681
		Saya telah mempertimbangkan dengan baik segala aspek positif dan negative ketika saya mengambil keputusan terkait karir	0.855	0.850	0.444	0.529
		Saya pandai dalam menerapkan keputusan karir saya menjadi sebuah aksi nyata	0.853	0.857	0.486	0.572
		Saya memiliki banyak ide dalam mengumpulkan informasi yang saya butuhkan dalam membuat keputusan karir	0.847	0.841	0.592	0.565
	Verbal Persuation	Seseorang yang penting telah memberi tahu saya bahwa saya	0.848	0.842	0.561	0.666

memiliki banyak ide dalam mengumpul kan informasi untuk membuat keputusan karir				
Seseorang yang penting telah memberi tahu saya bahwa saya telah mempertim bangkan dengan baik aspek positif dan negative ketika membuat keputusan karir	0.841	0.835	0.652	0.675
Seseorang yang penting telah memberi tahu saya bahwa saya telah mengevalua si dengan baik pilihan yang paling sesuai dengan kebutuhan saya dalam membuat k9eputusan karier	0.844	0.838	0.618	0.616
Seseorang yang penting telah memberi tahu saya bahwa saya pandai mengelola tantangan yang muncul saat membuat keputusan	0.847	0.840	0.595	0.617

	karier				
Vicarious Learning	Saya memiliki panutan yang pandai membuat keputusan karir yang penting	0.848	0.842	0.618	0.616
	Saya telah mengamati orang-orang yang saya kagumi yang pandai mengumpulkan informasi yang mereka butuhkan untuk membuat keputusan terkait karier	0.847	0.845	0.695	0.517
	Saya memiliki panutan yang memiliki pengetahuan tentang bagaimana minat dan kemampuan mereka sesuai dengan pilihan karir yang berbeda	0.855	0.848	0.454	0.529
	Saya memiliki panutan yang telah menjelaskan kepada saya bagaimana mereka memilih jurusan akademik atau jalur karir tertentu	0.841	0.835	0.652	0.675

Based on the results of data analysis per item, confirmatory factor analysis was then carried out to see the relationship between each item and other factors. The results of the CFA test can be seen in table 2.

Table 2. Confirmatory Factor Analysis Test Results on the CEDLE Scale

Instrument	N	Reliability Test		Validity Test				
		McDonald's	Cronbach's	RMSEA	GFI	CMIN/DF	CFI	TLI
CEDLE	275	0.861	0.856	0.053	0.950	90.263/51*	0.963*	0.952
PM		0.871	0.853					
VP		0.818	0.814					
VL		0.793	0.970					

PM= Personal Mastery
VP = Verbal Persuation
VL = Vicarious Learning
McDonald > 0,60 (Reliable)
Cronbach alfa > 0.60 (Reliable)
RMSEA ≤ 0,08 (Accepted Model)
GFI (Goodness of Fit)= 0 (poor fit)- 1,0 (perfect fit)
CMIN/DF ≤ 2,0 (Accepted Model)
CFI ≥ 0,95 (Accepted Model)
TLI ≥ 0,95 (Very Good Fit)
*p <0.001

Based on the data in table 2 shows that the RMSEA value is 0.0053 or less than 0.008 so it can be concluded that the CSM model is in the accepted model category. In addition, the value of chi-square or CMIN/Df shows a value of 90.263/51 with a significance of 0.01, or CMIN/DF < 2.0. so it can be concluded that the CSM model is in the fit index category or the accepted model. In addition, in the additional fit measure category, it was found that the GFI value was 0.95 or close to the expected fit value, so that the results of the adaptation of the CEDLE scale instrument can be used to measure student career self-management. In addition, to see the description of the relationship between factors and the items of each factor can be seen in Figure 1.
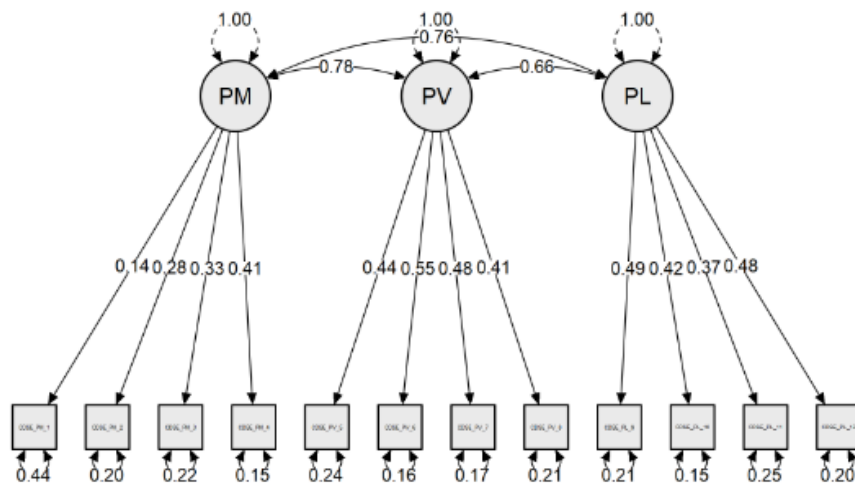

Figure 1. the relationship between factors and the items of each factor

This test adaptation still has several weaknesses, namely the adaptation of this test is still in scope in South Sulawesi. Thus, wider testing is needed, especially in other provinces. This is because Indonesia's conditions are very diverse, especially in the cultural aspect. There need to be further studies to revise some items on a larger scale taking into account cultural aspects. Testing of measuring instruments with this adaptation method cannot be carried out only once, but repeatedly until a standard scale is found that meets the characteristics of items that meet measurement standards. Only the validity and reliability tests are conducted at this stage, while revisions and re-tests are carried out in future research. The factor analysis of the self-efficacy scale shows that of the three factors that underlie this construct, the weight of the contribution of one factor to the construct ranges from 13.719% to 16.437%. Overall, these factors can reveal the construct of a self-efficacy scale of 44.970%. These three factors are revealed in several questions, namely: (1) The level factor contributes to the construct by 16, 437% and is revealed in 8 questions, but the number 16,18,21,22, is not in the factor

CONCLUSION

Based on the results and discussion in this study, the adaptation of the Career Self-Management Scale (CEDLE) can be used to measure students' career management abilities. This scale consists of three main indicators: verbal persuasion, personal mastery, and vicarious learning. The CEDLE scale consists of 12 statement items with a model fit index. Therefore, based on the findings of this study, it is recommended for further researchers to examine the results of scale adaptation on a larger scope with the condition that Indonesia is a country with various cultures. Thus, it can expand the scope of CEDLE scale adaptation.

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