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Indonesian Adaptation and Validation of the Inventory of Romantic Relationship Competence among Emerging Adults

Nasma Sania*, Pradipta Christy Pratiwi

Department of Psychology, Universitas Negeri Semarang, Indonesia

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Corresponding Author:

nasmasan@students.unnes.ac.id

ABSTRACT

This study aimed to adapt and evaluate the psychometric properties of the Inventory of Romantic Relationship Competence (IRRC) within the Indonesian context. The IRRC is designed to assess romantic relationship competence among emerging adults across seven key dimensions. The adaptation process followed the International Test Commission guidelines, which included forward translation, backward translation, expert-based content validity assessment, and readability testing. A total of 406 undergraduate students aged 18–25 participated in this study, recruited through convenience sampling. Data were analyzed using Confirmatory Factor Analysis (CFA) with the WLSMV estimator to examine the factor structure, model fit, and reliability. In addition, network analysis using a Gaussian Graphical Model (GGM) with EBICglasso estimation was conducted to explore direct associations among IRRC items. The results indicated that the initial model (IRRC-35) demonstrated an acceptable level of fit. However, one reverse-scored item within the conflict resolution skills dimension had a low, negative factor loading and was therefore removed. The modified model (IRRC-34) exhibited improved fit indices (SRMR, RMSEA, CFI), particularly the TLI, which fell within the acceptable range. Reliability analysis using Cronbach's Alpha (α) and McDonald's Omega (ω) indicated adequate internal consistency, with overall values exceeding the recommended minimum thresholds. Furthermore, network analysis showed that the Perspective Taking and Conflict Resolution Skills dimensions had relatively higher connectivity and centrality within the network. These findings suggest that the Indonesian version of the IRRC has a relatively stable factor structure and is reliable in assessing romantic relationship competence among university students. However, this study is limited by the use of non-probability sampling and a relatively homogeneous sample. Therefore, further research is needed to examine the model's generalizability across more diverse populations. Overall, the Indonesian version of the IRRC appears promising as a valid and reliable instrument for research on romantic relationships in Indonesia.

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■ INTRODUCTION

Romantic relationships represent a vital aspect of human life. In Indonesia, romantic relationships take many forms, ranging from relationships without status (locally known as HTS) to short-term or committed dating, to marriage-oriented connections such as engagements and marriages. The Central Statistics (BPS) identifies romantic relationships through marriage and divorce data. Data from BPS (2025b) indicates that the marriage rate in Indonesia in 2024 reached its lowest point in the last decade (2014–2024), declining from 2,110,776 marriages in 2014 to 1,478,302 in 2024. Additionally, BPS recorded that 69.75% of Indonesian youth aged 16–30 are single, 29.10% are married, and 1.15% are divorced or widowed (GoodStats, 2025). The declining trend in marriages and the increasing number of single youth indicate shifting preferences and dynamics in the romantic relationship status of Indonesian youth. These changes necessitate a psychological understanding of the factors that individuals in Indonesia need to build and manage romantic relationships adaptively.

Conversely, the overall divorce rate in Indonesia remains relatively high. The Central Statistics (2025a) shows that in 2024, the primary cause of divorce was "constant

disputes and quarrels within the relationship," accounting for 251,125 of the 399,921 divorce cases. Other factors potentially linked to romantic relationship competence include "desertion by one party" (31,265 cases), "domestic violence" (7,243 cases), and "infidelity or adultery" (1,005 cases). The high divorce rate and its underlying causes suggest that many couples in Indonesia still face difficulties in maintaining relationships and lack adequate competence to navigate challenges and manage conflict to keep their romantic relationships healthy.

To build and maintain relationships effectively, individuals require social competence, encompassing a range of interpersonal skills across relational contexts, including friendships, professional relationships, and romantic partnerships (Buhrmester et al., 1988). Over time, scholars have increasingly examined social competence within romantic contexts, leading to the development of the concept of romantic relationship competence (Bouchey, 2007; Davila et al., 2007; Davila et al., 2017). The present study adopts the theoretical framework proposed by Davila et al. (2009), which conceptualizes romantic competence as an integration of three major perspectives: social-cognitive models of interpersonal problem solving, attachment theory, and emotion regulation models. This integrated approach aligns with broader definitions of social competence as effectiveness in interactions involving both the self and others (Rose-Krasnor, 1997).

From a social-cognitive perspective, the way individuals interpret and respond to interpersonal situations plays a central role in romantic relationships. This includes understanding social contexts, considering both partners' needs, and engaging in perspective-taking (Davila et al., 2009). Such processes are closely related to the concept of *mutuality*, defined as the capacity to respond to a partner in a reciprocal and attuned manner. Interpersonal problem-solving within this framework emphasizes pursuing fair, mutually beneficial solutions when conflicts arise.

Attachment theory (Bowlby, 1969; Hazan & Shaver, 1987) provides a developmental lens for understanding emotional dynamics in romantic relationships. Early attachment experiences shape internal working models of the self and others, which in turn influence expectations, trust, and emotional responses in adult relationships (Mikulincer & Shaver, 2007; Brandão et al., 2020). Building on this framework, Davila et al. (2009) highlight three key capacities: the ability to reflect on oneself and one's partner, the capacity to balance intimacy and autonomy, and the ability to regulate oneself in the face of relational stress while maintaining self-worth and trust in others.

In addition, emotion regulation models emphasize the importance of managing and expressing emotions flexibly and in context-appropriate ways (Gross, 1998; Davila et al., 2009). Effective emotion regulation enables individuals to communicate their feelings and needs without undermining the relationship. Empirical findings suggest that adaptive emotion regulation is associated with higher relationship quality, including greater satisfaction, stronger commitment, and more constructive conflict resolution (Fávero et al., 2021).

Taken together, romantic relationship competence can be conceptualized as an integration of cognitive capacities for understanding interpersonal situations, attachment-based relational patterns, and adaptive emotion regulation abilities. These competencies play a crucial role in shaping how romantic relationships form, are maintained, and are navigated in both healthy and dysfunctional contexts. Understanding romantic competence is therefore essential for promoting successful relationships across developmental stages, as it helps individuals manage relational challenges, prevent dysfunction, and foster healthy connections (Davila et al., 2009; Davila et al., 2017).

As interest in romantic competence has grown, several instruments have been developed to assess it (Bouchey, 2007; Davila et al., 2009; Davila et al., 2017; Faber et al., 2019). One early contribution is the Romantic Self-Concept Questionnaire (RSC-Q; Bouchey, 2007), a 22-item self-report measure focusing on adolescents' perceptions of their romantic competence. However, this instrument has been criticized for its ambiguous factor structure and its relatively narrow focus on specific aspects of romantic self-concept, such as feeling desired, accepted, valued, and useful, which may not fully capture the experiences of emerging adults with diverse dating backgrounds (Faber et al., 2019). Alternatively, research by Davila et al. (2009) on romantic competence produced semi-structured interviews, the Romantic Competence Interview (RCI) for adolescents, and subsequently the Romantic Competence Interview for Emerging Adults (RCI-EA) (Davila et al., 2017), which allows for in-depth exploration of individuals' thoughts and relational strategies. Despite its strengths, the semi-structured interview format is time-

intensive and susceptible to potential biases (Creswell, 2015).

To address these limitations, Faber et al. (2019) developed the Interpersonal Romantic Relationship Competence Inventory (IRRC), which integrates previous conceptual models into a more efficient self-report format. The IRRC assesses seven dimensions: relationship locus of control, perspective-taking, romantic appeal, avoidance of intimacy, emotion regulation, temperament, and conflict-resolution skills. Initial validation studies demonstrated satisfactory internal consistency and strong construct validity, supported by both exploratory and confirmatory factor analyses.

However, most existing measures of romantic competence, including the IRRC, were developed in Western cultural contexts that emphasize individualism. This raises concerns regarding their cross-cultural applicability, particularly in societies such as Indonesia, where collectivistic values remain prominent. In collectivist cultures, romantic relationships are not purely private matters but are often shaped by social norms, family expectations, and community influences. Expressions of romantic involvement tend to be guided more by social expectations than by individual preferences, as collectivist values prioritize group harmony over personal desires (Bejanyan et al., 2015). These cultural differences may influence how individuals interpret and respond to items in instruments developed within Western frameworks.

Thus, the research gap extends beyond methodological limitations or the availability of measurement tools. It also requires ensuring that the conceptualization and measurement of romantic competence are culturally appropriate. To date, no formal adaptation of the IRRC has been conducted in the Indonesian context, and studies on romantic competence remain limited, partly due to the lack of validated instruments in Indonesian. Therefore, instrument adaptation must go beyond linguistic translation to include rigorous evaluation of psychometric properties and cultural relevance.

Based on these considerations, the present study aims to adapt the IRRC developed by Faber et al. (2019) into an Indonesian version and to evaluate its psychometric properties. The adapted instrument is expected to contribute to the literature on relationship psychology in Indonesia and to support future research, as well as the development of more culturally grounded interventions to improve relationship functioning, prevent persistent conflict, and enhance romantic well-being. The study addresses the following research questions:

1. Does the Indonesian version of the IRRC model demonstrate an acceptable model fit?
2. What are the validity and reliability profiles of the adapted Indonesian IRRC?

■ METHOD

Population & Sample

Sampling for the trial was conducted using convenience sampling. The sample criteria were undergraduate students aged 18-25 years who were included in the emerging adulthood group. Emerging adulthood is the stage when individuals begin entering romantic relationships and consider building long-term connections (Arnett, 2000).

The use of convenience sampling was based on practical considerations, such as ease of access and efficiency in large-scale online data collection. Although this technique has limitations in terms of generalizability, it was employed because the study's primary focus was to confirm the factor structure and internal consistency rather than to produce population estimates. This approach is consistent with instrument development and validation research, in which factor analysis is used to confirm latent constructs underlying observed variables, such as items in a measurement instrument (Worthington et al., 2006).

Nevertheless, this approach may introduce sampling bias and limit the representativeness of the broader Indonesian population. To mitigate these limitations, participants were recruited from various regions across Indonesia through multiple online platforms, and clear inclusion criteria were established to ensure the sample's relevance to the study objectives. A relatively large sample size was also employed to enhance the stability of parameter estimates in confirmatory factor analysis (CFA).

The sample size was determined based on several rules, specifically Nunnally's guideline (as cited in Azwar, 2021), which states that 5-10 times the quantity of instrument items to be analyzed, as well as a minimum of $\geq$ 100-200 samples, to meet the recommended CFA testing requirements (Brown, 2015). With 35 IRRC items, the researcher targeted at least 350 participants. The questionnaire was distributed via Instagram, WhatsApp, Twitter, and Telegram. Data collection for the trial was conducted in November 2025. This process included informed consent, a voluntary agreement, and ensuring that participants could continue or withdraw at any time. The questionnaire distribution was anonymous, data confidentiality was guaranteed, and the data were used solely for research purposes. A total

of 441 participant responses were collected. The researcher removed unsuitable data, leaving 406 responses for subsequent CFA testing in JASP version 0.95.4.

Research Design

This study employed a quantitative approach, using an online survey administered via Google Forms to target undergraduate students in Indonesia aged 18-25. There were two main stages in this research: the adaptation stage and the psychometric property testing stage of the Indonesian version of the instrument. This study followed the International Test Commission (2018) Guidelines for Translating and Adapting Tests. In the initial stage, the adaptation process began with an email request for permission from the original developers of the Inventory of Romantic Relationship Competence (IRRC), Faber et al. (2019). The researcher obtained permission to adapt from Tony Faber. The original instrument format was retrieved from the article "Measuring Romantic Competence in Young Adults: The Inventory of Romantic Relationship Competence," published in Interpersona: An International Journal on Personal Relationships in 2019.

Instruments

This study utilized the Inventory of Romantic Relationship Competence (IRRC) developed by Faber et al. (2019). The IRRC is a self-report instrument designed to assess young adults' perceptions of their romantic relationship competence, regardless of prior relationship experience. The instrument comprises 35 items, organized into seven dimensions (Table 1). Five of these dimensions (perspective-taking, intimacy avoidance, emotion regulation, temperament, and conflict-resolution skills) were identified in the existing literature as prerequisite skills for romantic relationships, independent of prior experience. The remaining two dimensions, "Romantic Appeal" and "Relationship Maintenance" (also referred to as "Relationship Locus of Control"), were incorporated from Bouchey's (2007) conceptual framework.

The IRRC was developed through two sequential studies among undergraduate students aged 18-25, involving Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). Furthermore, the IRRC has demonstrated robust validity and reliability (Faber et al., 2019). Participants respond using a 5-point Likert scale with the following alternatives: "never true", "not very often true", "sometimes true", "often true", "always true."

Data Analysis

Data analysis was conducted to examine the validity and reliability of the Indonesian version of the IRRC using Confirmatory Factor Analysis (CFA) with the weighted least square mean and variance-adjusted (WLSMV) estimator in JASP version 0.95.4. WLSMV was selected as the estimator because it is designed for ordinal Likert-scale data and is considered more accurate for estimating factor loadings in adaptation and CFA testing (Brauer et al., 2023; Li, 2016). CFA was employed to evaluate the instrument's psychometric properties, focusing on model fit indices, factor loadings, and reliability. Hu and Bentler (1999) recommend a two-index strategy, such as combining CFI or TLI with SRMR, or RMSEA with SRMR. According to published standards for interpreting fit indices, values of CFI $\geq$ 0.95, TLI $\geq$ 0.95, RMSEA $\leq$ 0.06, and SRMR $\leq$ 0.08 indicate a good model fit. Additionally, CFI $\geq$ 0.90 and TLI $\geq$ 0.90 indicate an acceptable fit. A standard factor loading value of $\geq$ 0.70 indicates a well-defined structure;$\geq$ 0.50 is considered practically significant; and $\geq$ 0.30–0.40 meets the minimum threshold (Hair et al., 2019).

Network analysis was conducted to examine the direct associations among IRRC items following the CFA. Network models are commonly used to understand the interactions among indicators of complex, potentially

Table 1. Distribution of IRRC Items Across Dimensions in the IRRC (item with (*) is a reverse score.)

Dimension	Item
Romantic Locus of Control	1, 2, 3, 4, 5, 6, 7, 8
Perspective Taking	9, 10, 11, 12, 13, 14
Romantic Appeal	15, 16, 17
Intimacy Avoidance	18, 19, 20, 21, 22
Emotion Regulation	23, 24, 25, 26
Temperament	27, 28, 29
Conflict Resolution Skills	30, 31, 32*, 33, 34, 35

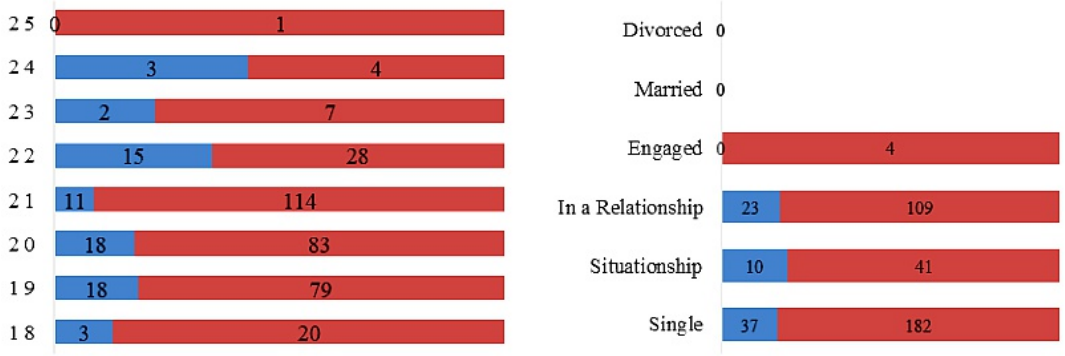

Figure 1. Demographic of participants (N = 406) based on (a) age distribution and (b) romantic relationship status by gender. Male and female are indicated by blue and read color, respectively.

multidimensional psychological variables (Epskamp, Waldorp, et al., 2018). In psychometric research, this approach provides a sparse representation of relationships among observed indicators and offers a perspective that complements latent variable modeling rather than replacing it (Epskamp et al., 2017). The network structure was estimated using a Gaussian Graphical Model (GGM) with the Extended Bayesian Information Criterion graphical least absolute shrinkage and selection operator (EBICglasso), which is recommended for producing sparse and interpretable psychological networks (Epskamp, Borsboom, et al., 2018). The analysis was performed in JASP using the default EBICglasso settings, with all items treated as scale variables. To evaluate the stability of edge estimation, a nonparametric bootstrap procedure with 1,000 iterations was conducted. The analysis produced a network visualization and centrality indices, including strength, closeness, betweenness, and expected influence. In the network visualization, thicker edges indicated stronger correlations, whereas edge colors represented positive and negative associations between indicators (Epskamp et al., 2012). Within the centrality plot, nodes with higher strength values were interpreted as components that maintained stronger connections with other nodes in the network (Opsahl et al., 2010; Borsboom & Cramer, 2013). Meanwhile, expected influence reflected a node's overall influence while retaining the direction of positive and negative associations, and nodes with higher strength and expected influence values were considered more central within the network structure (Robinaugh et al., 2016).

Reliability was assessed using Cronbach's Alpha (α) and McDonald's Omega (ω), where values of ≥ 0.70–0.80 indicate adequate internal consistency, and values in the range of ≥ 0.60–0.70 are considered the minimum acceptable threshold (Hair et al., 2019). Based on CFA, the extent to which all items in the instrument represent the construct of romantic relationship competence can be determined.

■ RESULT AND DISCUSSION

Demographic of Participants

The initial participants in this study numbered 441. After data screening, 406 participant responses met the criteria for analysis. Participants were affiliated with 32 public institutions (PTN) and 42 private institutions (PTS) in Indonesia, with the majority located on Java Island. All participants were undergraduate students in their odd semesters (1st, 3rd, 5th, 7th, 9th, and 11th). Most participants (92.4%) were from Java, with fewer from Sumatra, Kalimantan, Sulawesi, Bali, NTT, and Maluku. The average age of the participants was 20.3 years, with most aged 18–21 (Figure 1a). The female population comprised 82.8%. Most participants (98.8%) reported a heterosexual orientation. Based on relationship status, the majority of participants were single or currently dating, with fewer reporting situationships or being engaged; none reported being married or divorced (Figure 1b). In the last two years, the number of reported romantic relationships ranged from 0 to 8, with 47.5% of participants reporting at least one relationship.

Forward-Backward Translation

Based on the ITC (2018) guidelines, after obtaining permission for adaptation, the researcher conducted a forward translation from English into Indonesian using two translators. Translator 1 has a background in psychology, is proficient in English (evidenced by an IELTS score of 7.5), and is an Indonesian master's student currently studying in Australia. Translator 2 is a translation agency experienced in translating research instruments. Subsequently, both forward translation results (T1 and T2) were synthesized to produce a

synthesis draft (T12). The T12 synthesis draft was then sent to a different official translation agency from the previous one, without providing information about the original scale. The backward translation result (BT1) was synthesized into a draft (BT12). Furthermore, the second synthesis draft (BT12) underwent content validity testing by three expert judges, after which the pre-final draft from the content validity test was tested for readability before data collection. The result of translation is available in Supplementary Material.

Content Validity

The second synthesis draft (BT12) was evaluated for linguistic quality by one expert. This assessment utilized a 7-point scale to examine the comparability and similarity between the Indonesian translation and the source text. In this context, comparability pertains to the formal alignment of linguistic structures, including terminology, phrasing, and syntax. Meanwhile, similarity focuses on the conceptual equivalence of the sentences, ensuring the intended meaning remains intact regardless of lexical variations. The quantitative findings from this linguistic review were good, and the expert offered no additional qualitative notes.

Following the linguistic evaluation, a panel of experts was convened to investigate the instrument's content validity. This process determines the extent to which individual items accurately reflect the target construct (Haynes et al., 1995). Content validity was assessed by three psychology experts, who met the minimum standard for an expert panel, as defined by Lynn (1986). The three experts consisted of a psychometrics lecturer, a social psychology lecturer, and a psychologist who also serves as a clinical psychology lecturer. There were two expert assessment parameters: relevance and clarity.

The relevance parameter measures the extent to which an item is relevant to the construct being measured. Clarity measures how clearly an item can be understood. The experts provided ratings on a 4-point scale for relevance and clarity: 1 = item is not relevant and not clear; 2 = item is somewhat relevant and somewhat clear; 3 = item is quite relevant and quite clear; 4 = item is very relevant and very clear. In this study, the Content Validity Index (CVI) was used as a quantitative method to assess item suitability based on expert ratings. A quantitative assessment using the CVI evaluated the relevance aspect, while the clarity aspect and expert comments were analyzed qualitatively to support the item revision process. CVI measures the proportion of expert agreement regarding the relevance of instrument items (Lynn, 1986; Polit & Beck, 2006; Polit et al., 2007).

A quantitative evaluation was performed using the Content Validity Index (CVI) to determine how effectively each item represented the intended construct, with ratings on a 4-point scale (Polit & Beck, 2006; Zamanzadeh et al., 2015). To derive the I-CVI, ratings of 3 and 4 were recoded as 1, while scores of 1 and 2 were assigned a value of 0. Subsequently, the S-CVI was established by

Table 2. I-CVI based on expert judgments of item relevance for the IRRC

Item	Code	I-CVI Relevance	Item	Code	I-CVI Relevance
1	RLC1	1.00	19	IA2	1.00
2	RLC2	1.00	20	IA3	1.00
3	RLC3	1.00	21	IA4	1.00
4	RLC4	1.00	22	IA5	1.00
5	RLC5	1.00	23	ER1	1.00
6	RLC6	1.00	24	ER2	1.00
7	RLC7	1.00	25	ER3	1.00
8	**RLC8**	**0.67**	26	ER4	1.00
9	PT1	1.00	**27**	**TM1**	**0.67**
10	PT2	1.00	28	TM2	1.00
11	PT3	1.00	**29**	**TM3**	**0.67**
12	PT4	1.00	30	CRS1	1.00
13	PT5	1.00	31	CRS2	1.00
14	PT6	1.00	32	CRS3	1.00
15	RA1	1.00	33	CRS4	1.00
16	RA2	1.00	34	CRS5	1.00
17	RA3	1.00	35	CRS6	1.00
18	**IA1**	**0.67**			

Table 3. Standardized factor loadings from Confirmatory Factor Analysis (CFA) of the IRRC (IRRC-35 and IRRC-34)

Dimension	Code	Item	Factor loadings IRRC-35 (Std. estimate)	Factor loadings IRRC-34 (Std. estimate)
Romantic Locus of Control	RLC1	1	**0.665**	**0.664**
	RLC2	2	0.712	0.712
	RLC3	3	**0.726**	**0.728**
	RLC4	4	**0.748**	**0.749**
	RLC5	5	**0.635**	**0.634**
	RLC6	6	**0.588**	**0.587**
	RLC7	7	**0.621**	**0.620**
	RLC8	8	**0.736**	**0.737**
Perspective Taking	PT1	9	**0.608**	**0.605**
	PT2	10	**0.758**	**0.760**
	PT3	11	**0.684**	**0.688**
	PT4	12	**0.680**	**0.676**
	PT5	13	**0.565**	**0.571**
	PT6	14	**0.676**	**0.674**
Romantic Appeal	RA1	15	**0.681**	**0.683**
	RA2	16	0.792	0.792
	RA3	17	**0.695**	**0.694**
Intimacy Avoidance	IA1	18	**0.686**	**0.685**
	IA2	19	**0.732**	**0.733**
	IA3	20	**0.662**	**0.661**
	IA4	21	**0.648**	**0.649**
	IA5	22	0.591	0.591
Emotion Regulation	ER1	23	**0.732**	**0.730**
	ER2	24	**0.562**	**0.560**
	ER3	25	**0.849**	**0.850**
	ER4	26	**0.739**	**0.740**
Temperament	TM1	27	0.578	0.578
	TM2	28	**0.687**	**0.691**
	TM3	29	**0.706**	**0.701**
Conflict Resolution Skills	CRS1	30	**0.523**	**0.522**
	CRS2	31	0.558	0.558
	CRS3	**32**	**–0.345**	**Deleted**
	CRS4	33	**0.782**	**0.787**
	CRS5	34	**0.806**	**0.814**
	CRS6	35	**0.846**	**0.854**

calculating the mean of all individual I-CVI scores. The final S-CVI was obtained by aggregating the I-CVI results (Table 2) and dividing the sum by the total number of items. The S-CVI for the IRRC instrument's relevance parameter was 0.961. The I-CVI relevance scores are considered adequate if≥ 0.78 for a panel of three experts (Lynn, 1986). Several items that received an I-CVI of 0.67 were revised based on expert recommendations, resulting in the pre-final draft.

Readability

The pre-final draft of the scale was tested for readability online via Google Form among 23 undergraduate students who met the sample criteria (aged 18–25 years). Participants were asked to rate the clarity of each statement in the adapted questionnaire on a scale of 1 (very difficult to understand) to 4 (very easy to understand), with a comment column for each item and a general comment column for the entire instrument at the end of the form. Participants' feedback and suggestions informed the researcher's revisions. Overall, the quantitative results were good, and qualitatively, participants had no specific notes. The draft resulting from the readability test became the final adapted version of the Indonesian IRRC. In the next stage, a trial was conducted by collecting data from participants who met the criteria, followed by a CFA analysis in JASP.

Confirmatory Factor Analysis Results

In the CFA analysis, construct indicators were evaluated using factor loadings. The IRRC showed factor loadings ≥ 0.50, ranging

Table 4. Fit indices criteria according to Hu & Bentler (1999)

Category	Criteria	Cut off
Incremental fit	Comparative Fit Index (CFI)	CFI ≥ 0.95 ideal fit, CFI ≥ 0.90 acceptable fit
	Tucker-Lewis Index (TLI)	TLI ≥ 0.95 ideal fit, TLI ≥ 0.90 acceptable fit
Absolute fit	Root Mean Square Error of Approximation (RMSEA)	RMSEA ≤ 0.06 ideal fit, RMSEA ≤ 0.08 acceptable fit
	Standardized Root Mean Residual (SRMR)	SRMR ≤ 0.08 ideal fit, SRMR ≤ 0.10 acceptable fit

from 0.522 to 0.854, except for one item (number 32;-0.345), which is a reverse-worded item. After reverse scoring, this item showed a low, negative factor loading on the conflict resolution skills subscale (see Table 3); therefore, it was removed from the analysis.

To determine the model fit of the Indonesian IRRC, several statistical indicators were employed following the Confirmatory Factor Analysis (CFA) conducted via JASP (version 0.95.4). The evaluation focused on the CFI, TLI, RMSEA, and SRMR, which were used to further verify the model's structural integrity (Table 4).

The results of the CFA indicated that the Indonesian version of the IRRC-35 model met the criteria for an ideal fit regarding RMSEA and SRMR, achieved an acceptable fit for CFI, but showed only a marginal fit for TLI. Following the elimination of item 32 in the IRRC-34 model, both RMSEA and SRMR remained within the ideal fit range, while CFI and TLI reached acceptable fit levels. An improvement in model fit was observed across all indices; notably, the TLI improved from marginal to acceptable fit in the IRRC-34 model.

Network Analysis Results

The network analysis indicated that the IRRC network consisted of 34 nodes and 171 non-zero edges among 561 possible connections, yielding a sparsity of 0.695. This finding suggests that the estimated network was relatively sparse, retaining only the most meaningful associations among items. Visually, the items tended to cluster according to the IRRC's theoretical dimensions (see Figure 3). These clustering patterns provide additional support for the construct validity of the Indonesian adaptation of the IRRC. Blue edges indicate positive associations and orange edges indicate negative associations. Edge thickness represents the strength of the association, with thicker lines indicating stronger connections.

Based on the network visualization and centrality plot, the Perspective Taking and Conflict Resolution Skills dimensions showed stronger connectivity than the other dimensions. Several items within these dimensions also showed higher strength and expected influence values, suggesting that they occupied more central positions within the romantic relationship competence network (Robinaugh et al., 2016) (See Supplementary Files). These findings indicate that the ability to understand a partner's perspective and to effectively manage conflict may play an important role in maintaining the quality of romantic relationships. The predominance of positive associations among items further suggests that improvements in one relational competence tend to be associated with improvements in other relational competencies. Overall, the network approach provided complementary information regarding central items and inter-item relationships across dimensions of romantic relationship competence (Epskamp et al., 2017).

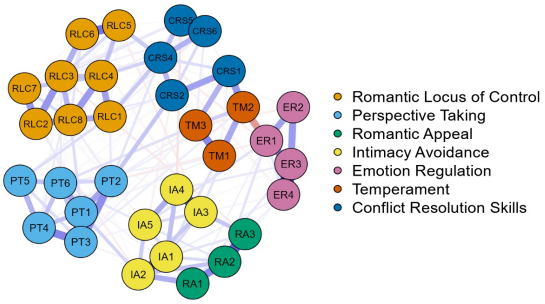

Figure 3. Network clould of IRRC-34 scale

Internal Consistency Reliability

The internal consistency of the instrument was evaluated using McDonald's Omega (ω)

Table 5. CFA Model Fit Results for IRRC-35 and IRRC-34

Model	CFI	TLI	RMSEA	SRMR
IRRC-35	0.901	0.891	0.059	0.068
IRRC-34	0.921	0.913	0.054	0.063

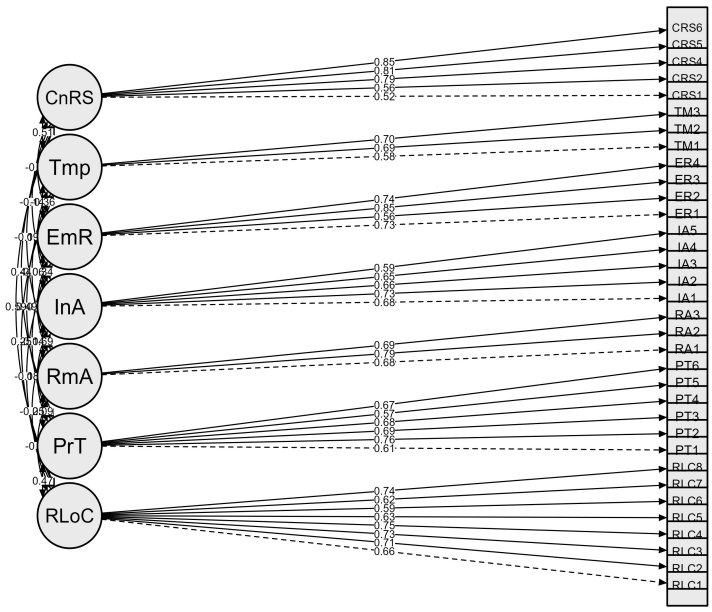

Figure 2. Standardized second-order CFA model of the IRRC-34 scale. CnRS = conflict resolution skills; Tmp = temperament; EmR = emotional regulation; InA = intimacy avoidance; RmA = romantic appeal; PrT = perspective taking; RLoc = relationship locus of control.

and Cronbach's Alpha (α). The results indicated that reliability coefficients ranged from 0.636 to 0.857. Most dimensions, with values ≥ 0.70–0.80, demonstrated adequate internal consistency, while two dimensions with values ≥ 0.60 met the minimum acceptable threshold. For the IRRC-35 version, the overall reliability scores were α = 0.753 and ω = 0.910. Meanwhile, the refined IRRC-34 version yielded α = 0.770 and ω = 0.879. As all subscales exceeded the 0.60 threshold, the instrument can be considered statistically reliable.

Interpretation of Measurement Model and Instrument Refinement

This study demonstrates that the seven-dimensional structure proposed by Faber et al. (2019)—comprising relationship locus of control, perspective-taking, romantic appeal, intimacy avoidance, emotion regulation, temperament, and conflict-resolution skills—can generally be replicated in the present sample. Most indicators showed adequate contributions to their respective constructs. However, the only reverse-worded item in the IRRC instrument within the conflict resolution skills dimension (item 32) showed a low, negative factor loading (−0.345) after reverse scoring, indicating that it did not meet the criteria for a representative indicator.

The results of the Confirmatory Factor Analysis (CFA) for the initial model (IRRC-35) indicated that several fit indices were in the good fit category (SRMR and RMSEA). At the same time, the Comparative Fit Index (CFI) fell within the acceptable range. In contrast, the Tucker-Lewis Index (TLI) remained at a marginal level. Following the removal of item 32, the revised IRRC-34 model showed an improvement in TLI to an acceptable level while maintaining the adequacy of the other fit

Table 6. Internal Consistency Reliability (α and ω) for the IRRC-35 and IRRC-34 Models Across Dimensions

Reliability	IRRC-35		IRRC-34	
	α	*ω*	*α*	*ω*
Overall IRRC	**0.753**	**0.910**	**0.770**	**0.879**
Romantic Locus of Control	0.843	0.857	0.843	0.857
Perspective Taking	0.768	**0.781**	0.768	**0.782**
Romantic Appeal	0.714	0.739	0.714	0.739
Intimacy Avoidance	0.751	0.791	0.751	0.791
Emotion Regulation	0.772	0.807	0.772	0.807
Temperament	0.646	**0.639**	0.646	**0.640**
Conflict Resolution Skills	**0.636**	**0.749**	**0.762**	**0.873**

indices. This improvement suggests that eliminating poorly performing indicators can enhance overall model fit, consistent with recommendations by Hair et al. (2019). Nevertheless, the fact that some indices remain within the acceptable range indicates that further refinement of the model is still warranted.

More specifically, the low factor loading observed for item 32 ("Saya cenderung menghindari pembahasan tentang isu-isu yang mungkin membuat orang lain kesal") can be understood not only from a statistical standpoint but also from conceptual and cultural perspectives. As a reverse-worded item, it may introduce ambiguity in interpretation and increase the likelihood of response bias. Previous studies have shown that reverse-worded items can create confusion and measurement error, thereby reducing internal consistency and compromising construct validity, particularly in cross-cultural settings (Van Sonderen et al., 2013; Wong et al., 2003). In addition, cultural context plays an important role in shaping response patterns. Markus and Kitayama (1991) argue that culture influences how individuals construe the self and social relationships, which in turn affects how they interpret questionnaire items. In collectivistic contexts, the tendency to prioritize group harmony over personal preferences may encourage individuals to avoid conflict, which ultimately influences how they respond to certain items (Bejanyan et al., 2015; Wang et al., 2008). Taken together, the poor performance of item 32 likely reflects a mismatch between the item's formulation and the respondents' cultural context, rather than a deficiency in the underlying construct itself. Therefore, the decision to remove the item was based on both statistical and theoretical considerations, resulting in improved model fit.

Furthermore, the network analysis complemented the CFA findings by showing that the IRRC structure was supported not only at the latent factor level but also by interconnected item interaction patterns, indicating that both approaches provide complementary information (Epskamp et al., 2017). In terms of reliability, both Cronbach's alpha (α) and McDonald's omega (ω) coefficients indicated adequate internal consistency across the models. These findings suggest that the Indonesian version of the IRRC-34 demonstrated satisfactory internal consistency within the present sample.

Limitations and Future Research

Several limitations of this study should be addressed. First, the application of convenience sampling restricts the extent to which these findings can be generalized to the entire population. Second, the participants were predominantly female, and the gender distribution was not balanced. Third, this study was conducted only with adaptation and CFA on an Indonesian undergraduate sample aged 18-25, as the primary objective was adaptation and initial CFA validation; thus, further modifications and invariance testing are left for future studies.

Recommendations for future research include: (1) re-testing with a more balanced ratio of female and male participants, (2) utilizing more robust sampling techniques and seeking a larger sample representative of the Indonesian population across a broader geographical scope, (3) re-conducting CFA to ensure items remain valid and all factor loadings meet standards while obtaining a more stable and optimal measurement model, and (4) performing Multi-GroupCFA to test for invariance across gender, ethnicity, and more diverse socioeconomic backgrounds once the items are stable and the model fit is achieved. These subsequent development stages are considered essential to establish the robustness, stability, and cross-cultural consistency of the instrument within the Indonesian context.

■ CONCLUSION

The findings of this study indicate that the Indonesian adaptation of the IRRC generally captures the multidimensional structure proposed by Faber et al. (2019) and demonstrates acceptable psychometric properties. The modified model (IRRC-34) derived from the CFA showed improved model fit after removing one item with a low factor loading. Overall, most indicators adequately represented their respective dimensions.

The network analysis further demonstrated that the Indonesian version of the IRRC exhibited connectivity patterns consistent with the original theoretical dimensions. Items within the Perspective Taking and Conflict Resolution Skills dimensions emerged as the most central components in the network structure, providing additional support for the IRRC's construct validity in the Indonesian cultural context.

Most dimensions also exhibited good to acceptable internal consistency, suggesting sufficient reliability. However, these results should be interpreted with caution due to the relatively homogeneous sample, which consisted of Indonesian undergraduate students aged 18–25, predominantly female, and of Javanese background. As such, the findings may not yet be generalizable to broader

populations.

From a theoretical perspective, this study provides empirical support for conceptualizing romantic relationship competence as a multidimensional construct within the Indonesian cultural context. Practically, the IRRC-34 has potential applications in higher education settings, particularly within counseling services or student development programs, to help identify individuals' strengths and areas for improvement in romantic competence. In addition, these findings may serve as a foundation for developing psychoeducational programs focused on emotion regulation, communication skills, and conflict resolution during emerging adulthood. Nevertheless, further research is needed to examine the stability of the measurement model across more diverse samples and to strengthen the instrument's psychometric robustness prior to broader implementation.

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■ DISCLOSURE OF GENERATIVE AI & AI-ASSISTED TECHNOLOGIES

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