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Development and Validation of the Social Emotional Competence Questionnaire (SECQ)

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Reliable and valid measures of children's and adolescents' social emotional competence (SEC) are necessary to develop in order to assess their social emotional development and provide appropriate intervention in child and adolescent development. A pool of 25 items was created for the Social Emotional Competence Questionnaire (SECQ) that represented five dimensions of SEC: self-awareness, social awareness, self-management, relationship management and responsible decision-making. A series of four studies are reported relating to the development and validation of the measure. Confirmatory factor analyses of the responses of 444 fourth-graders showed an acceptable fit of the model. The model was replicated with another 356 secondary school students. Additional studies revealed good internal consistency. The significant correlations among the five SEC components and academic performance provided evidence for the predictive validity of the instrument. With multiple samples, these results showed that the scale holds promise as a reliable, valid measure of SEC.

Keywords: Social and Emotional Learning (SEL); Social and Emotional Competence (SEC); assessment; Social and Emotional Competence Questionnaire (SECQ)

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In recent years, social emotional learning (SEL) has become an important element in basic education that has drawn the attention of educators and researchers. SEL is a process whereby children and adults acquire the knowledge and skills required to function effectively in various social contexts. It is related to five core competencies, namely the acquisition of skills to recognise and manage emotions, develop care and concern for others, make responsible decisions, establish positive relationships, and handle challenging situations effectively (CASEL, 2003). The development of social emotional competence (SEC) as an outcome of SEL is believed to enable learners to acquire

the ability to self-monitor their behaviors and self-regulate their learning (Wilson, Gottfredson, & Najaka, 2001; Zins, Weissberg, Wang, & Walberg, 2004). Consequently, curriculum designers and researchers are keen to devise intervention programs with the purpose of enhancing SEC. A recent meta-analysis of over 200 SEL evaluations involving more than 270,000 students showed that, in addition to a wide range of positive social and emotional benefits, the academic achievement of students who participated in SEL programs improved significantly (Durlak et al., 2011). Students who are more self-aware and confident about their learning abilities are likely to persevere and tend to perform better, as they are likely to manage their stress and organize themselves better in their work. Likewise, students who make responsible decisions about their learning are able to use their relationship skills to communicate better to overcome their obstacles in problem-solving (Zins et al., 2004). Hence, the capability of self-understanding and greater emotional management, coupled with the ability to deal effectively with others and different situations, positively impact the capacity to negotiate one's both academic and personal lives.

Components of Social and Emotional Competence

There seems to be little common consensus about the operationalization of social and emotional competence. The inconsistency in the definition is witnessed by the various terminologies used, such as 'social and emotional intelligence' (Salovey & Mayer, 1990), 'emotional literacy' (Park, Haddon, & Goodman, 2003), and 'social and emotional competence' (Elias et al., 1997). We decided to adopt the CASEL (Collaborative for Academic, Social, and Emotional Learning) model (2008) for this research, as it is a cohesive and comprehensive SEL model which covers the most critical aspects of social and emotional competence as outlined in major theoretical models (e.g., Bar-On, 1997; Salovey & Mayer, 1990), and acts as a bridge between the theoretical and practitioner worlds.

According to CASEL (2008), SEC encompasses a set of skills including recognizing and managing our emotions, developing caring and concern for others, establishing positive relationships, making responsible decisions, and handling challenging situations constructively and ethically. The CASEL model views social emotional skills at two levels: the intrapersonal and interpersonal level. The former involves one's understanding and regulation of own emotions, whereas the latter involves understanding of others' emotions, relationship with others as well as responsible decision making skills. There are five domains in this framework: *self-awareness; social awareness; self-management; relationship management;* and *responsible decision-making*

Self-awareness includes skills in recognizing and identifying one's own strengths and weaknesses, feelings and emotions and understanding how they may affect one's performance (Beland, 2007; Zins & Elias, 2006). It is a cognitive capacity that marks a specific step in one's self-development (Asendorpf & Baudonnière, 1993). Students who are aware of their strengths and

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emotions are likely to be reflective and hence recognize their own state of being, and be clear about the reasons for their emotional responses. Froming, Nasby, and McManus (1998) found that children (especially boys) appeared to regulate their behavior using prosocial self-schemas when they were self-aware. As Carver and Scheier (1981) argued, the state of self-awareness is necessary to engage one into the self-regulating mechanism. If students can be nurtured to be metacognitively aware of their emotions, they are likely to develop better self-control of their emotions and thus make more responsible decision-making in life.

Self-management relates to the ability to manage one's own impulses and emotions. Self-regulation of one's emotions is important for developing close relationships, succeeding at work and maintaining physical health. Empirical data shows that children who can manage their emotional experiences in an emotionally-arousing play situation are more successful in their peer relationships (Hubbard and Coie, 1994). In contrast, children who routinely experience high intensity emotions without constructive ways of managing such experiences, often engage in socially inappropriate behaviors and are at risk for low peer status (Eisenberg et al., 1995). In school contexts, students who cannot control their emotions are unlikely to think clearly and perform well (Weissberg & Elias, 1993).

Social awareness is the ability to read other persons' cues and to understand, and appropriately respond to their feelings (Frey, Hirschstein, & Guzzo, 2000). This is closely linked to empathy, the capacity to share the emotional state of another person and thus relate better with them (Eisenberg, 1986). Empathy is concerned with the ability to understand another person's perspective in interpreting thoughts and feelings, demonstrating an awareness of the sensitivity of complex issues, and attempting to clarify ambiguities that leads to harmonious functioning between individuals. Research has shown that empathetic children tend to show greater attentional focus, perceptual sensitivity, and inhibitory control (Miller & Jansen op de Haar, 1997), and more altruistic (Ukegawa, 1996) and pro-social behaviors (Litvack-Miller, McDougall, & Romney, 1997).

Relationship management: several lines of research suggest that peers play an essential role in children's school engagement at school (e.g., Ladd, 1999). Studies show that children who are rejected by their peers, who experience more loneliness and social isolation, and who affiliate with more disaffected peers are themselves more likely to become disengaged from academic activities and eventually leave school (Sage & Kindermann, 1999; Wentzel, 1999). On the other hand, Ryan and colleagues (1994) found that seventh and eighth graders who felt more secure with their peers, reported higher identity integration and general self-esteem. It should be noted, however, findings are mixed with regards to peer relations' direct effect on academic outcomes.

Responsible decision-making refers to the ability to consider ethical, safety, and societal factors in making decisions, such that individuals can deal responsibly with daily academic and social situations and contribute to the well-being of one's school and community (CASEL, 2003). Significant correlations were found between metacognition, decision-making style and performance

on a decision-making task (Ormond et al., 1991). Responsible decision-making also requires training in decision-making that emphasizes the building of a sense of social responsibility towards others (CASEL, 2003).

Existing measurements of SEC

Along with the upsurge of SEL programs, researchers and practitioners have developed a range of measures suitable for assessing social and emotional competence in children and young people as an outcome of program implementation. In a recent review of existing measures of social and emotional competence in children and young people by Humphrey and colleagues (2011), 12 measures with an established and sustained base in the academic literature, were reviewed in depth in relation to their implementation characteristics and psychometric properties. The authors concluded that despite the great interest in SEL over the last two decades, measure development in this field has struggled to keep pace. During their filtering process in the review, 135 measures were first excluded from a pool of 187 measures because they were lengthy, did not allow self-report by students, were targeted at adults or special populations only, or focused exclusively on just one specific aspect of social and emotional competence. Another 40 measures were further excluded from a list of 52 measures because of their infrequent appearance in the literature (for a complete list see Humphrey et al., 2009).

The 12 retained measures in their review vary greatly in both their implementation characteristics and psychometric properties. Some key issues raised by Humphrey et al.'s (2011) review include the fact that the more well-established measures are only concerned with social skills, as opposed to emotional skills or both; the majority of measures have been developed and standardized with American populations; and that only a very small number of measures have been used on a frequent basis.

To address the first concern, we based our measure of SEC on the CASEL model (2008), which provides a strong framework for both the social and emotional dimensions of SEL. In practice, dozens of other instruments exist that measure one or more aspects of SEL. However, the availability of tools that accurately cover all areas of this model is extremely limited.

Secondly, the current study employed a non-American sample (Singaporean children and adolescents) to provide a different cross-cultural perspective. SEL was formally introduced by the Ministry of Education to the schools in Singapore in 2005 not only to raise academic success but also to promote the five SEL core competencies as outlined by CASEL (2008). It is believed that developing resilience in our children and adolescents is critical as we prepare them to face a globalised world characterised by intense competition and uncertainty brought about by rapid changes (Fu, 2008). This is especially important in multi-racial Singapore with its great diversity of people. As SEL is still a relatively new initiative in Singapore, different programs are still ongoing in schools. Hence, a well-developed measure is necessary for educators and researchers to assess the social

emotional development in students, especially those who have undergone any training. Lastly, we expect this measure to be a useful tool for both researchers and practitioners in the field to gauge children's and adolescent's social emotional status and assess the effectiveness of SEL programs that aim to promote the five SEC components. The purpose of the present study was to develop such a measure.

Development of Social-Emotional Competence Questionnaire (SECQ)

The Social-Emotional Competence Questionnaire (SECQ) is a survey designed to assess how children and adolescents (grades 3 to 12) are aware of themselves as well as others and how they respond to the contexts of family, school, and community personally, socially and ethically. The SECQ is designed to be sensitive to changes over time, and intends to assist school practitioners and evaluators in assessing elementary and secondary students' level of SEC and to subsequently identify those areas deemed in need of improvement.

A pool of 25 items was generated on the basis of the theoretical model developed by CASEL (2008). Each item selected for the initial pool of items reflected one of the five areas in the framework. Sample items include: "*I understand my moods and feelings." and "I know when I am moody*." (self awareness); "*If someone is sad, angry or happy, I believe I know what they are thinking*." and "*I understand why people react they way they do*." (social awareness); "*I stay calm when things go wrong*." and "*I can control the way I feel when something bad happens*." (self management); "*I always try and comfort my friends when they are sad*." and "*I try not to criticize my friend when we quarrel*." (relationship management); and "*When making decisions, I take into account the consequences of my actions." and "I consider the strengths and weaknesses of the strategy before deciding to use it." (*responsible decision-making).

Three steps led to the identification and development of the SECQ. Firstly, an extensive literature review grounded in the CASEL framework was conducted to identify the key characteristics of each dimension of SEC. Secondly, existing scales that tap into different aspects of SEC were examined. Lastly, SEL experts, including local scholars in this field and in the SEL program in the Ministry of Education (Singapore), examined and evaluated the items in terms of fidelity to the relevant construct, as well as clarity, including the semantics and language employed. The resulting instrument contained five subscales with five items for each component: self-awareness; social awareness; self-management; relationship management and responsible decision-making. The instrument was administered in English using a scale from 1 (not at all true of me) to 6 (very true of me).

Data analysis overview

Four studies were carried out to provide the empirical evidence for the reliability and validity of the measure. The sample was recruited from three different primary schools and one secondary

school in Singapore. Study 1 was a confirmatory factor analysis with fourth-graders, to provide evidence to the construct validity. Study 2 tested whether the best-fitting model for the primary students' sample could be tested with data from the secondary school sample. Study 3 examined whether the reliability could be replicated with a different sample, and Study 4 sought to provide evidence for the measure's predictive validity by linking SEC measures to academic achievement scores.

Study 1: Confirmatory Factor Analysis

Participants and procedure

Five hundred and seventy-nine fourth-graders responded to the questionnaire in English. Data were collected during regular class time with teachers giving the instructions. One hundred and thirty-five students' data were incomplete and subsequently removed, leaving a final sample size of 444, with 52.2% being boys. The sample consisted of a range of ethnic groups, namely 73.0% Chinese, 15.9% Malay, 6.1% Indian, 2.9% English, and 2.0% others.

Results

The validity of a five-factor structure for primary school students was tested using Confirmatory Factor Analysis. The analyses were conducted on covariance matrices, and the solutions were generated on the basis of maximum-likelihood estimation. Specifically, the model hypothesized a priori that: (a) responses to the SECQ could be explained by the five factors labeled self-awareness, social awareness, self-management, relationship management and responsible decision-making; (b) each item would have a nonzero loading on each factor that it was designed to measure and zero or extremely low loadings on all other factors; and (c) the five factors were correlated.

Multiple criteria were used in determining the goodness of fit to the data for this hypothesized structure, including the chi-square degree of freedom ratio (χ^2/df), the comparative fit index (CFI), the incremental fit index (IFI), and the root mean square error of approximation (RMSEA). χ^2/df less than 3.0 indicates a good model fit; CFI and IFI values near 1.0 are optimal, with values greater than .90 indicating acceptable model fit (Kline, 2005). Meanwhile, the RMSEA values less than .05 indicate good fit, with values as high as .08 representing reasonable errors of approximation in the population (Browne & Cudeck, 1993; Byrne, 2008).

Basic CFAs and internal consistencies

As shown in Table 1, initial testing of the hypothesized model for this group yielded a marginally good fit as indicated by the following criteria: χ^2= 539.98 (df = 265, $p < .001$), χ^2/df = 2.04, RMSEA = .048, CFI = .89, IFI = .89. In addition, all factor loadings loaded on the designated

factor and most were acceptable (see Figure 1, with all loadings being above .45 except for 2 items: "*I know when I am moody"* [SA4]; and "*I try not to criticise my friend when we quarrel"* [RM3]). All of the subscales demonstrated acceptable levels of internal consistency. For self-awareness, social awareness, self-management, relationship management and responsible decision-making, the Cronbach's alpha were .62, .72, .68, .62 and .72, respectively.

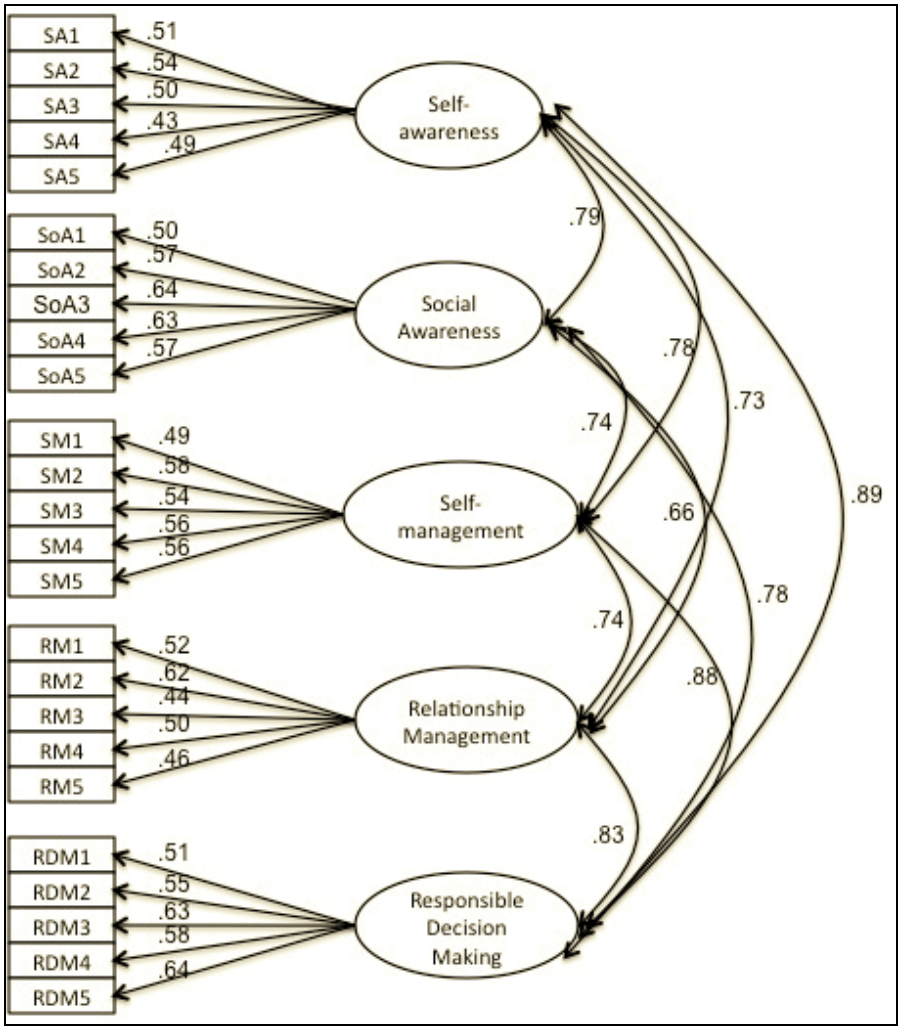

***Figure 1*. Confirmatory factor analysis (CFA) results for the five-factor SEC model in Study 1 (N = 444).**

Comparison with alternative models

Given the low factor loadings of the two items as well as the intention to improve the model fit, additional CFAs investigated the fit of alternative models and compared the fit of the hypothesized and alternative models. Two alternative models were tested: (a) 23 items with the removal of all the items with factor loadings below .45; (b) with an even stricter criterion, 20 items with the removal of all the items with factor loadings below .50. To compare the relative fit of the three models, it has

been suggested that a decreased χ^2/df ratio denotes an improved model fit (Hoelter, 1983). However, the χ^2 statistic is known to be sensitive to multivariate non-normality and sample size, which may cause uncertainty concerning the overall appropriateness of a study's model based on this particular measure (Cheung & Rensvold, 2002; Hu & Bentler, 1995). Thus this fit index was reported, but not given much weight in terms of the final model selection decision, especially when the χ^2/df values in the three models all showed acceptable model fit. Further, none of the CFI and IFI exceeded .90, yet only the original model showed a highly close value in these two indices, indicating a reasonable model fit (Kline, 1998; Schumacker & Lomax, 1996). Finally, ECVI was used as a single sample estimate of cross-validation to assess how well the three models could be generalized to other samples. "The model with the smallest ECVI indicates the model with the best fit." (Hoekstra et al., 2008, p.1558). For the above reasons, the original model was deemed the best-fitting model (see Table 1).

Table 1: Goodness-of-fit indexes for different models of SECQ in Study 1(N = 444)

	Overall fit indices				
Model	**χ^2/df**	**RMSEA**	**CFI**	**IFI**	**ECVI**
Original Model	2.04	.048	.89	.89	1.60
23-item Model	1.83	.073	.76	.77	3.57
20-item Model	1.63	.064	.83	.84	2.58

Note. CFI = comparative fit index; IFI= incremental fit index; RMSEA = root-mean-square error of approximation; ECVI = expected cross-validation index.

Study 2: Construct Validity Replication

Participants and procedure

The purpose of the second study was to reassess scale items in a different sample for dimensionality, and fit. Three hundred and fifty-six secondary school students in Singapore responded to the survey in English with teachers giving instructions during regular class time, as conducted with the primary school students (50.3% males; 48.7% Chinese, 34.8% Malay, 12.7% Indian, 0.6% English, and 3.1% others).

Results

The best-fitting model for the primary school sample was tested with data from the secondary school sample. The CFA results again supported the hypothesized model, as not only were all factors loaded on their respective latent factors with acceptable loadings (see Figure 2, all loadings above .50 except for 3 items with loadings above .45: "I know when I am moody." [SA4]; "I can read people's faces when they are angry." [SA5]; and "*I will always apologise when I hurt my friend unintentionally*". [RM1]), but also most fit statistics nearly met the criteria for an acceptable fitting

model: χ^2= 712.20 (df = 265, p < .001), χ^2/df = 2.69, RMSEA = .069, CFI = .86, IFI = .86. It should be noted that although the CFI and IFI indices fell into the "marginal" ranges (above .85 but below .90), "it is especially important to consider the consistency of model fit expressed by the various types of fit indices in tandem with the particular aspects of the analytic situation" (Brown, 2006, p. 87). In addition, all of the subscales demonstrated good levels of internal consistency with Cronbach Alpha being .71, .78, .76, .73 and .79, for self-awareness, social awareness, self-management, relationship management and responsible decision-making, respectively.

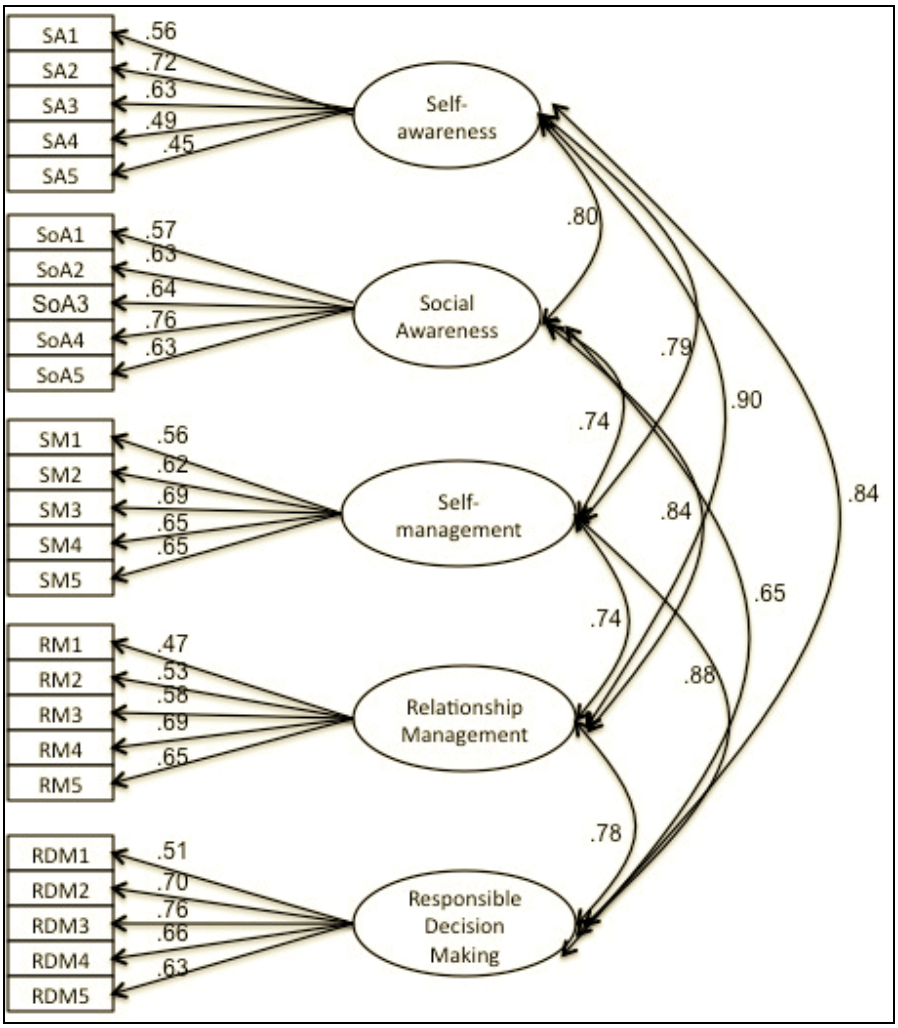

***Figure 2*. Confirmatory factor analysis (CFA) results for the five-factor SEC model in Study 2 (N = 356).**

Study 3: Internal Consistency Replication

In order to confirm the prior findings of internal consistency, we asked 344 students (54.5% boys; 76.1% Chinese, 5.9% Malay, 14.5% Indian, 0.9% English, and 2.7% others) from another

secondary school in Singapore to respond to the scale in English with teachers' instructions given as before. The crosscheck of internal consistency revealed Cronbach's alphas of .72, .77, 73, .71, and .76 for self-awareness, social awareness, relationship management, self-management, and responsible decision-making, respectively.

Study 4: Predictive Validity

In Study 4, we examined whether scores on the SECQ predicted students' academic performance in different subjects. One hundred and sixty-seven fourth-graders (57.7% boys; 81.4% Chinese, 8.1% Malay, 6.2% Indian, 2.5% English, and 1.9% others) from a different public primary school in Singapore responded to the scale in English during regular class time at the start of the semester. Their final exam scores in English, Math and Science from the previous semester were collected from school, as the measurement of their academic achievement. The removal of 35 missing data led to a final sample size of 132.

Table 2 presents the means and SDs of the five SEC measures and achievement sores in English, Math and Science as well as the correlations among them. As expected, most of SEC dimensions were significantly positively correlated with exam scores, although the correlations were only moderate to low ($.19 \leq rs \leq .29$, $ps < .01$). Next a series of regression analyses were undertaken, by regressing achievement scores in different subjects with the five SEC variables. No significant results were found. However, when the relationship was examined in boys and girls separately, relationship management appeared to be the only significant predictor in English ($\beta = .73$, $p < .01$) and Math ($\beta = .55$, $p < .05$) for girls. It seemed that the more female students were able to manage their relationships in schools, the more likely they were to achieve better academic outcomes. These results provided some evidence of predictive validity.

Table 2 Mean, SDs, and zero-order correlations among SEC variables and achievement in Study 4 *(N = 132)*

	Mean	SD	1	2	3	4	5
1. Self-awareness	4.74	1.05	-				
2. Self-Management	4.05	1.18	.60**	-			
3. Social Awareness	4.17	1.17	.65**	.60**	-		
4. Relationship Management	4.27	1.07	.49**	.50**	.44**	-	
5. Responsible Decision Making	4.25	1.06	.65**	.62**	.65**	.52**	-
6. English Score	56.48	20.37	.19*	.16	.19*	.27**	.26**
7. Math Score	62.75	22.62	.24**	.16	.20*	.27**	.30**
8. Science Score	68.84	19.69	.27**	.20*	.22*	.26**	.28**

Discussion and Conclusion

The purpose of this study was to develop and evaluate an instrument intended to measure school children's and young adolescents' social-emotional competence, on the basis of the widely

known SEL model developed by CASEL (2008). We used both primary and secondary school samples to provide evidence for an adequate model fit for the scale. CFAs results generally showed an acceptable model fit for both samples. However, the factor loadings of each item to the five factors in the model were not great, especially in the primary school sample (Study1, with a majority of loadings between .55 and .60), compared to the secondary school sample (Study 2, with a majority of loadings between .60 and .70). Similar findings were also observed in the internal consistency coefficients. Cronbach's alpha estimates used for scale development purposes should be .70 or higher (Nunnally & Bernstein, 1994). The measures with the two secondary school samples (Study 2 and 3) met the cut-off score requirement, suggesting homogeneity of items for the respective measures (Henson, 2001). However, with the primary school sample (Study 1), three subscales (self-awareness, self-management and relationship management) fell below the cutoff score. We argue that the low reliability in these subscales might not be attributable to item generation and scale construction problems; rather, they could reveal that children could have some difficulties in answering questions related to the degree of how they deal with emotional and academic situations by differentiating self from others. This speculation could be confirmed by the more mature sample (secondary school students).

The data also provides some evidence for the predictive validity of the scale. School children's scores on different SEC domains were positively related to their performance in school subjects, although they did not appear to be very strong. Further regression analyses showed that relationship management appeared to be a stronger predictor of achievement than the other SEC constructs for girls. This observation is more hopeful than those studies which found no significant correlations (e.g., Newsome, Day, & Catano, 2000) and also raises a number of interesting questions for future research: Why did relationship management predict academic achievement? Why was the prediction only observed in girls? It is possible that girls who are better able to manage their relationships with peers/teachers are more effective at developing harmonious relationships with peers and enjoying their school experience in general, which helps them achieve higher grades? Clearly, future research needs to sharpen our understanding of the relationship between one's social-emotional level and academic success using psychometrically sound instruments.

Caution should be used, however, in drawing these conclusions from our studies. Firstly, there are alternative operationalization of SEC besides the one provided by CASEL (2008). Constructs with the same name could be conceptualized differently in different models. We believe, however, that SECQ could be a useful addition to the spectrum of measures available to assess children's social emotional behaviour in the school years. Secondly, we assessed SEC with a limited set of self-report items from students, instead of using more objective measures from parents, peers, or teachers. Alternative assessment techniques such as interview, observation or behavioral measures, might reveal other specific factors, to substantiate the results of this study. Multiple-instrument, multiple-source, multiple-construct and multiple-context assessment would contribute to the

reliability of judgments about children's and adolescents' social emotional functioning (Bracken, Keith, & Walker, 1998). Lastly, since the measure was only validated with primary and secondary school students in Singapore, it will be necessary to replicate these findings in a more heterogeneous sample of students in other cultures. For example, it will be important to know whether the 5-factor model can be replicated and whether SEC correlates with academic achievement with students with different ethnic and socioeconomic backgrounds, such as western samples which have quite different cultural blends.

In sum, the findings indicate that the scale holds promise as a reliable, valid measure of SEC as conceptualized by CASEL (2008). Potential use of the scale in theoretical research entails exploring the nature of SEC, the determinants of SEC, the effects of SEC on other variables, and the development of SEC over time. Despite the limitations outlined, the instrument would seem to have value in assessing individuals who need a valid appraisal of their SEC, such that they can obtain a better understanding of self or others, for identifying problems in areas related to social emotional development, to collect baseline data for future assessment of progress and later interventions, or to seek possible indicators of poor academic performance. Assessing students with regards to these aspects will help identify their social-emotional strengths and weaknesses, which will facilitate the delivery of appropriate programming or curricula to improve their social-emotional competence (Coryn et al., 2009). By strengthening social-emotional educational opportunities, we will increase children's and adolescents' capacity to learn, give them the tools to make personal and learning achievements, and enable them to experience personal satisfaction.

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Appendix: The Social Emotional Competence Questionnaire (SECQ)

Construct	Items
Self-awareness	[SA1] I know what I am thinking and doing. [SA2] I understand why I do what I do. [SA3] I understand my moods and feelings. [SA4] I know when I am moody. [SA5] I can read people's faces when they are angry.
Social Awareness	[SoA1] I recognise how people feel by looking at their facial expressions. [SoA2] It is easy for me to understand why people feel the way they do. [SoA3] If someone is sad, angry or happy, I believe I know what they are thinking. [SoA4] I understand why people react the way they do. [SoA5] If a friend is upset, I have a pretty good idea why.
Self-management	[SM1] I can stay calm in stressful situations. [SM2] I stay calm and overcome anxiety in new or changing situations. [SM3] I stay calm when things go wrong. [SM4] I can control the way I feel when something bad happens. [SM5] When I am upset with someone, I will wait till I have calmed down before discussing the issue.
Relationship Management	[RM1] I will always apologise when I hurt my friend unintentionally. [RM2] I always try and comfort my friends when they are sad. [RM3] I try not to criticise my friend when we quarrel. [RM4] I am tolerant of my friend's mistakes. [RM5] I stand up for myself without putting others down.
Responsible Decision-Making	[RDM1] When making decisions, I take into account the consequences of my actions. [RDM2] I ensure that there are more positive outcomes when making a choice. [RDM3] I weigh the strengths of the situation before deciding on my action. [RDM4] I consider the criteria chosen before making a recommendation. [RDM5] I consider the strengths and weaknesses of the strategy before deciding to use it.