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Reliability and Validity of Indonesian Version of Career Maturity Inventory (CMI) Form C

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Abstract: Career Maturity Inventory (CMI) Form C is an inventory used to measure high school student's career maturity. Although several studies have measured the reliability and validity of the 24-item CMI Form C that created by Crites and Savickas, there are only a limited number of researches measuring the psychometric properties of the Indonesian version of the CMI Form C. The present study examines the reliability and validity of the Indonesian version of CMI Form C. The study involved sample comprised of 109 high school students, the age ranging from 16 to 18 years old. Utilizing Rasch Model Analysis, of 24 items assessed, only 10 items were fit. The result showed that the item reliability of CMI is r=0.97. This limitation of fit items indicated that there are cultural differences of how Indonesian students perceived the career maturity. Consequently, further study that considering Indonesian culture of CMI need to be conducted before applying it massively in the Indonesia context.

Keywords: Career maturity, Indonesian version, validity, reliability.

INTRODUCTION

Career is a person's journey through learning, work and other phases of life in the realization of self and achieving goals. It is even beginning early as soon as the child was born (Dedmond & Hufziger, 1989). To achieve a career success, a person needs to prepare him/herself as soon as possible in various ways, especially in education (Xiao, et al., 2016). With the provision of good education, possibly, it can support his/her future career. Therefore, preparing student future career is extremely important (Hughey & Hughey, 1999).

At present, the competition in the work field is also getting tighter. The competitive work environments require the human resources department in the industries or companies to possess highly competences employee, coming from well-known universities with excellence academic achievement.

Today's high school students can be classified as generation Z, the generation that has been exposed to digital technology and the internet since their birth, and is currently the youngest generation of digital generation (Dupont, 2015; Maioli, 2016). They receive a lot of information about careers and career choices, and this has also shifted slightly from the previous generation. As a result of the burst of information through digital, career choices are also growing, diverse and not even thought of by previous generations. The amount of information and job choices that are available often make high school students confused. High school students are in a period of career development where there are fundamental changes in career choices. Career demands will be one of the main tasks in their lives. This is in line with the task of development as a teenager according to Havighurst (Santrock, 2013). Career readiness and maturity for high school students is important to be able to determine the most appropriate career path for themselves (Patton & Creed, 2001). Career readiness and maturity can be seen from the ability to choose further education and the study program that will be undertaken after graduating from high school. With the provision of good and suitable education, leading to career choices, will lead the student become more mature and ready to pursue his career in the future. They also need to recognize their strengths and weaknesses to have a complete understanding of the work field later on. However, the huge variety of information obtained by students in the digital era can actually make them become more difficult in determining careers. Inaccuracy in choosing a field of study can ultimately affect students where they find it difficult to study, students become less motivated in carrying out studies, so the study period becomes longer. In the long run, students can fail in their careers because they

feel that they are unfit with their personal potencies. Therefore, research that explores generation Z student career maturity is timely important to be conducted.

Career Maturity Inventory Form C (CMI-Form C) created by Crites and Savickas (Crites & Savickas, 1996) is one of the scales used to measure the career maturity of high school students. This inventory is based on Savickas (2005) career construction theory. It measures person's degree of adaptability in career decision making and readiness to make occupational choices. This inventory consists of four dimensions, namely Concern, Curiosity, Confidence, and Consultation. Concern essentially means the extent to which an individual is oriented to and involved in the process of making career decisions. The Curiosity means the extent to which and individual is exploring the work world and seeking information about jobs and their requirements. The Confidences means the extent to which a person has belief in her or his ability to make sensible career decisions and realistic profession choices. The Consultation means the extent to which a person seeks assistance in career decision making by requesting information or advice from others.

Savickas & Porfeli (2011) have conducted a research to measure the reliability and validity of CMI Form C. Initial evident supports the face, construct, and concurrent validity of the CMI scores as indicators of career choice readiness. However, in the Indonesian context, research on culturally adapted CMI-Form C psychometric properties is scarce.

RESEARCH OBJECTIVES

The purpose of the current study was to determine the reliability and validity of the Indonesian version of Career Maturity Inventory (CMI) Form C.

METHOD

Study Design and Data Collection

This study is a descriptive quantitative study that used a non-experimental survey design aimed to explore reliability and validity of CMI-Form C. 109 high school students in Medan City, ages 16 to 18 years old were participated in the study.

Measurement

CMI Form C is a psychological instrument for measuring career maturity of high school student grade 10-12 that conducted by Crites and Savickas [2]. CMI Form C provides a total score for career choice readiness, and consist of four dimensions as follow: concern, curiosity, confidence, and consultation. It contains 24 items. Participants answered each question using two-point scale, rating their current level of career maturity ranging from 0 (unfit) and 1 (fit). The CMI Form C total scores are obtained by reversing the scores on the positive items, then summing across negative items, therefore, a higher total score indicates higher career maturity.

Data Analysis

The data was analysed using Rasch Model using Winsteps. Winsteps is a special program designed for analysis with the Rasch model.

RESULTS

Based on Rasch Model analysis (Table 1) it is showed that The Indonesian version of CMI form C had a relatively high item reliability of 0.97. However, there are only 10 items that were fit, there are item number 3, 7, 10, 11, 14, 15,19, 20, 21, and 23. Conversely, 14 items were unfit. The items are 1, 2, 4, 5, 6, 8, 9, 12, 13, 16, 17, 18, 22, 24.

The criteria to decide item fit was obtained from Boone, Staver, & Yale (2014). They proposed this following standard:

1. Outfit Mean Square (MNSQ):
   0.5 <MNSQ <1.5,
2. Z-standard outfit value (ZSTD):
   -2.0 <ZSTD <+2,0

Table 1: Rasch Result

Person: REAL SEP.: 1.15 REL.: .57 ... Item: REAL SEP.: 5.49 REL.: .97

Item STATISTICS: MISFIT ORDER

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD	PT-MEASURE CORR.	PT-MEASURE EXP.	EXACT MATCH OBS%	EXACT MATCH EXP%	Item
24	93	109	-1.48	.28	1.14	.8	1.56	1.8	A .02	.26	86.2	85.3	A24
4	95	109	-1.64	.30	1.06	.4	1.40	1.3	B .13	.25	87.2	87.1	A4
5	8	109	3.33	.38	1.10	.4	1.37	.9	C .05	.21	92.7	92.6	A5
17	87	109	-1.06	.25	1.09	.7	1.37	1.6	D .14	.29	79.8	80.1	A17
13	24	109	1.95	.24	1.22	1.6	1.31	1.5	E .07	.32	76.1	78.7	A13
16	43	109	.99	.21	1.21	2.5	1.27	2.5	F .12	.36	62.4	67.8	A16
1	23	109	2.01	.25	1.12	.9	1.15	.8	G .18	.32	80.7	79.5	A1
18	75	109	-.41	.22	1.13	1.4	1.13	.9	H .20	.33	66.1	71.4	A18
9	22	109	2.07	.25	1.00	.1	1.05	.3	I .29	.31	81.7	80.3	A9
8	99	109	-2.05	.34	1.04	.2	.99	.1	J .17	.22	90.8	90.8	A8
2	56	109	.44	.21	1.02	.3	1.02	.3	K .34	.36	62.4	65.0	A2
22	103	109	-2.62	.43	.97	.0	.91	.0	L .20	.17	94.5	94.5	A22
3	73	109	-.31	.22	.96	-.4	.97	-.2	l .38	.34	71.6	70.0	A3
12	89	109	-1.19	.26	.96	-.2	.77	-1.0	k .36	.28	81.7	81.9	A12
20	99	109	-2.05	.34	.96	-.1	.82	-.4	j .27	.22	90.8	90.8	A20
15	76	109	-.45	.22	.93	-.7	.96	-.3	i .40	.33	76.1	72.1	A15
14	50	109	.69	.21	.94	-.9	.91	-1.0	h .44	.36	68.8	65.7	A14
19	87	109	-1.06	.25	.90	-.7	.79	-1.0	g .42	.29	81.7	80.1	A19
10	65	109	.05	.21	.90	-1.4	.86	-1.4	f .47	.35	67.9	66.3	A10
21	23	109	2.01	.25	.90	-.7	.86	-.7	e .43	.32	82.6	79.5	A21
11	74	109	-.36	.22	.88	-1.3	.82	-1.4	d .48	.34	76.1	70.7	A11
23	60	109	.27	.21	.88	-1.9	.86	-1.6	c .50	.36	73.4	65.2	A23
7	66	109	.01	.21	.84	-2.2	.79	-2.1	b .54	.35	76.1	66.6	A7
6	46	109	.86	.21	.84	-2.3	.82	-2.0	a .54	.36	81.7	66.9	A6
MEAN	64.0	109.0	.00	.26	1.00	-.1	1.03	.0			78.7	77.0	
S.D.	28.0	.0	1.50	.06	.11	1.2	.23	1.2			9.0	9.4	

3. Point Measure Correlation (PTCORR):
   0.4 <ptmeasurecorr <0.85

Based on item-person map analysis it is showed that there are some items perceived by students/respondents as difficult or confusing items. The items are 5, 1, 9, 11 and 21. These results are obtained based on the guidance of assessing items proposed by Sumintono and Widhiarso (2015), as follows:

1. The measure value <-1 = item is very easy
2. The value of measure -1 s.d. 0 = easy items
3. A measure of 0 s.d. 1 = difficult item
4. Measure value> 1 = very difficult item

Outfit items are caused the sentences contained in the item cannot be understood accurately and easily by the respondent. This is because the statement sentences are roughly translated without going through the process of local cultural studies make the statement becomes less familiar to the respondent so that it is perceived differently from the meaning of the intended item. This is what makes items to be incompatible with the purpose of measuring.

DISCUSSIONS

The result of Indonesian version of CMI Form C measurements using Rasch Method showed that the number of unfit items was more than 50 %. Therefore, it indicates the need of cultural consideration to fit with the Indonesian context. Even though the authors made attempts to use professional translator, the translation still made the respondent hard to understand the items. Out of 24 items, only 10 items were fit, and 14 items is perceived by the respondents as confusing or unfit. The possible explanation of this problems can be understood as cultural differences. Of course, there are huge differences between Western and East/Asian culture, particularly Indonesian. Therefore, The Indonesian version of CMI need to follow the adaptation process of psychometric tools. As recommendation, this initial research needs to conduct a more detail process, for example using the forward-backward translation method in cross cultural validation studies (Prince, 2008; Hui & Triandis, 1985). This form maintains both the meaning and the original aim of the questionnaire; Furthermore, adapting the tools in culturally applicable and comprehensive form is essential and critical (Hui & Triandis, 1985).

CONCLUSIONS

The reliability of CMI Form C is high. There are 10 valid items and 14 invalid items.

RECOMMENDATION

In order to use the Indonesian version of CMI Form C massively in the Indonesian context, it is necessary to adapt this career maturity scale fit with the Indonesian culture.

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