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Construct Validity of Career Adaptation in Counseling: Adaptability Ability Scale Using Structural Equational Modeling (SEM)

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Abstract: This study aims to adapt the Career Adapt-Abilities Scale (CAAS) instrument developed by Savickas & Porfeli (2012). In this study, the main objective is the process of adapting a scale or instrument called the Career Adapt-Ability Scale (CAAS) which will be carried out in DKI Jakarta at the high school, vocational, and Madrasah Aliyah levels. The flow in carrying out the adaptation in this research is to translate from the original language into Indonesian through predetermined stages. Analysis of the data used in this study is to use the method of Structural Equational Modeling (SEM) with Amos 24.0 for windows. The sample in this study is 1.345 where the validity and reliability test results are in the high category and the goodness of fit test is high. Based on the results of this study, it can be concluded that the CAAS Scale can be used as an expression tool in career construction at the high school, vocational, and madrasah aliyah levels in DKI JAKARTA.
Keywords: Career adapt abilities scale; Construct validation; SEM

Introduction

The development of human life is so rapid that it undergoes very rapid changes in technology, society, culture, and economy and this has shaken employment. In the face of global conditions and today's demands for competence, large construction and sustainable ideas are needed in the world of work(Simarmata et al., 2020). In the theory of career construction to shape human development, it is necessary to support the social and cultural environment for the formation of one's career so that this becomes very important in career construction. (Savickas, M. L., & Porfeli, 2012). The need for innovative skills development and changing attitudes towards job requirements have emerged in response to rapid progress (Maree, 2017).

From the information above, it is necessary to be prepared to face the challenges that will arise in the world of work and career construction at a young age becomes very important. Desen (Argon, T., Yilmaz., 2016) said that adolescence is a very important period in preparing for a career, but it is often found at this time that adolescents experience difficulties and doubts in choosing their career. High school students are confused about making career decisions and maintaining their academic and vocational training(Sholeh et al., 2021). Not only that, but indecision in making career decisions also affects such as research conducted by Greenhaus & Callanan (Akmal, 2019), revealed that indecision in career decision making is a condition in which individuals have difficulty in deciding on their determination of interests, careers, and jobs. This can lead to the wrong choice of majors. As a result of the error in choosing the majors, individuals experience difficulties in carrying out their choices, resulting in results that are not optimal and there is a feeling of being unhappy, difficult to get along with, and even dropping out (Akmal, 2019).

Based on these conditions, the concept of career maturity proposed by Super (Argon, T., Yilmaz., 2016) needs to be widely developed because of the importance of career preparation for individuals from as early as possible to facilitate and be able to answer the right

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career choices so that they can answer their life needs in the future. Goodman (Hirschi, Andreas., Herrmann, Anne., 2015) explained that the ability to adapt in a career which has been conceptualized as a multi-dimensional construct consists of various dimensions to reflect a diverse set of aspects in terms of personality, motivation, readiness, strength, behaviour and attitude.

(Savickas, M. L., & Porfeli, 2012) In compiling CAAS, he divides into four dimensions (4C) of career adaptability, namely concern, control, curiosity and confidence, each of which is a specific and in-depth career development dimension. That dimension, namely, concern (Concern), is the first very important dimension of career adaptability. Caring is future-oriented, the feeling that it is important to prepare for the future. Attention to careers used in career construction theory Savickas (Hirschi, Andreas., Herrmann, Anne., 2015). A study says, caring for a career strongly supports an optimistic attitude toward success, but on the contrary, an attitude of not caring about a career will be pessimistic and there is no hope in life for success in the future (Smale et al., 2019).

Hunter (Rudolph, C.W., Lavigne, K.N., & Zacher, 2016) self ability can be categorized as cognitive ability to be understood as a measure of flexibility. Therefore, readiness within the individual is very much needed from the start in constructing career choices. Next to control, in this dimension, the most important aspect of control over one's vocational future is that individuals believe that they are responsible for building their careers. The attitude of indecision in career and the inability to choose is seen as a lack of control in Savickas' version of career construction. Therefore, career control should have the highest correlation with self-evaluation with low or thick personality tests or neuroticism. Neuroticism is the tendency to see life as a difficult problem. Thus, evaluation is a basic assessment, of the appropriateness, effectiveness, and abilities of a person as a person (Guidance, B., Oncel, L., 2014).

So, control plays an important role in the instrument and it is hoped that the control will be the right balance. Third, is curiosity (Curiosity), namely the initiative to learn about the types of work that might want to be done and what opportunities exist in the work to support a bright future. Curiosity also invites you to explore the fit between yourself and the world of work (Iurino et al., 2018). Exploration in question is the process of seeking as much information as possible for self-needs for advancement in career development. Lack of curiosity in this dimension causes people to be indifferent to their careers, and more introverted, closing in on information about the world's developments and progress. Parker (Guidance, B., Oncel, L., 2014) states that being proactive means performing tasks effectively, predicting and solving problems and being able to seize opportunities. Next, namely Confidence, success in a career is one of the most complete supporting factors, namely self-confidence. With steady self-confidence, everything that is taken will be consistent and brave in acting on is taken, whether it is risky or not(Bregman, 2018). That is, in career construction, this attitude becomes a high anticipation attitude so that success and all challenges can be found the right solution. Supported by research which states that belief in a career will lead to high self-esteem in individuals in overcoming one's career development (Hui et al., 2018).

On the other hand, a lack of career confidence can lead to career obsessions that prevent an actualized role in achieving a major goal. (Savickas, M. L., & Porfeli, 2012) adding that career adaptation in social life involves an important role in careers as attitudes, behaviours, and competencies are used by individuals in adjusting to jobs that suit the individual which includes four dimensions, namely attention (planning), control (decision making), curiosity (exploring).) and self-confidence (problem-solving). Based on this, it can be seen that it is important to adapt the Career Adapt – Abilities Scale (CAAS) for high school students. This is supported by research from (Ryba, T.V, Zhang, C.Q., & Huang, 2016) said that the use of CAAS is the right alternative in finding the dimensions of career adaptability in student-athletes who are starting dual pathways. (Argon, T., Yilmaz., 2016) also revealed the importance of

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CAAS for high school students with subdimensions of concern 3.86, control 4.17, curiosity 3.61, and confidence 4.14..

Methods

The instrument adaptation procedure was carried out in two stages, the first was language translation and the second was an empirical test by testing the instrument on respondents to validate the psychometric property of the Indonesian version of the Adaptation Career Adapt-Abilities Scale (CAAS).). For the translation procedure following the back translation technique, this technique uses two stages of activity, first the scale from the original language (English) to Indonesian, and then a good translation is carried out from Indonesian to English to ensure the translation is carried out has the same intent. This research will be conducted in high school/vocational/madrasah Jakarta with an age range of 16-18 years with a sampling technique using an incidental sampling technique.

The data collection technique for the Adaptation Career Adapt-Abilities Scale (CAAS) has gone through a translation procedure were in the testing process by collecting data directly to the target, namely high school/vocational/madrasah students aged 16-18 years using Google From considering they are still in a pandemic situation. Data processing and data analysis are carried out using the SEM (Structural Equational Modeling) method or popularly known as structural equation modelling. This SEM method is more appropriate to use because SEM can analyze data comprehensively from the path analysis and multiple regression methods which only analyze the total score variable data. SEM is a complete model for analyzing data. In this study using SPSS Amos 24.0 for Windows to make it easier to use and process it.

Results and Discussion

The adaptation process is carried out by following the 6 steps from (Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz, 2000). The steps in this adaptation are as follows 1) initial translation, 2) synthesis of the translation, 3) back translation, 4) expert committee assessment, 5) trial and data analysis (test of prefinal version), and 6) documentation (documentation). Respondents in this study amounted to 1,345 students consisting of SMA/SMK/MA throughout DKI Jakarta using the snowball sampling method. The time for the adaptation is February-November 2020.

The thing to do when using the SEM method is to analyze the data, then the data collected must meet the initial assumptions, namely; the number of samples must be large, the samples are normally distributed, and the measurement scale must be an interval (Riadi, 2018). The first assumption is that it meets the requirements because the sample used is large, namely 1,345 students so it has met the minimum standard of 5 times the number of indicators (Haryono, Siswoyo & Parwoto, 2013). The second assumption also meets the requirements where after the normality test, the skewness and kurtosis numbers are in the range of -2 to 2 so that the data collected can be assumed to be normally distributed. The third assumption is very fulfilled because the measurement of the indicator uses a Likert scale with 5 categories, namely Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree. In analyzing data using SEM, the next requirement is to ensure whether the data is valid and reliable. This was also expressed by (Haryono, Siswoyo & Parwoto, 2013) states that there are two stages of SEM analysis, namely the measurement model using the confirmatory factor analysis (CFA) test and the structural model stage with various goodness of fit (GOF) tests.

Several things must be considered in using the SEM model, namely the direction of the arrow from the indicator (latent variable) to the statement item (observable variable) showing

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a causal relationship (causality) which can be interpreted as the concern indicator is formed by 6 statement items, not vice versa. Likewise, the direction of the residual arrow (denoted by the letter e) indicates the unique factor that is taken into account, meaning that the smaller the residual value, the better the item validity. Interrelated factor analysis of 4 indicators (Control, Concern, Curiosity, and Confidence), namely: Confirmatory factor analysis also produces a validity coefficient (loading factor), which can be seen in Figure 1.

Figure 1. Analysis Model of 4 Confirmatory Factors of Correlated Career Adaptation, Modeling with Amos 24.

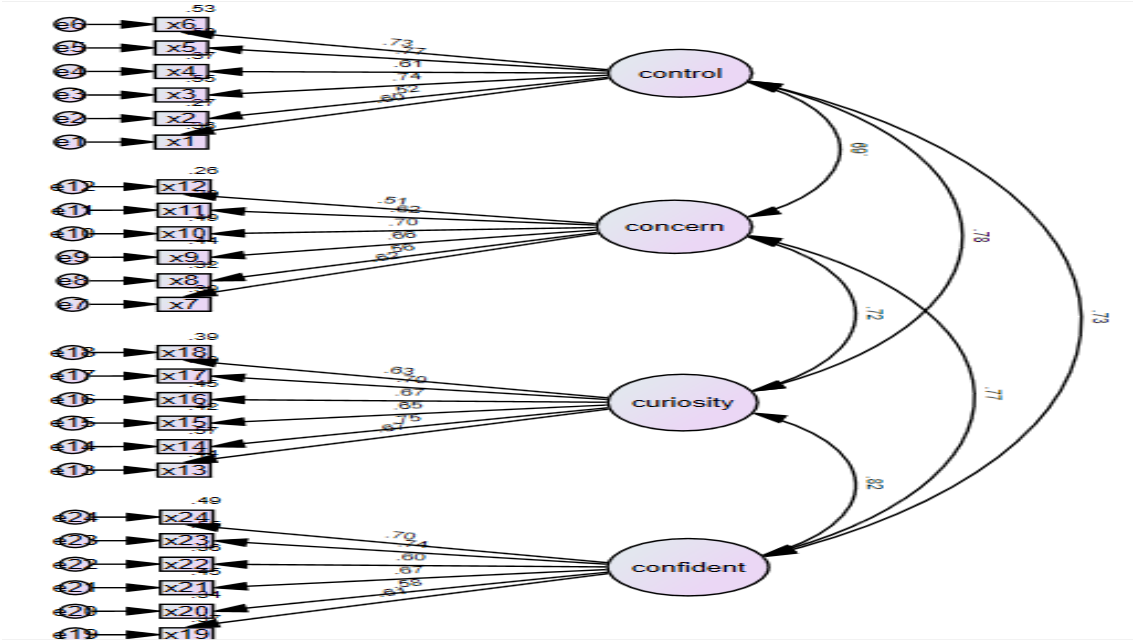

Figure 1. This shows that this coefficient is a measure of how valid a statement can describe its indicators, validity is related to the certainty of whether a variable does accurately measure what it is supposed to measure. The statement item is valid (very significant) if it has a loading factor value greater than 0.5 (Hair Jr, J. F., Black, W. C., Babin, B. J., & Anderson, 2009). The loading factor value obtained from the Amos output in the standardized regression weights table explains that all statement items have met the validity principle (load factor score 0.50). That is, there is no drop statement item (discarded). In addition to validity, the instrument must also be tested for reliability. The table below explains the results of the CR and VE calculations which show that the four indicators have good reliability because they get a CR score of 0.70 and a VE score of 0.50. The following table Construct Reliability and Variance Extracted can be seen in table 1.

Table 1. Construct Reliability and Variance Extracted instrument reliability

Indikator	Butir	Std. loading	(Std.loading)^2	Meassurement error (1-std.loading)	Construct Reliability (CR)	Variance Extracted (VE)
Control	x1	0.599	0.358801	0.401	0.89	0.57
	x2	0.516	0.266256	0.484		
	x3	0.741	0.549081	0.259		

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	x4	0.611	0.373321	0.389		
	x5	0.768	0.589824	0.232		
	x6	0.73	0.5329	0.27		
	Sum	3.965	2.670183	2.035		
	Sum^2	15.7212				
Concern	x7	0.623	0.388129	0.377	0.85	0.50
	x8	0.563	0.316969	0.437		
	x9	0.663	0.439569	0.337		
	x10	0.701	0.491401	0.299		
	x11	0.623	0.388129	0.377		
	x12	0.512	0.262144	0.488		
	Sum	3.685	2.286341	2.315		
	Sum^2	13.5792				
Curiosity	x13	0.665	0.442225	0.335	0.90	0.59
	x14	0.754	0.568516	0.246		
	x15	0.647	0.418609	0.353		
	x16	0.672	0.451584	0.328		
	x17	0.698	0.487204	0.302		
	x18	0.628	0.394384	0.372		
	Sum	4.064	2.762522	1.936		
	Sum^2	16.5161				
Confident	x19	0.61	0.3721	0.39	0.88	0.55
	x20	0.584	0.341056	0.416		
	x21	0.668	0.446224	0.332		
	x22	0.604	0.364816	0.396		
	x23	0.742	0.550564	0.258		
	x24	0.702	0.492804	0.298		
	Sum	3.91	2.567564	2.09		
	Sum^2	15.2881				

The next step in conducting SEM analysis is to perform a goodness of fit (GOF) test or Model Feasibility Test to obtain a suitable structural model (fit). There are several criteria in this test, namely 1) Chi-Square statistical test (X2 Test), 2) Goodness of Fit Index (GFI), 3) Adjusted Goodness of Fit Index (AGFI), Root Mean Squares Error of Approximation (RMSEA) and Root Mean Square Residual (RMSR). The score for each criterion is obtained based on the calculation of the AMOS output, which can be seen in table 2.

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Table 2. The goodness of fit (GOF) criteria

GOF Criteria	Limit value	Scor	Category
Chi-Square (X^2 *Test*)	<α.df	1043,72	*Poor fit*
Goodness of Fit Index (GFI)	≥ 0,90	0,938	*Good fit*
Adjusted Goodness of Fit Index (AGFI)	≥ 0,90	0,924	*Good fit*
Root Mean Squares Erroı Approximation (RMSEA)	≤ 0,05	0,049	*Good fit*
Root Mean Square Residuan (RMSR)	≤ 0,05	0,025	*Good fit*

Chi-Square (X〗^2) is the basic measuring tool for measuring overall fit in this test. The smaller the chi-square value, the better the level of fit (good fit). However, the chi-square cannot be used as the only measure of the fit of the entire model because it is very sensitive to the number of samples. When the sample size increases, the chi-square value also increases as in this study. In other words, although the chi-square score obtained is very large, this is understandable because the sample used is more than 1,000, so it can see other criteria.

GFI is an analogue of R^(2) in multiple regression and also GFI can be adjusted to degrees of freedom (df) to test whether or not a model is accepted. The GFI value ranges from 0 (poor fit) to 1 (perfect fit). The GFI score obtained in this study was 0.938 so it was categorized as very good (good fit). AGFI is an extension of GFI or GFI which is adjusted to the degree of freedom. Similar to GFI, AGFI's score is in the 0-1 range. The AGFI score obtained is 0.924 so it is categorized as very good (good fit).

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In research conducted by (Duffy, 2017) found that career adaptation was strongly correlated with self-esteem, and social support and strongly correlated with a sense of control. This is also supported by research conducted by (Frazier, P., Tix, A., & Barron, 2014) said that a sense of control mediates the relationship of social support, career optimism, and self-esteem to adaptability. (Hirschi, Andreas., Herrmann, Anne., 2015) suggest that perceptual control may need to be considered when looking at the relationship between caries adaptation support. (Stupnisky, R. H., Renaud, R. D., Perry, R. P., Ruthig, J. C., Haynes, T. L., & Clifton, 2007) also added that it related to career outcomes and the importance of emphasizing a sense of control when looking for relationships between personality traits and vocational outcomes.

Career adaptability also has a mediating effect on the relationship between job demands and job resources and the intention to resign. In research conducted by (Kusuma, Hendra, 2019) shows that job demands and job resources as working conditions in oil palm plantations have a significant influence on the intention to resign from plantation assistants. Job

Career adaptability is also an example of personal resources that can be used together with job resources to deal with job demands (Tladinyane, 2016). The role of this adaptability can help a person deal with unpleasant situations at work, thereby reducing his desire to resign (Schaufeli, 2017). Thus career adaptation can also reduce the desire of employees to resign. The desire to resign is influenced by the perceived pressure factor. More specifically (Jackson,

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L., & Rothmann, 2005) explained that a person will feel depressed when the job demands of his job are high and not matched by sufficient job resources. (Rothmann, S., Mostert, K., & Strydom, 2006) mentioned that one example of job demands is work overload. While job resources include opportunities for growth, organizational support, feelings of security, and progress.

Conclusions and Suggestions

The main contribution of this research is the process of adapting a scale or instrument called the Career Adapt-Ability Scale (CAAS) which is applied in DKI Jakarta at the High School/Vocational/Madrasah Aliyah level. The adaptation process has gone through the procedure of translating from the original language into Indonesian with a series of stages referred to by experts. Data analysis using Structural Equational Modeling (SEM) method with Amos 24.0 for windows. The results obtained with a sample of 1,345 produce high validity and reliability as well as high goodness of fit testing. So it can be concluded that the CAAS Scale can be used in Senior High Schools/Vocational/Madrasah Aliyah DKI-Jakarta and can be used as an expression tool in career construction. For further research, it is suggested to be able to reveal more deeply both in the analysis and in a larger sample and be able to apply the Career Adapt – Abilities Scale (CAAS) in schools.

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