Validity and Reliability of the Objective Measure of Ego Identity Status Adaptation: The Rasch Model Approach

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ABSTRACT: Ego identity plays a crucial role in shaping an individual's self-concept, career decisions, and social relationships. Accurately measuring this construct requires instruments that are sensitive to cultural nuances. This study evaluates the validity and reliability of the Objective Measure of Ego Identity Status (OMEIS), originally developed by Bennion and Adams (1986), which was adapted to the Indonesian context. The adaptation process prioritized linguistic and cultural adjustments, specifically addressing local norms regarding parental influence and communal decision-making to ensure conceptual equivalence. A sample of 431 university students participated in this study, with data collected through an online questionnaire. The Rasch Model was employed to assess item fit, rating scale effectiveness, person reliability, and item difficulty levels. The results indicate that the adapted OMEIS demonstrates strong structural validity and high item reliability (0.99), confirming a robust item hierarchy. However, the person reliability (0.63) suggests limited separation among respondents, likely due to sample homogeneity. The Wright Map analysis confirms the instrument's ability to capture variations in ego identity, while item difficulty analysis highlights areas for potential refinement. These findings suggest that the Rasch Model provides a robust framework for validating culturally adapted psychological instruments, contributing to more accurate identity measurement in non-Western populations.

INTRODUCTION

Ego identity is a fundamental psychological construct that shapes an individual's self-concept, career decisions, interpersonal relationships, and overall life trajectory. Its development is particularly crucial during adolescence and early adulthood, as individuals navigate and commit to various life domains, including occupation, ideology, and personal values (Duan et al., 2021; Umar, 2019; Suyitno et al., 2024). Accurately measuring ego identity status is essential for understanding identity formation processes and designing effective interventions to foster healthy identity development. While traditional self-report measures have been widely employed in research and practice, concerns regarding their psychometric robustness, particularly in diverse cultural contexts, remain a significant challenge (Al-Hemidi et al., 2020). Addressing these concerns, contemporary

measurement approaches, such as the Rasch Model, have emerged as powerful tools for enhancing the validity and reliability of psychological assessments.

Recent research has highlighted the advantages of Rasch modeling in evaluating psychometric instruments, particularly in the fields of psychology and educational measurement (Mohamed et al., 2021; Wang, 2024). The Rasch Model, an item response theory-based approach, facilitates precise parameter estimation, enhances the interpretability of measurement scales, and ensures alignment with fundamental principles of construct validity (Nielsen et al., 2021; Yan & Pastore, 2022). Given the importance of accurately assessing ego identity status among young adults, particularly in higher education settings, validating the adaptation of the Objective Measure of Ego Identity Status using the Rasch Model represents a critical step toward improving its applicability in both research and practice.

Despite the widespread use of the Objective Measure of Ego Identity Status in identity research, its psychometric properties require further validation, especially in non-Western contexts. Cultural norms, language variations, and socio-environmental factors may influence the validity and reliability of the instrument, raising concerns regarding measurement invariance (Santiago et al., 2022). A robust validation approach employing Rasch analysis can address these limitations by assessing item fit, identifying potential measurement biases, and ensuring the instrument's effectiveness across diverse populations (Brekke et al., 2022; Rodríguez-Grande et al., 2023). Therefore, applying the Rasch Model to evaluate the Objective Measure of Ego Identity Status offers a systematic means of refining its psychometric quality and enhancing its practical utility in identity research.

Previous studies on identity measurement have emphasized the need for psychometric evaluations that extend beyond classical test theory to incorporate advanced item response models. As a probabilistic measurement framework, the Rasch Model offers several advantages over traditional methods, including item-independent parameter estimation, control for response biases, and the ability to facilitate meaningful comparisons across respondent groups (Stolt et al., 2021). Empirical evidence suggests that the application of Rasch analysis in psychological assessments enhances scale reliability and construct validity, ensuring that each item contributes meaningfully to the overall measurement construct (Santiago et al., 2022).

A key strength of Rasch modeling lies in its capacity to assess item fit statistics, differential item functioning (DIF), and person separation reliability critical factors in validating an instrument’s ability to differentiate among respondents with varying levels of the measured trait (Kim et al., 2023). Research in identity development has demonstrated that well-calibrated instruments enable researchers to detect meaningful patterns in identity formation and support more accurate assessments of individuals' identity status (Luck-Sikorski et al., 2021). The present study leverages these methodological advancements by applying Rasch analysis to examine the structural validity, rating scale effectiveness, and reliability indices of the adapted Objective Measure of Ego Identity Status among university students (Umar, 2021).

Historically, research on ego identity status has relied on traditional psychometric approaches that assume equal interval scaling and uniformity across respondents. However, recent studies have increasingly questioned these assumptions, emphasizing the need for modern psychometric evaluations to mitigate potential biases and inconsistencies in measurement (Nielsen et al., 2021; Yan & Pastore, 2022). Prior investigations have identified several limitations in self-report identity assessments, including issues with response category functioning, item redundancy, and variations in item interpretation across cultural contexts (Zhu et al., 2021). These concerns highlight the necessity of adopting advanced psychometric techniques such as Rasch modeling to enhance the accuracy and cross-cultural applicability of identity measures.

Despite the growing recognition of Rasch analysis in psychological research, limited studies have applied this methodology to ego identity status assessment, particularly in non-Western

populations. Most prior research has focused on validating identity measures using classical test theory, overlooking the insights that item response theory models offer in terms of item difficulty, person reliability, and rating scale effectiveness (Mendoza & Yan, 2021; Mohamed et al., 2021).This gap underscores the need for a Rasch-based validation of the adapted Objective Measure of Ego Identity Status to ensure its accuracy in capturing identity formation processes across diverse student populations.

The primary objective of this study is to evaluate the validity and reliability of the adapted Objective Measure of Ego Identity Status using the Rasch Model. Specifically, this research aims to (1) assess the structural validity of the instrument through item fit analysis, (2) examine the effectiveness of the rating scale in capturing variations in identity status, (3) determine item difficulty and person reliability indices, and (4) identify potential areas for improving the instrument's measurement properties.

This study's novelty lies in its application of Rasch analysis to a widely used identity assessment tool, offering a methodological advancement in ego identity status measurement. By integrating a contemporary psychometric framework, this research addresses limitations inherent in traditional assessment approaches and contributes to the ongoing refinement of identity measurement practices. Moreover, this study extends the applicability of the Objective Measure of Ego Identity Status to broader cultural contexts, ensuring its relevance across diverse populations.

The scope of this research is confined to university students, a demographic in which identity formation is particularly salient. The findings hold implications for researchers, educators, and mental health professionals aiming to better understand and support students' identity development. Future research should explore cross-cultural validation and longitudinal assessments to further establish the instrument's robustness in various settings.

Study Aim and Hypothesis

Study Aim: This study aims to evaluate the validity and reliability of the adapted Objective Measure of Ego Identity Status (OMEIS) using the Rasch model. Hypothesis: The adapted OMEIS will demonstrate good psychometric properties, including acceptable item fit, Unidimensionality, and high person reliability, in accordance with Rasch model standards.

METHODS

Design

The research design used is cross-sectional in the context of a survey, which is employed to collect data at a single point in time from a sample drawn from a pre-determined population (Creswell, 2015). This study adopts a quantitative approach that supports the objective of validating the adaptation of a measurement instrument through the application of statistical analysis and the generalization of findings. The selection of a cross-sectional design for instrument validation research is reinforced by its efficiency in collecting a large amount of data necessary for conducting psychometric analysis.

Participants and Data Collection

The sample size in this study was determined based on the guidelines recommended for Rasch modeling, which suggest a minimum of 250 respondents to ensure stable item calibration (Linacre, 2016). Data collection was conducted using a structured questionnaire distributed online via Google Forms. The study sample consisted of 431 respondents, comprising 207 male and 224 female students. Based on semester levels, 270 students were from semesters 1 to 3, 99 students from semesters 4 to 6, and 62 students from semesters 7 to 14. Additionally, respondents were categorized based on their field of study, with 296 students from STEM programs (Science,

Technology, Engineering, and Mathematics) and 133 students from Social Humanities programs (Education, Social Sciences, Economics, Psychology, and Languages).

Table 1. Demographic Participants Research

Demographic Variable	Category	Frequency (N)	Percentage (%)
Gender	Male	207	48%
	Female	224	52%
	Semesters 1-3	270	62,6
	Semesters 4-6	99	23
	Semesters 7-14	62	14,4
	STEM Programs	296	68,7
	Social Humanities	133	30,8
Total		431	100

Instruments

The Objective Measure of Ego Identity Status, developed by (Bennion & Adams, 1986), was employed to assess individuals' ego identity status. While the original instrument is widely recognized, this study utilized an adapted version comprising 30 items to ensure cultural relevance and semantic equivalence within the Indonesian context. The adaptation process involved modifying specific item contexts to align with local socio-cultural norms, particularly regarding parental influence in career decision-making and the communal nature of social relationships, which differ from the individualistic orientation of the original Western scale.

The instrument evaluates identity development across four primary statuses with the following item distribution: Identity Achievement (7 items; 5 favorable, 2 unfavorable), Moratorium (8 items; 6 favorable, 2 unfavorable), Foreclosure (7 favorable items), and Diffusion (8 unfavorable items). To optimize measurement precision, respondents rated items on a modified 4-point Likert scale (4 = Strongly Agree, 3 = Agree, 2 = Disagree, 1 = Strongly Disagree). The elimination of the neutral category was intentional to prevent central tendency bias and aligns with best practices in Rasch modeling to ensure clear threshold distinctions between response categories (Boone et al., 2013).

Data Analysis

Data analysis was conducted using Rasch modeling, operated through the Winsteps statistical software (Linacre, 2016). The primary focus of the analysis was to evaluate item fit, person fit, rating scale functioning, dimensionality, and Wright map to establish the psychometric properties of the Objective Measure of Ego Identity Status instrument. Item fit and person fit were assessed using infit and outfit mean-square statistics, with values between 0.5 and 1.5 considered acceptable (Wright, 1977). Rating scale functioning was examined through category probability curves and threshold ordering (Linacre, 2002). Instrument reliability was measured using separation and reliability indices, with a separation value greater than 2.0 and reliability of 0.8 considered adequate (Fisher, 2007).

RESULTS AND DISCUSSION

Results

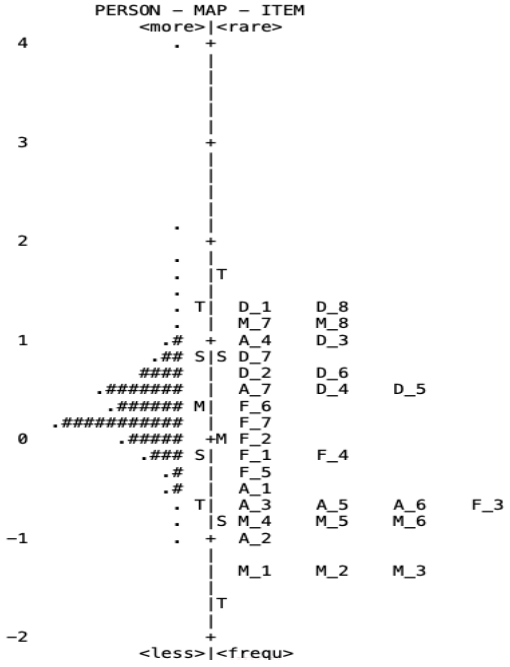
This study aims to validate the Objective Measure of Ego Identity Status, developed by (Bennion & Adams, 1986), using Rasch modeling. The validation process includes several stages to ensure the appropriateness and accuracy of the instrument in identifying the ego identity development of university students. In the first stage, as shown in Table 1, it was found that the response options on the rating scale indicated that respondents had no difficulty understanding the answer choices. This was evident from the Andrich Threshold values, which demonstrated

consistent progressivity, starting from none (-2.13), approaching neutral (-0.32), and reaching positive (2.44). According to Andrich (2016) guidelines, an increase in scores from negative to positive values indicates that respondents could clearly distinguish each response category, thereby supporting the construct validity of the rating scale used.

Table 1. Rating Scale Analysis for the Four Category of the Objective Measure of Ego Identity Status

Category Label	Observed Score (%)	Observed Average	Outfit MNSQ	Andrich Threshold	Category Measure	Category Name
1	763 (6)	-.44	1.28	None	(-.3.33)	Very Unsuitable
2	4075 (32)	-.28	.85	-2.13	-1.25	Not Suitable
3	6700 (52)	.58	.89	-.32	1.10	Suitable
4	1392 (11)	1.18	1.03	2.44	(3.59)	Very Suitable

The second stage involves utilizing the Wright Map to comprehensively visualize the relationship between respondents' abilities and the difficulty levels of items in the Objective Measure of Ego Identity Status. This map effectively illustrates the distribution of students' abilities and the extent to which the items measure ego identity development. The analysis results indicate that most respondents fall within a ±1 SD range, encompassing approximately 68% of the population, aligning with the criteria established by (Sumintono & Widhiarso, 2015). This distribution suggests a relatively normal spread of respondent abilities. Most items in the Objective Measure of Ego Identity Status are concentrated around 0 logit, with a range extending from -2 SD to +2 SD. However, certain items, such as D_1 and D_8, are positioned above +2 SD, indicating a higher level of difficulty compared to the majority of items. No extreme outliers were identified among respondents, suggesting that the instrument is well-suited to the characteristics of the tested population. Nevertheless, items with higher difficulty levels require further analysis to ensure their alignment with the measurement objectives and the average ability of respondents.



Picture 1. Wright Map

The third stage, item analysis, comprises two main components: item difficulty level (item measure) and item fit level (item fit). According to the analysis results presented in Table 2, the standard deviation of the item measure is 0.83. When mapped onto the logit scale, item difficulty levels can be categorized into distinct groups: difficult items (logit ≥ 0.0 + 1SD), very difficult items (logit > +1SD), easy items (logit ≤ 0.0 - 1SD), and very easy items (logit < -1SD) (Wright, 1977). The data reveal the logit values for each item, arranged from highest to lowest. The results identify four items—D_1, D_8, M_7, and M_8—as belonging to the very difficult category. Meanwhile, three items, M_2, M_1, and M_3, are classified as very easy.

Table 2. Item Difficulty Level (Item Measure)

Entry Number	Item	Total Score	Measure
9	D_1	904	1.35
16	D_8	907	1.33
7	M_7	925	1.24
8	M_8	953	1.10
11	D_3	982	.96
27	A_4	982	.96
15	D_7	1012	.80
14	D_6	1023	.75
10	D_2	1048	.62
30	A_7	1063	.54
13	D_5	1074	.48
12	D_4	1082	.44
22	F_6	1105	.31
23	F_7	1121	.23
18	F_2	1166	-.03
17	F_1	1177	-.09
20	F_4	1186	-14
21	F_5	1228	-.39
24	A_1	1256	-.56
26	A_3	1262	-.60
28	A_5	1270	-.65
29	A_6	1273	-.67
19	F_3	1277	-.70
6	M_6	1293	-.80
5	M_5	1294	-.81
4	M_4	1299	-.84
25	A_2	1313	-.93
3	M_3	1362	-1.25
1	M_1	1365	-1.27
2	M_2	1379	1.37
Deviation Standard = .83			

Based on the criteria established by (Bond & Fox, 2013) and Sumintono & Widhiarso (2015) the item fit level is determined by three parameters: the standard outfit MNSQ should fall within the range of 0.4 to 1.5, outfit ZSTD within -2.0 to +2.0, and point measure correlation (Pt Measure Corr) within 0.4 to 0.85. As shown in Table 3, some items require revisions in their statements. Although they do not fully meet one of the specified criteria, they can still be considered fit. These items include D_4, D_5, F_7, F_1, F_2, F_6, A_1, A_4, D_2, M_7, M_1, M_2, A_6, M_6, and M_3.

According to Sumintono & Widhiarso (2015), items that fail to meet only one of the three criteria can still be retained if they satisfy the remaining criteria. Therefore, no items exhibit a level of misfit that would require their elimination from the instrument for the Objective Measure of Ego Identity Status.

Table 3. Item Fit Level (Item Fit)

Item	Statement Indonesian	Statement English	Fit Statistics		
			Outfit MNSQ	Outfit ZSTD	PT-Measure Corr
D_4	*Saya tidak tertarik untuk mencari pekerjaan yang tepat, karena saya merasa pekerjaan apa pun akan berhasil.*	I am not interested in finding the right job, as I feel any job will do.	1.46	6.3	A.14
D_5	*Saya tidak punya teman dekat yang nyata dalam hal mendukung karierku, dan saya tidak berpikir untuk mencarinya sekarang.*	I do not have any real close friends to support my career, and I am not thinking of looking for them right now.	1.32	4.5	B.34
F_7	*Pandangan orang tua saya tentang hidup cukup baik untuk saya, dan merasa tidak membutuhkan yang lain.*	My parents' views on life are good enough for me, and I feel no need for anything else.	1.31	4.3	C.15
F_1	*Pandangan saya tentang peran laki-laki dan perempuan dalam berkarier identik dengan orang tua saya, apa yang berhasil untuk mereka jelas akan berhasil untuk saya.*	My views on the roles of men and women in careers are identical to my parents, what worked for them will obviously work for me.	1.30	3.9	D.13
F_2	*Saya mungkin memiliki banyak pekerjaan yang berbeda, tetapi tidak pernah ada pertanyaan dari orang disekitarku terkait itu.*	I might have many different jobs, but people around me never question it.	1.22	3.0	E.03
F_6	*Orang tua saya memutuskan sejak lama apa yang harus saya lakukan untuk pekerjaan, dan saya merasa harus mengikuti rencana mereka.*	My parents decided a long time ago what I should do for work, and I felt like I had to follow their plan.	1.21	3.0	F.16
A_1	*Saya merasa ada banyak alasan untuk berteman, tetapi saya memilih teman dekat berdasarkan nilai dan kesamaan tertentu yang telah diputuskan secara pribadi dalam proses mencapai karier.*	I feel there are many reasons for making friends, but I choose close friends based on certain values and similarities I have personally decided upon in the process of achieving a career.	1.20	2.6	G.23
A_4	*Saya lelah dengan banyak pertemanan yang berbeda dan bagaimana saya memiliki*	I'm tired of having so many different friendships and how I have a clear idea of	1.18	2.8	H.15

	gagasan yang jelas tentang apa yang saya cari dari seorang teman.	what I'm looking for in a friend.			
D_2	*Bagi saya, rasanya tidak ada satu gaya hidup yang lebih menarik dari yang lain.*	For me, I don't think there is one lifestyle that is more attractive than another.	1.16	2.4	I.32
M_8	*Saya benar-benar tidak tahu jenis pertemanan seperti apa yang terbaik untuk saya dan masih mencoba untuk mencari tahu apa arti teman dalam mendukung karier yang diimpikan.*	I really don't know what type of friendship is best for me and am still trying to figure out what friends mean in supporting my dream career.	1.09	1.5	J.36
A_7	*Saya tidak bisa melihat apa "sesuatu yang lebih baik" bagi saya dalam berkarier.*	I cannot see what "something better" would be for me in a career.	1.09	1.4	K.41
D_3	*Saya tidak pernah benar-benar serius mempertimbangkan peran laki-laki dan perempuan dalam mencapai karier yang diinginkan.*	I have never seriously considered the roles of men and women in achieving a desired career.	1.08	1.3	L.27
F_3	*Orang tua saya mengetahui apa yang terbaik untuk saya dalam hal bagaimana memilih karier.*	My parents know what is best for me regarding how to choose a career.	1.05	.7	M.37
F_5	*Pandangan saya tentang gaya hidup yang diinginkan dan diajarkan kepada saya oleh orang tua saya tidak perlu saya pertanyakan lagi.*	My views on the lifestyle that my parents wanted and taught me are no longer in question.	1.04	.6	N.30
F_4	*Pandangan saya tentang peran laki-laki dan perempuan datang langsung dari orang tua saya.*	My views on the roles of men and women come directly from my parents.	1.04	.6	O.24
D_6	*Saya tidak melihat kebutuhan untuk mencari kegiatan tertentu untuk dilakukan secara teratur.*	I do not see the need to find specific activities to do regularly.	1.03	.4	o.30
D_7	*Saya mengira hanya menikmati hidup secara umum, dan tidak melihat diri saya hidup dengan sudut pandang tertentu terhadap kehidupan.*	I guess I just enjoy life in general, and do not see myself living with a specific outlook on life.	1.01	.1	n.29
M_5	*Saya terlibat dalam banyak diskusi dengan orang lain dan beberapa kali melakukan eksplorasi diri untuk menemukan sudut pandang yang dapat diterima untuk*	I engaged in many discussions with others and did some self-exploration to find an acceptable perspective to live life while pursuing a career.	.96	-.5	m.29

	menjalani kehidupan ketika berkarier.				
M_4	*Saya mencari perspektif yang dapat diterima untuk gaya hidup saya sendiri, tetapi saya belum benar-benar menemukannya.*	I am looking for an acceptable perspective for my own lifestyle, but I haven't really found it yet.	.94	-.9	l.14
D_8	*Saya tidak terlalu memikirkan pendapat tentang peran laki-laki dan perempuan dalam hal berkarier yang tampak sangat bervariasi.*	I do not think much about opinions regarding men's and women's roles in careers, which seem very varied.	.90	-1.7	k.17
D_1	*Saya belum memilih pekerjaan yang benar-benar ingin saya masuki, dan saya hanya mengerjakan apa pun yang tersedia sampai sesuatu yang lebih baik datang.*	I haven't chosen the job I really want to enter, and I'm just doing whatever is available until something better comes along.	.88	-2.0	j.42
M_7	*Saya merasa tidak bisa memutuskan dan masih begitu banyak kemungkinan-kemungkinan yang harus dilakukan dalam menjalani suatu karier.*	I feel unable to decide and that there are still so many possibilities to pursue in a career.	.87	-2.2	i.31
A_3	*Saya membutuhkan waktu beberapa saat untuk mengetahuinya, dan sekarang saya benar-benar tahu apa yang diinginkan dalam berkarier.*	It took me a while to figure it out, and now I really know what I want in a career.	.87	-1.9	h.40
M_1	*Saya masih meninjau banyak kemungkinan untuk menemukan teman yang tepat untuk saya terutama dalam berkarier.*	I am still reviewing many possibilities to find the right friends for me, especially regarding career.	.84	-2.5	g.30
M_2	*Saya masih mencoba untuk memutuskan seberapa kemampuan yang saya miliki, dan pekerjaan apa yang cocok kedepannya.*	I am still trying to decide how much ability I have, and what job suits me in the future.	.77	-3.7	f.22
A_5	*Butuh waktu lama untuk memutuskan, tetapi saya sudah mengetahui secara pasti kearah mana saya harus bergerak untuk berkarier.*	It took a long time to decide, but I now know for sure which direction I should move in for my career.	.76	-3.6	e.45
A_6	*Setelah banyak pemeriksaan, diri saya telah menetapkan pandangan yang sangat pasti*	After much self-examination, I have established a very definite	.72	-4.2	d.38

	tentang seperti apa gaya hidup saya nantinya.	view of what my lifestyle will be like.			
M_6	*Saya telah memikirkan tentang peran yang banyak dilakukan ketika berkarier dan saya mencoba untuk membuat keputusan akhir.*	I have been thinking about the roles played in careers and am trying to make a final decision.	.64	-5.7	c.37
A_2	*Setelah berpikir cukup lama saya telah mengembangkan sudut pandang pribadi saya sendiri tentang gaya hidup yang ideal terutama dalam karier.*	After thinking for quite a long time, I have developed my own personal viewpoint on an ideal lifestyle, especially in a career.	.62	-6.0	b.42
M_3	*Saya mencoba memutuskan apa yang akan berhasil untuk saya ketika menjalani karier kedepannya, dan merasa ada begitu banyak cara untuk membagi tanggung jawab dalam hal itu.*	I am trying to decide what will work for me in my future career and feel there are so many ways to divide responsibilities in that regard.	.61	-6.5	a.33

Based on the results in Table 4, the reliability analysis shows that person reliability is 0.63, which falls into the weak category (< 0.67), indicating a low level of measurement consistency for respondents. However, item reliability is 0.99, which is classified as excellent (> 0.94). The person separation value of 1.31 suggests that the instrument has limited ability to differentiate respondents with varying levels of ability. This indicates the need for improvement in respondent separation to enhance the instrument's sensitivity in identifying variations in ability. In contrast, the item separation value of 10.89 demonstrates that the instrument is highly effective in distinguishing item difficulty levels, with a significant range between easier and more difficult items.

Table 4. Summary Statistic

	Person	Item
N	431	30
Mean	80.2	1152.7
SD	5.5	146.4
Separation	1.31	10.89
Reliability	.63	.99

The results from Table 5 indicate that the dimensionality of this model shows a raw variance explained by measures of 26.9% and a raw variance explained by items of 23.6%. These values fall within the 20% to 40% range, which is considered adequate according to Rasch model criteria (Andrich, 2016). Although this model does not achieve a higher quality level (above 40%) or an exceptional level (above 60%), the results indicate that it meets the standard for reasonably well-explained variance in measurement.

Table 5. Dimensionality

			Empirical		Modeled
Total raw variance in observations	=	41.1	100.0%		100.0%
Raw variance explained by measures	=	11.1	26.9%		26.9%
Raw variance explained by person	=	1.4	3.3%		3.3%
Raw variance explained by items	=	9.7	23.6%		23.5%
Raw Unexplained variance (total)	=	30.0	73.1%	100.0%	73.1%

The sense of identity develops over time through three approaches, encompassing self-concept formation, self-esteem, self-image, and an individual's understanding of their identity, origins, and life purpose (Hasan, 2023). Ego identity serves as a fundamental aspect of individual development, enabling a person to explore, construct, and validate their identity over time. During this process, individuals engage in several core domains, including work and career, ideology and worldview, and romantic relationships (Maree, 2022). Additionally, ego identity is shaped by internal factors such as self-reflection and self-efficacy (Jeon & Sun Myong, 2024; Sinring &Umar, 2021), as well as external influences like social support and the educational environment (Good & Adams, 2008; Sinring et al., 2022).

Measuring ego identity is crucial for understanding how students construct and develop their self-concept across various life aspects. In this study, the Objective Measure of Ego Identity Status, developed by (Bennion & Adams, 1986), was validated using Rasch modeling to ensure its alignment with respondent characteristics and its effectiveness in measuring ego identity among college students. This validation process involved analyzing response structure, item difficulty levels, and instrument reliability, all of which play a key role in assessing the extent to which the instrument differentiates individuals based on their ego identity development (Bond & Fox, 2013).

The measurement of ego identity in this study is based on Marcia (1966) Identity Status Theory, which classifies individuals into four categories: 1) Achieved Identity – Individuals who have explored various options and made firm decisions regarding their values, beliefs, and social roles. 2) Moratorium – Individuals who are actively exploring but have not yet reached final decisions. 3) Foreclosed Identity – Individuals who have made commitments without adequate exploration, often influenced by social or familial expectations. 4) Diffused Identity – Individuals who exhibit neither commitment nor exploration in determining their life direction.

The Rasch modeling applied to the Objective Measure of Ego Identity Status confirms that the response structure analysis supports the validity of the rating scale used in the adapted version of the instrument, as evidenced by a consistently increasing Andrich Threshold distribution (Andrich, 2016). This finding aligns with previous research indicating that the use of rating scales with clear response categories enhances measurement accuracy in psychological assessments (Wilson, 2023). Furthermore, the Wright Map distribution of respondents demonstrates that the instrument captures a wide range of abilities, although some items exhibit higher difficulty levels than others. This highlights the need for further evaluation of items that may not adequately represent ego identity within the target population of college students.

Additionally, item difficulty analysis indicates that most items align with the tested population, though some items are more difficult than expected. These high-difficulty items reflect aspects of exploration and commitment that are more complex within ego identity (Branje et al., 2021), and may be challenging for some respondents, particularly those still in the moratorium stage (Vankerckhoven et al., 2023). This finding is consistent with research suggesting that environmental factors and social support play a significant role in shaping identity exploration and formation (Haslam et al., 2021; Zhu et al., 2021). While difficult items are necessary to capture the complexity of ego identity, revisions should be considered for items with exceptionally high difficulty levels to ensure the instrument remains representative of all respondent groups.

The item reliability is categorized as excellent, but person reliability requires improvement to reach the same standard. This suggests that while the instrument effectively measures item difficulty, it is not yet fully optimized for distinguishing individuals with varying abilities. This limitation may stem from a lack of variation in the tested population (Tavakol & Dennick, 2011; Tornabene et al., 2018). Previous research indicates that enhancing person reliability can be achieved by balancing item difficulty levels and ensuring that all aspects of identity status are proportionally represented (Berg, 1992). Therefore, improving person reliability involves not only refining the instrument but also ensuring a diverse and representative sample, enabling the instrument to more effectively differentiate individuals based on their ego identity development.

Implications

The findings of this study underscore the practical utility of the adapted Objective Measure of Ego Identity Status (OMEIS) as a robust tool for assessing ego identity development among university students, particularly in non-Western contexts. By validating the instrument through Rasch analysis, this research provides counselors, educators, and mental health professionals with a psychometrically sound measure to evaluate identity formation, enabling targeted interventions to support students navigating critical developmental stages. The high item reliability (0.99) confirms the instrument's precision in measuring identity constructs, while the identified item difficulty levels offer insights into refining questions to better capture complex aspects of identity exploration and commitment. These implications extend to educational settings, where the tool can inform curriculum design and counseling strategies tailored to students' identity-related challenges, ultimately fostering healthier psychological development and career decision-making (Umar, 2021).

Limitations and Further Research

Despite its contributions, this study has limitations, including a sample restricted to Indonesian university students, which may limit the generalizability of findings to other cultural or age groups. The modest person reliability (0.63) suggests the need for instrument refinement to enhance its sensitivity in distinguishing individual differences. Future research should expand cross-cultural validation to diverse populations and incorporate longitudinal designs to assess the instrument's stability over time. Additionally, exploring external factors (e.g., social support, academic pressures) that influence identity formation could provide a more holistic understanding of ego identity development, further strengthening the OMEIS's applicability in both research and practice.

CONCLUSION

Overall, the findings of this study confirm that the adaptation of the Objective Measure of Ego Identity Status is a valid and reliable instrument for assessing ego identity status among university students. However, refinements are necessary to enhance its applicability across diverse cultural and educational contexts. Given the significance of ego identity in individual development, this instrument can serve as a valuable assessment tool for counselors, educators, and researchers in understanding the dynamics of student identity formation. The implications of this study emphasize the need for a more comprehensive approach to assessing ego identity by incorporating contextual factors such as social support and academic experiences, which influence exploration and commitment. Future research should focus on examining the cross-cultural validity of the Objective Measure of Ego Identity Status and investigating external factors contributing to ego identity development in a broader population**.**

AUTHOR CONTRIBUTIONS STATEMENT

All authors contributed to the preparation, data analysis, and data collection of the research.

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