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The New Career Awareness Scale for Students on the Covid-19 Pandemic: The Rasch Model

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Abstract

This study aims to develop an instrument that has not been developed before: a career awareness instrument aimed at students, especially students at the junior high school level. The development of this instrument is to obtain data on the condition of student career awareness during the Covid-19 pandemic. This research uses a type of design and development research. The selection of respondents in this study used a simple random sampling method involving 745 respondents. The developed instrument emphasizes six aspects to determine student career awareness. The data collection technique was applied in the form of a questionnaire. Later, the data was analyzed using the Winstep version of the Rasch Model application, which presents several elements. The results of the Rasch model analysis show that the Chronbach Alpha value is 0.78 with item quality as indicated by the item reliability value of 1.00 (particular category), and the level of consistency of respondents' answers is 0.81 (good category). Furthermore, 30 items are suitable for developing this instrument, as seen from the results of the Outfit MNSQ scores that meet the requirements of the Rasch model.

Keywords: Career Readiness, Career Awareness, Junior High School, Students.

Introduction

The Covid-19 pandemic is no doubt one of the global health crises in 2019 which has taken quite a number of critical victims and even died. In addition, this pandemic has created new problems, namely that people have become anxious and panicked due to their inability to adapt to pandemic conditions, and even caused psychological reactions ranging from tension, fear, post-traumatic stress, depression, increasing hypochondriasis, even worse, causing feelings of wanting to commit suicide. (Andika, 2020; Marcus et al., 2007; Pragholapati, 2020; Suyadi et al., 2020). The Covid-19 pandemic has undoubtedly disrupted the teaching and learning process, where students and educators have felt the impact of school restrictions. Governments worldwide temporarily limit educational institutions to minimize the transmission of the Covid-19 virus (KARATAŞ, 2020; Merril, 2002; ÖZER, 2020). Therefore, outdoor activities are limited by applying blended learning to maximize the use of digital platforms and implementing the Work From Home and Social Distancing systems to break the chain of transmission of Covid-19 (Supriyanto et al., 2020).

The condition of the Covid-19 pandemic has also affected changes in the work system, causing reduced work motivation, making students who have just graduated less able to take advantage of job opportunities, and resulting in students needing to understand the essence of a career. Junior high school students must have career understanding because it will make a person more careful in matching abilities with work and be a supporting asset for career success (Fasbender et al., 2022; Rosvall, 2020; Salonen, 2020; Spurk & Straub, 2020). However, students need more career awareness from the salary description or job desk (Santi Selviana et al., 2020). Career awareness encourages individuals to find out the differences in jobs, as well as understand career paths both locally and globally, and can consider them from an economic standpoint and cultural stereotypes (Kolbert et al., 2016). Career awareness motivates students to be more active in finding soft skills to solve work-related problems through careful consideration (Afor & Mary, 2019; Bennett, 2016; Carnevale et al., 2011; Gu & Su, 2016; Leonhardt, 2014).

Career awareness will make a person act consciously to determine career opportunities, as well as manage talent and direct it to get a better life, but this career awareness is also adjusted to the age level so that the process of integrating skills and concepts can run optimally (Dawson et al., 2022; Döşyılmaz & Şirin, 2021). On the other hand, the more optimal the process of integration of skills and concepts possessed, the greater the chance for someone to get a job, a more positive work attitude as well as making it easier for someone to make more realistic career plans (Andresen & Stapf, 2022; Liao et al., 2020; Mello et al., 2022). Through career awareness, a person will be more aware of the importance of life roles, learning peer-to-peer relationships, decision-making, and both

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personal and work responsibilities so that existing career obstacles can be overcome as well as possible (Han et al., 2021; Hashish, 2019; Keumala et al., 2018; Watson et al., 2015).

Career awareness is a part of guidance and counseling that needs attention to accommodate students to achieve future goals. Guidance and counseling teachers should facilitate students by maximizing career development activities to equip students with the skills to choose jobs, positions, professions, and further education (Clark, 1973; Falco & Steen, 2018; Hartono, 2020). Guidance and counseling guidance teachers should actively facilitate career development to help students explore career questions after completing the high school transition so that students can think critically in setting goals before entering the world of work (Conley, 2012; Levy & Lemberger-Truelove, 2021; Yavuz et al., 2019; Yildiz, 2021). A teacher should be able to understand students systematically and objectively. Counseling guidance teachers need instruments used to measure students' career awareness and explore facts, self-conditions, and their environment (Andriani & Oktasari, 2021; Astuti et al., 2022; El Mrabet & Ait Moussa, 2021). In addition, the instrument is actually used as an assessment which will later be used as a basis for planning and designing programs that suit the needs of students (Kartinah, 2018; Sudibyo, 2019)

There has yet to be any research that has developed and tested career awareness instruments for junior high school students during the Covid-19 pandemic. Previous research has examined the development of instruments related to students' career awareness, but these instruments were developed for students at the elementary school (SD) level (Nasir & Lin, 2012). Other research related to career awareness instruments has also been developed, but the career awareness scale only focuses on the high school level (Azzachra et al., 2021). This certainly encourages researchers to try to develop an instrument that has not existed before, namely the career awareness instrument by considering its advantages so that the instrument can be used efficiently and comprehensively.

METHOD

Research Design

The purpose of this study is to analyze career awareness instruments that refer to career awareness theory (Kolbert et al., 2016). While the approach applied in this study uses a type of quantitative approach. The validation of this career awareness instrument uses the Rasch Model. Where the application of the Rasch Model was chosen because it is easier and more efficient while at the same time producing an accurate analysis compared to other models (Sumintono et al., 2014)

Participants

The population of this study consisted of Grade VIII junior high school students in Yogyakarta. Respondents in this study amounted to 745 students who were selected using a random sampling technique. Even though the selection of the sample was random, all students were given the opportunity to fill in the data.

Data Collection Tools

The collection of research data was carried out using a questionnaire. The questionnaire used measures the six components contained in 30 statement items. The research instrument that is distributed is online-based. The following is a career awareness instrument grid.

Table 1: Career Awareness Instrument

Variabel	Sub Variabel	Indicator	Sub Indicator	Item
Career Readiness	Demonstrate knowledge and awareness of career paths in local, regional and global arenas.	Students will determine their career path and identify at least three occupations within that path that they will consider after obtaining the necessary training or education	salary	1. I chose a job based on a high salary.
			Trend	2. In my opinion, a job as a Youtuber / Selebgram / Content Creator has a bright future
			Job Promotion	3. I prioritize the type of work that has a clear career path
			Educational background	4. For me, the higher the education, the more job opportunities you will get.
			Hours of work	5. For me, a job with long working hours is more tiring than a job with short working hours.
			Prestige	6. I choose office jobs to be seen as excellent by others.
		Students will choose a career path of interest, and take courses within that path.	Realistic	7. I like work that involves outdoor activities (assembling things, gardening)
			Investigative	8. I prefer to work in the field of knowledge development related to surveys, research or problem solving
			Artistic	9. I like playing musical instruments and singing

		Social	10. I like jobs that train or teach others
		Enterprising	11. I like to influence (persuade) others rather than helping people like being a motivator, psychologist or counselor
		Conventional	12. For me work related to math (numbers) is more challenging than work helping others
Explain the influence of cultural stereotypes on their own career choices.	Students will identify stereotypes that cause obstacles to their interested career paths, and can state three ways to overcome these obstacles or challenges for them.	Gender discrimination	13. Currently, women have the same career opportunities as men
		Type of work	14. There are many types of work that I can choose from, such as in the fields of Business, Health, Education, Law, Technology and others..
		Salary	15. Stable jobs (Office, Civil Servant, Army, Police) result in a more stable salary.
		Hours of work	16. The more hours worked, the more income you get
		Measure of Success	17. For me, successful people are people who have a lot of money.
	Students can explain how their own family or community culture can influence career goals	Authoritarian	18. My parents really set the direction of future career choices.
		Permissive	19. My parents are indifferent to the job I will choose in the future
		Democracy	20. My parents help me consider future job options.
		Situational	21. My parents let me choose the job/school that interests me
Understanding economics influences and impacts career paths	Students will be able to identify how the average salary of a particular choice affects lifestyle	Salary	22. With a high salary I will buy whatever I want
		Category	23. The higher the job class, the higher the responsibility that must be carried out
		Job promotion	24. For me promotion is not important, what is important is getting a regular salary
		Educational background	25. For me, a high educational background will get a high income too
		Hours of work	26. The longer the working hours, the more income you get
		Status	27. The higher the position held, the more demands that must be made
	Students can identify and utilize two sources that can inform them about career paths	Information / Resources	28. I use the website to find information about types of work and further studies
		Teacher	29. I asked the teacher about the type of work information
		Parent	30. My parents let me choose the right school and job

Data Collection

This career awareness scale refers to aspects developed (Kolbert et al., 2016) which were later modified so that their use could be applied to the character of junior high school students and consisted of 30 statement items.

This research utilizes the google form; given the current situation, outdoor activities are still limited due to the Covid-19 pandemic, so this data collection is carried out by applying the remote method to prevent and break the chain of the spread of the Covid-19 virus.

Data Analysis

This career awareness scale reveals six aspects of career awareness consisting of three types of work in the career path

and considerations after getting training, choosing a career path of interest and taking courses in that path, stereotypes that cause career path obstacles, and three ways to overcome them, family culture or society influences career goals, average salary influences lifestyle, and the use of two sources to inform career paths. These aspects show the extent to which junior high school (SMP) students have career awareness during the Covid-19 pandemic.

Data analysis in this study applies quantitative analysis techniques with the Rasch model. The data obtained will be continued in the condensation process and data verification to conclude. In addition, to ensure the validity of the research data, data triangulation was carried out. The type of triangulation emphasized in this study is source and time triangulation. Time is also needed to strengthen the accuracy of the data, which will be used as a conclusion.

Findings And Discussion

This research will later produce a career awareness instrument for students at the junior high school (SMP) level. The results of the research conducted are described by the research focus, which consists of reliability, as well as the distribution of instrument items, the distribution of student's abilities with the same level of difficulty, as well as the suitability of the items are described in detail as follows:

Item Fit

Use of Rasch table 10. Item Fit Order is used to determine which items fit and which misfit. Fit items are items that have suitability, while misfit items are items that do not require conformity with the content construct. Making decisions regarding fit and misfit items has conditions that must be met (Sumintono et al., 2014). The conditions used in this study are that the MNSQ OUTFIT value received must be 0.5 < MNSQ < 1.5, and the Poibt Measure Correlation (Pt Measure Corr) value received must meet 0.4 < Pt Measure < 0.85.

The results of developing a career awareness instrument with the Rash Model in the item fit order table are as follows:

Table 2: Item Fit

INPUT: 745 Person 30 Item REPORTED: 745 Person 30 Item 4 CATS WINSTEPS 3.73

Person: REAL SEP.: 1.82 REL.: .77 ... Item: REAL SEP.: 14.63 REL.: 1.00

Item STATISTICS: MISFIT ORDER

|ENTRY TOTAL TOTAL MODEL| INFIT | OUTFIT |PT-MEASURE |EXACT MATCH| |
|NUMBER SCORE COUNT MEASURE S.E. |MNSQ ZSTD|MNSQ ZSTD|CORR. EXP.| OBS% EXP%| Item |

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT		OUTFIT		PT-MEAUSRE		EXACT MATCH		Item
					MNSQ	ZSTD	MNSQ	ZSTD	CORR.	EXP.	OBS%	EXP%	
12	1958	745	.64	.05	1.41	7.4	1.41	7.5	A .36	.38	41.9	52.1	P12
18	1996	745	.53	.05	1.40	7.2	1.40	7.3	B .33	.38	41.1	52.4	P18
19	1566	745	1.78	.05	1.39	7.3	1.38	7.1	C .22	.39	52.0	54.2	P19
9	2114	745	.18	.05	1.30	5.5	1.33	6.1	D .32	.37	46.0	54.1	P9
7	2031	745	.43	.05	1.13	2.6	1.16	3.1	E .19	.38	49.3	52.8	P7
22	2112	745	.19	.05	1.16	3.1	1.16	3.1	F .41	.37	49.3	54.1	P22
24	1940	745	.69	.05	1.14	2.8	1.15	2.9	G .29	.38	46.4	52.0	P24
17	1696	745	1.40	.05	1.13	2.6	1.13	2.5	H .35	.39	51.5	53.1	P17
11	1826	745	1.02	.05	1.09	1.8	1.10	2.0	I .29	.39	51.6	51.9	P11
4	2523	745	-1.16	.06	1.09	1.8	1.08	1.5	J .40	.32	57.1	55.6	P4
3	2607	745	-1.49	.06	1.02	.5	1.00	.0	K .39	.30	64.0	58.2	P3
21	2448	745	-.88	.06	.98	-.4	1.02	.5	L	.33	56.2	54.	P21

									.36			9	
1	2213	745	-.12	.06	1.02	.4	1.02	.5	M .35	.36	57.9	55.3	P1
30	2448	745	-.88	.06	1.00	-.1	1.00	.0	N .39	.33	57.8	54.9	P30
10	2084	745	.27	.05	.97	-.6	.98	-.3	O .35	.37	54.3	53.6	P10
13	2363	745	-.59	.06	.95	-.9	.97	-.7	o .33	.35	59.9	55.3	P13
5	2267	745	-.29	.06	.93	-1.5	.95	-1.0	n .34	.36	58.7	55.7	P5
6	1557	745	1.80	.05	.94	-1.3	.94	-1.3	m .31	.39	63.0	54.3	P6
25	2099	745	.23	.05	.92	-1.6	.92	-1.6	l .47	.37	52.3	53.9	P25
8	1934	745	.71	.05	.91	-1.8	.92	-1.7	k .38	.38	53.1	51.9	P8
2	2023	745	.45	.05	.90	-2.1	.92	-1.7	j .22	.38	52.8	52.7	P2
20	2482	745	-1.01	.06	.88	-2.7	.88	-2.5	i .39	.33	63.3	55.1	P20
16	2233	745	-.18	.06	.85	-3.2	.85	-3.1	h .48	.36	57.7	55.6	P16
23	2580	745	-1.38	.06	.83	-3.7	.79	-4.4	g .47	.31	67.6	57.3	P23
14	2468	745	-.96	.06	.80	-4.6	.80	-4.4	f .44	.33	62.6	54.9	P14
28	2335	745	-.50	.06	.79	-4.8	.79	-4.6	e .44	.35	64.8	55.4	P28
26	2176	745	.00	.06	.79	-4.7	.78	-4.8	d .49	.37	60.8	55.0	P26
29	2087	745	.26	.05	.74	-5.9	.74	-5.7	c .38	.37	64.0	53.6	P29
27	2377	745	-.64	.06	.71	-6.8	.72	-6.5	b .43	.34	67.9	55.0	P27
15	2333	745	-.50	.06	.70	-6.9	.71	-6.6	a .42	.35	68.5	55.4	P15
MEAN	2162.5	745.0	.00	.06	.99	-.4	1.00	-.2			56.5	54.3	
S.D.	277.3	.0	.86	.00	.19	3.9	.20	3.9			7.4	1.5	

Based on these conditions, the data presented can ignore the ZSTD requirements because there are 745 respondents. The overall MNSQ score on the conditions is determined so that 30 statement items consisting of six indicators developed from career awareness theory (Kolbert et al., 2016), and after testing it can be concluded that they are fit.

The results above show that there is compatibility between the empirical model and the theoretical model that was previously designed (Tungkunan, 2020). The results of the measurements that have been carried out also show a correlation that is close to the theoretical correlation with the correlation derived empirically (Herwin & Nurhayati, 2021). Apart from that, from the results of the measurements that have been carried out, it can be said that it is appropriate or fit. This means that these measurements have met the criteria both in terms of theory and expectations (Ibnu et al., 2019)

Tabel Unidimensionalitas

The validity used in this study uses construct validity which explains how well the measurement is by theoretical expectations, with table 23 of the Rasch Un-dimensionality model. This table will later evaluate whether the instruments that have been developed can measure what should be measured or this validity in order to test whether the career awareness instrument can really measure student career awareness. In addition, this table can later see the percentage of the unexplained variance in the instrument developed, which should ideally be at most 15%.

Tabel 3: Undimensionalitas

Table of STANDARDIZED RESIDUAL variance (in Eigenvalue units)					
		Empirical			Modeled
Total raw variance in observations	=	44.4	100.0%		100.0%
Raw variance explained by measures	=	14.4	32.4%		32.6%
Raw variance explained by persons	=	3.0	6.7%		6.7%
Raw Variance explained by items	=	11.4	25.7%		25.8%
Raw unexplained variance (total)	=	30.0	67.6%	100.0%	67.4%
Unexplned variance in 1st contrast	=	2.9	6.5%	9.6%	
Unexplned variance in 2nd contrast	=	2.1	4.8%	7.1%	
Unexplned variance in 3rd contrast	=	1.9	4.2%	6.2%	
Unexplned variance in 4th contrast	=	1.7	3.7%	5.5%	
Unexplned variance in 5th contrast	=	1.4	3.2%	4.7%	

Based on the table above, several things can be seen as follows:

That the value of the natural variance explained by measure in the empirical column is 32.4% with modeled at 32.6%, which means that the ability of the instrument to explain career awareness variables is 39.4%. While the Unexplained variance value has a value of 6.5% and 4.8%, this value is less than 15%, which means that there is a variance that cannot be explained by the loneliness instrument developed at 7.4% and 5.4%.

The Rasch method emphasizes that this model can be a suitable alternative to prove the validity of an item that has been made (Bond & Fox, 2007). The Rasch model can produce instruments with high accuracy, reliability, and efficiency (Aryadoust et al., 2019; Chong et al., 2022; Rahyah Ariffin et al., 2010). So far, the Rasch Model is an analytical model that cannot be competed with by other models because of the accuracy in its measurements (Fitri, 2017)

Statistics Summary Table

Measurement of reliability in the development of career awareness instruments uses the Rasch model table 3.1 Summary Statistics, which will later show the level of reliability of persons and items through the calculations that have been described. In addition, this table can measure item reliability through Cronbach alpha. In separation, we can also see the quality of the instrument in terms of overall respondents and good items because it can identify groups of respondents and groups of items, in other words, the value of person reliability and item reliability becomes a reliability value for respondents and the item itself (Sumintono et al., 2014). The following is a picture of the results of the Rasch model calculations in table 3.1 statistical summary.

Tabel 4: Summary Statistik

SUMMARY OF 745 MEASURED (EXTREME AND NON-EXTREME) Person

					INFIT		OUTFIT	
	TOTAL SCORE	COUNT	MEASURE	MODEL ERROR	MNSQ	ZSTD	MNSQ	ZSTD
MEAN	87.1	30.0	.91	.28				
S.D.	7.8	.0	.66	.06				
MAX.	120.0	30.0	7.04	1.84				
MIN.	58.0	30.0	-1.28	.27	.19	-5.2	.19	-5.2
REAL RMSE	.32	TRUE SD	.58	SEPARATION	1.82	Person	RELIABILITY	.77
MODEL RMSE	.29	TRUE SD	.60	SEPARATION	2.06	Person	RELIABILITY	.81

S.E. OF Person MEAN = .02

Person RAW SCORE-TO-MEASURE CORRELATION = .98

CRONBACH ALPHA (KR-20) Person RAW SCORE "TEST" RELIABILITY = .78

SUMMARY OF 30 MEASURED (NON-EXTREME) Item

	TOTAL SCORE	COUNT	MEASURE	MODEL ERROR	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD
MEAN	2162.5	745.0	.00	.06	.99	-.4	1.00	-.2
S.D.	277.3	.0	.86	.00	.19	3.9	.20	3.9
MAX.	2607.0	745.0	1.80	.06	1.41	7.4	1.41	7.5
MIN.	1557.0	745.0	-1.49	.05	.70	-6.9	.71	-6.6

REAL RMSE	.06	TRUE SD	.86	SEPARATION	14.63	Item	RELIABILITY	1.00
MODEL RMSE	.06	TRUE SD	.86	SEPARATION	15.13	Item	RELIABILITY	1.00

S.E. OF Item MEAN = .16

UMEAN=.0000 USCALE=1.0000

Based on the table above results, the result of person reliability is 0.81 (good category), and item reliability is 1.00 (particular category). This means that the consistency of the respondents' answers is good, and the quality of the items made is unique.

If the reliability results exceed the score of 0.90, the reliability coefficient is inevitably in the high category (Hinton et al., 2014). This shows that all existing items can be relied upon to measure constructs (Herwin & Nurhayati, 2021). Even though the existing items differ from one another, these items can measure the same construct to show consistency (Chung, 2011). Consistency here means that when the same item is tested more than once on the same subject in different periods of time, the results obtained will be the same (Fitri, 2017). Therefore, the career awareness instrument for junior high school students can be used to make consistent measurements.

Items Measure Table

Tabel 5: Item Measure

INPUT: 745 Person 30 Item REPORTED: 745 Person 30 Item 4 CATS WINSTEPS 3.73

Person: REAL SEP.: 1.82 REL.: .77 . . . Item: REAL SEP.: 14.63 REL.: 1.00

Item STATISTICS: MEASURE 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 OBS%	MATCH EXP%	Item
6	155	745	1.80	.05	.94	-1.3	.94	-1.3	.31	.39	63.0	54.3	P6
19	156	745	1.78	.05	1.39	7.3	1.38	7.1	.22	.39	52.0	54.2	P19
17	169	745	1.40	.05	1.13	2.6	1.13	2.5	.35	.39	51.5	53.1	P17
11	182	745	1.02	.05	1.09	1.8	1.10	2.0	.29	.39	51.6	51.9	P11
8	193	745	.71	.05	.91	-1.8	.92	-1.7	.38	.38	53.1	51.9	P8
24	194	745	.69	.05	1.14	2.8	1.15	2.9	.29	.38	46.4	52.0	P24
12	195	745	.64	.05	1.41	7.4	1.41	7.5	.36	.38	41.9	52.1	P12
18	199	745	.53	.05	1.40	7.2	1.40	7.3	.33	.38	41.1	52.4	P18

	202					-		-		.3			
2	3	745	.45	.05	.90	2.1	.92	1.7	.22	8	52.8	52.7	P2
	203									.3			
7	1	745	.43	.05	1.13	2.6	1.16	3.1	.19	8	49.3	52.8	P7
	208									.3			P1
10	4	745	.27	.05	.97	-.6	.98	-.3	.35	7	54.3	53.6	0
	208					-		-		.3			P2
29	7	745	.26	.05	.74	5.9	.74	5.7	.38	7	64.0	53.6	9
	209					-		-		.3			P2
25	9	745	.23	.05	.92	1.6	.92	1.6	.47	7	52.3	53.9	5
	211									.3			P2
22	2	745	.19	.05	1.16	3.1	1.16	3.1	.41	7	49.3	54.1	2
	211									.3			
9	4	745	.18	.05	1.30	5.5	1.33	6.1	.32	7	46.0	54.1	P9
	217					-		-		.3			P2
26	6	745	.00	.06	.79	4.7	.78	4.8	.49	7	60.8	55.0	6
	221									.3			
1	3	745	-.12	.06	1.02	.4	1.02	.5	.35	6	57.9	55.3	P1
	223					-		-		.3			P1
16	3	745	-.18	.06	.85	3.2	.85	3.1	.48	6	57.7	55.6	6
	226					-		-		.3			
5	7	745	-.29	.06	.93	1.5	.95	1.0	.34	6	58.7	55.7	P5
	233					-		-		.3			P1
15	3	745	-.50	.06	.70	6.9	.71	6.6	.42	5	68.5	55.4	5
	233					-		-		.3			P2
28	5	745	-.50	.06	.79	4.8	.79	4.6	.44	5	64.8	55.4	8
	236									.3			P1
13	3	745	-.59	.06	.95	-.9	.97	-.7	.33	5	59.9	55.3	3
	237					-		-		.3			P2
27	7	745	-.64	.06	.71	6.8	.72	6.5	.43	4	67.9	55.0	7
	244									.3			P2
21	8	745	-.88	.06	.98	-.4	1.02	.5	.36	3	56.2	54.9	1
	244									.3			P3
30	8	745	-.88	.06	1.00	-.1	1.00	.0	.39	3	57.8	54.9	0
	246					-		-		.3			P1
14	8	745	-.96	.06	.80	4.6	.80	4.4	.44	3	62.6	54.9	4
	248					-		-		.3			P2
20	2	745	-1.01	.06	.88	2.7	.88	2.5	.39	3	63.3	55.1	0
	252									.3			
4	3	745	-1.16	.06	1.09	1.8	1.08	1.5	.40	2	57.1	55.6	P4
	258					-		-		.3			P2
23	0	745	-1.38	.06	.83	3.7	.79	4.4	.47	1	67.6	57.3	3
	260									.3			
3	7	745	-1.49	.06	1.02	.5	1.00	.0	.39	0	64.0	58.2	P3
			MEAN	2162.5	745.0	.00	.06	.99	-.2		56.5	54.3	
			S.D	277.3	.0	.86	.00	.19	3.9		7.4	1.5	

Based on the table above, the very top item, item statement number 6, with a measured value of +1.80, was the most challenging item for respondents to agree on in the instrument. Statement 6 addresses indicators of how students will determine their career path and identify at least three occupations within that path that they will consider after obtaining the necessary training or education. Of course, in this indicator, students are expected to be able to identify the chosen job through various considerations, including income, trend, promotion, prestige, educational background, and length of working hours (Bairizki, 2020). Statement number 6, of course, considering the type of work based on prestige is challenging for students at the junior high school level, so students tend to find it challenging to agree with this statement.

While the lowest item, namely statement number 3 with a value of 1.49, is the most easily agreed upon by respondents. Statement number 3 students are asked to consider the type of work based on promotion, and indirectly students assume that jobs that have a clear career path will bring many opportunities to achieve success and success. The order of the measures above is the highest to lowest item level order.

The calculation of the measurement value applied refers to the categorization put forward by (Sumintono et al., 2014), which states that a measurement value <-1 is an item in the easy category. Measurements of values 1 to d.0 are items that can be said to be easy, while measurements of values 1 to d.1 are difficult items, and measurements with > 1 are complicated items. This is reinforced by several findings, which confirm that ideal instrument difficulty is in the range of 2 to 2 (Tjabolo & Otaya, 2019). There are items whose level of difficulty is

considered not good, but overall the level of difficulty of the items meets the criteria (Angriani et al., 2018). Therefore, it can be concluded that the items developed have various categories, both specific, detailed, and complex. goods category.

Conclusion

The developed career awareness instrument emphasizes six aspects with 30 items. The analysis using the Rasch model shows that the instrument has good reliability. Cronbach's Alpha value is 0.78, with the instrument quality indicated by the item reliability value of 1.00 (particular category), and the level of consistency of the respondents' answers is 0.81 (good category). Furthermore, 30 items are appropriate in the development of this instrument. This can be seen from the value of the MNSQ outfit that meets the requirements of the RASCH model.

Suggestion

This research is recommended for use by counselors, educators, and career researchers, especially at the junior high school level, to be used in the career awareness assessment process. Students observe the indicators arranged in this instrument. This aims to develop career awareness that knows the difference between jobs and careers and to be aware of national, local, and global career paths, economic considerations, cultural influences, and the stereotyped impact of career choices. So that by having good career awareness, students can develop career readiness from an early age.

Limitation

This research is still in the form of a development instrument, so this research has just prepared an instrument to measure career awareness that is valid, reliable, and has good quality items. So there is a need for further research that can be used to measure students' career awareness at the junior high school level during the Covid-19 Pandemic so that later this instrument can be used as a standard in the process of measuring career awareness.

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References

Afor, O., & Mary, B. (2019). Conceptualizing Self-Awareness as a Correlate for Career Development of Students with Disabilities Orok / Greener Journal of Education and Training Studies. January 2019. https://doi.org/10.15580/GJETS.2019.2.070419125

Andika, R. (2020). Hubungan Tingkat Religiusitas Dengan Tingkat Kecemasan Mahasiswa Di Masa Pandemi Covid-19. Jurnal Kesehatan Al-Irsyad, XIII(2), 131–144. http://e-jurnal.stikesalirsyadclp.ac.id/index.php/jka/article/view/114

Andresen, M., & Stapf, J. (2022). Is career what you make it? A critical review of research on social origin and career success. European Management Journal, March. https://doi.org/10.1016/j.emj.2022.12.008

Andriani, R., & Oktasari, M. (2021). Pelatihan penggunaan aplikasi alat ungkap masalah (AUM) PTSDL SERI SLTP untuk pemetaan masalah belajar Siswa. Connection: Jurnal Pengabdian Kepada Masyarakat, 1(2), 36–41. https://doi.org/10.32505/connection.v1i2.3229

Angriani, A. D., Nursalam, N., Fuadah, N., & Baharuddin, B. (2018). Pengembangan Instrumen Tes Untuk Mengukur Kemampuan Pemecahan Masalah Matematika Siswa. AULADUNA: Jurnal Pendidikan Dasar Islam, 5(2), 211. https://doi.org/10.24252/auladuna.v5i2a9.201

Aryadoust, V., Tan, H. A. H., & Ng, L. Y. (2019). A scientometric review of rasch measurement: The rise and progress of a specialty. Frontiers in Psychology, 10(OCT). https://doi.org/10.3389/fpsyg.2019.02197

Astuti, B., Purwanta, E., Ayriza, Y., Bhakti, C. P., Lestari, R., & Herwin, H. (2022). School connectedness instrument's testing with the Rasch model for high school students during the COVID-19 pandemic. Cypriot Journal of Educational Sciences, 17(2), 410–421. https://doi.org/10.18844/CJES.V17I2.6828

Azzachra, S., Heris, H., & Wiwin, Y. (2021). Validitas Dan Reliabilitas Angket Resadaran Karir. Fokus, 4(5), 401–406.

Bairizki, A. (2020). Manajemen Sumber Daya Manusia (Tinjauan Strategis Berbasis Kompetensi). In Journal of Chemical Information and Modeling (Vol. 53, Issue 9).

Bennett, J. (2016). 2 . BRINGING SCIENCE TO LIFE. 2006, 21–22.

Bond, T. G., & Fox, C. M. (2007). Applying the Rasch Model : Fundamental Measurement in the HumBond, T. G., & Fox, C. M. (2007). Applying the Rasch Model : Fundamental Measurement in the Human Sciences Second Edition University of Toledo.an Sciences Second Edition University of Toledo.

Carnevale, A. P., Rose, S. J., & Cheah, B. (2011). Carnevale et al (2011) thecollegepayoff-complete.

Chong, J., Mokshein, S. E., & Mustapha, R. (2022). Applying the Rasch Rating Scale Model (RSM) to investigate the rating scales function in survey research instrument. Cakrawala Pendidikan, 41(1), 97–111. https://doi.org/10.21831/cp.v41i1.39130

Chung, E. K. (2011). Reading Statistics and Research. Korean Journal of Medical Education, 23(2), 141–141. https://doi.org/10.3946/kjme.2011.23.2.141

Clark, J. V. (1973). Guidance and counseling in schools. Journal of School Psychology, 11(2), 176–177. https://doi.org/10.1016/0022-4405(73)90061-7

Conley, D. T. (2012). A complete definition of college readiness. 4. https://files.eric.ed.gov/fulltext/ED537876.pdf%0Awww.epiconline.org

Dawson, K., Dawson, K., Antonenko, P., Xu, Z., Wusylko, C., & Koh, D. H. (2022). Promoting Interdisciplinary Integration of Cybersecurity Knowledge, Skills... Journal of Technology and Teacher Education, 30(2), 275–287.

Döşyılmaz, E., & Şirin, T. (2021). Examining the professional career values and career awareness of athlete- students: the sample of the faculty of sports sciences. Physical Education of Students, 25(4), 239–248. https://doi.org/10.15561/20755279.2021.0405

El Mrabet, H., & Ait Moussa, A. (2021). IoT-school guidance: A holistic approach to vocational self-awareness & career path. Education and Information Technologies, 26(5), 5439–5456. https://doi.org/10.1007/s10639-021-10548-6

Falco, L. D., & Steen, S. (2018). Using School-Based Career Development to Support College and Career Readiness: An Integrative Review. Journal of School-Based Counseling Policy and Evaluation, 1(1), 51–67.

Fasbender, U., Vignoli, M., & Topa, G. (2022). Understanding how aging experiences shape late career development. Career Development Quarterly, 70(3), 174–189. https://doi.org/10.1002/cdq.12301

Fitri. (2017). Analisis Validitas dan Reliabilitas Instrumen Kinerja Akuntan Menggunakan Pendekatan Rasch Model. Jurnal Ilmiah Akuntansi Peradaban, 3(1), 34–45.

Gu, Q., & Su, Y. (2016). How Does Objective Career Success Affect Subjective Career Success? The Moderating Role of Self-Awareness. Journal of Human Resource and Sustainability Studies, 04(03), 227–237. https://doi.org/10.4236/jhrss.2016.43025

Han, J., Kelley, T., & Knowles, J. G. (2021). Factors Influencing Student STEM Learning: Self-Efficacy and Outcome Expectancy, 21st Century Skills, and Career Awareness. Journal for STEM Education Research, 4(2), 117–137. https://doi.org/10.1007/s41979-021-00053-3

Hartono. (2020). Kedudukan Dan Peran Guru Bimbingan Dan Konseling Di Sekolah. Eksistensi Peran Bimbingan Dan Konseling Berbasis HOTS Di Era New Normal, 20, 15–17.

Hashish, E. A. A. (2019). The effect of career awareness on perceived career and talent development self-efficacy and career barriers among nursing students. Journal of Research in Nursing, 24(3–4), 233–247. https://doi.org/10.1177/1744987118807259

Herwin, & Nurhayati, R. (2021). Measuring students' curiosity character using confirmatory factor analysis. European Journal of Educational Research, 10(2), 773–783. https://doi.org/10.12973/EU-JER.10.2.773

Hinton, P., McMurray, I., & Brownlow, C. (2014). SPSS Explained. In SPSS Explained. https://doi.org/10.4324/9781315797298

Ibnu, M., Indriyani, B., Inayatullah, H., & Guntara, Y. (2019). Aplikasi Rasch Model: Pengembangan Instrumen Tes untuk Mengukur Miskonsepsi Mahasiswa. Prosiding Seminar Nasional Pendidikan FKIP, 2(1), 205–210.

KARATAŞ, M. A.-K. (2020). COVID - 19 Pandemisinin Toplum Psikolojisine Etkileri ve Eğitime Yansımaları. Journal of Turkish Studies, Volume 15(Volume 15 Issue 4), 1–13. https://doi.org/10.7827/turkishstudies.44336

Kartinah, K. (2018). Pengembangan instrumen pengukuran disiplin untuk siswa sekolah menengah pertama. Wiyata Dharma: Jurnal Penelitian Dan Evaluasi Pendidikan, 6(2), 102. https://doi.org/10.30738/wd.v6i2.3387

Keumala, E., Nurihsan, J., & Budiamin, A. (2018). The development of career learning program with modeling techniques to improve student career awareness. Islamic Guidance and Counseling Journal, 1(2), 53–61. https://doi.org/10.25217/igcj.v1i2.270

Kolbert, J. B., Crothers, L. M., & Hughes, T. L. (2016). Introduction to Professional School Counseling. Introduction to Professional School Counseling. https://doi.org/10.4324/9781315797441

Leonhardt, D. (2014). Is College Worth It? Clearly, New Data Say. New York Times, A3. http://www.nytimes.com/2014/05/27/upshot/is-college-worth-it-clearly-new-data-say.html

Levy, I. P., & Lemberger-Truelove, M. E. (2021). Educator–Counselor: A Nondual Identity for School Counselors. Professional School Counseling, 24(1_part_3), 2156759X2110076. https://doi.org/10.1177/2156759x211007630

Liao, S., Seki, N., & Akiyama, M. (2020). ScienceDirect Perceived stress and career planning awareness of Japanese and Taiwanese undergraduate dental hygiene students. Journal of Dental Sciences, xxxx, 1–9. https://doi.org/10.1016/j.jds.2022.11.012

Marcus, D. K., Gurley, J. R., Marchi, M. M., & Bauer, C. (2007). Cognitive and perceptual variables in hypochondriasis and health anxiety: A systematic review. Clinical Psychology Review, 27(2), 127–139. https://doi.org/10.1016/j.cpr.2006.09.003

Mello, R., Suutari, V., & Dickmann, M. (2022). Taking stock of expatriates' career success after international assignments: A review and future research agenda. Human Resource Management Review, 33(1), 100913. https://doi.org/10.1016/j.hrmr.2022.100913

Merril, M. D. (2002). First Principles of Instruction - Wikipedia. Etr&D, 50(3), 43–59. https://mdavidmerrill.com/Papers/firstprinciplesbymerrill.pdf%0Ahttps://en.wikipedia.org/wiki/First_Principles_of_Instruction

Nasir, R., & Lin, L. S. (2012). The relationship between self-concept and career awareness amongst students. Asian Social Science, 9(1), 193–197. https://doi.org/10.5539/ass.v9n1p193

ÖZER, M. (2020). Türkiye'de COVID-19 Salgını Sürecinde Milli Eğitim Bakanlığı Tarafından Atılan Politika Adımları. Kastamonu Eğitim Dergisi, 28(3), 1124–1129. https://doi.org/10.24106/kefdergi.722280

Pragholapati, A. (2020). Covid-19 Impact on Students. 1–6. https://doi.org/10.35542/osf.io/895ed

Rahayah Ariffin, S., Omar, B., Isa, A., & Sharif, S. (2010). Validity and reliability Multiple Intelligent item using Rasch measurement model. Procedia - Social and Behavioral Sciences, 9, 729–733. https://doi.org/10.1016/j.sbspro.2010.12.225

Rosvall, P. Å. (2020). Counselling to stay or to leave? - Comparing career counselling of young people in rural and urban areas. Compare, 50(7), 1014–1032. https://doi.org/10.1080/03057925.2020.1760788

Salonen, A. (2020). Dissertations in Education, Humanities, and Theology. In Epublications.Uef.Fi. http://epublications.uef.fi/pub/urn_isbn_978-952-61-3021-7/urn_isbn_978-952-61-3021-7.pdf

Santi Selviana, Soeprijanto, & Irzan Zakir. (2020). Hubungan Antara Kesadaran Karir (Career Awareness) Dan Disiplin Diri

Dengan Prestasi Belajar Pada Mahasiswa Bidikmisi Program Studi Pendidikan Teknik Elektro Universitas Negeri Jakarta. Journal of Electrical Vocational Education and Technology, 5(2), 55–60. https://doi.org/10.21009/jevet.0052.09

Spurk, D., & Straub, C. (2020). Flexible employment relationships and careers in times of the COVID-19 pandemic. Journal of Vocational Behavior, 119(May), 1–4. https://doi.org/10.1016/j.jvb.2020.103435

Sudibyo, H. (2019). Kinerja Guru BK dalam Perencanaan Program Bimbingan dan Konseling Komprehensif. JCOSE Jurnal Bimbingan Dan Konseling, 1(2), 36–40. https://doi.org/10.24905/jcose.v1i2.29

Sumintono, B., Islam, U., Indonesia, I., Widhiarso, W., & Mada, U. G. (2014). untuk Penelitian Ilmu-Ilmu Sosial. November.

Supriyanto, A., Hartini, S., Irdasari, W. N., Miftahul, A., Oktapiana, S., & Mumpuni, S. D. (2020). Teacher professional quality: Counselling services with technology in Pandemic Covid-19. Counsellia: Jurnal Bimbingan Dan Konseling, 10(2), 176. https://doi.org/10.25273/counsellia.v10i2.7768

Suyadi, Nuryana, Z., & Fauzi, N. A. F. (2020). The fiqh of disaster: The mitigation of Covid-19 in the perspective of Islamic education-neuroscience. International Journal of Disaster Risk Reduction, 51, 101848. https://doi.org/10.1016/j.ijdrr.2020.101848

Tjabolo, S. A., & Otaya, L. G. (2019). Quality of school exam tests based on item response theory. Universal Journal of Educational Research, 7(10), 2156–2164. https://doi.org/10.13189/ujer.2019.071013

Tungkunanan, P. (2020). Learning model of undergraduate students: Confirmatory factor analysis. International Journal of Instruction, 13(3), 665–678. https://doi.org/10.29333/iji.2020.13345a

Watson, M., Nota, L., & McMahon, M. (2015). Child career development: present and future trends. International Journal for Educational and Vocational Guidance, 15(2), 95–97. https://doi.org/10.1007/s10775-015-9308-4

Yavuz, O., Dogan, S., & Kabakci, O. F. (2019). An international comparative study: Exploring students' college and career readiness needs. Journal of Research Initiatives, 4(2), 6.

Yildiz, N. G. (2021). School Counselors' Leadership Role in Creating a Collaborative School Climate for Linguistically Diverse Students. Journal of Education and Learning, 10(6), 7. https://doi.org/10.5539/jel.v10n6p7