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Loneliness in vietnamese and russian students: scale validation and cross-cultural comparisons

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Abstract

Context and relevance. *How loneliness is perceived, experienced, and expressed can vary significantly across cultures due to differences in social norms, values, and interpersonal expectations. Therefore, it is crucial to adapt measurement tools to reflect these cultural variations and ensure their relevance. In this regard, the De Jong Gierveld Loneliness Scale is a widely recognized tool for assessing loneliness. However, it requires cultural adaptation and validation to ensure it accurately measures loneliness in diverse cultural contexts.*

Objective. *The study aims to evaluate the psychometric properties of the De Jong Gierveld Loneliness Scale, specifically examining its factor structure, reliability, and measurement invariance among university students in Vietnam and Russia.*

Methods and materials. *A total of 242 Vietnamese and 216 Russian students completed the scale. Exploratory factor analysis and confirmatory factor analysis were conducted separately for each group to confirm the factor structure. Cronbach's alpha assessed reliability, and measurement invariance testing determined whether the scale functioned equivalently across cultures. Latent profile analysis identified loneliness subgroups within each sample.*

Results. *A two-factor structure (1) emotional loneliness and (2) social loneliness was confirmed in both groups. The scale showed configural ($CFI = 0,953$), metric ($\Delta CFI = 0,004$), and scalar invariance ($\Delta CFI = 0,005$) across groups, indicating measurement equivalence, though strict invariance was not supported ($\Delta CFI = 0,012$). Latent profile analysis revealed distinct loneliness profiles which is a demonstration of the scale's ability to differentiate groups with different characteristics. Reliability was acceptable ($\alpha_{\text{Vietnam}} = 0,78$; $\alpha_{\text{Russia}} = 0,84$).*

Conclusions. *The adapted scale demonstrated good psychometric properties in Vietnamese and Russian.*

Keywords: *De Jong Gierveld Loneliness Scale, cross-cultural validation, psychometric properties, vietnamese and russian students, emotional and social loneliness*

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Одиночество у вьетнамских и российских студентов: валидация шкалы и кросс-культурные сравнения

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Резюме

Контекст и актуальность. Способы восприятия, переживания и выражения одиночества могут существенно различаться в разных культурах из-за различий в социальных нормах, ценностях и межличностных ожиданиях. Поэтому крайне важно адаптировать инструменты измерения состояния одиночества с учетом этих культурных различий. Шкала одиночества Де Йонга Гирвельда является широко признанным инструментом для оценки этого состояния. Однако она требует культурной адаптации и валидации, чтобы обеспечить точное измерение состояния одиночества в различных культурных контекстах.

Цель. Оценка психометрических свойств шкалы одиночества Де Йонга Гирвельда, в частности, изучение ее факторной структуры, надежности и неизменности измерений среди студентов университетов Вьетнама и России.

Методы и материалы. В исследовании приняли участие 242 вьетнамских и 216 российских студентов, которые заполнили шкалу. Для подтверждения факторной структуры проводился отдельный исследовательский и подтверждающий факторный анализ для каждой группы. Надежность оценивалась с помощью альфа Кронбаха, а тестирование измерительной инвариантности позволило определить, функционирует ли шкала одинаково в разных культурах. Латентный профильный анализ выявил подгруппы одиночества в каждой выборке.

Результаты. В обеих группах была подтверждена двухфакторная структура: (1) эмоциональное одиночество и (2) социальное одиночество. Шкала продемонстрировала конфигурационную ($CFI = 0,953$), метрическую ($\Delta CFI = 0,004$) и скалярную инвариантность ($\Delta CFI = 0,005$) между группами, что указывает на эквивалентность измерений, однако строгая инвариантность не была поддержана ($\Delta CFI = 0,012$). Латентный профильный анализ выявил различные профили одиночества, демонстрируя способность шкалы различать группы с разными характеристиками. Надежность шкалы была удовлетворительной ($\alpha_{\text{Вьетнам}} = 0,78$; $\alpha_{\text{Россия}} = 0,84$).

Выводы. Адаптированная шкала показала хорошие психометрические свойства среди студентов Вьетнама и России.

Ключевые слова: Шкала одиночества Де Йонга Гирвельда, кросс-культурная валидация, психометрические свойства, студенты Вьетнама и России, эмоциональное и социальное одиночество

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Introduction

Loneliness is a common human experience in which one's focus shifts from engaging with the external world to an intense awareness of one's inner feelings of social disconnection. Although feelings of loneliness are a natural aspect of the human condition and can sometimes serve as a signal for the need to reconnect with others, they are not inherently detrimental to most people's lives (Barjaková et al., 2023; Hawkey, 2022; Slobodchikov, 2005). In many cases, the transient experience of loneliness can be adaptive, prompting individuals to seek out social interactions and strengthen interpersonal bonds (Archer Lee et al., 2022; Gabriel et al., 2021; Pham & Pecherkina). This adaptive role helps promote personal growth, emotional self-awareness, and the motivation to build meaningful relationships. However, when loneliness becomes chronic and unrelenting, it may interfere with daily functioning and overall well-being (Farrell et al., 2023; Hawkey, 2022). The pathological form of loneliness, characterized by persistent feelings of isolation and distress, was recognized as a significant public health concern in early research on social disconnection (Sheftel et al., 2024). People who experience chronic loneliness often struggle to maintain relationships, leading to feelings of exclusion and a lack of necessary emotional support (Christiansen et al., 2021). Scholars have noted that when loneliness becomes entrenched, it can lead to profound emotional suffering, diminished quality of life, and even impairments in cognitive and social functioning (Hawkey, 2022; Mansfield et al., 2021).

The literature on loneliness indicates that its underlying causes and manifestations are multifaceted. Various theoretical frame-

works — including cognitive discrepancy theory, evolutionary perspectives, and active theory — have been proposed to explain why some individuals experience prolonged loneliness despite an apparent desire for social connection (Le & Quang Dao, 2024; Leontiev, 1987; McCarthy et al., 2025). These theories underscore the interplay between personal dispositions and environmental factors in the emergence of chronic loneliness (McCarthy et al., 2025). Seminal work in the field revealed that the core of loneliness lies in the discrepancy between desired and actual levels of social interaction. Weiss (1973) first articulated the dual dimensions of loneliness — emotional and social — highlighting how deficits in intimate connections and broader social networks can jointly contribute to the overall experience of isolation. Building on this foundation, subsequent research has proposed that adverse interpersonal experiences, such as social rejection or the loss of significant relationships, can trigger and exacerbate feelings of loneliness (Fardghassemi & Joffe, 2022; Pham & Pecherkina, 2024; Wang et al., 2022). These negative experiences may lead individuals to withdraw further, creating a self-reinforcing cycle in which isolation deepens over time (Kirwan et al., 2025; Wu et al., 2024).

Studies have reported that individuals who suffer from prolonged loneliness frequently exhibit signs of emotional dysregulation, reduced cognitive functioning, and a heightened vulnerability to stress, all of which can further impair social interactions (Grover, 2022; Mansfield et al., 2021; Yoo-Jeong et al., 2021). Moreover, loneliness can establish a vicious cycle in which the discomfort associated with isolation leads to avoidance of social contact, thereby reinforcing the very state that the individual seeks to escape (Lawrence et al., 2022; Wu et al., 2024).

In response to the growing recognition of loneliness as a critical psychological construct, researchers have developed a variety of instruments aimed at its measurement. Among these, the De Jong Gierveld Loneliness Scale (6-item) has gained prominence due to its brevity and strong psychometric properties, making it an efficient tool for assessing both emotional and social dimensions of loneliness (De Jong Gierveld & Van Tilburg, 2010).

In Russia, the cultural context and rapid socio-economic changes have been shown to influence the experience of loneliness in unique ways. Research indicates that factors such as war, economic instability, social fragmentation, and changing family structures contribute significantly to feelings of isolation among Russian populations (Naumova & Glozman, 2021). This complex interplay between external pressures and individual perceptions underscores the need for culturally sensitive measurement tools that can accurately capture the multidimensional nature of loneliness within the Russian context. In contrast, in Vietnam, traditional family values and a strong sense of community may play a pivotal role in shaping experiences of loneliness (Thi, 2024). Despite a collectivist culture that generally may promote social integration, rapid urbanization and generational shifts have led to emerging patterns of perceived isolation, particularly among younger populations. These cultural characteristics suggest that the same loneliness measurement instrument might function differently across these contexts, highlighting the importance of a thorough adaptation process to ensure its validity and reliability.

Given these cultural distinctions, the present study aims to adapt and rigorously

test the psychometric properties of the De Jong Gierveld Loneliness Scale (6-item) in student samples from both Russia and Vietnam. By employing robust statistical techniques such as exploratory and confirmatory factor analyses, we intend to verify that the scale maintains its structural integrity and accurately reflects the dual dimensions of loneliness across these diverse cultural settings. This research is expected to yield a culturally sensitive instrument that can serve as a reliable foundation for future investigations and interventions targeting loneliness in varied sociocultural environments.

Materials and methods

Participants

Participants were selected using convenience sampling from universities in both Vietnam and Russia. Inclusion criteria required participants to be enrolled in higher education and between the ages of 18 and 25. The study sample consisted of 458 university students, including 216 from Russia and 242 from Vietnam. The Russian sample comprised 66,7% females and 33,3% males, with a mean age of 20,55 years ($SD = 2,37$).

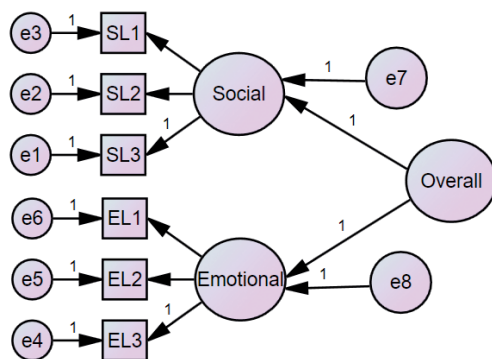


Fig. 1. Original Model of the Loneliness Scale

The Vietnamese sample included 48,8% females and 51,2% males, with a mean age of 20,57 years ($SD = 0,73$). Regarding year of study, most participants were in their second or third year in both countries, though the proportion of first-year students was notably lower in the Vietnamese sample (1,2%) compared to the Russian sample (14,4%) (Table 1).

Procedure

The adaptation process for the De Jong Gierveld Loneliness Scale (6-item) (De Jong Gierveld & Van Tilburg, 2010) followed a standardized procedure to ensure both semantic and conceptual equivalence across the Russian and Vietnamese versions, modeled after established guidelines (Beaton et al., 2000). Initially, the original English version of the scale was independently translated into Russian and Vietnamese by two bilingual translators for each language, whose native languages were Russian and Vietnamese, respectively. These forward translations were then merged into a single preliminary version for each language by the translators in collaboration with a project manager. Subsequently, the merged versions were independently backtranslated into English by two native English speakers fluent in Russian and Vietnamese. All translated versions were carefully reviewed by an expert committee consisting of a psychologist from each country.

Instrument

Loneliness was measured using the six-item version of the De Jong Gierveld Loneliness Scale, which assesses both emotional loneliness (three items) and social loneliness (three items). Each item is rated on a 4-point Likert scale, ranging from 1 (never) to 4 (al-

ways), with higher scores indicating greater loneliness. This shortened version has demonstrated good internal consistency and strong validity in various cultural contexts (De Jong Gierveld & Van Tilburg, 2010).

Data Analysis

Descriptive statistics were computed for all variables (in SPSS 22.0). Internal consistency was assessed using Cronbach's α , where values $> 0,70$ indicate satisfactory reliability (Izah et al., 2024). Corrected item-total correlations were calculated. Confirmatory factor analysis was conducted using diagonally weighted least squares estimation to assess the factor structure of the loneliness scale (in AMOS 16.0). The model fit was evaluated using comparative fit index ($CFI > 0,900$), Tucker–Lewis index ($TLI > 0,900$), root mean square error of approximation ($RMSEA < 0,08$), and standardized root mean square residual ($SRMR < 0,08$) (Ximénez et al., 2022). A two-tailed independent samples t-test with a 95% confidence level ($\alpha = 0,05$) was conducted to compare levels of loneliness between the Russian and Vietnamese participant groups. To assess the measurement invariance of the loneliness scale between Vietnamese and Russian student groups, a multi-group confirmatory factor analysis was conducted following a sequential approach. First, configural invariance was tested to examine whether the factorial structure was equivalent across groups. Next, metric invariance was assessed by constraining factor loadings to be equal between groups. Then, scalar invariance was evaluated by additionally constraining item intercepts to be equal. Finally, if appropriate, strict invariance was tested by constraining residual variances to equality. Model fit indices such as CFI,

TLI, RMSEA, and SRMR were examined at each step, and change in CFI ($\Delta CFI \leq 0,01$) was used to determine whether imposing constraints significantly worsened model fit (Tan & Pektaş, 2020). Meeting these criteria supports that the scale functions equivalently across groups, ensuring meaningful cross-group comparisons. Latent profile analysis was used to classify participants into distinct subgroups based on loneliness scores (in Jamovi). The optimal number of classes was determined using Akaike information criterion (AIC), Bayesian information criterion (BIC), and entropy. Lower AIC and BIC values indicated better model fit, while entropy values closer to 1 suggested high classification accuracy.

Results

A comparison between Vietnamese and Russian students revealed significant differences in emotional and social loneliness levels. Vietnamese students scored significantly higher in emotional loneliness ($M = 7,43$, $SD = 2,02$) than Russian students ($M = 6,43$, $SD = 2,23$, $p < 0,001$). Similarly, Vietnamese students also reported higher social loneliness scores ($M = 7,43$, $SD = 2,16$) compared to their Russian counterparts ($M = 6,84$, $SD = 2,40$, $p = 0,006$). The total loneliness score was also higher among Vietnamese students ($M = 14,86$, $SD = 3,47$) than Russian students ($M = 13,28$, $SD = 4,10$, $p < 0,001$) (Table 2).

Table 1

Sample Characteristics by Country

Variable	Russia ($n = 216$)	Vietnam ($n = 242$)
Sex		
– Female	144 (66,7%)	118 (48,8%)
– Male	72 (33,3%)	124 (51,2%)
Age	$M = 20,55$, $SD = 2,37$	$M = 20,57$, $SD = 0,73$
Year of Study		
– 1st year	31 (14,4%)	3 (1,2%)
– 2nd year	93 (43,1%)	129 (53,3%)
– 3rd year	65 (30,1%)	79 (32,6%)
– 4th year	27 (12,5%)	31 (12,8%)

Note: $N = 458$; $M_{\text{Age}} = 20,56$; $SD_{\text{Age}} = 1,71$.

Table 2

Descriptive Statistics and T-test Results for Study Variables and Indicators

Variable / Indicator	Vietnam*	Russia*	p
Emotional Loneliness	$7,43 \pm 2,02$	$6,43 \pm 2,23$	$<,001$
I experience a general sense of emptiness [EL]	$2,48 \pm 0,89$	$2,32 \pm 0,86$	$0,052$
I miss having people around me [EL]	$2,72 \pm 0,79$	$2,09 \pm 0,97$	$<,001$
I often feel rejected [EL]	$2,23 \pm 0,80$	$2,03 \pm 0,92$	$0,013$

Variable / Indicator	Vietnam*	Russia*	<i>p</i>
Social Loneliness	7,43 ± 2,16	6,84 ± 2,40	0,006
There are plenty of people I can rely on when I have problems [SL]	2,51 ± 0,84	2,31 ± 0,96	0,019
There are many people I can trust completely [SL]	2,57 ± 0,88	2,34 ± 0,90	0,007
There are enough people I feel close to [SL]	2,36 ± 0,83	2,19 ± 0,88	0,038
Overall Loneliness	14,86 ± 3,47	13,28 ± 4,10	<,001

Note: *N* = 458. *EL* = Emotional Loneliness. *SL* = Social Loneliness. T-test with 95% confidence intervals was applied. * = $M \pm SD$.

Table 3

Exploratory and Confirmatory Factor Analysis

Items	Viet Nam			Russia		
	Factor		% of Variance	Factor		% of Variance
	Social Loneliness	Emotional Loneliness		Social Loneliness	Emotional Loneliness	
<i>SL1</i>	0,82		48	0,69		37
<i>SL2</i>	0,85			0,93		
<i>SL3</i>	0,87			0,76		
<i>EL1</i>		0,81	22		0,46	35
<i>EL2</i>		0,89			0,43	
<i>EL3</i>		0,74			0,97	
Cronbach's Alpha	0,81	0,75		0,85	0,75	
Overall Cronbach's Alpha	0,78			0,84		
Factors' correlation	0,49***			0,48***		
χ^2	36			28		
<i>df</i>	8			8		
<i>p-value</i>	< 0,001			< 0,001		
<i>CFI</i>	0,942			0,964		
<i>TLI</i>	0,891			0,932		
<i>GFI</i>	0,956			0,960		
<i>SRMR</i>	0,048			0,044		
<i>RMSEA</i>	0,121			0,105		

Note. Extraction Method: Principal Component Analysis. ***, $p < 0,001$.

Exploratory and confirmatory factor analyses were performed separately for the Vietnamese and Russian student samples.

Both analyses supported a two-factor structure corresponding to social loneliness and emotional loneliness. In the Vietnamese

group, factor loadings for social loneliness items ranged from 0,82 to 0,87, explaining 48% of the variance, while emotional loneliness items had loadings between 0,74 and 0,89, accounting for an additional 22% of the variance. In the Russian group, social loneliness item loadings ranged from 0,69 to 0,93 (37% of the variance), and emotional loneliness item loadings ranged from 0,43 to 0,97 (35% of the variance) (Table 3).

Internal consistency was acceptable for both subscales, with Cronbach's alpha coefficients ranging from 0,75 to 0,85 across groups. The overall reliability of the scale was 0,78 in the Vietnamese sample and 0,84 in the Russian sample. The correlation between the two factors was moderate and significant in both groups (Vietnam: $r = 0,49$, $p < 0,001$; Russia: $r = 0,48$, $p < 0,001$), indicating related but distinct constructs.

Confirmatory factor analysis indicated a good model fit in both samples. In the Vietnamese sample, the fit indices were: $\chi^2(8) = 36$, $CFI = 0,942$, $TLI = 0,891$, $GFI = 0,956$, $SRMR = 0,048$, $RMSEA = 0,121$. In the Russian sample, $\chi^2(8) = 28$, $CFI = 0,964$, $TLI = 0,932$, $GFI = 0,960$, $SRMR = 0,044$, $RMSEA = 0,105$ (Table 3, Figure 2, and Figure 3).

The results of the measurement invariance testing are presented in Table 4. The

configural model demonstrated an acceptable fit ($\chi^2 = 63,06$, $df = 16$, $CFI = 0,953$, $RMSEA = 0,080$), indicating that the factor structure was similar across groups. The metric invariance model, in which factor loadings were constrained to be equal, also showed acceptable fit ($\Delta CFI = 0,004$), suggesting that the relationships between observed variables and their latent constructs were equivalent across groups. The scalar invariance model imposed additional constraints on item intercepts. Although there was a slight decline in model fit ($\Delta CFI = 0,005$), it remained within the acceptable threshold ($\Delta CFI \leq 0,01$) (Tan & Pektaş, 2020), indicating that participants from different groups interpreted the items similarly in terms of level. However, when testing the strict invariance model the model fit deteriorated more notably ($\Delta CFI = 0,012$), exceeding the recommended cutoff ($\Delta CFI \leq 0,01$) (Tan & Pektaş, 2020). This suggests that strict invariance may not hold across groups. Taken together, these results support configural, metric, and scalar invariance, allowing meaningful group comparisons at the latent mean level, while strict invariance was not established.

Table 5 and Table 6 presents the fit statistics for the two — to seven-class solutions in both the Vietnamese and Russian

Table 4

Measurement Invariance Testing Across Groups

Model	χ^2	df	CFI	$RMSEA$	$\Delta\chi^2$	Δdf	ΔCFI
Configural invariance	63,06	16	0,953	0,080	—	—	—
Metric invariance	71,20	20	0,949	0,075	8,14	4	0,004
Scalar invariance	77,62	21	0,944	0,077	6,42	1	0,005
Strict invariance	97,59	29	0,932	0,072	19,86	6	0,012

Note: $\Delta\chi^2$ and ΔCFI indicate the change in chi-square and CFI compared to the less constrained model. $\Delta CFI \leq 0,01$ indicates acceptable invariance between models (Tan & Pektaş, 2020).

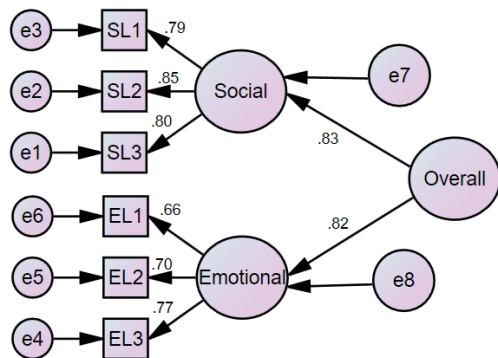


Fig. 2. Confirmatory Factor Analysis Model of the Loneliness Scale (Russian Sample)

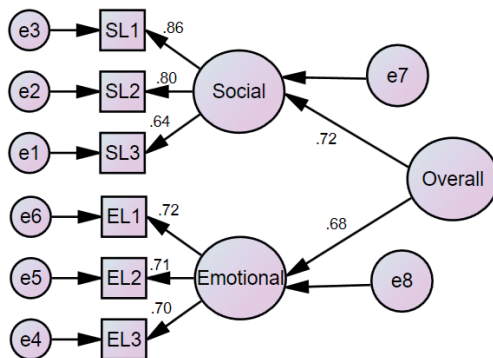


Fig. 3. Confirmatory Factor Analysis Model of the Loneliness Scale (Vietnamese Sample)

samples. Model fit indices showed consistent improvement up to the three-class solution, while the four-class solution resulted in decreased classification quality. These results indicated that the three-class solution provided the best fit to the data. In the Vietnamese sample, 34% of participants ($n = 83$) were classified into the high-lone-

liness profile, 47% ($n = 113$) into the moderate-loneliness profile, and 19% ($n = 46$) into the low-loneliness profile. Similarly, in the Russian sample, 11% ($n = 23$) were in the high-loneliness profile, 39% ($n = 85$) in the moderate-loneliness profile, and 50% ($n = 108$) in the low-loneliness profile (Figure 4 and Figure 5).

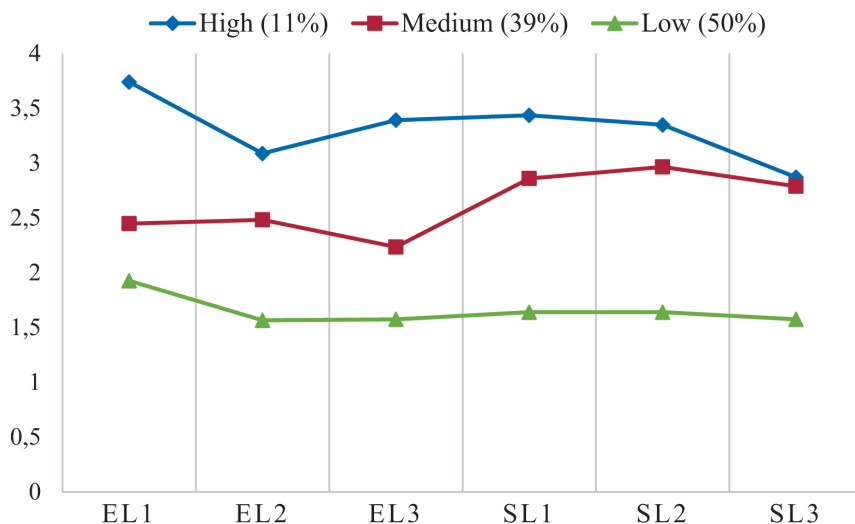


Fig. 4. Latent Profile Analysis Profiles for the Russian Sample

Table 5

Absolute model fit for Russian model

Class	Log-likelihood	AIC	CAIC	BIC	Entropy	df	G ²	p
2	−1416	2906	3067	3030	0,90	178	958	< 0,001
3	−1337	2787	3032	2976	0,95	159	801	< 0,001
4	−1302	2755	3083	3008	0,92	140	731	< 0,001
5	−1249	2685	3097	3003	0,94	121	624	< 0,001
6	−1226	2677	3172	3059	0,95	102	578	< 0,001
7	−1216	2695	3273	3141	0,95	83	558	< 0,001

Note: N = 216.

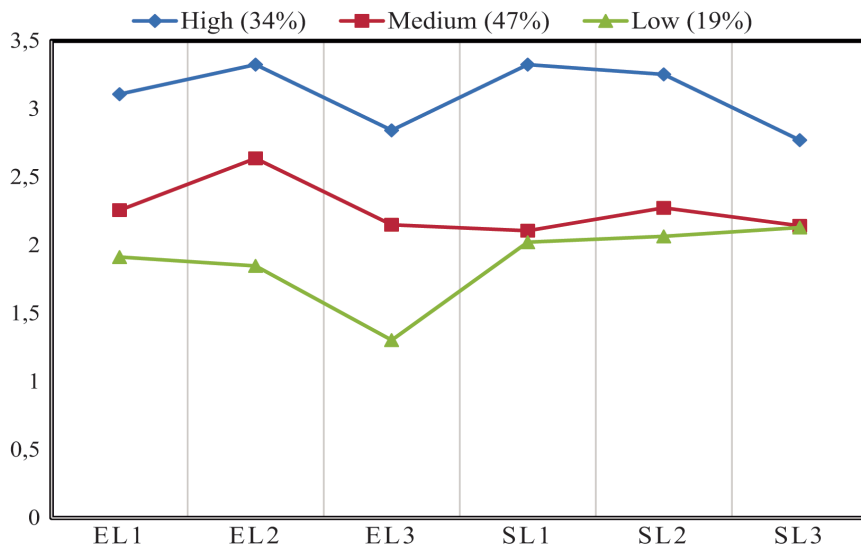


Fig. 5. Latent Profile Analysis Profiles for the Vietnamese Sample

Table 6

Absolute model fit for Vietnamese model

Class	Log-likelihood	AIC	CAIC	BIC	Entropy	df	G ²	p
2	−1327	2716	2855	2824	0,889	210	720	< 0,001
3	−1267	2628	2839	2792	0,846	194	601	< 0,001
4	−1228	2582	2864	2801	0,889	178	522	< 0,001
5	−1195	2549	2903	2824	0,903	162	457	< 0,001
6	−1165	2520	2946	2851	0,936	146	396	< 0,001
7	−1138	2498	2996	2885	0,935	130	342	< 0,001

Note: N = 242.

Discussion

The findings of this study provide a comprehensive evaluation of the psychometric properties of the adapted scale for assessing emotional loneliness and social loneliness, particularly within the context of Vietnamese and Russian student populations. Regarding the factorial structure of both versions, the findings suggest that the models for both the Vietnamese and Russian versions were consistent and adequately fit the data, similar to previous studies examining loneliness scales (De Jong Gierveld & Van Tilburg, 2010). Both scales exhibited acceptable factor loadings across groups. To assess potential differences in factor structure, we conducted a multi-group confirmatory factor analysis. The configural invariance model showed good fit which indicates that the overall factor structure was similar across groups. However, minor variations were observed in individual factor loadings (e.g., $SL1 = 0,82$ in Group A vs. $0,69$ in Group B), suggesting slight differences in the strength of item-factor relationships. Despite these variations, the metric invariance model held ($CFI = 0.004$), demonstrating that these differences were not statistically significant. Therefore, the scales maintained an equivalent factor structure across groups. This aligns with the notion that loneliness, though experienced differently across cultures, maintains similar underlying dimensions (De Jong Gierveld & Van Tilburg, 2010; Hawkey, 2022; Weiss, 1973). The absence of significant structural deviations across the versions suggests that the scale is robust and versatile enough for cross-cultural application.

Latent profile analysis results for both versions yielded three subgroups, but with slight variations in the distribution and characteristics of each group. In the Vietnamese version, a higher proportion of participants were

classified as moderate-risk for loneliness. This pattern indicates that a substantial number of Vietnamese students perceive themselves as lacking sufficient social connection or emotional support. One possible explanation for this could be the rapid socio-cultural changes and urbanization occurring in Vietnam, which may disrupt traditional community structures and familial ties that have historically provided robust social support. Additionally, in collectivist societies, where the importance of interpersonal relationships and community belonging is emphasized, any perceived deficiency in these relationships might lead to more feelings of loneliness.

In contrast, the Russian version showed a relatively more even distribution between the moderate and low-risk groups. This may be due to cultural factors that promote individualistic coping strategies and provide access to supportive social networks and institutional structures that help alleviate loneliness. In addition, societal expectations regarding personal relationships and emotional expression in Russia might lead students to perceive or report lower levels of loneliness, even under similar conditions to those in other cultures. These findings highlight the need to consider cultural context when interpreting loneliness measures and suggest that interventions should be tailored accordingly. For example, strategies for Vietnamese students might focus on strengthening traditional social bonds and community networks that are being eroded by modernization, whereas interventions for Russian students could emphasize fostering individual resilience and alternative social support mechanisms.

Conclusions

This study demonstrated that both the Vietnamese and Russian versions of the loneliness scale exhibited robust psychomet-

ric properties, with clear structural validity and consistent fit across both samples. The scales were effective in capturing the underlying dimensions of loneliness, with all items fitting well within their respective domains. Latent profile analysis revealed three distinct subgroups, demonstrating the scale's discriminative capacity to identify individuals with different patterns of loneliness. The findings also highlighted the cultural differences between the Vietnamese and Russian samples, further emphasizing the importance of considering cultural context in loneliness research. Overall, the results suggest that both versions of the loneliness scale are reliable, valid, and useful tools for assessing loneliness across different cultural settings.

Limitations. There are several limitations in this study. First, the research was conducted exclusively with adolescents, which limits the generalizability of the findings to other age groups, such as adults or the elderly, who may experience loneliness differently. Second,

the data were collected through self-report questionnaires, which are subject to biases such as social desirability and memory recall biases, potentially affecting the accuracy of the responses. Third, the study focused on a sample from specific regions in Vietnam and Russia, and the findings may not necessarily reflect the experiences of adolescents in other areas of these countries or in other cultural contexts. Fourth, the data were gathered from educational settings, meaning that the sample may not be fully representative of adolescents who are not currently in school or those from different socio-economic backgrounds. The adapted scale demonstrated good psychometric properties in two culturally distinct university student samples. However, future research should consider expanding the scope to include broader age ranges, other underrepresented ethnic groups, and more diverse cultural settings to enhance the generalizability of the findings and explore the cross-cultural applicability of this scale.

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The author declare no conflict of interest.

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Автор заявляет об отсутствии конфликта интересов.

Ethics statement

All procedures performed in the study involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the APA ethical standards.

Декларация об этике

Все процедуры, выполненные в исследовании с участием людей, соответствовали этическим стандартам институционального и/или национального комитета по этике исследований, а также этическим стандартам APA.

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