THE VIETNAMESE VERSION
OF THE SOCIAL AND EMOTIONAL COMPETENCE
QUESTIONNAIRE (SECQ): PSYCHOMETRIC
PROPERTIES AMONG ADOLESCENTS

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In Vietnam, there is a growing need for social and emotional learning (SEL) studies and intervention programmes in school settings; however, SEL assessment tools for Vietnamese adolescents are very limited. This present study therefore aims to adapt and validate the Social and Emotional Competence Questionnaire (SECQ; Zhou & Ee, 2012) in the Vietnamese adolescent population. Based on data from 1,250 adolescents from four provinces in the country, confirmatory factor analysis (CFA) reveals that a five-factor model and a hierarchical model (consisting of five lower-order factors loading on one higher-order factor) both fit the data quite well, aligning with the framework proposed by the Collaborative for Academic, Social, and Emotional Learning (CASEL). Furthermore, the internal consistency of the measure is satisfactory. The significant correlations between the five components of social and emotional competence and mental health indicators provide evidence of the predictive validity of the instrument and implications for school-based SEL programmes.

People believe that students need cognitive skills in order to be successful in school and life and that these skills are developed through academic learning. However, educational approaches focus so heavily on academic performance that many students enter the global workforce without the life skills needed to navigate an increasingly complex and interconnected world (Jones & Kahn, 2017). Human history and learning sciences suggest that children's success or failure is not determined by cognitive skills alone. Rather, social-emotional competence as an outcome of social-emotional learning (SEL) is believed to contribute greatly to students' ability to succeed in school, careers, and life (Taylor et al., 2018). SEL can have a positive impact on the school climate and promote a host of academic, social, and emotional benefits for students. Specifically, previous meta-analysis studies have shown empirically that SEL not only improves

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academic achievement but also increases prosocial behaviors, improves student attitudes toward school, and reduces depression and stress among students (Taylor et al., 2017; Wiglesworth et al., 2016). Since the establishment of the Collaborative for Academic, Social, and Emotional Learning (CASEL), the leading authority in the advancement of SEL in education, there has been growing worldwide recognition of the need for SEL in teaching and learning. Today, a variety of universal SEL programmes have officially been implemented to improve students' social-emotional and academic skills, from preschool to high school (Jones & Kahn, 2017; Weissberg et al., 2015).

While school-based SEL interventions are increasingly common, SEL competence assessment has struggled to keep pace (Humphrey et al., 2011). There are several considerations in measuring students' SEL competence. Firstly, there is no agreed terminology for social-emotional competence (Berg et al., 2017; Humphrey et al., 2011; Zhou & Ee, 2012) and the terminology that is used is inconsistent, such as "social and emotional intelligence" (Salovey & Mayer, 1990), "emotional literacy" (Park et al., 2003), and "social and emotional competence" (Elias et al., 1997). Moreover, different terms are used for competencies that have similar definitions, and the same terms are used for competencies that have different definitions (Berg et al., 2017). Accordingly, many tools lack evidence of reliability and validity and also suffer from differential item functioning and measurement invariance (Berg et al., 2017).

Secondly, many measures do not allow self-reporting by students and are targeted at adult or special populations only (Humphrey et al., 2011). However, adolescents engage in a wide range of risky behaviors compared to older or younger individuals and at an enormous cost to society and themselves (Tymula et al., 2012). Thus, as SEL expands to focus on adolescents (Ross & Tolan, 2018), the accurate assessment of social and emotional competence has crucial implications for effective programming and policy-making in schools and communities because of the association with mental health, academic performance, and other key outcomes (Denham et al., 2009).

Thirdly, the majority of measures have been developed and standardized with American populations (Humphrey et al., 2011), and this may prevent the results of the SEL assessment from capturing the strengths and perspectives of individuals from different cultures. Humphrey et al. (2011) found that only the Bar-On Emotional Quotient Inventory: Youth Version (EQI: YV; BarOn & Parker, 2000) has UK norms. To the best of our knowledge, the only other examples are: Zhou and Ee (2012) who developed and validated the Social-Emotional Competence Questionnaire (SECQ) with Singaporean children and adolescents; Gómez-Ortiz, Romera, and Ortega-Ruiz (2017), who designed and validated the Adolescent Multidimensional Social Competence Questionnaire (AMSC-Q) with Spanish adolescents; and, most recently, Zych, Ortega-Ruiz, Muñoz-Morales, and Llorent (2018), who also developed and validated the Social and Emotional Competencies Questionnaire (SEC-Q) with Spanish adolescents. The adaptation of these scales to different cultures, while still retaining acceptable reliability and validity, should be continued so as to develop an understanding of the universal relevance of social-emotional competencies.

Fourthly, while the CASEL framework — composed of five core competencies (i.e., self-awareness, self-management, social awareness, relationship skills, and responsible decision-making) — has become prominent in social and emotional competence studies and intervention programmes, the five competencies have not been tested as a multidimensional measurement model which is valid in explaining outcomes (Ross & Tolan, 2018). Accordingly, the availability of tools that accurately cover all areas of this framework is extremely limited (Zhou & Ee, 2012; Zych et al., 2018). In previous intervention studies, these competencies were usually evaluated separately with distinct scales (Denham et al., 2009) or with questionnaires not exactly aligning with the CASEL integrated framework. For example, self-awareness competence has been assessed by the Student Self-Efficacy Scale (Jinks & Morgan, 1999) and social

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awareness competence has been measured by the prosocial behavior subscale of the Strengths and Difficulties Questionnaire (Goodman, 2001). The Social Skills Rating System (Gresham & Elliott, 1992), including scales such as cooperation, empathy, assertion, self-control, responsibility, externalizing and internalizing behavior, and hyperactivity, has been used in most previous intervention studies (Denham et al., 2009). According to Berg et al. (2017), frameworks and measures are usually developed separately, and framework developers use theoretical evidence more often than empirical evidence to justify the overall structure of a framework and relationships between constructs. To our best knowledge, up to the present, there have been only two questionnaires that include all five of the core competencies of the CASEL framework. These are the Social-Emotional Competence Questionnaire (SECQ; Zhou & Ee, 2012) and the Social and Emotional Competencies Questionnaire (SEC-Q; Zych et al., 2018), which were both validated in children, adolescents, and youths. Therefore, given that empirical school-based SEL programmes have increasingly been implemented, there is a need to develop and adapt comprehensive, cohesive, and survey-based instruments that include both social and emotional competencies to gauge students' social and emotional development and assess the effectiveness of SEL programmes.

In Vietnam, there is growing awareness amongst researchers and educators of the importance of social and emotional development to students' academic success and well-being. However, studies in this field have been extremely limited due to the lack of valid and reliable measures. The present study, therefore, aimed to adapt the SECQ by Zhou and Ee (2012) for Vietnamese adolescents, paving the way for further studies in the field that may help inform programming and policy-making in Vietnamese schools and communities. Obtaining good validity and reliability, the SECQ (Zhou & Ee, 2012) took into account all the above-mentioned considerations related to SEL competence assessments. Firstly, regarding terminology, the SECQ is firmly based on the CASEL (2008) model, which has been supported by many researchers because it covers the most critical aspects of social and emotional competence as outlined in major theoretical models, and acts as a bridge between the theoretical and practitioner worlds (Zhou & Ee, 2012). Secondly, it is a 25-item, self-reporting measure for school-aged participants (3rd grade to 12th grade); thus, it is easily administered in school settings. Thirdly, it was developed with Singaporean children and adolescents of multi-racial and multi-ethnic diversity, to provide a different cross-cultural perspective; this is an important consideration, based on which we decided to adapt this questionnaire for Vietnamese adolescents instead of using the SEC-Q (Zych et al.; 2018) that was standardized only for Spanish adolescents.

SOCIAL AND EMOTIONAL COMPETENCE AND ITS COMPONENTS BASED ON THE CASEL FRAMEWORK

"SEL is the process through which children and adults acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions" (CASEL, 2008, p. 1). Accordingly, CASEL describes social and emotional competence as being based on five core interrelated competencies: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. Generally, these competencies are organised according to those which are intrapersonal — self-awareness, self-management — and those which are interpersonal — social awareness, relationship skills, and responsible decision-making (Taylor et al., 2018).

The self-awareness competency refers to the ability to recognise one's own emotions and thoughts, and strengths and weaknesses, with a well-grounded sense of confidence, optimism, and a "growth mindset." The self-management competency refers to managing stress effectively, controlling im-

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pulses, and motivating oneself to set and achieve goals. The social awareness competency refers to the ability to understand the perspectives of others and empathise with them, including individuals from diverse backgrounds and cultures. The relationship management competency refers to the ability to communicate clearly, listen well, cooperate with others, resist inappropriate social pressure, negotiate conflict constructively, and seek and offer help when needed. The responsible decision-making competency refers to the ability to make constructive choices about personal behavior and social interactions based on ethical standards, safety, and social norms (CASEL, 2008).

SOCIAL AND EMOTIONAL COMPETENCE AND MENTAL HEALTH IN ADOLESCENTS

In the measure validation process, understanding the relationship between social and emotional competencies and the indicators of mental health helps identify the predictive validity of the measure. Moreover, investigating this relationship helps form the principles to guide best practice for promoting social and emotional learning in schools (Elias et al., 2014).

As defined by the World Health Organization (WHO; 2014, para. 1) mental health is "a state of well-being in which the individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community." Social and emotional competence is increasingly recognised as playing a critical role in the promotion of positive mental health and the prevention of mental health disorders among children and youths. Specifically, research shows that social-emotional competence as an outcome of SEL can promote mental health in many domains, including reduced internalizing of problems (such as depression, emotional distress, social withdrawal, anxiety, and suicidal ideas) and reduced externalizing of problems (such as drug use, disruptive class behavior, noncompliance, aggression, delinquent acts, school violence, and disciplinary referrals) (Mahoney et al., 2018; Taylor et al., 2017; Wiglesworth et al., 2016).

Furthermore, social-emotional competence has been shown to be effective in helping students create safe and caring school climates, inclusive of safety and belonging, where being compassionate, empathetic, respectful, and supportive is valued and expected; in fact, the kind of environments that promote the mental health of all students and support the needs of students at risk (CASEL, 2008).

THE PRESENT STUDY

The aim of the current research was to adapt and validate the Vietnamese version of the SECQ. First, we translated and examined the factor structure of the SECQ with a sample of Vietnamese adolescents. Second, we determined whether SECQ and its subscales could predict mental health in adolescents. We hypothesised that a five-factor model would fit the data well, as in the original version. Based on the CASEL framework, we hypothesised that a hierarchical model consisting of five lower-order factors loading on one higher-order factor would also fit the data. Moreover, we expected that higher social and emotional competence would significantly predict lower levels of mental health problems.

METHOD

Participants and Procedures

For the questionnaire adaptation process, data were collected from 1,250 adolescent students from eight secondary schools from four provinces in Vietnam: Thua Thien Hue ($n = 287$); Quang Tri ($n = 324$); Tien Giang ($n = 234$); and Ninh Binh ($n = 405$). The students were stratified by gender (male = 634, female = 616) and school grade (8th grade = 623; 9th grade = 627). Administration of the questionnaire took place during school time in regular class groups of 40 to 45 students, with the assistance of eight survey proctors and 24 teachers. In each class, the survey proctors explained the general purpose of the survey, the nature of the research, and the expected duration of the survey. They also explained that participation in the survey was completely voluntary and that all responses would be kept confidential. Next, the students were given clear instructions and enough time to complete the questionnaire. In this case, willingness to return the completed questionnaire was taken as an indication of consent.

Measures

Social-Emotional Competence. The Vietnamese translated version of the SECQ by Zhou and Ee (2012) was used to assess the social-emotional competence of Vietnamese adolescents. The Singaporean original version consists of 25 items generated based on the theoretical framework developed by CASEL (2008), with a 6-point response scale (from 1 = *not at all true of me*, to 6 = *very true of me*). The instrument contains five subscales with five items for each: self-awareness (e.g., "I understand my moods and feelings"); self-management (e.g., "I stay calm when things go wrong"); social awareness (e.g., "If someone is sad, angry or happy, I believe I know what they are thinking"); relationship management (e.g., "I always try and comfort my friends when they are sad"); responsible decision-making (e.g., "When making decisions, I take into account the consequences of my actions").

Two independent translators translated the original questionnaire into Vietnamese. The first translator was from the psychology field, knowledgeable about the construct of the instrument in the desired target language. The other was not knowledgeable about psychology but was familiar with colloquial phrases, idiomatic expressions, and emotional terms in common use in Vietnamese. Two English versions were compared to generate one Vietnamese version. This procedure was based on the suggestions of Sousa and Rojjanasrirat (2011).

There were some small changes made in the Vietnamese version. First, it was difficult to understand why Zhou and Ee (2102) included the item "I can read people's faces when they are angry" in the self-awareness subscale. Therefore, based on the operational definition by CASEL (2008), we decided to replace it with "I can identify my strengths and weaknesses." Second, finding the item "I consider the criteria chosen before making a recommendation" (in the responsible decision-making subscale) too general in the way of Vietnamese adolescents' thinking and values, we replaced it with the item "I consider others' benefits before making a recommendation." Finally, we also tried to make the item "I understand why people react the way they do" (in the social awareness subscale) more understandable to Vietnamese adolescents by specifying it as "When a friend of mine gets angry/anxious/sad, I understand why he/she reacts that way." The reliability and validity of the Vietnamese version are presented in the Section "Results."

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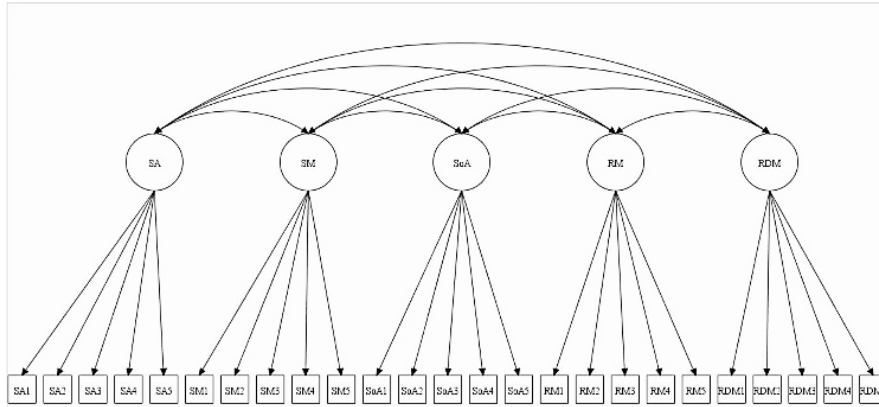Nguyen, T. V.
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Mental health. The Vietnamese version of the Youth Self Report (YSR/11-18; Achenbach, 1991) was used to measure adolescents' emotional difficulties and behavioral problems during the previous 6 months. The YSR contains 112 statements scored on a three-point Likert scale (0 = *absent*, 1 = *occurs sometimes*, 2 = *occurs often*). It is composed of two broad scales: *Internalizing symptoms* referring to problems of withdrawal, somatic complaints, and anxiety/depression; and *Externalizing symptoms* referring to problems of delinquent and aggressive behavior. This Vietnamese version was translated and validated by Dang et al. (2017). In the present study, Cronbach's alpha for the total scale was .72, and for internalizing and externalizing symptoms was .73 and .70, respectively.
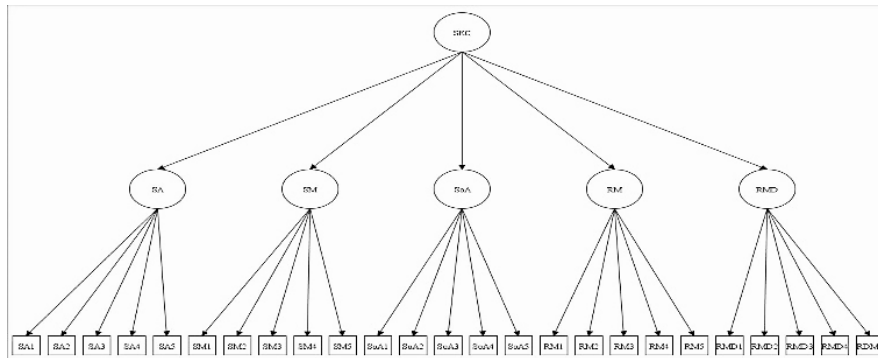
Data Analysis

In order to test the construct validity of the questionnaire, we submitted the data for confirmatory factor analysis (CFA) using Mplus version 8.4 software to assess the goodness of fit of the model. Maximum likelihood estimation and covariance matrices were used for the analyses of the (categorical) Likert-type items. Based on the findings of Zhou and Ee (2012) that the five-factor model (self-awareness, self-management, social awareness, relationship skills, and responsible decision-making) fitted the data acceptably, a multidimensional five-factor structure was tested (Figure 1a). However, in their study, Zhou and Ee (2012) omitted to test whether these five first-order factors could be explained in an overarching construct: social-emotional competence. Therefore, in this present study, in order to test the CASEL model empirically for measurement utility, as suggested by Ross and Tolan (2018), we investigated in the hierarchical model whether the five first-order factors were produced by a single higher-order factor of social-emotional competence, as based on the CASEL framework (Figure 1b), conceptualising SEL as an umbrella term for a variety of interdependent and integrated competencies (CASEL, 2008). Moreover, two alternative models were also tested and compared. First, a higher-order latent variable model was studied to determine whether relationships between the five factors could be explained by two overarching constructs: intrapersonal competence (self-awareness, self-management); and interpersonal competence (social awareness, relationship skills, and responsible decision-making; Taylor et al., 2018) (Figure 1c). Second, a global two-factor structure representing intrapersonal and interpersonal competence was also estimated (Figure 1d). Two information-theoretical indices — the Akaike information criterion (AIC) and the Bayesian information criterion (BIC) — were used to compare competing models and make a trade-off between model fit (i.e., –2*loglikelihood value) and model complexity (i.e., a computation of the number of parameters). A lower AIC value indicates a better trade-off between fit and complexity. There is no rule of thumb, but the model with the lowest AIC value should be selected. The two models are essentially distinguishable if the difference in their AICs is more than 2 and their BICs is between 2 and 6 (Fabozzi et al., 2014.)

The model that provided the better fit to the data was also tested for location, gender, and grade subsamples. In line with the suggestions by Ariely and Eldad (2012), and Steenkamp and Baumgartner (1998), a three-step process of measuring invariance (i.e., configural invariance, metric invariance, and scalar invariance) of the SECQ across (1) gender, (2) location, and (3) grade was used. The first step established the configural invariance model in which loadings and intercepts were freely estimated to make sure the factor structure was the same across groups in multigroup confirmatory factor analysis (MGCFA). In the second step, we established a metric invariance model, in which loadings were constrained to be equal

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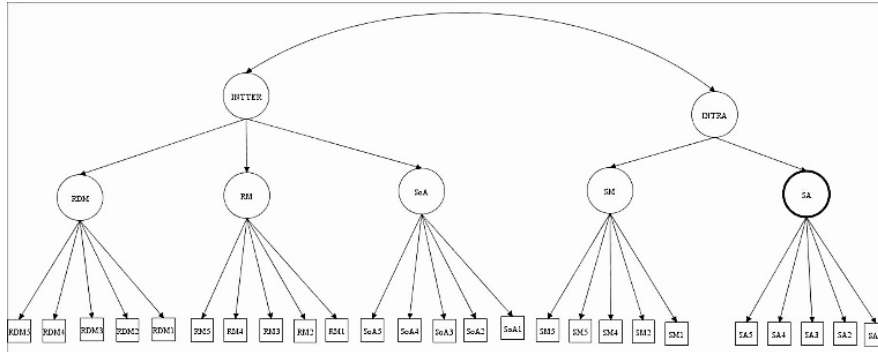Nguyen, T. V.
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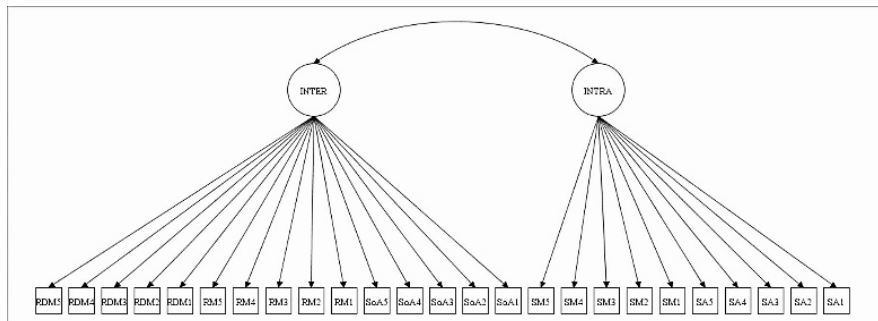
1a

1b

1c

1d

FIGURE 1
Proposed competing models.

Note: SEC = social and emotional competence; SA = self-awareness; SM = self-management; SoA = social awareness;
RM = relationship management; RDM = responsible decision-making.

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across groups and the intercepts were freely estimated to guarantee that factor loadings were similar across groups. The third step established the scalar invariance, in which loadings and intercepts were constrained to be equal across groups to guarantee that mean levels of latent constructs were also equivalent across groups. Given a well-fitted configural model, differences in comparative fit index (CFI) greater than .01 and differences in root mean square error of approximation (RMSEA) and standardized root mean residual (SRMR) greater than .015 are suggested to be an indication of substantial differences between models (Chen, 2007).

A good model fit is normed χ^2 (χ^2/df) < 3; RMSEA < .05; CFI > .90; and SRMR < .05 (Kline, 2005; Little, 2013; Paswan, 2009). In some cases, a CFI value of .80 represents progress and thus should be acceptable (Bollen, 1989).

Internal consistency for the scale scores was measured via the internal consistency coefficient alpha. Although useful in assessing internal consistency, coefficient alpha is not without limitations, which unfortunately are often underappreciated (John & Benet-Martìnez, 2000). To alleviate the limitations of coefficient alpha, as recommended by John and Benet-Martìnez, we evaluated the average inter-item correlation and average item-total correlation to estimate internal consistency instead of trying to achieve a particular level of Cronbach's alpha. Average inter-item correlations should fall somewhere between .15 and .50 (Clark & Watson, 1995). Average corrected item-total correlation is expected to be higher than .30 (Cristobal et al., 2007). Moreover, the internal consistency reliability was further determined by computing composite reliability (CR) estimated using Raykov's method in Mplus version 8.0 (Tseng et al., 2006). The cut-off value for CR was equal to or greater than .60 (Tseng et al., 2006).

For predictive validity testing, regression analyses were conducted using social and emotional competence in adolescents to predict mental outcomes. To avoid bias due to the measurement error, factorial scores were saved to perform regression analyses. First, two separate simple linear regression models were used in which overall SEC was entered as the input variable and externalizing and internalizing problems as the single output variable. Next, two separate multiple linear models were used, in which the five components were entered as the input variables and externalizing and internalizing problems as the single output variable. Considering the large sample size, a significance level of $p < .01$ was put forward (Kim, 2015). Mplus version 8.3 was used for CFA and SPSS 24.0 was used for descriptive and inferential statistics.

RESULTS

Confirmatory Factor Analysis of the SECQ-Vietnamese Version

The five inter-correlated factor model (self-awareness, self-management, social awareness, relationship management, and responsible decision-making), as suggested by Zhou and Ee (2012) in their original version, fit the data sufficiently (Table 1). As can be seen in Table 1, the global two-factor model does not fit the data adequately. However, the hierarchical model in which the five first-order factors were produced by two higher-order factors of overall intrapersonal and interpersonal competence fits the data well. Similarly, the hierarchical model in which a single higher-order factor of social and emotional competence explains the inter-correlations between the five factors also fits the data adequately (Table 1).

Compared to the other models, the hierarchical model has the lowest AIC/BIC values and therefore the best trade-off between model fit and model complexity. With the purpose of both adapting the SECQ questionnaire by Zhou and Ee (2012) and empirically testing the CASEL model for measurement

utility, we decided to select for further analysis a hierarchical model of a single higher factor. The completely standardized factor solution for the whole sample is presented in Figure 2.

TABLE 1
Goodness-of-fit indices for the Vietnamese SECQ ($N = 1,250$)

Models	Normed χ^2	CFI	RMSEA	SRMR	AIC	BIC
Five factors	2.43	.901	.034	.038	99977.209	100410.227
Five factors + one higher-order factor	2.42	.901	.034	.039	99974.101	100387.681
Five factors + two higher-order factors	2.43	.900	.034	.039	99978.752	100391.355
Two global factors	4.11	.779	.050	.052	100583.624	100973.572

Note. CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean residual; AIC = Akaike information criterion; BIC = Bayesan information criterion.
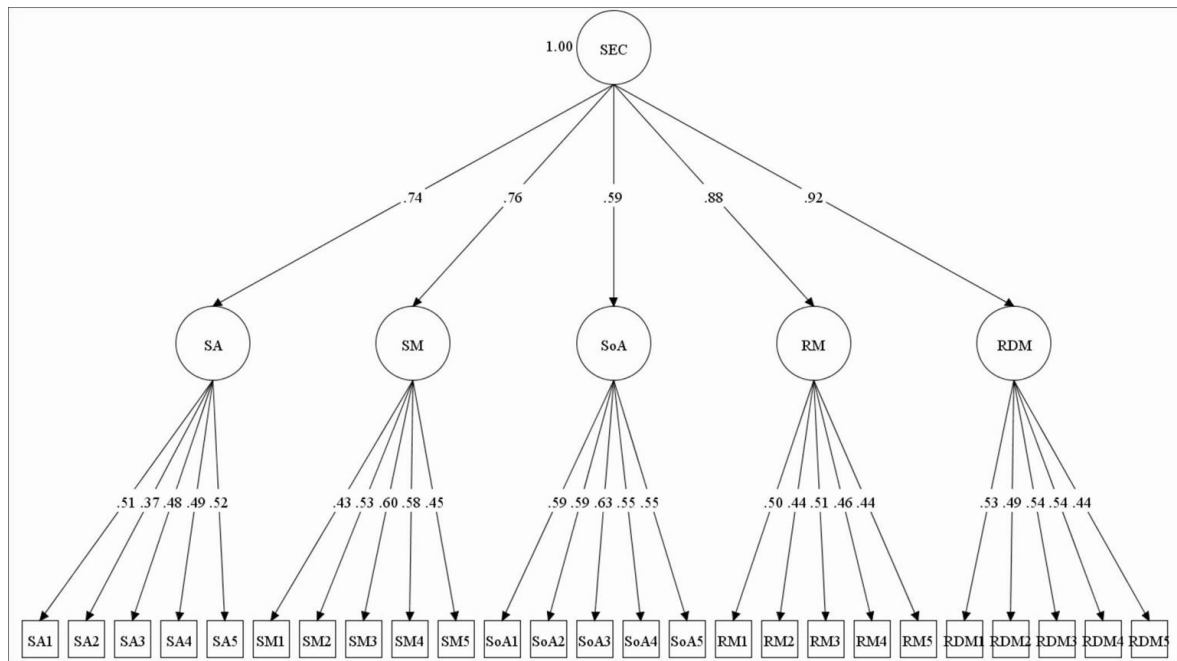

FIGURE 2
The measurement model of the Vietnamese adapted version of SECQ ($N = 1,250$).
Note: SEC = social and emotional competence; SA = self-awareness; SM = self-management; SoA = social awareness; RM = relationship management; RDM = responsible decision-making.

Next, data for three subgroups (gender, location, and grade) were submitted for CFA to assess the goodness of fit of the hierarchical model of a single higher factor. The results show that the hierarchical model is equally valid for all subgroups (Table 2).

As shown in Table 3, the hierarchical model with a single higher factor supported configural invariance at the first step, because all goodness-of-fit statistics are within the acceptable score range for good model-data fit. These findings demonstrate that the model is significant and invariant in each gender, location, and grade subgroup.

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TABLE 2
Goodness-of-fit indices for the Vietnamese SECQ across subgroups

Sample	Normed χ2	CFI	RMSEA	SRMR
Males (*n* = 634)	1.67	.913	.034	.043
Females (*n* = 616)	1.81	.892	.043	.052
Grade 8 (*n* = 623)	1.90	.884	.041	.051
Grade 9 (*n* = 627)	1.67	.914	.033	.043
Hue Province (*n* = 287)	1.42	.881	.042	.061
Quang Tri Province (*n* = 324)	1.49	.893	.043	.061
Ninh Binh Province (*n* = 234)	1.39	.882	.042	.061
Tien Giang Province (*n* = 405)	1.75	.844	.041	.052

Note. CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean residual.

TABLE 3
Test of measurement invariance for the multigroup model across subgroups

Models	Normed χ^2	CFI	RMSEA	SRMR	ΔCFI	ΔRMSEA	ΔSRMR
Gender							
Configural invariance	1.43	.921	.034	.042			
Metric invariance	1.47	.914	.033	.042	.007	.001	.000
Scalar invariance	1.52	.914	.041	.052	.000	.008	.010
Grade							
Configural invariance	1.49	.913	.041	.052			
Metric invariance	1.54	.904	.042	.053	.009	.001	.001
Scalar invariance	1.57	.903	.051	.062	.001	.009	.009
Location							
Configural invariance	1.53	.893	.051	.062			
Metric invariance	1.61	.884	.051	.061	.009	.000	.001
Scalar invariance	1.68	.884	.062	.072	.000	.011	.011

Note. CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean residual.

As for the second and third steps, it can be seen that the model provides metric and scalar invariance across gender, location, and grade subgroups. The differences in the goodness-of-fit statistics (CFI, RMSEA, and SRMR) fall within the recommended range. Neither item bias nor score bias is observed among gender, location, and grade subgroups.

The estimated correlations between the factors are contained in Table 4. As can be seen, besides some weak and moderate correlations, other inter-correlations between factors are rather strong and meaningful.

The internal consistency for each scale is also reported in Table 4. Subscale Cronbach's alphas range from .59 to .72. The average inter-item correlations range from .22 to .34, and the average corrected item-total correlations is over .30 (Table 4). The Cronbach's alpha for the 25-item SECQ is .84. The CR values of the factors of the SECQ are also from .59 to 72.

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TABLE 4
Internal consistencies, descriptive statistics, and correlations of SECQ subscales

	α	Average $r_\text{item-item}$	Average $r_\text{item-total}$	CR	M	SD	2.	3.	4.	5.
1. Self-awareness	.59	.22	.34	.59	4.53	0.77	.37***	.26***	.36***	.44***
2. Self-management	.65	.24	.40	.65	3.82	0.84		.30***	.42***	.43***
3. Social awareness	.72	.34	.47	.72	1.83	0.92			.38***	.37***
4. Relationship management	.59	.22	.34	.59	4.27	0.78				.35***
5. Responsible decision- making	.63	.22	.34	.64	4.20	0.79				.49***

Note. CR = composite reliability.
***$p < .001$.

Predictions of Mental Health

The R-squared values of the simple regression models are .16 and .11, indicating that, overall, SEC explains 16% of the variance in externalizing behavior problems, $F(1,478) = 48.675$, $p < .001$, and only 11% in internalizing behavior problems, $F(1,478) = 10.418$, $p < .05$. As can be seen in Table 5, higher social and emotional competence significantly predict the decline of externalizing behavior problems in adolescents, including delinquent and aggressive behavior. Unexpectedly, internalizing behavior problems are not significantly predicted by overall social and emotional competence.

TABLE 5
Correlations and standardized regression coefficients among social and emotional competence
and adolescent mental health

	Internalizing problems	Externalizing problems
Overall social and emotional competence	−.11	−.22***
Self-awareness	−.15**	−.11
Self-management	−.24***	−.26***
Social awareness	.21***	.23***
Relationship management	.09	−.24***
Responsible decision-making	.06	−.12

Note. **$p < .01$. ***$p < .001$.

The R-squared values of the multiple regression models are .18 and .14, indicating that the five components of SEC explain 18% of the variance in externalizing behavior problems, $F(1,478) = 36.530$, $p < .001$, and 14% of the variance in internalizing behavior problems, $F(1,478) = 19.386$, $p < .001$. Specifically, both increased self-awareness and self-management competence significantly predict decreased internalizing problems in adolescents, while higher self-management and relationship management competence significantly predict decreased externalizing problems in adolescents. In this present study, there are no predictive linkages between responsible decision-making competence and internalizing and externalizing problems in adolescents. High social awareness competence significantly predicts increased internalizing as well as externalizing behavior problems among adolescents.

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DISCUSSION

Confirmatory Factor Analysis of the SECQ-Vietnamese Version

CFAs were performed on the four competing models, showing goodness of fit of three models: a five-factor model which included five inter-correlated SEL components; a hierarchical model in which the five first-order factors were produced by a higher-order factor of social and emotional competence; and a hierarchical model in which the five first-order factors were embedded in two larger constructs, intrapersonal and interpersonal competence. Moreover, based on AIC and BIC results, the hierarchical model of a single factor could be regarded as the best model. The results are consistent with the findings from the studies by Zhou and Ee (2012). The SECQ includes five subscales (i.e., self-awareness, self-management, social awareness, relationship management, and responsible decision-making) and contributes to the testing of the CASEL model in a normative sample, as recommended by Ross and Tolan (2018). The results support the conclusion that social and emotional learning, as proposed by CASEL (2008), is more than an umbrella term with a list of constructs and is a complete and coherent framework that is typically identified by a set of interdependent dimensions. Similarly, the relationships between the five factors were quite logical, confirming that the five separate but correlated factors assessed distinct but related components of social and emotional competence. As such, the results confirm the convergent validity of this new tool, as well as the interdependence of the five dimensions. Subject to indications of a good fit, we also proceeded to test factorial invariance between males and females, and between younger and older adolescents, and among students from different provinces. The goodness-of-fit indices also show that the single higher-order factor of social and emotional competence fits the data quite acceptably across subgroups. Furthermore, it could be observed that there is no invariance problem in the SECQ items across gender, location, and grade subgroups, indicating that in both male and female adolescents, and in adolescents from all location and grade groups, there is the same underlying factor structure, that is, they perceive and interpret the content of the items in a similar way and the social and emotional competencies are found on the same scale or unit of measurement. All these findings further confirm the construct validity of the questionnaire.

In terms of internal consistency, the Cronbach's alpha of the whole 25 item SECQ is satisfactory. Compared to the original version, the Cronbach's alphas of subscales in this adapted SECQ are rather low; however, they almost meet the criteria for acceptable internal consistency of newly developed and adapted scales, in which the cut-off value for the alpha coefficient could be set up for .60 (Nunally & Bernstein, 1994). Nevertheless, the mean inter-item correlation falls within the recommended range and the average corrected item-total correlations were satisfactory. The subscales of SECQ also demonstrate acceptable composite reliability, approximately obtaining the prescribed values of .60 for CR. These indices demonstrate the acceptable levels of internal consistency of the Vietnamese SECQ.

The findings show that the Vietnamese SECQ has validity for explaining mental health. Overall, adolescents with higher social and emotional competence might tend to experience less externalizing behavioral problems. Though the R-squared values are small, they are significantly different from 0, indicating that the regression model has statistically significant explanatory power. Moreover, a low value of R^2 indicates merely that the dependent variable is affected by a host of other factors in addition to the ones considered in the analysis. Therefore, it is appropriate to consider a small but reliable relationship (Moksony, 1999). Accordingly, it is worthy of note that social and emotional learning may be an adaptive process that increases psychological resilience and well-being in adolescents, as suggested by previous researchers (e.g., Mahoney et al., 2018; Taylor et al., 2017; Wiglesworth et al., 2016). Specifically, adolescents with greater self-awareness and self-

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management competencies seem to be less likely to engage in internalizing problems, such as anxiety and depression; also, those whose self-management and relationship skills are stronger might experience fewer externalizing behavior problems, such as delinquent and aggressive behavior. In this study, self-management seems to predict mental health stronger than do other components. This finding supports the conclusion that improvements in self-management skills may foster improvements in quality of life and depressive symptoms (Musekamp et al., 2017). In another aspect, self-awareness and self-management competencies can be regarded as key aspects of mindfulness (Vago & Silbersweig, 2012). As adolescents notice what is happening inside them, they can acknowledge and accept this as an inevitable part of being human rather than being critical of themselves. They can monitor their inner world, their thoughts and emotions, and monitor the relationship with others, which helps prevent them from internalizing as well as externalizing problems. Previous research on adolescents shows that being mindful enhances positive emotions, happiness, contentment, interest, and affection, as well as good functioning (e.g., Kuyken et al., 2013).

Surprisingly, greater social awareness significantly predicts increases in both internalizing and externalizing problems. Though the effect was rather weak, it is also worthy of consideration. As shown, social awareness is significantly related to empathy with others. Emotional empathy has, in most research, a positive relationship with depression (Ferri et al., 2015). Indeed, there is a risk of empathic distress in which adolescents take extreme levels of empathy (Wagaman, 2011). With high affective empathy, adolescents embody the negative emotions they pick up from others. They feel others' pain emotionally and physically, resulting in their body and mind being emotionally hijacked. Furthermore, this empathy paradox, where it is counterintuitive for most of us to consider that empathy can be hurtful, also underlies possible aggressive behavior. Keller and Pfattheicher (2013) explored the paradoxical relationship between compassion and hostility. It seems not too surprising that individuals who experience strong, compassionate feelings concerning the suffering of others may develop a hostile attitude toward a third person who is exploiting and mistreating others. These findings help us to explain the positive relationship between social awareness and internalizing and externalizing problems among adolescents. Previous studies have also suggested that self-management is an important moderator between empathy and psychological health (Powell, 2018) and between compassion and hostility (Keller & Pfattheicher, 2013).

LIMITATIONS AND FUTURE DIRECTIONS

Several limitations to this preliminary study need to be acknowledged. First, these findings are limited by the use of a cross-sectional design. The relationship between social and emotional competence and mental health in adolescents, therefore, should be interpreted cautiously. Therefore, future studies should consider the longitudinal approach in the scale development, both to facilitate greater understanding of the analyzed variables and to assess the predictive validity. Second, the self-report method might raise the possibility of participant bias, social desirability, demand characteristics, and response sets. Future research may incorporate other objective or independent measures to reduce the impact of these biases. Third, while different types of reliability indexes were indicated to ensure the internal reliability of the scale, this present study did not determine test-retest reliability. Besides, only construct and predictive validity was reported. Future research should look to establish test-retest reliability and additional forms of validity. Fourth, all the participants of the study were student adolescents; therefore, this study cannot be generalized to adolescents in other settings. The generalizability of results may be more applicable if more heterogeneous samples are used in future research. Finally, the study may suffer from the low statistical power of some regression models, which may increase the likelihood that a statistically significant finding represents imprecise prediction. However, in the

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social sciences, where it is hard to specify models because social phenomena are complex and multidimensional, low R-squared values are often expected.

CONCLUSION

Based on data from 1,250 adolescents, a reliable and valid questionnaire of social and emotional competence for adolescents, based on the CASEL model, was successfully adapted in the Vietnamese context. The Vietnamese SECQ can facilitate the evaluation of factors associated with the social and emotional competence of adolescents in Vietnamese settings.

In general, the findings support the conclusion that building social and emotional competence is a way to achieve better mental health in adolescents. Our findings may have important implications for SEL programmes that seek to enhance mental health in adolescents. Effective social and emotional learning programming is required to help students simultaneously develop the five key dimensions. More focus should be put on the self-management competency because its predictability on mental health is the most considerable. Notably, efforts to enhance adolescents' social awareness should be part of broader efforts to promote adolescents' self-management.

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