Farah Almira Nu'ma-ANALYZING THE CONSTRUCT VALIDITY OF WORK READINESS INSTRUMENTS FOR INDONESIAN LAW FACULTY STUDENTS USING THE RASCH MODEL

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ANALYZING THE CONSTRUCT VALIDITY OF WORK READINESS INSTRUMENTS FOR INDONESIAN LAW FACULTY STUDENTS USING THE RASCH MODEL

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ABSTRACT

Objective: The issue of undergraduate law students tends not to have clear work readiness, the data is obtained from several research results, the research findings have an indication of concern in interpreting the data which has an impact on inaccuracies in analyzing the data, the unclear construct of the instrument items studied, the measurements obtained depend on the characteristics of the test used, the item parameters depend on individual abilities, and measurement errors can only know for groups not individuals. Measuring instruments need to be tested for validity and reliability before being used on individuals to achieve valid and reliable goal. This study aims to test the validity and reliability of work readiness instruments based on the Work-Readiness Integrated Competence Model (WRICM) theory.

Method: This research was conducted on 720 participants from several universities in Indonesia with a Cross Sectional Survey research design. The results of data collection were then analyzed through the Rasch model using the Winstep version 3.73 application.

Results: The results showed a unidimensionality value of 36.1%, item reliability of 0.99. Of the 23 items created, there are 14 instrument items that have met the requirements of objective measurement.

Conclusion: The Indonesian work readiness instrument obtained can be used to obtain data on work readiness needs as a foothold for determining the education strategy for law faculty students in Indonesia in terms of content, methods, and comprehensive evaluation.

Keywords: Job Readiness, Student, Bachelor of Law, Rasch Model, Instrument, Validity, and Reliability.

1. INTRODUCTION

Work readiness is needed by individuals in facing the ever-growing world of work in order to work according to their expertise and interests. Work readiness is closely related to skills, knowledge, work attitudes and maturity possessed by individuals (Alfuqaha, 2023; Berg, 2019). Work readiness can be an individual's capital in undergoing work in the world of work because it can adapt and be able to handle every challenge and opportunity received. Individuals with low work readiness will experience difficulties when entering the world of work because they cannot adapt properly (Azhar, 2023; Baumann, 2013).

Work readiness is a special concern in the higher education environment Law Number 20 of 2003 prepares students to work in certain fields. Even education in higher education is able to respond to the challenges of the 21st century by having awareness as a student identity, living in a diverse environment, having personal and social responsibility, understanding information technology (Issn et al., 2023), being able to communicate and collaborate, having a creative-innovative way of thinking, and making decisions independently (Kelly et al., 2016).

Realizing the importance of an academic culture that is able to respond to concerns in higher education, researchers have conducted studies on the meaning, nature, and variety of efforts to develop a quality academic culture and efforts to realize the behavior of students, make decisions and have the responsibility of students to understand the science of law (Rovetta et al., 2023), have the skills of legal practice processes both as judges, prosecutors, police, advocates, notaries, prosecutors and professionalism, and display a certain ability in a rounded manner which is a combination of knowledge, attitudes and skills that can be observed and measured (Kunz, 2009; Marinković, 2016).

Work readiness is also a special concern in field work practices (PKL) carried out in certain places that have been determined by the specialization taken such as in the Attorney General's Office (State, High, Supreme), Courts (State, Religious, State Administration, High), Supreme Court, Constitutional Court, MPR, DPR, Companies, Correctional Institutions and so on. However, students have concerns about their inability to work with the perception that they do not have the knowledge, skills and experience (Feldman, 2014; Goldsworthy, 2011).

Even the research findings of the workforce produced in 2022 have not met many of the qualifications required by the world of work. Based on the National BPS in 2022, it is known that the number of unemployed people at the tertiary education level is 4.80% (Suwanda et al., 2023; Suwanda & Suryana, 2021).Unemployment rate data is partly from the recorded data, it is still believed that a lot of data has not been accurately validated, which indicates that student work readiness is not optimal. Some research findings need clear accuracy so that the efforts that should be made by universities to improve the curriculum can be implemented accurately. Efforts to assess accurate data require valid and reliable measuring instruments.

Correct data that is in accordance with the situation requires instruments that are valid, consistent and precise in providing research data (reliable) (Indihadi et al., 2022; Lidinillah et al., 2020). Validity tests the extent to which the measurement precisely measures what is to be measured while reliability tests the extent to which the measurement can be trusted because of its constancy (Muslihin. H. et.al, 2022; Nur et al., 2022). The instrument has an important position in research because the instrument plays a role in the data collection process so that the instrument needs to be confirmed again its validity and reliability.

Based on research from 2009-2011, there are three studies related to work readiness instruments. First, the Australian Council for Educational Research (ACER) (Frost, 2013; Martaningsih et al., 2019). created the Graduate Skills Assessment (GSA) designed to assess generic skills that can be widely applied for success at university and in the workplace (Mamani-roque et al., 2023). Secondly, Developed a Work-Readiness Skills Scale designed to assess work readiness skills that employers consider important to graduates in the Fasset sector (finance, accounting, management consulting and other financial services organizations) (Hoque, 2023; Mandal, 2022). Third, was the first researcher to attempt to develop a comprehensive measure of work readiness attributes and characteristics for the graduate context which he subsequently named the Working Readiness Scale (WRS) consisting of four aspects that make up work readiness (Makki, 2015; Putriatama, 2016).

There were three studies from 2014-2020 related to the development of work readiness instruments. First, created the Graduate Skills and Attributes Scale (GSAS) designed to measure graduate skills and attributes consisting of eight forming factors which are further grouped into three domains. Second, Walker et al. re-examined the validity of the WRS created by Caballero, et al. The results of the study confirmed the theoretical construction presented by Caballero, et al., and tested the validity of the WRS-GN (Working Readiness Scale-Graduate nurse population) after revising the WRS. Third, Sagita, et al developed a work readiness scale from the concepts of Caballero and Walker for new undergraduate graduates in Indonesia. The results showed that the instrument made was valid and reliable (Akos, 2021; Johnston, 2018; Julia et al., 2020; Walters, 2022). Based on the six previous studies, there is no work readiness instrument that measures work readiness for students in Indonesia

One way of processing data is using Rasch modeling analysis. Other research explains that by using the Rasch Model the results obtained are compatible with the research. Research conducted by Andrich & Pedler shows the use of the Rasch Model can help teachers, lecturers and educational assessment researchers in improving the quality of the analysis conducted (Andrich, 2013b). state that classical measurement theory that uses raw data as a result of ranking responses is unable to present the original characteristics of quantitative data which is a continuum. The Rasch Model uses ordinal responses which are then converted into ratios so that it has a higher level of accuracy to the probability principle (Karlimah et al., 2020; Putra et al., 2023).

The advantage of Rasch modeling over other methods, especially classical testing theory, is the ability to predict data loss based on individual response patterns. The study emphasizes five important parts in the analysis using Rasch modeling, including the ability of item calibration and estimation, item characteristic curves in the parameter model, item and instrument information functions, interaction maps between items and respondents, and whether or not items and respondents match. The advantages contained in the Rasch Model make the results of statistical analysis more accurate in the research conducted, and more importantly produce a standard error value of measurement for the instrument used so as to increase the accuracy of the calculation (Indihadi et al., 2022; Taufiq et al., 2021).

Based on the background explanation, the researcher developed a work readiness instrument for law faculty students in Indonesia through Rasch Model analysis. The results of the research can be used as a basic need to adjust models, programs, policies, curriculum and learning strategies for law faculty students, which have an impact on the clarity of work readiness.

2. THEORETICAL FRAMEWORK

The over past 13 years, there have been many studies attempting to determine the definition of work readiness. Define work readiness as the extent to which graduates are perceived to possess skills and attributes that make them ready for success in the workplace (Medalia, 2005). Coetzee's research explains work readiness as the graduate component (knowledge, skills, and attitudes possessed) of an individual having a sense of "self-direction," or the ability to recognize one's right of personal choice" in obtaining and maintaining employment.

The work-readiness integrated competence model (WRICM) theory is the latest theory related to work readiness developed WRICM proposes resources as an aspect in shaping work readiness based on the resource-based view (RBV). The instrument consists of one question with three answer options. The question in the instrument shows a condition to stimulate participants to answer according to their level of readiness. Each answer choice has three readiness categories with the following score rules, the ready category is given a score of 3 points, the less ready category is given a score of 2 points; and the unprepared category is given 1 point.

The data processing process of the work readiness instrument was carried out with great care to produce a valid and reliable instrument. The analysis process using the Rasch model is an interative analysis process, meaning that the analysis process is carried out repeatedly until the researcher finds the optimal composition of the instrument developed because all criteria have been met, Data processing stages using Rasch model analysis are carried out as follows. **Rating scale testing**, this test is conducted to test participants' understanding in distinguishing answer choices. If the results of the rating scale test are misfit, then the data collected needs to be re-enumerated. If at the beginning, data scoring was carried out by giving points according to the level of choice, then data enumeration was again carried out by giving a score of one to the answer choice chosen by the participant and a score of zero to the answer choice that was not selected. **Unidimensionality testing**, this test is carried out to test the level of construct validity of the instrument that has been made so that the instrument really measures what should be measured. **Person fit order testing, t**his test is carried out to identify respondents who are misfit or indicated to fill out the questionnaire arbitrarily. Person who misfit, removed from processing data. This is done so that the data obtained is not influenced by participants who fill out the questionnaire arbitrarily. Person misfit affects the level of construct validity so person misfit needs to be removed from data processing. **Testing item fit order**, this test is conducted to test the validity of the instrument based on items or content. If there is a misfit item, then the item needs to be removed from data processing because the item needs to be revised again. **Item bias testing.** this test is done, **Item difficulty testing,** this test is carried out to identify the level of difficulty of each item to determine the chances of answering the item according to the respondent's ability level, and **Instrument analysis,** this analysis produces the final results of instrument quality after an iterative validity analysis process.

Summary statistics provide overall information about the quality of respondents, the quality of the instrument used and the interaction between respondents and items (Andrich, 2013a; Maulana et al., 2020; Perera et al., 2018).

3. METHODOLOGY

Research Design

The research conducted uses a positivist paradigm to understand phenomena based on observations on measurable entities. A survey research design was used, namely a cross-sectional survey to collect data on the attitudes, opinions, or beliefs of the population to be studied at this time.

Participants

The research population in the development of work readiness measurement tools are undergraduate students of the Law Study Program from several universities in Indonesia, West Java, Central Java, East Java, Bali, North Sumatra, West Sumatra, and Banten. The sampling technique used in the study was nonprobability sampling with a convenience sampling approach. Respondents selected using nonprobability sampling with a convenience sampling approach based on respondents who are willing, feel comfortable and represent certain characteristics to be studied. The following details of the participants in the study are presented in table 1.

Table 1. Respondents

Demographic Characteristics	Total	%
Age		
20 years	42	5.8
21 years	438	60.8
22 years	226	31.4
23 years	14	2
Gender		
Male	281	39
Female	439	61
College Domicile Area		
Jakarta	131	18.2
Bandung	93	13
Surabaya	131	18.2
Daerah Istimewa Yogyakarta	63	8.8
Malang	35	4.9
Sumatera Utara	42	5.9
Sumatera Barat	33	4.5
Banten	32	4.3
Bali	60	8.3
Semarang	100	13.9

Source: Own Creation

Indonesian Work Readiness Instrument (KKI Instrument)

The Indonesian work readiness instrument (KKI Instrument) which is the focus of this research is the individual's skills to prepare themselves which include intellectual resources, personality resources, meta-skills resources and special resources. Each aspect of the work readiness variable is described as follows: 1) Intellectual resources are cognitive skills and basic skills to prepare themselves before entering the world of work; 2) Personality resources are individual skills consisting of innovation and creative skills, self-management skills and leadership skills to prepare themselves before entering the world of work; 3) Meta-skill resources are individual practical skills in politics, using information technology, communication, and thinking organizationally to prepare themselves before entering the world of work; and 4) Specific job resources are core business skills needed to prepare themselves before entering the world of work (Hina et al., 2023) The work readiness instrument lattice aims to develop a framework for the KKI instrument by determining aspects, indicators and questions developed based on the Work-Readiness Integrated Competence Model (WRICM) theory from Prikshat, et al (2019). The weighing of the instrument is carried out to sharpen the direction of the work readiness variable construct so as to produce valid and reliable items to measure the level of work readiness by experts in the field of assessment weighed based on the review of constructs, aspects, indicators, redaction of each question item and the suitability of the item with the aspects to be revealed and the accuracy of the answer choices as a level of work readiness, so that the KKI Instrument is suitable for cultural culture in Indonesia.

Data Analysis Procedure Ethics

Data analysis was carried out through the Rasch modeling approach. The KKI Instrument data processing process is carried out with great care to produce valid and reliable instruments. The analysis process using the Rasch model is an interative analysis process, meaning that the analysis process is carried out repeatedly until the researcher finds the optimal composition of the instrument developed because all criteria have been met (Taufik et al., 2019).

Data processing stages using Rasch model analysis are carried out as follows. 1) Rating scale testing is carried out to test participants' understanding in distinguishing answer choices. If the rating scale test results are misfit, then the collected data needs to be re-enumerated. If at the beginning, data scoring was carried out by giving points according to the level of choice, then data enumeration was again carried out by giving a score of one to the answer choice chosen by the participant and a score of zero to the answer choice that was not selected; 2) Unidimensionality testing is carried out to test the level of construct validity of the instrument that has been made so that the instrument really measures what should be measured; 3) Person fit order testing is carried out to identify respondents who are misfit or indicated to fill out the questionnaire arbitrarily. Person who misfit, removed from the processing data.

This is done so that the data obtained is not influenced by participants who fill out the questionnaire arbitrarily. Person misfit affects the level of construct validity so that person misfit needs to be eliminated from data processing; 4) Item fit order testing is conducted to test the validity of the instrument based on items or content. If there is a misfit item, then the item needs to be removed from data processing because the item needs to be revised again; 5) Item bias testing is carried out to test the validity of the item so as not to harm one individual from a particular group. If there is a misfit item, then the item needs to be removed from data processing because the item needs to be revised again; 6) Item difficulty testing. This test is carried out to identify the level of difficulty of each item to determine the chances of answering the item according to the respondent's ability level; and 7) Instrument analysis produces the final results of instrument quality after the validity analysis process is carried out repeatedly. Summary statistics provide overall information about the quality of respondents, the quality of the instruments used and the interaction between respondents and items.

4. RESULTS AND DISCUSSION

The results of the KKI Instrument through Rasch model analysis are examined based on the rating scale test, person fit order, unidimensionality, item analysis (item fit level, item difficulty level, and item bias detection), and instrument analysis. The test results are repeated as many as five iterations that must be done to get an instrument that can meet the criteria of the model.

First iteration research findings, instrument testing, namely analyzing the value of the rating scale and person fit from the raw data that has been obtained. The analysis was conducted on 720 respondents and 23 items. The final results of the person fit order test obtained 531 respondents with the fit category. Second Iteration, the findings of the second iteration carried out instrument testing, namely analyzing the value of the rating scale, unidimensionality, and item fit from the first iteration processing data. The analysis was conducted on 531 respondents and 23 items. Based on the Pt Mean Corr value criteria, all items cannot meet the Pt Mean Corr value criteria. The results of the first item fit analysis obtained as many as two items, namely item numbers 14 and 15, which need to be removed from the next iteration of data processing. Third iteration, the findings of instrument testing are analyzing the value of rating scale, unidimensionality, and item fit from the second iteration processing data. The analysis was conducted on 531 respondents and 21 items. The following describes in detail the results of the analysis of rating scale, unidimensionality, and item fit. Rating Scale. The results of the first item fit analysis obtained as much as one item, namely item number 3 which needs to be removed from the next iteration of data processing. Fourth iteration, the findings of instrument testing are analyzing the value of rating scale, unidimensionality, item fit and item bias from the third iteration processing data. The analysis was conducted on 531 respondents and 20 items. The results of item bias detection obtained as many as six items, namely item numbers 4, 6, 8, 17, 18, and 20 need to be removed from data processing.

Fifth Iteration

The fifth iteration conducted in instrument testing is analyzing the value of rating scale, unidimensionality, item fit, item bias, item difficulty, wright map, and instrument analysis from the fourth iteration processing data. The analysis was conducted on 531 respondents and 14 items. The following describes in detail the results of the analysis of rating scale, unidimensionality, and item fit.

The third rating scale test was conducted using data from the fourth iteration with a total of 531 respondents and 14 items. The following presents in detail the observed average and andrich threshold values for each rating scale test conducted.

Table 2 Rating scale of the fifth iteration

Category Label	Score	Observed Count	Observed %	Observed sample Average	Expected	Infit Mean-	Outfit Mean-square	Andrich Threshold	Category Measure

						square			
1	1	787	11	-0.32	-0.39	1.07	1.16	NONE	(-2.34)
2	2	2999	40	0.72	0.76	0.92	0.88	-1.17	0.00
3	3	3648	49	1.97	1.95	1.01	1.03	1.17	(2.34)
**Input: 531 Person 14 Item*					**Reported: 531 Person 14 Item*				

Source: output table 3.2 application rating scale in Winsteps

The final rating scale test was conducted after researchers eliminated misfit items from the item bias test results. The table shows the observed average value which increases -0.32 (not ready), 0.72 (less ready), and 1.97 (ready). These results show that the answer choices increase according to the level. The andrich threshold value moves from none, then negative and leads to positive sequentially indicating that the options provided are valid for respondents.

Unidimensionality

Unidimensionality testing was carried out using data from the fourth iteration with a total of 531 respondents and 14 items. In detail the value of unidimensionality is presented in the table.

Table 3 Unidimensionality of the fifth iteration

Table of Standardized Residual Variance in Eigenvalue Units				
	Empirical			*Expected*
Total raw variance in observations	21.9	100.0%		100.0%
Raw variance explained by measures	7.9	36.1%		36.4%
Raw variance explained by persons	1.7	7.6%		7.7%
Raw variance explained by items	6.2	28.5%		28.7%
Raw unexplained variance (total)	14.0	63.9%	100.0%	63.6%
Unexplained variance in 1st contrast	1.6	7.3%	11.4%	
Unexplained variance in 2st contrast	1.4	6.2%	9.7%	
Unexplained variance in 3st contrast	1.2	5.5%	8.5%	
Unexplained variance in 4st contrast	1.2	5.3%	8.3%	
Unexplained variance in 5st contrast	1.1	5.0%	7.8%	
**Input: 531 Person 14 Item*	**Reported: 531 Person 14 Item*			

Source: output table 2.3 application undimensionalitas in Winsteps

Unidimensionality testing was again carried out after researchers eliminated misfit items in the processed data. The results of the unidimensionality test show that the Raw variance explained by measures of 36.1% is in the sufficient category. There is an increase in the value of raw variance explained by measures which indicates that misfit items affect the quality of the instrument construct. While Unexplained variance in 1st to 5st contrast of residuals is 7.3%; 6.2%; 5.5%; 5.3% and 5.0% respectively. It appears that each is less than 15%. Thus, the instrument construct used really measures one variable, namely work readiness as a whole.

Item Fit

Item fit testing was carried out using data from the fourth iteration with a total of 531 respondents and 14 items. In detail can be seen in table 4. The level of fit of the fifth iteration items.

Table 4. Level of fit of the fifth iteration items

	Infit	*Outfit*	Point measure	Exact Match

Entry Number	Total Score	Total Count	Measure	Mean-square	Zstandard	Mean-square	Zstandard	correlation Correlation	Expanded values	Observed,	Expented, %	Item
1	884	531	2.15	1.36	6.2	1.39	6.6	0.30	0.34	46.0	55.9	1
10	1529	531	-2.11	1.18	1.6	1.10	0.8	0.26	0.19	89.5	88.1	16
2	1287	531	0.03	1.17	3.1	1.13	2.4	0.39	0.32	51.6	56.4	2
14	1469	531	-1.31	1.15	2.0	1.07	0.8	0.29	0.25	78.7	77.4	23
5	1371	531	-0.50	1.14	2.4	1.09	1.5	0.38	0.30	66.7	62.3	9
3	1415	531	-.083	1.14	2.2	1.06	0.9	0.41	0.28	74.4	69.0	5
9	1195	531	0.54	1.13	2.4	1.12	2.2	0.30	0.34	53.1	56.5	13
6	1417	531	-0.84	1.11	1.7	1.08	1.2	0.25	0.28	68.4	69.3	10
13	1445	531	-1.08	1.01	0.2	1.02	0.3	0.21	0.26	72.3	73.5	22
7	1141	531	0.82	0.99	-0.2	0.99	-0.2	0.35	0.34	57.6	57.6	11
4	1195	531	0.54	0.88	-2.3	0.89	-2.1	0.27	0.34	61.0	56.5	7
11	1330	531	-0.23	0.86	-2.7	0.86	-2.6	0.30	0.31	59.5	58.6	19
12	914	531	1.99	0.81	-3.8	0.85	-3.0	0.31	0.34	63.8	56.1	21
8	1137	531	0.84	0.45	-9.9	0.46	-9.9	0.26	0.34	81.4	57.7	12
Mean	1266.4	531.0	0.00	1.03	0.2	1.01	-0.1			66.0	63.9	
P.SD	191.8	0.0	1.18	0.21	3.8	0.20	3.6			11.9	9.7	

*Input: 531 *Person* 14 Item
*Reported: 531 *Person* 14 Item

Source: output table 10 application item fit order in Winsteps

The final test of item fit order was conducted after the researcher eliminated the misfit items from the item bias test results. Table 4.15 shows the logit number of items from MEAN and S.D: 1.03 + 0.21 = 1.24, so from this criterion there is one item with an Infit MNSQ value greater than 1.24, namely item number 1. Based on the Outfit MNSQ value criterion, it is obtained that the item does not meet the criteria, namely item number 12. Based on the Outfit Z- Standard value criterion, it is obtained that the item does not meet the criteria, namely item numbers 1, 7, 19, 21 and 12. Based on the Pt Mean Corr value criterion, only one item can meet the Pt Mean Corr value criterion, namely item number 5. The results of the analysis of the suitability level of items obtained as many as 14 items meet the criteria in Rasch modeling.

Item Bias

In the context of this research, bias is only seen in terms of gender, and universities spread across Indonesia using data from the fourth iteration with a total of 531 respondents and 14 items. The following presents the results of item bias detection.

Table 5. Item bias on gender and college fifth iteration

Person Classes	Summary DIFChi-Square	D.F.	Probabilitas	Between-Class Mean-Square	Between-Class Z-Standard	Item Number	Number Entry
19	26.4720	18	0.0894	0.0698	-5.1833	1	1
19	19.1423	18	0.3831	0.0940	-4.7964	2	2
18	14.7332	17	0.6147	0.0388	-5.6699	5	3
19	22.4070	18	0.2144	0.1083	-4.5992	7	4

18	20.1592	17	0.2662	0.0791	-4.8768	9	5
18	19.3573	17	0.3084	0.0947	-4.6449	10	6
18	19.0725	17	0.3244	0.0967	-4.6181	11	7
19	13.8420	18	0.7393	0.0531	-5.5059	12	8
18	17.3282	17	0.4323	0.0676	-5.0683	13	9
16	8.6577	15	0.8947	0.0394	-5.2977	16	10
18	16.3828	17	0.4969	0.0552	-5.3023	19	11
19	9.5318	18	0.9461	0.0365	-5.9033	21	12
17	9.4517	16	0.8936	0.0369	-5.5424	22	13
17	14.8177	16	0.5380	0.0931	-4.5213	23	14

Source: output table 30 application DIF order in Winsteps

In table 5, the results of item bias detection obtained all items have a probability value greater than 0.05. The final result of this bias test shows the final validity of the instrument. So that the KKI Instrument which is carried out the item difficulty test, wright map test and instrument analysis, namely the remaining 14 items with 531 respondents fit.

Item Difficulty Level

The level of item difficulty aims to identify items from the easiest to the most difficult for respondents to answer. Item difficulty testing was carried out using data from the fourth iteration with a total of 531 respondents and 14 items. The level of item difficulty can be examined from Table 6 *Item Measure Order*.

Table 6. Item Measure Order

				Infit		Outfit		Point Measure correlation		Exact Match		
Entry Number	Total Score	Total Count	Measure	Mean-square	Zstandard	Mean-square	Zstandard	Correlation	Expectation	Observed %	Expected %	Item
1	884	531	2.15	1.36	6.2	1.39	6.6	0.30	0.34	46.0	55.9	1
12	914	531	1.99	0.81	-3.8	0.85	-3.0	0.31	0.34	63.8	56.1	21
8	1137	531	0.84	0.45	-9.9	0.46	-9.9	0.26	0.34	81.4	57.7	12
7	1141	531	0.82	0.99	-0.2	0.99	-0.2	0.35	0.34	57.6	57.6	11
4	1195	531	0.54	0.88	-2.3	0.89	-2.1	0.27	0.34	61.0	56.5	7
9	1195	531	0.54	1.13	2.4	1.12	2.2	0.30	0.34	53.1	56.5	13
2	1287	531	0.03	1.17	3.1	1.13	2.4	0.39	0.32	51.6	56.4	2
11	1330	531	-0.23	0.86	-2.7	0.86	-2.6	0.30	0.31	59.5	58.6	19
5	1371	531	-0.50	1.14	2.4	1.09	1.5	0.38	0.30	66.7	62.3	9
3	1415	531	-0.83	1.14	2.2	1.06	0.9	0.41	0.28	74.4	69.0	5
6	1417	531	-0.84	1.11	1.7	1.08	1.2	0.25	0.28	68.4	69.3	10
13	1445	531	-1.08	1.01	0.2	1.02	0.3	0.21	0.26	72.3	73.5	22
14	1469	531	-1.31	1.15	2.0	1.07	0.8	0.29	0.25	78.7	77.4	23
10	1529	531	-2.11	1.18	1.6	1.10	0.8	0.26	0.19	89.5	88.1	16
Mean	1266.4	531.0	0.00	1.03	0.2	1.01	-0.1			66.0	63.9	
P.SD	191.8	0.0	1.18	0.21	3.8	0.20	3.6			11.9	9.7	

Source: output table 13 application item measure fit order in Winsteps

Based on table 6, it is known that the SD value is 1.18. This SD value when combined with the average logit value, the level of difficulty of the items can be grouped into very difficult categories (greater than + 1 SD), difficult categories

(0.0 logit + 1 SD), easy categories (0.0 logit - 1 SD), and very easy categories (less than - 1 SD). Thus, the score limit for the very difficult category is more than 1.18, the difficult category is 0.00 to 1.18, the easy category is (-1.18) to less than 0.00, and the very easy category is less than (- 1.18).

Looking at the logit value of each item in table 4.20 the level of difficulty of the items, in order based on the level of difficulty (from the most difficult item to the easiest) it is known that there are two items in the very difficult category, namely items number 1 and 21. The difficult category has five items, namely numbers 12, 11, 7, 13, and 2. The easy category has six items, namely 19, 9, 5, 10, 22, and 23. While the very easy category has one item, namely number 16.

Instrument Analysis

The Rasch model can perform analysis down to the instrument level. This overall analysis is provided in more detail in the form of summary statistics and test information functions. This means that the information provided in the Rasch model is comprehensive for stakeholders to make appropriate, logical, and scientific policies based on complete and in-depth analysis. Instrument analysis was carried out using data from the fourth iteration with a total of 531 respondents and 14 items. The following instrument analysis results are presented in table 7.

Table 7. Summary Statistics

Summary Person								
	Total			Model	Infit		Outfit	
	Score	Count	Measure	Standard error	Mean-square	Zstandard	Mean-square	Z standard
Mean	33.4	14.0	1.22	0.50	0.99	0.0	1.01	0.0
Standard deviation	2.4	0.0	0.62	0.05	0.37	1.0	0.48	1.1
Maximum	41.0	14.0	4.34	1.07	2.49	3.3	4.12	4.2
Minimum	25.0	14.0	-0.66	0.46	0.36	-2.5	0.27	-2.3
Real root mean-square deviation	0.54	True Standard deviation	0.30	Separation	0.55	Person Reability		0.23
Model root-mean-square deviation	0.51	True Standard deviation	0.35	Separation	0.70	Person Reability		0.33
S.E. of Person Mean = 0.3								
Person raw score-to-measure correlation = 0.99								
Cronbach Alpha (KR-20) person raw score “test” test reability = 0.27								
Summary Item								
	Total			Model	Infit		Outfit	
	Score	Count	Measure	Standar error	Mean-square	Zstandard	Mean-square	Z standard
Mean	1266.4	531.0	0.00	0.08	1.03	0.2	1.01	-0.1
Standard deviation	191.8	0.0	1.18	0.02	0.21	3.8	0.20	3.6
Maximum	1529.0	531.0	2.15	0.13	1.36	6.2	1.39	6.6
Minimum	884.0	531.0	-2.11	0.07	0.45	-9.9	0.46	-9.9
Real root mean-square	0.09	True Standard	1.18	Separation	12.97	Item Reability		0.99

deviation		deviation					
Model root-mean-square deviation	0.09	True Standard deviation	1.18	Separation	13.67	Item Reability	0.99
S.E. of Item Mean = 0.33							
Item raw score-to-measure correlation = -0.99							

Source: output table 3.1 application summary statistics in Winsteps

Person measure shows that the average score of all participants in working on the items of the instrument revealing job readiness data is 1.22 logits. The value of the person mean which is greater than the item mean (where the item mean is 0.00 logit) indicates that the participants' ability is generally greater than the difficulty of the instrument items. The Cronbach Alpha value, which represents the interaction between the person and the items as a whole, of 0.27 logit is in the poor category (Sumintono & Widhiarso, 2014). Furthermore, based on the criteria presented by Sumintono & Widhiarso (2014), the Person Reliability value of 0.23 is in the weak category, while Item Reliability of 0.99 is in the excellent category.

Based on table 7 Infit MNSQ and Outfit MNSQ both in the person table and the Item table. Based on the person table, it is known that the average value of Infit Mean-square and Outfit Mean-square is 0.99 and 1.01, respectively. Meanwhile, based on the item table, it is known that the average value of Infit Mean-square and Outfit Mean-square is 1.03 and 1.01, respectively. The criteria, the closer to 1.00, the better, because the ideal value is 1.00 (Sumintono & Widhiarso, 2014). Thus, the average person and item is close to the ideal criteria. Meanwhile, related to Infit Z-standard and Outfit Z-standard, the average values for person are 0.0 and 0.0, respectively. While the Infit Z-standard and Outfit Z-standard values for items are 0.2 and -0.1, respectively. The ideal Z-standard value is 0.0, the closer to 0.0 the better (Sumintono & Widhiarso, 2014). Thus, it can be said that the quality of persons and items is good. Based on table 7, it is known that the separation for person is 0.55 and for item is 12.97. The greater the separation value, the better the overall quality of the person and instrument. The separation value is calculated more thoroughly through the formula: H ={(4 x separation) + 1}/3. Thus the separation value for person is 1.06 rounded to 1, while the separation for item is 17.62 rounded to 18. This implies that the research participants have a diversity of abilities that can be categorized into 1 group. Meanwhile, the level of difficulty of the items spread in 18 groups ranging from the easiest to the most difficult group.

The research findings are based on the results of the rating scale validity analysis conducted to verify the rating options used have confusing meaning or not for respondents (Nur et al., 2020, 2022).The work readiness instrument development research uses a Likert scale with a three-choice model. The answer choices are made in the form of statement items that show a variety of individual behaviors when facing certain conditions. The statement items show indicators of the achievement of the characteristics of student work readiness according to their level. The results of the rating scale analysis show that individuals understand the differences in answer choices. The results of the last analysis of the diagnostic rating scale after all misfit items were removed showed that the observed average and andrich threshold values increased according to their level. Rating scale analysis in the

Rasch model helps ensure that the category scale on the measurement instrument functions properly, so that the data obtained is reliable and meaningful in measuring the desired characteristics (Indihadi et al., 2022; Muslihin, 2022).

The results of the analysis on the unidimensional test of the work readiness instrument show that the instrument construct used can measure what should be measured, namely work readiness. Based on the final results of the unidimensionality analysis after eliminating the misfit items, the raw variance explained by measures value is 36.1% and the unexplained variance in 1st to 5st, each of which has a value of less than 15%. Dimensionality is a fundamental measure in determining the construct validity of an instrument (Ilfiandra, Nadia Aulia Nahirah, Dodi Suryana, 2022). Thus, the work readiness instrument has described each aspect of work readiness without going beyond what has been determined, namely: 1) intellectual resources; 2) personal resources; 3) meta-skills resources; and 4) job-specific resources. The results obtained can optimize the measurements taken so that the information provided is more focused on the measured attributes. Rasch model analysis uses principal component analysis of residuals, which measures the extent to which the diversity of an instrument measures what it should measure (Maulana et al., 2020). If the construct has met the requirements, it is believed that the items obtained have met the assumption of unidimensionality. The minimum requirement for the unidimensionality test results on the Rasch model is to have a raw variance value of 20%. Based on the criteria submitted by Sumintono & Widhiarso, the work readiness instrument is included in the sufficient category so that the work readiness instrument measures one variable, namely work readiness without being influenced by other variables. The research findings are in accordance with previous research which describes the analysis with the Rasch model can show the measurement data analyzed is unidimensional or multidimensional. If the data studied is multidimensional, item analysis needs to be carried out on each dimension. In addition, previous research explains the quality of the instrument is able to analyze the strengths and weaknesses of individuals, even in research on the review of judges' decisions, a holistic, integrative and dynamic instrument is needed.

Based on the findings of the item fit test results, three misfit items were obtained because they could not meet all the criteria for item fit in the Rasch model. The three misfit items were then removed from data processing. Misfit items need to be removed from data processing to produce the optimal composition of an instrument. The remaining 20 items were categorized as fit because each item met the Infit MNSQ value and/or met 1 of the 3 criteria specified in the Rasch model (W. J. Boone et al., 2014).

The research findings show that it has a normal function, this indicates a consistent level of item suitability, the value of item suitability is strongly influenced by the size of the sample, the error in determining the answer key, the number of individuals who are less motivated and in working on problems, or questions that have low differentiation can reduce the value of item accuracy. The ZSTD value is strongly influenced by the sample size. When the sample size is very large, it is certain that the ZSTD value will always be above three. Thus, some experts recommend not using the ZSTD value when the sample size used in calibration is (N>500) (Perera et al., 2018).

In addition, the findings of item suitability testing are very concerned about the value of infit, outfit, mean-square and z-standard. Infit means inlier sensitive fit or the sensitivity of the response pattern to the target item on the person component or vice versa. Outfit means outlier-sensitive fit or measures the sensitivity of the response pattern to items with a certain difficulty level than the person or vice versa. Mean-square shows a measure of randomness, which is the amount of distortion or disturbance in the measurement system.
Briefly, MNSQ (mean-square) is a chi-square calculation (which measures the degree of association) for Outfit and Infit statistics. If the mean-square value of an item is less than 0.5 then the item is indicated to be predictable (data overfit the model). Meanwhile, if the mean-square value of the item is greater than 1.5, it indicates that the item is not easy to predict (data underfit the model). Standarized (ZSTD) is a t-test for hypotheses that measures the probability of MNSQ (Mean-square) calculations occurring by chance when the data fit the Rasch model (W. Boone, 2011; Planinic et al., 2019)

The Outfit Mean Square value is used to test the consistency of answers with the level of difficulty of statement items. It can be understood that the Outfit Z-standard value is used to describe how many columns of measure results are outlier items, not measuring or too easy, or too difficult. Furthermore, the point measure correlation value is used to describe how well (SE), statement items are not understood, responded to differently, or confused with other items (Indihadi et al., 2022).

Based on the results of the analysis of item suitability using data after person misfit is eliminated, there are three misfit items that do not meet all the criteria in measuring item suitability. Referring to the views of Sumintono & Widhiarso , based on the final results of the analysis of item suitability using data after items containing bias are removed, there are 14 work readiness items declared fit in the sense that they function normally and can be understood correctly by respondents and can measure what should be measured in this case is work readiness.
The suitability of the items is able to generalize the optimal work readiness behavior of individuals, even individuals who are ready to work have clear goals, this is in accordance with research on law in general has certain goals, trying to meet these goals which rest on three main components, namely language, goals (subjective and objective), and discretion of judges who are synergized comprehensively and holistically (Madiong & Fahri, 2023)(Dougherty, 2016).

In item bias detection, it is known that there are six items on the work readiness instrument that have a probability value of less than 0.05 logit. This indicates that the work readiness instrument will favor or disadvantage one particular gender Biased items can discriminate against individuals in other categories to get different results. So that item instruments that have a probability value of less than 0.05 need to be eliminated and retested through Rasch model analysis based on their order. The results of the second item bias analysis show that all remaining items have a probability value of more than 0.05 so that the work readiness instrument will not benefit individuals in certain categories. The work readiness instrument can be used for all types of gender and colleges studied.
Gender bias will result in the equality clause and even research on equality

contained in paragraph (1), paragraph (2), and paragraph (3) as a unit (systematic interpretation). The prohibition of discrimination based on gender means that it also contains an order to provide equal opportunities for men and women in the reality of social life in the community at large. So, it is not merely looking at the advantages and disadvantages for women when the legal text is formed, but on the consideration of the principle of equal opportunities in work between women and men in the future (Roberts, 2022; Solehuddin & Adriany, 2017).
This is also in line with previous research on the social life of German society, which considers it favorable for women, especially in terms of safety and health, but also potentially disadvantageous for women in terms of equal opportunities at work. Based on the research results, Person and item have an average value of Infit mean-square and Outfit men-square which is close to 1. So that both person and item questions are close to ideal criteria. Meanwhile, the Infit z-standard and Outfit z-standard values on both the person and item have values close to 0, thus it can be said that the quality of the person and item questions is in the good category. The last test of reliability analysis is separation or grouping of persons and items. Individual separation shows how well a set of items in the work readiness instrument spreads along the logit ability range (Nurhudaya et al., 2019). The greater the individual separation, the better the instrument is prepared because the items in it are able to reach individuals with high to low level abilities. Meanwhile, item separation shows how much the respondents participating in the measurement are spread along a linear interval scale. The higher the item separation, the better the measurement. This index is also useful for defining the meaningfulness of the measured construct.

Research findings regarding person fit are that not all respondents provide valid responses due to fatigue, drowsiness, lack of motivation, or concealment Some researchers suggest identifying these subjects and removing them from the analysis if they have a substantial impact on instrument attributes. Rasch model analysis can identify respondents with invalid responses through person fit order analysis.
Based on the results of the person fit order analysis, 189 respondents indicated that they gave invalid responses. This is seen in terms of meeting the criteria from the MNSQ infit value, MNSQ and ZSTD Outfit, and point measure correlation. A total of 189 respondents were then excluded from data processing.

5. CONCLUSION

Based on research on the development of work readiness instruments, it can be concluded that work readiness variables are skills that need to be possessed to achieve career success in the world of work. Individuals who have work readiness are better able to solve problems, adapt and be able to complete every task given in the world of work.
The use of the Rasch model in analyzing the validity and reliability of instruments is an analytical technique that can meet the requirements of objective measurement. The data generated from Rasch model analysis is free from the influence of subject type, rater characteristics and measuring instrument characteristics. The calibration and estimation techniques used in the Rasch model have eliminated the influence of these three factors. The fit items that have been obtained still cannot represent one indicator, namely technology and information skills so that the work readiness instrument obtained cannot fully measure work readiness in the concept of the

Work-Readiness Integrated Competence Model (WRICM) theory.

The calibrated work readiness instrument can be used by policy makers to measure work readiness so as to validate accurate interpretation results, then the results of the needs can be used as a foothold in making good and accurate models, frameworks, learning processes in law faculties, strategies, evaluations and learning methods.

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