

Self Disclosure Instrument: Instrument Standardization through Rasch Model

Reza Tririzky^{1*}, Daharnis¹, Zadrian Ardi¹, Ade Herdian Putra¹

^{1,1}Universitas Negeri Padang,

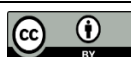
*Corresponding author, e-mail: rezatririzky@gmail.com

Abstract

The understanding of the extent to which humans can express themselves can be one of the efforts in overcoming various problems that humans face that requires a well-standardized tool. The purpose of this study is to standardize the self-disclosure instrument through the Rasch model. Data collection for this study involved 53 research participants from a high school in Bandung City, West Java. The collected data was then processed and analyzed using the Rasch model with the Winstep application. It was found that out of the 24 initial statement items, 4 did not meet the Rasch model testing criteria. The remaining 20 items could be further utilized in the research. This instrument can then be further utilized in tracing and understanding individual self-disclosure that supports the intervention process to increase self-disclosure.

Keywords: Self-Disclosure; Instrument; Standardization; Rasch; Winstep

How to Cite: Tririzky, R., Daharnis, D., Ardi, Z., Putra, A. H. (2025). Self Disclosure Instrument: Instrument Standardization through Rasch Model. *IJACSS*, 06 (1): 55-66, DOI: <https://doi.org/10.24036/0051245ijacss>



This is an open access article distributed under the Creative Commons 4.0 Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. ©2019 by Author

Introduction

Self-disclosure is an ability that every human being has. In simple terms, self-disclosure is a condition of allowing one's self to be known by others around them (Farber, 2006). Self-disclosure can also be understood as any message conveyed about oneself by a person to others (Wheeless & Grotz, 1976; Putra & Mudjiran, 2023). The development of self-disclosure instruments can basically be done in several ways, one of which is through the Rasch model.

The standardization of self-disclosure instruments using the Rasch model offers a promising framework that enhances the psychometric qualities associated with such scales. The Rasch model, grounded in item response theory, provides systematic methods for assessing the validity and reliability of measurement instruments by focusing on the interaction between person abilities and item difficulties (Latifah et al., 2024; Tian et al., 2020). Self-disclosure is inherently linked with various psychological constructs (Schug et al., 2010). Utilizing the Rasch model not only enhances the rigor of assessments but also provides a nuanced understanding of how individuals engage in

self-disclosure across different contexts (Dini et al., 2023). Crucially, the Rasch model allows researchers to derive a linear metric from ordinal data, enabling more robust statistical analyses that can inform both theoretical and practical considerations in self-disclosure research (Tian et al., 2020).

Studies emphasizing the efficacy of the Rasch model highlight its capability in ensuring instruments are calibrated correctly to reflect the underlying latent constructs they aim to measure (Yan, 2020; Yan et al., 2020). For instance, the model checks for dimensionality, ensuring that instruments intended to measure self-disclosure are indeed unidimensional, thus fulfilling a critical requirement for valid measurement (Wahyuningsih, 2021; Yasin et al., 2015). When developing self-disclosure instruments, adherence to the methodological standards set forth by the Rasch model aids in addressing potential biases that could arise from traditional methods. For example, while classical test theory often relies on summative scores and can overlook nuances in data, the Rasch model identifies item fit and differential item functioning (DIF), uncovering disparities in how different groups respond to self-disclosure prompts (Aryadoust et al., 2019; Yasin et al., 2015). This is particularly pertinent in culturally diverse contexts, where relational mobility and variations in social norms can significantly shape self-disclosure behaviors (Mohamed et al., 2021; Schug et al., 2010; Sung et al., 2021; Xie, 2023).

Moreover, the versatility of the Rasch model allows it to be employed in various contexts, evident by its successful applications in psychology, education, health sciences, and social research (Li et al., 2016). Its utility in evaluating educational assessments demonstrates its capability to adapt to diverse measurement needs, much like those found in self-disclosure studies.

Previous research shows that the development and standardization of self-disclosure instruments mostly refer to Jourad's theoretical constructs that are less adaptable to western culture (Bayne, 1977; Hurley & Hurley, 1969; Pedersen & Breglio, 1968). The development of these instruments is also generally developed massively on respondents from abroad with an adult age range (Ferguson et al., 2013; Laban, 2024; Rains et al., 2014). Therefore, this research will be conducted by utilizing other theoretical constructs. The statement items are also then adjusted to the needs of psychological services in the scope of education, especially secondary education in Indonesia.

Standardization of the self-disclosure instrument is then carried out by utilizing the theory of Wheelless & Grotz (1976) which has several dimensions such as Intent, amount, polarity, honesty, and depth that culture-free and adaptable to a wide range of studies and participants (Wheelless, 1976; Wheelless & Grotz, 1976, 1977). The Intent dimension discusses a person's awareness in making self-disclosure related to the conditions experienced to others. The indicator of this dimension is conscious willingness or having a conscious desire to tell oneself to others (Nabity-Grover et al., 2022). The Amount dimension relates to the intensity of how often a person reveals himself and how long it takes a person when revealing himself. This dimension has indicators, namely breadth of information shared or being able to disclose information widely is time spent to share or being able to tell stories for a long duration (Cozby, 1973).

The Polarity dimension deals with a person's polarity tendency in expressing himself. The indicator of this dimension is positive or negative nature or being able to tell about positive or negative things that happen to oneself (Nabity-Grover et al., 2022). The Honesty dimension discusses the suitability and accuracy of the information disclosed regarding the conditions experienced with the conditions that actually occur. The indicator of this dimension is truthful

representation or being able to provide a true picture of oneself (Nabity-Grover et al., 2022). And the last dimension is Depth which discusses how deep a person's self-disclosure is from the topics disclosed to others around. The indicator of this dimension is intimate information or being able to provide in-depth information to others (Nabity-Grover et al., 2022).

Method

This study is a standardization of a self-disclosure instrument based on the theory of Wheelless & Grotz (1976). In their theory, Wheelless & Grotz (1976) explain that self-disclosure is any message conveyed about oneself that is communicated by a person to another person. A Likert scale-based measurement tool was used and developed to assess self-disclosure in this study. Data were collected using a questionnaire. The Likert scale has proven to be effective in measuring the level of self-disclosure (Leung, 2002). Data collection was conducted among students at a school in Bandung, West Java. This study involved 53 students who voluntarily and willingly provided data and information about themselves. Of the 53 students, 20 were female and 33 were male. All students were in the 11th grade of high school. 31 students were from science majors and 22 students were from social studies majors. 21 students were 16 years old while 32 were 17 years old. The research instrument then went through a series of processes before being analyzed in the Rasch model. This instrument has then gone through a readability test and also expert judgment. After obtaining input from the process, data collection was carried out and analyzed empirically using the Rasch model through the Winstep application. Several tests were involved in this study, such as scale accuracy testing, item validity testing, reliability testing, and unidimensionality testing (Sumintono & Widhiarso, 2015). The tests conducted can be seen in the following section.

Results and Discussion

The measuring instrument to assess self-disclosure in this study was developed based on the theory proposed by Wheelless & Grotz (1976), which identifies various important dimensions, such as quantity, honesty, polarity, depth, and encouragement. This instrument is designed to measure various aspects of self-disclosure in the context of interactions between individuals.

Table 1. Instrument Lattice of Self-Disclosure based on Theory Constructs

No.	Dimensions	Indicator	Item No.		N
			<i>Fav</i>	<i>Unfav</i>	
1.	<i>Intent</i> (Encouragement to Open Up)	<i>Conscious Willingness</i> Having a conscious desire to tell others about oneself	1,2,	3,4	4
2.	<i>Amount</i> (Quantity of Openness)	<i>Breadth of Information Shared</i> Able to express information widely	5,6	7,8	4
		<i>Time Spent to Share</i> Able to tell stories of long duration	9,10	11,12	4
3.	<i>Polarity</i>	<i>Positive or Negative Nature</i> Able to tell about positive or	13,14	15, 16	4

		negative things that happen to yourself			
4.	Honesty	<i>Truthful Representation</i> Able to give a true picture of oneself	17, 18	19, 20	4
5.	<i>Depth</i>	<i>Intimate Information</i> Able to provide in-depth information to others.	21, 22	23, 24	4
Total			12	12	24

. In this study, the scale was applied to formulate the statements included in the instrument, which can be seen in the following items.

Table 2. Answer choices and scoring guidelines for the self-disclosure instrument

Scoring	Value	
	Favorable	Unfavorable
Very Appropriate	5	1
Appropriate	4	2
Less Appropriate	3	3
Not Appropriate	2	4
Very Inappropriate	1	5

The instrument then went through a series of tests. The first test carried out is the analysis of scale accuracy using the Rasch model with the help of Winsteps software. The results of this scale accuracy analysis can be seen in the following diagram

CATEGORY	OBSERVED	OBSVD	SAMPLE	INFI	OUTFI	ANDRICH	CATEGORY		
LABEL	SCORE	COUNT	%	AVRGE	EXPECT	MNSQ	MNSQ	THRESHOLD	MEASURE
1	1	135	11	-1.00	-1.15	1.13	1.08	NONE	(-3.23)
2	2	395	31	-.85	-.73	.77	.78	-2.02	-1.31
3	3	295	23	-.10	-.14	.86	.85	-.15	-.04
4	4	349	27	.68	.56	.84	.83	.04	1.29
5	5	98	8	.90	1.16	1.37	1.34	2.14	(3.32)

Figure 1: Scale Accuracy Test

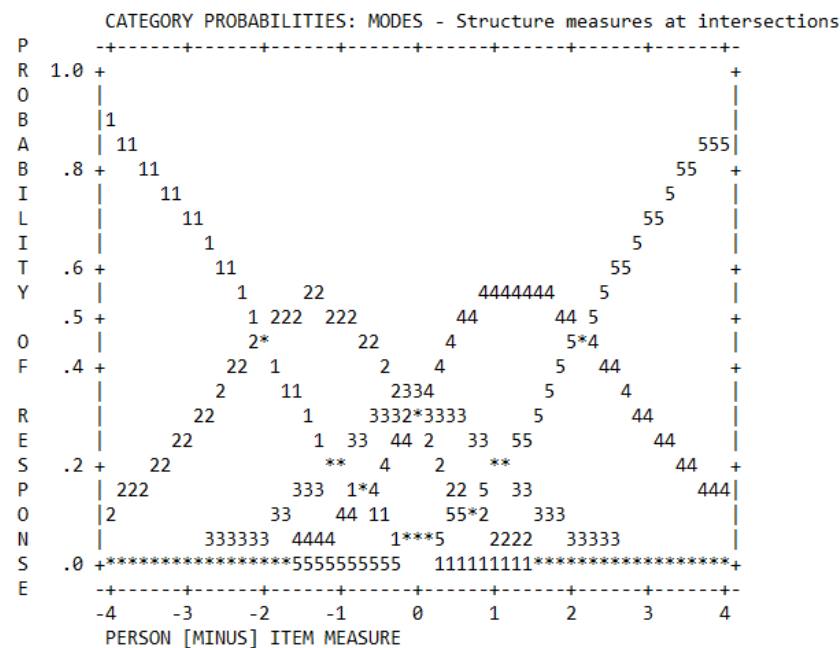


Figure 2. Scale Accuracy Diagram

The main assessment of scale fidelity focused on the mean observed value and the Andrich threshold index. Ideally, these two indicators show an increase in the logit value, indicating that participants can understand the answer options well in the self-disclosure instrument. In addition, an additional criterion that needs to be considered is the range of changes in the Andrich threshold value, which does not exceed 5.0 and then not less than 1.4. If the value moves and changes beyond 5.0, then the answer category needs to be expanded; conversely, if the value moves less than 1.4, then the answer category needs to be combined (Sumintono & Widhiarso, 2015)

In this analysis, the change from category 1 to 2 amounts to 2.02. The change from category 2 to 3 is 1.87. The change from category 3 to 4 is 0.19. And the change from category 4 to 5 amounts to 2.10. All category changes are sufficient for the range of 1.4-5.0. However, the change from category 3 to 4 does not fit the range of 1.4-5.0 ($0.19 < 1.4$). This can also be seen in Figure 2. Where answer choice 3 does not form a peak while other answer choices have peaks. Based on this condition, the scale options in the self-disclosure instrument were changed to four answer choices. After making changes, the results of the scale accuracy test can be seen as follows.

SUMMARY OF CATEGORY STRUCTURE. Model="R"

CATEGORY	OBSERVED	OBSVD	SAMPLE	INFI	OUTFI	ANDRICH	CATEGORY
SCORE	COUNT	%	AVRGE	EXPECT	MNSQ	MNSQ	THRESHOLD
1	1	135	11	-1.28	-1.43	1.13	1.15
2	2	395	31	-.94	-.76	.77	.73
3	3	644	51	.56	.43	.84	.85
4	4	98	8	1.19	1.51	1.26	1.18
1	1	135	11	-1.28	-1.43	1.13	1.15
2	2	395	31	-.94	-.76	.77	.73
3	3	644	51	.56	.43	.84	.85
4	4	98	8	1.19	1.51	1.26	1.18

Figure 3: Re-test of Scale Appropriateness

The scale fit diagram after the retest looks as follows.

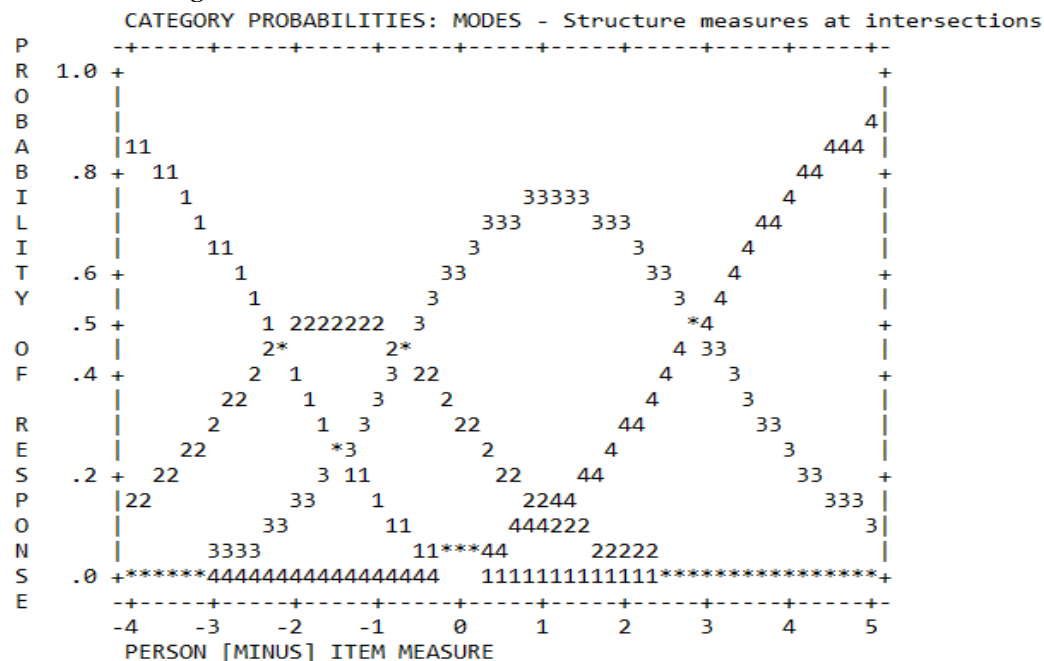


Figure 4. Scale Accuracy Diagram after Retesting

Figure 3 and Figure 4 show that each answer choice forms its own peak and has met the logit criteria of 1.4-5.0, indicating an appropriate distribution of respondents to each category. This finding indicates that the answer categories have been arranged appropriately and proportionally. Based on the results of the scale suitability test, the choice of answer categories and the scoring system used in the new self-disclosure instrument are known as follows.

Table 4. Choice of Answer Categories and Scoring Guidelines for the Self-Disclosure Instrument after the Scale Suitability Test

Answer Options	Value	
	Favorable	Unfavorable
Very Appropriate	4	1
Appropriate	3	2
Not Appropriate	2	3
Very Inappropriate	1	4

After the items on the self-disclosure instrument pass the scale suitability test, the next step is to test the validity of the items. This test is carried out using the Rasch model with the help of the Winsteps application. In the validity test process, there are a number of criteria that must be met so that an item in the instrument can then be declared valid. The criteria are as follows (Sumintono & Widhiarso, 2015)

1. Accepted MNSQ values fall within the range of $0.5 < \text{MNSQ} < 1.5$.
2. The accepted ZSTD value falls within the range $-2.0 < \text{ZSTD} < +2.0$.
3. Accepted Pt Measure Corr values are within the range of $0.4 < \text{Pt Measure Corr} < 0.85$.

An item is considered valid if it meets at least one to two of the three criteria (Sumintono & Widhiarso, 2015). In addition, if the MNSQ value is within the appropriate range, then the item

can generally be accepted as valid, even without having to meet the other two criteria (Boone et al., 2014) . The results of the item validity test on the self-disclosure instrument can be seen in the following figure.

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PT-MEASURE CORR.	EXP.	EXACT OBS%	MATCH EXP%	ITEM
19	133	53	.28	.22	1.75	3.4	1.66	2.9	A .39	.32	43.4	55.5	I19
4	113	53	1.13	.20	1.53	2.9	1.58	3.2	B-.13	.34	43.4	49.0	I4
16	124	53	.67	.21	1.49	2.6	1.55	2.8	C-.37	.33	32.1	50.3	I16
2	163	53	-1.47	.26	1.44	1.7	1.37	1.5	D .20	.26	69.8	71.3	I2
6	158	53	-1.13	.26	1.38	1.5	1.30	1.2	E .34	.26	67.9	71.9	I6
22	111	53	1.21	.20	1.18	1.2	1.18	1.2	F .55	.34	34.0	49.1	I22
20	136	53	.13	.22	1.02	.2	1.04	.2	G .64	.31	62.3	57.1	I20
14	147	53	-.45	.24	.99	.0	.94	-.2	H .47	.28	67.9	66.6	I14
24	107	53	1.37	.20	.93	-.4	.95	-.3	I .27	.34	50.9	48.6	I24
17	171	53	-2.03	.26	.95	-.2	.95	-.2	J .09	.26	73.6	66.2	I17
5	140	53	-.07	.23	.94	-.2	.92	-.3	K .43	.30	67.9	59.6	I5
9	151	53	-.68	.25	.93	-.2	.93	-.2	L .11	.27	79.2	69.3	I9
12	110	53	1.25	.20	.85	-.9	.86	-.9	I .67	.34	47.2	48.7	I12
15	110	53	1.25	.20	.85	-.9	.86	-.9	k .67	.34	47.2	48.7	I15
23	125	53	.63	.21	.86	-.8	.86	-.8	j .19	.33	62.3	50.2	I23
13	160	53	-1.27	.26	.82	-.7	.81	-.8	i .28	.26	75.5	71.9	I13
10	164	53	-1.54	.26	.81	-.8	.81	-.8	h .26	.26	75.5	70.9	I10
18	169	53	-1.89	.26	.78	-1.1	.78	-1.1	g .26	.26	73.6	67.8	I18
8	109	53	1.29	.20	.78	-1.5	.78	-1.5	f .57	.34	52.8	48.7	I8
7	133	53	.28	.22	.74	-1.5	.73	-1.5	e .65	.32	73.6	55.5	I7
11	101	53	1.61	.20	.73	-1.9	.74	-1.8	d-.01	.34	69.8	48.5	I11
21	145	53	-.33	.24	.72	-1.4	.64	-1.8	c .46	.29	83.0	64.2	I21
3	101	53	1.61	.20	.63	-2.7	.65	-2.5	b .03	.34	73.6	48.5	I3
1	168	53	-1.82	.26	.62	-2.0	.62	-2.0	a-.07	.26	83.0	68.6	I1
MEAN	135.4	53.0	.00	.23	.99	-.2	.98	-.2			62.9	58.6	
S.D.	23.4	.0	1.20	.03	.30	1.6	.30	1.5			14.9	9.3	

Figure 5. Item Validity Test with Rach Model

Based on the results of the item validity test that has been carried out, there are a number of items that meet the validity criteria and a number of items that are rejected or invalid so that they are discarded in the self-disclosure instrument. The details of the items are presented as follows.

Table 5. Results of Validity Test of Self-Identification Instrument Items

No.	Description	Item Number	Total
1.	Valid Items	1,2,5,6,7,8,9,10,11,12,13,14,15,17,18,20,21,22,23,24	20
2.	Invalid Items	19,4,16,3	4
Total			24

The validity test results illustrate that there are 20 items that are then acceptable and four items that are not acceptable. The four items are invalid because based on the Rasch model analysis they are only able to meet one criterion of the three criteria that have been set previously. so that these items cannot follow the further analysis process in the Rasch model. After passing the validity test, the self-disclosure instrument was then tested for reliability. The reliability test was conducted using the Rasch model through the help of the Winsteps application. Through this approach, the reliability test results include three main aspects, namely person reliability, item reliability, and Cronbach's alpha. The data of the test results are presented as follows.

	TOTAL SCORE	COUNT	MEASURE	MODEL ERROR	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD
MEAN	54.3	21.0	.07	.38	.99	-.3	.98	-.3
S.D.	4.9	.0	.71	.01	.54	1.8	.55	1.8
MAX.	64.0	21.0	1.53	.41	2.70	4.0	2.45	3.4
MIN.	42.0	21.0	-1.64	.37	.23	-3.7	.23	-3.5
REAL RMSE	.42	TRUE SD	.57	SEPARATION	1.36	PERSON RELIABILITY	.65	
MODEL RMSE	.38	TRUE SD	.60	SEPARATION	1.57	PERSON RELIABILITY	.71	
S.E. OF PERSON MEAN = .10								
PERSON RAW SCORE-TO-MEASURE CORRELATION = 1.00								
CRONBACH ALPHA (KR-20) PERSON RAW SCORE "TEST" RELIABILITY = .70								
SUMMARY OF 21 MEASURED ITEM								
	TOTAL SCORE	COUNT	MEASURE	MODEL ERROR	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD
MEAN	137.1	53.0	.00	.24	.99	-.1	.98	-.1
S.D.	24.4	.0	1.40	.03	.20	.9	.18	.9
MAX.	171.0	53.0	1.92	.28	1.49	1.9	1.39	1.5
MIN.	101.0	53.0	-2.14	.21	.69	-1.6	.70	-1.4
REAL RMSE	.25	TRUE SD	1.37	SEPARATION	5.42	ITEM RELIABILITY	.97	
MODEL RMSE	.24	TRUE SD	1.38	SEPARATION	5.63	ITEM RELIABILITY	.97	
S.E. OF ITEM MEAN = .31								

Figure 6. Reliability Test of Self-Disclosure Instrument in Rasch Model

Based on the results of reliability testing and reliability criteria that have been carried out, the reliability test results show an alpha Cronbach value of 0.70, which indicates a good category. The reliability of the items obtained is 0.97, which is in the very good category. Furthermore, the unidimensionality test was carried out. This test is used to ascertain whether the instrument that has been prepared can measure the self-disclosure of the research respondents appropriately (Sumintono & Widhiarso, 2015). The results of the unidimensionality test on the instrument are shown in the following figure.

Table of STANDARDIZED RESIDUAL variance (in Eigenvalue units)				
-- Empirical --				
Total raw variance in observations	=	38.5	100.0%	Modeled
Raw variance explained by measures	=	17.5	45.4%	44.8%
Raw variance explained by persons	=	3.2	8.4%	8.2%
Raw Variance explained by items	=	14.3	37.1%	36.6%
Raw unexplained variance (total)	=	21.0	54.6%	100.0%
Unexplnd variance in 1st contrast	=	3.3	8.7%	15.9%
Unexplnd variance in 2nd contrast	=	2.7	6.9%	12.6%
Unexplnd variance in 3rd contrast	=	2.3	5.9%	10.9%
Unexplnd variance in 4th contrast	=	1.9	5.0%	9.1%
Unexplnd variance in 5th contrast	=	1.5	4.0%	7.3%

Figure 7. Results of Unidimensionality Test through Rach Model

The results show that in the raw variance explained by measured section, the value obtained is 45.4%. This shows that the self-disclosure instrument has met the minimum requirements for the unidimensionality test, which is 20% (Sumintono & Widhiarso, 2015). In addition, the unexplained variance in 1st contrast section, the recorded value is 8.7%, which has also met the minimum requirement, which is below 15% ($x < 15\%$). Based on these results, it can be concluded that the developed self-disclosure instrument successfully describes the respondents' self-disclosure (Sumintono & Widhiarso, 2015). So that the final results of the lattice of self-disclosure instruments that have gone through empirical testing look as follows.

Table 6. Self- Disclosure Instrument Lattice after Empirical Test

No.	Dimensions	Indicator	Item No.		N
			<i>Fav</i>	<i>Unfav</i>	
1.	<i>Intent</i> (Encouragement to Open Up)	<i>Conscious Willingness</i> Having a conscious desire to tell others about oneself	1,2	-	2
2.	<i>Amount</i> (Quantity of Openness)	<i>Breadth of Information Shared</i> Able to express information widely	5,6	7,8	4
		<i>Time Spent to Share</i> Able to tell stories of long duration	9,10	11,12	4
3.	Polarity	<i>Positive or Negative Nature</i> Able to tell about positive or negative things that happen to yourself	13,14	15	3
4.	Honesty	<i>Truthful Representation</i> Able to give a true picture of oneself	17,18	20	3
5.	<i>Depth</i>	<i>Intimate Information</i> Able to provide in-depth information to others.	21, 22	23,24	4
Total			12	8	20

Based on table 6, it is known that four out of twenty-four items do not meet the criteria for standardizing instruments with the Rasch model through the Winstep application. While the remaining 20 have met the criteria in the Rasch model and can be used further in the research process and data collection. Each part of the indicator has then been represented by certain items. The 20 items based on the Rasch model have the ability to reveal self-disclosure, especially in high school students in accordance with the research participants who have been determined in the study.

Conclusion

The standardization of the self-disclosure instrument shows that most items in the instrument meet the Rasch model criteria and can be used in the further studies. Several processes that have been carried out, such as scale accuracy testing, item validity testing, reliability testing, and unidimensionality testing, help researchers understand each item well and check the suitability of the instrument in the Rasch model.

Acknowledgment

This article is part of the master's thesis of the first author, titled "Group Guidance through Expressive Writing Techniques to Enhance Self-Disclosure among Students with Learning Difficulties," which was successfully completed in 2023. Thanks to Prof. Dr. Nandang Rusmana and Dr. Setiawati, M. Pd., who guided the thesis development. Thanks also go to Dr. Amin Budiamin, M.Pd., Dr. Suherman, M.Pd., and Dr. Sudaryat Nurdin Ahmad, M.Pd., who reviewed the instrument and provided constructive suggestions for improvement to refine the instrument before undergoing empirical testing using the Rasch model.

References

- 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*, 2197. <https://doi.org/10.3389/fpsyg.2019.02197>
- Bayne, R. (1977). The Meaning and Measurement of Self-Disclosure. *British Journal of Guidance & Counselling, 5*(2), 159–166. <https://doi.org/10.1080/03069887708258111>
- Boone, W. J., Yale, M. S., & Staver, J. R. (2014). Rasch analysis in the human sciences. In *Rasch Analysis in the Human Sciences*. <https://doi.org/10.1007/978-94-007-6857-4>
- Cozby, P. C. (1973). Self-disclosure: A Literature Review. *Psychological Bulletin, 79*(2), 73–91. <https://doi.org/10.1037/h0033950>
- Dini, F., Dalimunthe, S., Darmana, A., Suyanti, R., Muchtar, Z., & Sudrajat, A. (2023). Comparasional Analysis of Statistical Results Using the Rasch and Anates Model in Chemistry Learning. In *Proceedings of the 8th Annual International Seminar on Transformative Education and Educational Leadership, AISTEEL 2023, 19 September 2023, Medan, North Sumatera Province, Indonesia. EAI*. <https://doi.org/10.4108/eai.19-9-2023.2340586>
- Farber, B. A. (2006). *Self-disclosure in Psychotherapy*. Guilford Press.
- Ferguson, K., Ireland, C. A., & Ireland, J. L. (2013). Developing a Self-report Measure to Assess Disclosure Strategies in Adult Male Prisoners and Its Association With Personality. *Journal of Forensic Practice, 15*(2), 97–108. <https://doi.org/10.1108/14636641311322287>
- Hurley, J. R., & Hurley, S. J. (1969). Toward authenticity in measuring self-disclosure. *Journal of Counseling Psychology, 16*(3), 271–274. <https://doi.org/10.1037/h0027390>
- Laban, G. (2024). *Studying and Eliciting Self-Disclosure: Interdisciplinary Review of Research Methodologies and Behavioural Paradigms*. <https://doi.org/10.31234/osf.io/fhdek>
- Latifah, M., Saripah, I., Suryana, D., & Sunarya, Y. (2024). Validity and Reliability of Self-Concept Instrument Using Rasch Model. *Jurnal Kajian Bimbingan Dan Konseling, 9*(1), 26–35. <https://doi.org/10.17977/um001v9i12024p26-35>
- Leung, L. (2002). Loneliness, self-disclosure, and ICQ (“I seek you”) use. *CyberPsychology & Behavior, 5*(3), 241–251.

- Li, Y., Root, J. C., Atkinson, T. M., & Ahles, T. A. (2016). Examining the Association between Patient-Reported Symptoms of Attention and Memory Dysfunction with Objective Cognitive Performance: A Latent Regression Rasch Model Approach. *Archives of Clinical Neuropsychology : The Official Journal of the National Academy of Neuropsychologists*, 31(4), 365–377. <https://doi.org/10.1093/arclin/acw017>
- Mohamed, N., Sulaiman, W. S. W., Halim, F. wati, & Masodi, M. S. (2021). An Initial Analysis of Reliability and Validity of a Personality Instrument Using the Rasch Measurement Model. *International Journal of Academic Research in Business and Social Sciences*, 11(9). <https://doi.org/10.6007/ijarbss/v11-i9/11251>
- Nabity-Grover, T., Thatcher, J. B., & Johnston, A. C. (2022). Contextualizing Self-disclosure to the Online Environment: An Assessment of the Literature. *Communications of the Association for Information Systems*, 50(1), 754–802. <https://doi.org/10.17705/1CAIS.05035>
- Pedersen, D. M., & Breglio, V. J. (1968). The Correlation of two Self-Disclosure Inventories with Actual Self-Disclosure: A Validity Study. *Journal of Psychology: Interdisciplinary and Applied*, 68(2), 291–298. <https://doi.org/10.1080/00223980.1968.10543436>
- Putra, A. H., & Mudjiran, M. (2023). Keberhasilan Konseling ditinjau dari Self-Disclosure Klien: Studi pada Klien yang Berasal dari Indonesia. *Jurnal Riset Psikologi*, 6(4), 190-201.
- Rains, S. A., Brunner, S. R., & Oman, K. A. (2014). Self-Disclosure and New Communication Technologies. *Journal of Social and Personal Relationships*, 33(1), 42–61. <https://doi.org/10.1177/0265407514562561>
- Schug, J., Yuki, M., & Maddux, W. (2010). Relational Mobility Explains Between- and Within-Culture Differences in Self-Disclosure to Close Friends. *Psychological Science*, 21(10), 1471–1478. <https://doi.org/10.1177/0956797610382786>
- Sumintono, B., & Widhiarso, W. (2015). *Aplikasi Pemodelan Rasch Pada Assessment Pendidikan*. Trim Komunikata.
- Sung, Y.-K., Kim, H., Cha, S. J., Kim, S.-H., Ndosi, M., & Cho, S.-K. (2021). Developing the Korean Educational Needs Assessment Tool (Korean ENAT) in rheumatoid arthritis: cross-cultural validation using Rasch analysis. *The Korean Journal of Internal Medicine*, 36(4), 1014–1022. <https://doi.org/10.3904/kjim.2019.422>

- Tian, Y., Wang, L., Xu, Y., & He, Z. (2020). The Development of Chinese Version of Transcultural Nursing Self-Efficiency Scale: Using Rasch Model Analysis. *Journal of Transcultural Nursing*, 32(1), 30–40. <https://doi.org/10.1177/1043659619896827>
- Wahyuningsih, S. (2021). Using the Rasch's Partial Credit Model to Analyze the Quality of an Essay Math Test. In *Advances in Social Science, Education and Humanities Research*. Atlantis Press. <https://doi.org/10.2991/assehr.k.210508.073>
- Wheless, L. R. (1976). Self-Disclosure and Interpersonal Solidarity: Measurement, Validation, and Relationships. *Human Communication Research*, 3(1), 47–61. <https://doi.org/10.1111/j.1468-2958.1976.tb00503.x>
- Wheless, L. R., & Grotz, J. (1976). Conceptualization and Measurement of Reported Self-Disclosure. *Human Communication Research*, 2(4), 338–346. <https://doi.org/10.1111/j.1468-2958.1976.tb00494.x>
- Wheless, L. R., & Grotz, J. (1977). The Measurement of Trust and Its Relationship To Self-Disclosure. *Human Communication Research*, 3(3), 250–257. <https://doi.org/10.1111/j.1468-2958.1977.tb00523.x>
- Xie, X. (2023). Book Review of Rasch Models for Solving Measurement Problems: Invariant Measurement in the Social Sciences by Engelhard Jr. and Wang. *International Journal of Education and Literacy Studies*, 11(3), 306–307. <https://doi.org/10.7575/aiac.ijels.v.11n.3p.306>
- Yan, Z. (2020). Developing a Short Form of the Self-Assessment Practices Scale: Psychometric Evidence. *Frontiers in Education*, 4. <https://doi.org/10.3389/educ.2019.00153>
- Yan, Z., Brubacher, S., Boud, D., & Powell, M. (2020). Psychometric properties of the Self-assessment Practice Scale for professional training contexts: evidence from confirmatory factor analysis and Rasch analysis. *International Journal of Training and Development*, 24(4), 357–373. <https://doi.org/10.1111/ijtd.12201>
- Yasin, R. M., Yunus, F. A. N., Rus, R. C., Ahmad, A., & Rahim, M. B. (2015). Validity and Reliability Learning Transfer Item Using Rasch Measurement Model. *Procedia - Social and Behavioral Sciences*, 204, 212–217. <https://doi.org/10.1016/j.sbspro.2015.08.143>