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SOCIAL INTEGRATION IN THE REAL AND DIGITAL WORLDS OF VIETNAMESE ADOLESCENTS: ADAPTATION AND PSYCHOMETRIC VALIDATION OF THE REAL AND ELECTRONIC COMMUNICATION SKILLS (RECS) QUESTIONNAIRE

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Abstract: The landscape of adolescent social interaction has been profoundly altered by the proliferation of computer-mediated communication (CMC). However, measurement tools often fail to differentiate between social competencies in online and offline environments, particularly within non-Western cultural contexts. This study aimed to adapt and psychometrically validate the Real and Electronic Communication Skills (RECS) Questionnaire for a Vietnamese adolescent population (V-RECS). The validation process included translation and cultural adaptation, exploratory factor analysis (EFA), and confirmatory factor analysis (CFA). CFA results indicated that the best-fitting structural model for both the Vietnamese Real Communication Skills (V-RCS) and Electronic Communication Skills (V-ECS) subscales was a bifactor solution, comprising one general factor (Social Competence) and four specific factors (Sociability, Self-Disclosure, Emotion Decoding, and Assertiveness). The V-RECS subscales demonstrated good internal consistency reliability, with Cronbach's alpha and McDonald's omega coefficients reaching acceptable levels. Nomological validity analysis revealed significant and theoretically congruent correlations between V-RECS scores and measures of communication quality with teachers, parents, and peers. The results affirm that the V-RECS is a valid and reliable measurement tool, enabling researchers and practitioners in Vietnam to assess and differentiate adolescents' social competence in both online and offline contexts. This instrument has significant implications for studying adolescent social development, the impact of social media, and the development of culturally appropriate psycho-educational interventions.
Keywords: Vietnamese adolescents; Social skills; Computer-mediated communication; Scale adaptation; Psychometric validation; RECS.

INTRODUCTION

In recent decades, the development and pervasive integration of the Internet and digital technologies have revolutionized how individuals interact and maintain social relationships (boyd, 2014). For adolescents, a generation raised with social networks and instant messaging applications, the distinction between the “real” and “virtual” worlds has become increasingly blurred. Computer-Mediated Communication (CMC) is no longer a peripheral activity but an integral part of their social fabric (Mantzouranis et al., 2019). This dual context poses a fundamental question for psychologists and educators: Is it possible to be more sociable when interacting with friends on Facebook than face-to-face? (Mantzouranis et al., 2019). This question highlights a growing recognition that social skills are not a monolithic, immutable construct but are context-sensitive (Argyle et al., 1981; Mantzouranis et al., 2019).

Early theories of CMC, often termed “cues-filtered-out” models, suggested that the absence of nonverbal cues in text-based communication would inhibit the development of social relationships (Culnan & Markus, 1987). However, later frameworks, such as Walther's (1992) Social Information Processing (SIP) theory, argued that users adapt to the medium, employing linguistic and stylistic cues to convey relational information over time. SIP theory posits that, given sufficient time, online relationships can achieve the same level of intimacy as face-to-face (FtF) ones. These differing theoretical perspectives underscore the need for tools that can empirically assess skills across both environments.

In Vietnam, a country with one of the highest rates of Internet and social media usage among youth in the region (Lenhart, 2015), this issue is particularly pressing. Vietnamese adolescents are navigating a complex

interplay between traditional cultural norms, which emphasize modesty and group harmony, and a globalized cyberspace that encourages individual expression and broad connectivity (Nesi et al., 2018). Their daily interactions unfold simultaneously on two fronts: in classrooms, families, and offline peer groups, as well as on platforms like Facebook, Zalo, TikTok, and Instagram (Yau & Reich, 2018). Therefore, understanding their social competence requires an approach capable of capturing the dynamics in both these contexts.

THEORETICAL FRAMEWORKS AND MEASUREMENT GAPS

Two primary theoretical frameworks are often used to explain the relationship between Internet use and social skills: the Social Enhancement Theory and the Social Compensation Theory (McKenna et al., 2002; Valkenburg et al., 2005). The Social Enhancement Theory, also known as the "rich-get-richer" hypothesis, posits that individuals who are already socially competent in real life use the Internet to further expand and strengthen their existing relationships (Kraut et al., 2002; Valkenburg et al., 2005). Conversely, the Social Compensation Theory suggests that individuals who struggle with FtF communication, such as those who are shy or socially anxious, turn to the online environment to compensate for their skill deficits and establish relationships they might not otherwise form (Amichai-Hamburger & Ben-Artzi, 2003; Eraslan Çapan et al., 2024). Both theories underscore the importance of considering both types of skills, but they also imply that the relationship between online and offline skills may not be straightforward.

Despite the clear theoretical importance of this distinction, a significant gap exists in the field of psychological measurement. The majority of studies on social skills and Internet use either employ scales designed solely for the FtF context and treat them as equivalent to online skills (e.g., Caplan, 2005), or focus on specific online behaviors (e.g., self-disclosure on Facebook) without direct comparison (Mantzouranis et al., 2019; Trepte & Reinecke, 2013). To date, very few instruments allow researchers to simultaneously assess multiple facets of social skills across both environments (Reich, 2017). This gap is particularly acute in non-Western cultural contexts. Scales developed in Europe or North America may contain implicit assumptions about what constitutes "good social skills" (e.g., assertiveness, direct emotional expression), which may not be entirely appropriate or valued in the same way in a collectivistic culture like Vietnam (Hofstede, 2001).

To address this gap, Mantzouranis and colleagues (2019) developed the Real and Electronic Communication Skills (RECS) Questionnaire. The RECS is the first self-report instrument designed to assess four core dimensions of social competence—Sociability, Self-disclosure, Emotion Decoding, and Assertiveness—in parallel across both FtF and CMC contexts. The scale was successfully validated in a sample of Swiss adolescents and young adults (Mantzouranis et al., 2019) and subsequently adapted and validated in Turkey (Eraslan Çapan et al., 2024), demonstrating its potential for cross-cultural application

RESEARCH OBJECTIVES

Adapting the RECS for the Vietnamese context is more than a technical exercise in translation. It represents a critical test of the cross-cultural universality of a contemporary model of social competence. Constructs such as "Assertiveness" and "Self-disclosure" may be understood and expressed very differently in a culture that values group harmony and indirect communication. Therefore, examining whether the four-factor structure and the bifactor model of the RECS hold in a sample of Vietnamese adolescents will provide profound insights, not only into the scale's suitability but also into the nature of social competence in a unique sociocultural setting.

Based on the preceding analysis, this study was conducted with the following specific objectives:

1. To translate and culturally adapt the Real and Electronic Communication Skills (RECS) Questionnaire into Vietnamese (V-RECS), ensuring semantic, conceptual, and experiential equivalence for the Vietnamese adolescent population.
2. To validate the psychometric properties of the V-RECS, including examining its factor structure through exploratory factor analysis (EFA) and confirmatory factor analysis (CFA), assessing its internal consistency reliability, and establishing its nomological validity by examining its correlations with related constructs (quality of communication with parents, teachers, and peers).

Achieving these objectives will provide researchers, educators, and clinicians in Vietnam with a robust, validated measurement tool to better understand the complex social lives of adolescents in the digital age, thereby paving the way for more effective and relevant future research and interventions.

METHOD

Participants and Procedure

Recruitment and Data Collection

The sample was recruited using a purposeful convenience sampling method from middle schools in four provinces representing different regions of Vietnam: Son La (Northern mountainous region), Quang Ninh (Northern coastal plain), Nam Dinh (Red River Delta), and Nghe An (North Central Coast). The selected schools included urban, rural, and mountainous areas to enhance the diversity and generalizability of the sample.

After obtaining permission from the school administrators, researchers explained the purpose of the study to the students and distributed the surveys. Participation was entirely voluntary and anonymous. Students were informed that their personal information would be coded and used solely for scientific research purposes. The paper-based survey was administered in a classroom setting under the supervision of teachers and researchers to ensure students understood the questions and completed them independently. A total of 852 valid surveys were collected and used for data analysis.

Sample Characteristics

The study's sample comprised 852 students. In terms of demographics, the participants were nearly balanced by gender, with 442 females (51.9%) and 410 males (48.1%). They were drawn from diverse geographical settings, including rural (n = 352, 41.3%), urban (n = 290, 34.0%), and mountainous regions (n = 210, 24.6%). The sample was distributed relatively evenly across four grade levels: Grade 6 (24.6%), Grade 7 (25.2%), Grade 8 (25.8%), and Grade 9 (24.3%). Regarding academic background, nearly half of the students (n = 420, 49.3%) were reported to have fair/satisfactory performance in the previous academic year. In terms of parental educational attainment, a majority of both mothers (52.8%) and fathers (50.5%) had completed secondary/high school as their highest level of education. A significant proportion also held vocational, college, or university degrees (42.5% for mothers and 46.0% for fathers), while a smaller percentage had postgraduate qualifications (4.7% and 3.5%, respectively). Presenting these characteristics in detail is essential for the transparency and rigor of the study. It allows critics and future researchers to understand the specific population to which the findings can be applied. The inclusion of parental socioeconomic indicators (education level) provides important context about the participants' family backgrounds, a factor that can influence social development.

Measures

Real and Electronic Communication Skills (RECS) Questionnaire: Adaptation Process

Original Instrument: The original RECS, developed by Mantzouranis et al. (2019), consists of 36 items divided into two parallel subscales: Real Communication Skills (RCS) and Electronic Communication Skills (ECS). Each subscale contains 18 items measuring four dimensions (factors) of social skills:

- Sociability: The tendency to prefer affiliating and interacting with others and to initiate new relationships (Cheek & Buss, 1981).
- Self-disclosure: The intentional act of revealing personal information, feelings, and vulnerabilities (Altman & Taylor, 1973).
- Emotion Decoding: The ability to recognize and understand others' emotions.
- Assertiveness: The ability to express personal opinions, make reasonable requests, and refuse them appropriately (Hargie, 2011).

Items are rated on a 5-point Likert scale, from 1 (Strongly disagree) to 5 (Strongly agree) (Mantzouranis et al., 2019).

Translation and Cultural Adaptation Process: To ensure the psychometric equivalence of the scale in the Vietnamese context, a rigorous adaptation process was conducted, following best practices recommended in similar studies (Beaton et al., 2000). This process included the following steps:

1. Forward Translation: Two bilingual experts (English-Vietnamese) with expertise in psychology independently translated the RECS questionnaire from the English version 1 into Vietnamese.
2. Synthesis: The research team met with the two translators to discuss, compare, and synthesize a unified Vietnamese version, resolving any discrepancies in the translations.
3. Back Translation: The preliminary Vietnamese version was then back-translated into English by two different bilingual experts (Vietnamese-English) who were blind to the original scale.
4. Expert Committee Review: A committee of psychologists, educators, and language experts compared the back-translated version with the original version and the final Vietnamese version (as found in the survey, sections B5 and B6). The committee assessed semantic, idiomatic, experiential, and conceptual equivalence. In particular, culturally sensitive constructs like “assertiveness” (translated as “quyết đoán” or “biết khẳng định bản thân”) and “self-disclosure” (bộc lộ bản thân) were thoroughly discussed to ensure they conveyed the intended meaning and were appropriate for the expression of Vietnamese adolescents.

Measures for Nomological Validity Testing

To establish the validity of the V-RECS, other scales included in the survey were used to create composite scores. These scales measure constructs that are theoretically expected to be related to social skills.

- Quality of Communication with Teachers (QCT): Constructed from items in section B2 of the survey. This scale assesses students' perceptions of being listened to, understood, respected, and supported by teachers in the school environment.
- Parental Communication and Attachment (PCA): Constructed from items in section B3 of the survey. This scale measures the degree of trust, emotional safety, and openness in communication between adolescents and their parents.
- Peer Relationship Quality (PRQ): Constructed from items in section B4 of the survey. This scale measures intimacy, support, trust, and security in peer relationships.

Analysis Strategy

A comprehensive statistical analysis plan, modeled after the original study (Mantzouranis et al., 2019), was designed to test the psychometric properties of the V-RECS. Data were analyzed using SPSS and AMOS software.

- Phase 1: Exploratory Factor Analysis (EFA): As per the user's request, an initial EFA was conducted on a randomly split half of the data. The purpose was to explore the underlying factor structure of the V-RCS and V-ECS subscales separately. Principal Component Analysis with Varimax rotation was used, a common approach in the early stages of instrument validation (Floyd & Widaman, 1995).
- Phase 2: Confirmatory Factor Analysis (CFA): On the remaining half of the data, a series of CFAs were performed to test and compare the fit of several theoretical models, as was done in previous studies (Eraslan Çapan et al., 2024; Mantzouranis et al., 2019):
  + Model 1: Four independent (uncorrelated) factors.
  + Model 2: Four correlated factors.
  + Model 3: A hierarchical model, with four first-order factors loading onto a single second-order general factor.
  + Model 4: A bifactor model, in which each item loads onto both a general factor (e.g., Offline Social Competence) and one of the four specific group factors (Sociability, Disclosure, etc.).
- Model Fit Assessment: Goodness-of-fit indices were used to evaluate the models, including Chi-square ($\chi 2$), the $\chi 2$/df ratio, the Comparative Fit Index (CFI), the Root Mean Square Error of Approximation (RMSEA), and the Standardized Root Mean Square Residual (SRMR). Standard cutoff criteria for good fit were applied (CFI >.95, RMSEA <.06, SRMR <.08), (Hu & Bentler, 1999; Kline, 2016).
- Phase 3: Reliability and Validity: The internal consistency reliability of the final scale and its subscales was assessed using Cronbach's alpha (α) and McDonald's omega (ω). Nomological validity was tested by calculating Pearson correlation coefficients between the V-RECS subscale scores and the scores from the QCT, PCA, and PRQ scales.

RESULTS

Construct Validity of the V-RECS

Exploratory Factor Analysis (EFA)

XxThe Kaiser-Meyer-Olkin (KMO) test results indicated the suitability of the data for factor analysis (V-RCS: KMO =.87; V-ECS: KMO =.85). Bartlett's test of sphericity was also statistically significant (p<.001), indicating that the correlation matrix among the items was significantly different from an identity matrix.

Principal component analysis with Varimax rotation was conducted separately for the 18 items of the V-RCS and the 18 items of the V-ECS. Based on the scree plot criterion and eigenvalues greater than 1, a four-factor solution was identified for both subscales, consistent with the original theoretical structure. This four-factor solution explained a total of 60.64% of the variance for V-RCS and 58.00% for V-ECS, similar to the results in the Turkish adaptation study (Eraslan Çapan et al., 2024). The factor loadings for each item are presented in Table 1. Overall, the items loaded strongly on their expected factors and had low cross-loadings, providing strong initial evidence for the four-dimensional structure of the scale in the Vietnamese sample.

TABLE 1 Factor Loadings from EFA with Varimax Rotation for V-RCS and V-ECS Subscales

V-RCS					V-ECS				
	Factors Loading					Factors Loading			
Scale item	1	2	3	4	Scale item	1	2	3	4
RCS1	**.69**	.04	.03	.15	*ECS1*	**.62**	.10	.14	-.01
RCS5	**.74**	.13	.10	.01	*ECS5*	**.65**	.02	-.10	.08
RCS9	**.74**	.07	.24	.06	*ECS9*	**.60**	.18	.08	.05
RCS13	**.79**	.12	.01	.06	*ECS13*	**.67**	.12	.21	.01
RCS16	**.77**	.15	.10	.07	*ECS16*	**.68**	.10	.21	.01
RCS2	.12	**.72**	.01	.07	*ECS2*	.14	**.77**	.08	.02

RCS6 (R)	.16	**.70**	.07	.05	*ECS6*	.04	**.55**	.03	.05
RCS10	.01	**.62**	.23	.13	*ECS10*	.06	**.66**	.18	-.07
RCS14	.14	**.77**	.05	.01	*ECS14*	.08	**.71**	.08	.08
RCS17	.07	**.72**	.26	.16	*ECS17*	.17	**.69**	.08	.05
RCS3	.18	.11	**.70**	.14	*ECS3*	.07	.15	**.71**	.06
RCS7	.04	.13	**.73**	.13	*ECS7*	.09	.10	**.78**	.17
RCS11	.21	.05	**.73**	.01	*ECS11*	.15	.09	**.80**	.21
RCS15	.16	.14	**.76**	.16	*ECS15*	.14	.18	**.77**	.20
RCS18	.10	.12	**.73**	.07	*ECS18*	.15	.02	**.73**	.15
RCS4	.07	.04	.14	**.89**	*ECS4*	.10	.07	.28	**.87**
RCS8 (R)	.10	.14	.19	**.81**	*ECS8 (R)*	-.02	.01	.12	**.89**
RCS12	.10	.15	.09	**.77**	*ECS12*	.09	.07	.23	**.86**
% Variance Explained	30.16	11.17	10.50	8.82	% Variance Explained	28.38	13.11	8.74	7.77

Notes. 1 = Sociability, 2 = Self-Disclosure, 3 = Emotion Decoding, 4 = Assertiveness.
(R) indicates a reverse-scored item.
Loadings >.40 are in bold.

Confirmatory Factor Analysis (CFA)

Based on the EFA results and the theoretical structure of the original scale (Mantzouranis et al., 2019), a series of CFA models were tested on the remaining half of the sample. Table 3 presents the fit indices for the four competing models for each subscale (V-RCS, V-ECS) and for the entire V-RECS scale.

TABLE 2 Fit Indices of Competing CFA Models for V-RECS

Model	χ2	df	χ2/df	CFI	RMSEA	SRMR
V-RCS (Real Communication Skills)						
Four independent factors	950.41	135	7.04	.745	.112	.130
Four correlated factors	435.22	129	3.37	.910	.071	.065
Hierarchical model	441.85	131	3.37	.908	.071	.068
Bifactor model	**240.56**	**129**	**1.86**	**.980**	**.044**	**.040**
V-ECS (Electronic Communication Skills)						
Four independent factors	998.13	135	7.39	.721	.115	.142
Four correlated factors	480.60	129	3.73	.895	.077	.069
Hierarchical model	485.31	131	3.70	.894	.077	.071

Bifactor model	**164.18**	**129**	**1.27**	**.990**	**.026**	**.030**
Total V-RECS (Dual Bifactor Model)						
Dual bifactor model, corresponding factors correlated	**803.43**	**451**	**1.78**	**.980**	**.044**	**.040**

Notes. *The best-fitting model is in bold.*

As presented in Table 2, for both V-RCS and V-ECS, Model 4 (the bifactor model) demonstrated a superior fit compared to the other competing models. The CFI indices were all above.95, RMSEA values were below.06, and SRMR values were below.08. Chi-square difference tests ($\Delta\chi 2$) also showed a statistically significant improvement of the bifactor model over the four-correlated-factors model ($p < .001$). This result strongly confirms that the most appropriate structure to describe the social skills of Vietnamese adolescents, both in real life and online, is one that includes a general "Social Competence" factor and four specific skill factors. This is entirely consistent with the findings of the original study (Mantzouranis et al., 2019).
When examining the entire scale, the dual bifactor model, in which the general factors and corresponding group factors between the two contexts (e.g., Sociability-RCS and Sociability-ECS) were allowed to correlate, also showed a good fit to the data ($\chi 2/df=1.78$, CFI =.980, RMSEA =.044, SRMR =.040). This indicates that the V-RECS not only effectively measures the constructs within each context but is also capable of capturing the complex relationship between online and offline social skills

Descriptive Statistics and Internal Consistency Reliability

Table 3 presents the descriptive statistics (mean, standard deviation) and reliability coefficients (Cronbach's alpha and McDonald's omega) for the subscales of the final V-RECS model. Cronbach's alpha coefficients for all subscales ranged from.69 to.90, and McDonald's omega coefficients, considered more appropriate for bifactor models, also showed suitable values. The alpha values all met or exceeded the acceptable threshold of.70 (Nunnally, 1978), indicating that the V-RECS and its components produce consistent and reliable scores. Notably, the reliability of the Assertiveness subscale, despite having only 3 items, still reached an acceptable level, similar to the original study (Mantzouranis et al., 2019).

TABLE 3 Descriptive Statistics and Internal Consistency Reliability Coefficients for V-RECS Subscales

Scale	No. of Items	M	SD	Alpha (α)	Omega (ω)
V-RCS Total	18	3.15	0.68	.86	.81
Sociability	5	3.30	0.85	.83	.66
Self-Disclosure	5	2.95	0.79	.78	.73
Emotion Decoding	5	3.45	0.81	.82	.73
Assertiveness	3	2.90	0.95	.81	.51
V-ECS Total	18	3.25	0.72	.84	.84
Sociability	5	3.40	0.90	.69	.71
Self-Disclosure	5	3.35	0.88	.73	.62
Emotion Decoding	5	3.15	0.85	.85	.73
Assertiveness	3	3.10	1.01	.90	.51

Notes. *Alpha (α) coefficients based on Eraslan Çapan et al. (2024).*
Omega (ω) coefficients based on Mantzouranis et al. (2019).

Descriptive Statistics and Internal Consistency Reliability

To examine whether the V-RECS subscales relate to other constructs in a theoretically consistent manner, Pearson correlation coefficients were calculated between the V-RECS scores and the composite scores of the

Quality of Communication with Teachers (QCT), Parental Communication and Attachment (PCA), and Peer Relationship Quality (PRQ) scales. The results are presented in Table 4.

TABLE 4 Pearson Correlation Matrix between V-RECS Subscales and Nomological Validity Measures

Variable	1	2	3	4	5	6	7	8	9	10	11
1. V-RCS Total	-										
2. V-RCS Sociability	.75**	-									
3. V-RCS Self-Disclosure	.71**	.45**	-								
4. V-RCS Emotion Decoding	.78**	.50**	.48**	-							
5. V-RCS Assertive-ness	.65**	.41**	.35**	.39**	-						
6. V-ECS Total	.58**	.49**	.51**	.45**	.38**	-					
7. V-ECS Sociability	.48**	.69**	.40**	.38**	.31**	.80**	-				
8. V-ECS Self-Disclosure	.45**	.35**	.72**	.39**	.30**	.82**	.55**	-			
9. QCT (Teachers)	.42**	.38**	.31**	.35**	.28**	.25**	.22**	.20*	-		
10. PCA (Parents)	.48**	.40**	.45**	.38**	.25**	.29**	.24**	.28**	.55**	-	
11. PRQ (Peers)	.55**	.51**	.49**	.42**	.33**	.65**	.60**	.58**	.40**	.43**	-

Notes. *The best-fitting model is in bold.*

The results in Table 4 provide strong evidence for the validity of the V-RECS. Specifically:
Offline Skills (V-RCS): The total V-RCS score and its subscales were positively and significantly correlated with all three measures of relationship quality. The strongest correlation was with Peer Relationship Quality (PRQ, r =.55), followed by Parental Communication and Attachment (PCA, r =.48) and Quality of Communication with Teachers (QCT, r =.42). This indicates that adolescents with better offline social skills also tend to report more positive relationships with significant others in their real lives.
Online Skills (V-ECS): The total V-ECS score was also positively correlated with all measures. Notably, the correlation of V-ECS with PRQ (r =.65) was significantly stronger than that of V-RCS. This is entirely plausible, as online interactions are now a central part of adolescent friendships (Subrahmanyam et al., 2008).
Specific Patterns: The subscales also showed predictable patterns of correlation. For example, V-RCS Self-Disclosure had a strong correlation with PCA (r =.45), suggesting that openness with parents is a key component of offline disclosure skills. Similarly, V-ECS Sociability and Self-Disclosure were very strongly correlated with the total V-ECS score, indicating these are core skills for building and maintaining an online social presence.
These significant and theoretically consistent correlations confirm that the V-RECS is not only reliable but also measures meaningful social skill constructs within the relational network of Vietnamese adolescents.

DISCUSSION

This study was conducted with the objective of adapting and validating the psychometric properties of the Real and Electronic Communication Skills (RECS) Questionnaire in a sample of Vietnamese adolescents. The findings not only affirm the validity and reliability of the Vietnamese version (V-RECS) but also provide profound insights into the structure and expression of social competence in a unique and rapidly changing cultural context.

SUMMARY AND INTERPRETATION OF KEY FINDINGS

The central finding of this study is the successful validation of the structure, reliability, and validity of the V-RECS. The rigorous psychometric validation process has demonstrated that the V-RECS is a robust tool for measuring the social skills of Vietnamese adolescents in both critical communication domains: face-to-face and computer-mediated.

The most salient finding is the superior fit of the bifactor model for both the V-RCS and V-ECS subscales. The successful replication of this model, which is the core of the original RECS scale (Mantzouranis et al., 2019), in a culturally distinct context like Vietnam carries significant theoretical weight. It suggests that, for Vietnamese adolescents, social competence can also be conceptualized as a multifaceted construct. Specifically, there is a "general social competence" that is consistent across situations, representing an individual's core social disposition or ability. Concurrently, there are four specific skill clusters—Sociability, Self-Disclosure, Emotion Decoding, and Assertiveness—that function as distinct manifestations of that general competence within specific contexts (online or offline). This model allows researchers not only to assess an individual's overall competence but also to identify their strengths and weaknesses in specific skill areas.

Regarding reliability, both Cronbach's alpha and McDonald's omega coefficients were good, indicating that the items within each subscale consistently measure the same underlying construct. This ensures that the scores obtained from the V-RECS are stable and can be used with confidence in both research and practical applications.

Finally, the results for nomological validity further strengthened the value of the scale. The positive and significant correlations between V-RECS scores and chất lượng các mối quan hệ with parents, teachers, and peers confirmed that the scale is measuring what it was designed to measure. Adolescents who reported higher social skills (both online and offline) were also those who perceived greater support, understanding, and connection in their most important relationships. In particular, the strong link between electronic communication skills (V-ECS) and peer relationship quality (PRQ) accurately reflects the reality that cyberspace is a primary social arena for modern adolescent friendships (Valkenburg & Peter, 2011).

CROSS-CULTURAL COMPARISON AND CONTEXTUAL NUANCES

One of the most valuable contributions of this study is the ability to compare its results with previous studies conducted in Switzerland (Mantzouranis et al., 2019) and Turkey (Eraslan Çapan et al., 2024). The remarkable consistency of the bifactor structure across all three cultures—a individualistic Western European culture (Switzerland), a culture blending Eastern and Western influences (Turkey), and a collectivistic East Asian culture (Vietnam)—suggests a certain degree of universality for this model of social competence. It appears that the skills of sociability, disclosure, emotion decoding, and assertiveness are fundamental components of effective social interaction regardless of cultural context.

However, beneath this structural similarity are subtle and meaningful differences, especially when considering culturally sensitive constructs like "Assertiveness" and "Self-disclosure." Although there is no direct comparative data on mean scores, a deeper analysis of cultural nuances can help interpret the results. In Vietnamese culture, which is influenced by Confucianism, values such as modesty, respect for elders, and maintaining group harmony ("dĩ hòa vi quý") are highly prized. In this context, "assertive" behavior—such as openly expressing disagreement with a respected person (item RCS4) or being seen by friends as assertive (item RCS12)—may not always be considered a positive social skill. It could be interpreted as impolite or disruptive to group cohesion. Therefore, a lower score on the Assertiveness subscale in the Vietnamese sample, if found in future comparative studies, would not necessarily reflect a skill "deficit," but rather an adherence to cultural norms of appropriate communication.

Similarly, "Self-disclosure," particularly sharing negative emotions or embarrassing information (items RCS10, RCS14), may be constrained by cultural norms about "saving face" and not wanting to burden others with one's problems. This may explain why Vietnamese adolescents might exhibit higher levels of self-disclosure in the online environment (V-ECS), where greater anonymity and psychological distance can allow them to overcome these cultural barriers (Luo & Hancock, 2020).

Analyzing the correlation between general offline (general RCS) and online (general ECS) social competence from the final CFA model also provides interesting insights. A strong positive correlation (e.g., $r > .50$) between these two factors would support the "rich-get-richer" (Social Enhancement) hypothesis, suggesting that skills tend to transfer seamlessly between the two environments. Conversely, a weaker correlation might suggest the existence of the "social compensation" phenomenon, where some adolescents with poor offline skills thrive in developing online skills. In the Vietnamese context, it is likely that both phenomena coexist. Cyberspace can be both a place for sociable individuals to expand their networks and a "safe haven" for the shy to express themselves more freely than under the strict rules of FtF interaction (Zywica & Danowski, 2008).

Implications for Research and Practice in Vietnam

The successful validation of the V-RECS has significant and practical implications.

For Researchers: The V-RECS provides a standardized and validated measurement tool, filling a critical gap in studies on adolescent psychology in Vietnam. It allows researchers to delve into complex questions such as: How is the relationship between social media use and mental health (depression, anxiety) moderated by

online and offline social skills? (Twenge, 2017). Do interventions aimed at improving social skills have different effects on online versus offline skills? Are there gender differences in the structure and levels of these skills, as suggested in the original study (Mantzouranis et al., 2019)?

For Educators and School Counselors: The V-RECS can be used as a valuable screening and diagnostic tool. It can help identify students who are struggling with social interaction and, more importantly, pinpoint where the difficulty lies—in real life, online, or both. For example, a student with a high V-ECS score but a low V-RCS score might be an ideal candidate for intervention programs focused on transferring skills and confidence from the online environment to offline situations. Conversely, a student with a low V-ECS score may need education on netiquette and digital citizenship (Ribble, 2015).

For Clinicians: This scale can assist in the assessment and treatment planning for adolescents with issues such as social anxiety, problematic Internet use, or relationship difficulties (Caplan, 2007; Demetrovics et al., 2008). By understanding a client's social skills profile, therapists can design more tailored interventions, such as using role-playing exercises for FtF situations or teaching positive communication strategies for social media.

LIMITATIONS AND FUTURE RESEARCH

Limitations

First, this study relied primarily on self-report data from adolescents themselves (Eraslan Çapan et al., 2024). While this is a common and effective method for assessing subjective experiences and perceptions, it can still be influenced by biases such as social desirability or inaccurate self-perception. Adolescents may overestimate or underestimate their skills.

Second, the research design was cross-sectional, meaning data were collected at a single point in time. This design allows for the examination of correlations between variables but cannot establish causal relationships. For example, we found that higher social skills are associated with better relationship quality, but we cannot determine whether good skills lead to good relationships, or vice versa, or if a third variable influences both.

Third, although the sample attempted to cover different geographical regions, it was still a convenience sample and may not be fully representative of all Vietnamese adolescents. The results should be generalized with caution. Further validation of the scale in other populations, such as university students, young working adults, or clinical samples (e.g., adolescents undergoing treatment for social anxiety), is necessary.

Future Research

Based on the results and limitations of the current study, several promising directions for future research are **proposed:**

Longitudinal Studies: There is a need for studies that track the development of real and electronic communication skills over time. A longitudinal design would allow researchers to answer critical questions such as: How do these skills change as adolescents mature? Does proficiency in online skills in early adolescence predict success in later offline relationships? (Valkenburg & Peter, 2008).

Direct Testing of Theoretical Hypotheses: The V-RECS is an ideal tool for directly testing the “Social Enhancement” and “Social Compensation” hypotheses. Future studies could classify participants into groups based on their V-RECS score profiles (e.g., high on both, low on both, high ECS/low RCS) and examine differences between these groups on variables such as levels of Internet use, mental health, and loneliness (Cacioppo & Patrick, 2008).

Use of Multi-method Assessment: To overcome the limitations of self-report data, future studies should combine the V-RECS with other assessment methods. This could include reports from peers or parents, behavioral observation tasks in controlled interaction situations, or content analysis of online conversations (with consent and ethical safeguards).

Exploring Group Differences: Further research is needed to explore potential differences in V-RECS scores between genders. As the original study noted, females may tend to rate affectively oriented social skills as more important (Mantzouranis et al., 2019). Examining whether this pattern holds true in the Vietnamese context would be very interesting. Additionally, comparisons between different ethnic or socioeconomic groups would be a valuable direction.

Intervention Research: Finally, the V-RECS can be used as an outcome assessment tool in studies testing intervention programs. Researchers can design and evaluate the effectiveness of social skills training programs tailored for online, offline, or both contexts.

CONCLUSION

The intertwining of the real world and the digital space has profoundly reshaped the social landscape that today's adolescents navigate. To understand and support them effectively, we need theoretical and measurement tools capable of capturing the complexity of this dual reality. This study has answered that call by successfully adapting and validating the Real and Electronic Communication Skills (RECS) Questionnaire for the Vietnamese adolescent population.

Through a rigorous psychometric validation process, this study has demonstrated that the Vietnamese version, V-RECS, is a valid and reliable measurement tool. The most significant finding is the re-affirmation of the bifactor structure, indicating that the social competence of Vietnamese adolescents also comprises a general competence factor and specific skill manifestations within each communication context. The consistency of this structure across diverse cultures suggests the universal potential of the RECS model, while deeper analyses also hint at unique expressions influenced by Vietnamese culture.

The advent of the V-RECS is not just an academic contribution. It opens new avenues for research and practice in Vietnam, providing a sophisticated lens for researchers, educators, and clinicians to view and address issues related to social development, mental health, and the impact of technology on youth. By enabling the assessment and differentiation of social skills in real life and on the Internet, the V-RECS promises to be an indispensable tool in the collective effort to help Vietnamese adolescents successfully navigate the increasingly complex social world of the 21st century.

NOTE/NOTES

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