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Cross-Cultural Validation of the Five-Factor Structure of Social Goals: A Filipino Investigation

Ronnel B. King and David A. Watkins

Abstract
The aim of the present study was to test the cross-cultural validity of the five-factor structure of social goals that Dowson and McInerney proposed. Using both between-network and within-network approaches to construct validation, 1,147 Filipino high school students participated in the study. Confirmatory factor analysis indicated that the five-factor model provided the best fit to the data compared with a series of alternative models. In addition, the five types of social goals also showed meaningful relationships to theoretically relevant constructs. Taken together, this study supports the applicability of the five-factor structure of social goals among Filipino respondents.

Keywords
social goals, confirmatory factor analysis, construct validation, achievement goals

Students have different reasons for studying. Some work hard in school for academic reasons such as to increase their level of competence (mastery goal) or to demonstrate their smartness before others (performance goal). There are also those whose main reasons are social such as to be with friends (social affiliation goal), to gain the approval of parents and teachers (social approval goal), to fulfil obligations to others (social responsibility goal), to increase social status (social status goal), or to simply help friends with their schoolwork (social concern goal). These social reasons for schooling, also called social goals, have been identified as powerful constructs in explaining achievement motivation in the school setting (Urdan & Maehr, 1995).

However, the dominant paradigm for examining achievement motivation in school—achievement goal theory—has a tendency to neglect these social goals as they focus mostly on mastery and performance goals (see Elliot, 2005; Maehr & Zusho, 2009 for reviews). This relative neglect of social goals seems unwarranted given the importance of the interpersonal domain in school (Martin & Dowson, 2009). In addition, findings from numerous qualitative studies have shown that students do endorse various kinds of social goals in one form or another (Bernardo, Salanga, & Aguas, 2008; Dowson & McInerney, 2001, 2003; Lemos, 1996; Mansfield, 2009).

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Social goal research has been beset by a lack of consensus with regard to which types of social goals are actually salient in student motivation. In the past, numerous types of social goals have been proposed in the literature. Urdan and Maehr (1995) in their landmark review suggested the inclusion of social approval, social solidarity, social responsibility, prosocial, social affiliation, and social status goals. Maehr’s (1984) personal investment theory identified social affiliation and social concern goals as the most crucial for the investigation of achievement motivation. Wentzel’s (1997, 1999) research agenda focused on prosocial and social responsibility goals, whereas Ford (1992) proffered belongingness goals, social responsibility goals, equity goals, resource provision goals, superiority goals, and resource acquisition goals as the most salient social goals.

Aside from the lack of consensus on the types of social goals that should be investigated, an additional difficulty is the lack of agreement on its conceptual definition. Motivational researchers have adopted different definitions of social goals which have led to some ambiguity with regard to the interpretation of their findings. For example, in personal investment theory, social goals have been defined as goals where the aim is to maximize the probability of attributing high effort to oneself so that social approval, respect, or recognition can be obtained (Maehr & McInerney, 2004). Wentzel (1999), however, defined social goals as what students try to achieve socially in school and not why they want to succeed academically. She usually asked students how often they tried to accomplish certain social outcomes (e.g., how often they tried to have fun with classmates or how often they tried to do what their teacher asked them to). Ford (1992) defined social goals as those that deal with how a person wants to interact with the social environment. The variety of social goal conceptualizations and the lack of consensus with regard to which types of social goals should be investigated have presented obstacles to the advancement of research in this field. Thus Urdan and Maehr (1995) argued, “A limited and viable set of social goals that relates to significant educational outcomes needs to be specified before we can gain an understanding of how social goals affect motivation and performance” (p. 232).

Urdan and Maehr (1995) offered a more precise conceptualization that had the potential of bringing together different strands of social goal research within the field of educational psychology. They suggested that researchers take up an achievement goal approach to the study of social goals. Achievement goal theory is the most dominant paradigm for examining student motivation in the classroom. It concerns itself with the reasons why students want to study in school (Maehr & Zusho, 2009). Achievement goal theorists usually focus on two types of goals: mastery goals where the students’ reason for studying is to develop his or her own competence and performance goals where the students’ reason for studying is to demonstrate his or her ability before others. Social goals are also concerned with why students want to achieve in school; however, the reasons are social. In other words, they refer to the social purposes for studying.

Adopting an achievement goal approach to social goals not only affords conceptual clarity but also enables researchers to draw from the theoretically generative and empirically rich literature of achievement goal theory. As such, this definition has been adopted by numerous researchers. However, an obstacle that remains is the lack of consensus on which types of social goals should be examined. Different researchers usually investigated different kinds of social goals in their studies. For example, Miller, Greene, Montalvo, Ravindran, and Nichols (1996) and Leondari and Gonida (2007) focused mainly on social approval goals. Nelson and DeBacker (2008) looked at social intimacy, social responsibility, and social approval goals, whereas other researchers focused on social affiliation and social concern goals (e.g., Watkins, McInerney, Akande, & Lee, 2003; Watkins, McInerney, & Lee, 2002; Watkins, McInerney, Lee, Akande, & Regmi, 2002).

A recent development in social goal research is the proposal of the five-factor structure of social goals by Dowson and McInerney (2001, 2003, 2004) who conducted a series of quantitative
and qualitative studies into the structure and correlates of social goals. Unlike most psychological research which starts with the measurement of constructs that have been defined a priori by the researcher and then later validated through psychometric techniques, their research began with a series of interview studies designed to elicit the social goals of students. Findings from these qualitative studies indicated that social goals can be generally classified into five different types:

1. **Social affiliation goal**—wanting to achieve to enhance sense of belonging to a group and to maintain social relationships;
2. **Social approval goal**—wanting to achieve to gain the approval of peers, teachers, and parents;
3. **Social concern goal**—wanting to achieve to be able to assist others in their academic or personal development;
4. **Social responsibility goal**—wanting to achieve to meet social role obligations;
5. **Social status goal**—wanting to achieve to attain wealth/position in school or later in life.

Merely asking students whether they agree with the researcher-provided set of social goal categories is quite different from asking them to generate their own goal categories. Through this qualitative method, they were able to identify social goals that students thought were important to their academic experience. They followed this qualitative approach with a quantitative study. They designed the Goal Orientation and Learning Strategies Survey (GOALS-S; Dowson & McInerney, 2004) to measure the social goals that had been identified in their qualitative studies. Statistical analyses showed that scores generated by the GOALS-S had sound psychometric properties for the population in which it was administered. They found that the five-factor structure of social goals they initially identified from the qualitative study was confirmed in their quantitative studies.

Their research agenda was the first to comprehensively identify a viable set of social goals that are salient to the examination of student motivation. However, there remains to be a lack of cross-cultural validation. Almost all their studies were confined to Western students, specifically Australian high school students. This stands in contrast with the more well-developed literature on achievement goals which has been validated in different cultural contexts (e.g., Murayama, Zhou, & Nesbit, 2009; Witkow & Fuligni, 2007; Zusho & Njoku, 2007). Therefore, in this study, we investigated the cross-cultural validity of the five-factor structure of social goals in the Philippine population.

The present study adopts a construct validation approach (Marsh, 1997; Martin, 2007) in assessing the cross-cultural validity of the five-factor social goal model. Studies that adopt this approach can be classified as within-network or between-network studies. Within-network construct validation refers to the examination of the factor structure and factor correlation matrix. However, between-network approach entails examining patterns of relationships between the scales and other theoretically related constructs. The present study uses both approaches. First, we conducted a within-network study using confirmatory factor analysis to test whether the five-factor structure of social goals is applicable in the Filipino sample. We also explored the relationships between the five types of goals and two theoretically relevant measures (between-network validity). In our study, we assessed how the social goals were related to behavioral and emotional engagement in school. We expected that these social goals would be positively correlated with both forms of engagement because social goals are considered important precursors of student engagement (Urdan & Maehr, 1995).
Method

Participants

1,147 Filipino high school students from four different schools in Metro Manila were sampled. There were 622 boys and 524 girls. One student failed to identify the gender. The average age of the respondents was 14.20 years.

Measures

For all the measures described below, participants responded using a 6-point Likert-type scale. Higher scores indicated greater level of endorsement.

Social goals. Five types of social goals were measured using the social goal subscales of the GOALS-S (Dowson & McInerney, 2004): Social Affiliation, Social Approval, Social Concern, Social Responsibility, and Social Status.

Between-network measures. To assess between-network construct validity, we measured behavioral and emotional engagement. For behavioral engagement, we used the 4-item Ongoing Engagement subscale of the Rochester Assessment Package for Schools (RAPS; Wellborn & Connell, 1987). To measure emotional engagement, we used the 4-item Affect to School subscale of the Facilitating Conditions Questionnaire (FCQ; McInerney, Dowson, & Yeung, 2005).

Administration

The first author administered the relevant questionnaires to the students with the assistance of the school teachers. All questionnaires were administered in English since English is the medium of instruction in all Filipino schools from the primary school to the tertiary level. A previous pilot study has also indicated the items in this study were appropriate for the students. In addition, validation studies using the English versions of the questionnaires used in this study such as the GOALS-S and the FCQ among Filipino students have shown support for their reliability and validity (see Ganotice, 2010; Ganotice, Bernardo, & King, 2011; King & Watkins, in press).

Statistical Analysis

To examine the within-network validity, we first computed the descriptive statistics and Cronbach’s alpha coefficients. Confirmatory factor analysis (CFA) using maximum likelihood estimation was used to test the five-factor structure of social goals using Amos 16.0 (Arbuckle, 2007). As is customary, several goodness-of-fit indices were used to determining the model fit, based on the understanding that multiple indices provide a comprehensive evaluation of model fit (Hu & Bentler, 1999). The following fit indices were used: the chi-square statistic, the ratio of chi-square values to the degrees of freedom ($\chi^2/df$); root mean square error of approximation (RMSEA), standardized root mean square residual (SRMR), Tucker-Lewis Index (TLI), and the comparative fit index (CFI). The following criterion values were used: The chi-square statistic should not be significant. For the $\chi^2/df$, values close to 5 indicate adequate fit (Schumacker & Lomax, 2004), while values less than or equal to 2 reflect good fit (Ullman, 2001). For RMSEA, Hu and Bentler (1999) suggested values less than 0.06 as the cutoff for a good-fitting model, whereas values less than or equal to 0.08 indicate reasonable fit (Browne & Cudeck, 1993). For SRMR, values less than 0.08 show good fit (Bollen & Long, 1993), TLI, and CFI values higher than .95 represent a good fit of the model to the data, and values above .90 show an adequate fit (Hu & Bentler, 1999).
We also tested the five-factor model against other alternative models to see which model would fit the data best. In comparing nested models, we used the chi-square difference test. We also looked at the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC) in comparing the competing models with smaller values indicating better fit (Byrne, 2010).

For the between-network construct validation, we looked at the bivariate correlations of the five types of social goals with behavioral and emotional engagement. Previous studies have shown that goals are important predictors of engagement; thus we would expect social goals to be also positively correlated with both forms of academic engagement.

Results
Preliminary analysis showed that the social goal scales all had acceptable reliabilities (see Table 1).

**Confirmatory Factor Analysis**

Univariate normality was assessed by examining skewness and kurtosis values for each item. Absolute values of skewness and kurtosis beyond 2 and 7, respectively, may imply a lack of univariate normality (Finney & DiStefano, 2006). For this study, skewness values ranged from −1.83 to −0.096 whereas kurtosis values ranged from −0.97 to 3.73. Given that the data appear normally distributed, maximum likelihood (ML) estimation employed was used to estimate model parameters and fit indices.

Results of the CFA show that the original hypothesized five-factor model did not fit the data well: $\chi^2 = 1,671.42$, $df = 199$, $p < .001$; $\chi^2/df = 8.40$; RMSEA = .08; SRMR = .081; TLI = .85; CFI = .87. A look at the Modification Indices (MI) indicated that the errors associated with the items “I want to do well in my schoolwork to please my parents” and “I do good work at school so that I can get praise from my parents” (MI = 261.106) as well as that between “I do well at school so that I can get a high-paying job later on” and “I want to do well at school so that I can have lots of money later on” (MI = 274.212) were unusually large thus suggesting that they be correlated. These measurement error covariances usually represent systematic rather than random measurement error in item responses which may be derived from the properties of the items themselves (Aish & Joreskog, 1990). A possibility is that these items exhibit a high degree of overlap in item content. For the first two items, doing well to “please my parents” and doing well...
so that I can get praise from my parents” seem to be very similar. The same case applies to the latter two items where students want to do well “to get a high-paying job” and “to have lots of money” which appear to be synonymous. Method effects resulting from similarity in item content can serve as a justification for correlating residuals (Byrne, 2010). As such, we decided to correlate these residuals, which resulted in better goodness-of-fit indices. In all the subsequent models, these residuals remained correlated. We tested for the chi-square difference between the model with uncorrelated residuals and that with correlated residuals. Results indicated that the five-factor model with the correlated residuals (See Table 2) had a better fit to the data compared with the model with no correlated errors ($\chi^2$ difference $= 604.195$; $df$ difference $= 2$; $p < .001$). In addition, the TLI, and CFI were all above .90 and RMSEA was below .08. However, we obtained a significant chi-square value. A statistically nonsignificant chi-square value indicates that the model is a reasonably satisfactory representation of the data. As noted by Anderson and Gerbing (1988), however, the value of the chi-square statistic is dependent on sample size. As such, data that involve a large sample size will likely have a chi-square statistic that is significant although there are only minor discrepancies between the model and the data. Because of this, we decided to focus on the other goodness-of-fit indices which all indicate a good fit. The correlations among the five latent social goals in the CFA and the loadings of the items onto the latent factors were all positive and were significant at $p < .001$ (see Table 3).

We also tested the five-factor model against a series of alternative models, which were based on earlier studies (see Table 2). Note that in the subsequent models that we tested, the residuals for the items identified above remained correlated. We compared each of these alternative models with the five-factor model because they can be considered as nested models. Residuals associated with the four items mentioned in the text were correlated for all the models.

### Table 2. Goodness-of-Fit Indices for the Five-Factor Model and Other Alternative Models

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>$df$</th>
<th>$\chi^2/df$</th>
<th>$p$ value</th>
<th>RMSEA</th>
<th>RMSEA 90% CI</th>
<th>SRMR</th>
<th>TLI</th>
<th>CFI</th>
<th>AIC</th>
<th>BIC</th>
<th>$\Delta\chi^2$</th>
<th>$df$</th>
<th>$p$ value</th>
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<tr>
<td>Five-factor model</td>
<td>1,067.226</td>
<td>197</td>
<td>5.417</td>
<td>&lt;.001</td>
<td>.062</td>
<td>[.058, .066]</td>
<td>.0766</td>
<td>.911</td>
<td>.924</td>
<td>1,179.226</td>
<td>1,461.741</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<tr>
<td>Four-factor model</td>
<td>2,794.079</td>
<td>201</td>
<td>13.901</td>
<td>&lt;.001</td>
<td>.106</td>
<td>[.103, .110]</td>
<td>.1094</td>
<td>.739</td>
<td>.773</td>
<td>2,898.079</td>
<td>3,160.414</td>
<td>1,726.853</td>
<td>4</td>
<td>&lt;.001</td>
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<tr>
<td>Three-factor model</td>
<td>3,939.244</td>
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<td>19.310</td>
<td>&lt;.001</td>
<td>.126</td>
<td>[.123, .130]</td>
<td>.1319</td>
<td>.629</td>
<td>.672</td>
<td>4,037.244</td>
<td>4,039.251</td>
<td>2,872.018</td>
<td>7</td>
<td>&lt;.001</td>
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<td>One-factor model</td>
<td>5,382.879</td>
<td>207</td>
<td>26.004</td>
<td>&lt;.001</td>
<td>.148</td>
<td>[.144, .151]</td>
<td>.1210</td>
<td>.493</td>
<td>.546</td>
<td>5,474.879</td>
<td>5,706.945</td>
<td>4,315.653</td>
<td>10</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Higher-order model</td>
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<td>202</td>
<td>6.481</td>
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<td>.069</td>
<td>[.066, .073]</td>
<td>.0879</td>
<td>.889</td>
<td>.903</td>
<td>1,411.069</td>
<td>1,668.359</td>
<td>241.843</td>
<td>5</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Note: $\chi^2$ = chi-square; $df$ = degrees of freedom; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual; TLI = Tucker-Lewis Index; CFI = comparative fit index; AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion. All the models in this table were compared with the five-factor model because they can be considered as nested models. Residuals associated with the four items mentioned in the text were correlated for all the models.
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Table 3. Factor Pattern and Structure Coefficients and Factor Correlations for the Five Social Goals

<table>
<thead>
<tr>
<th></th>
<th>Status</th>
<th>Responsibility</th>
<th>Concern</th>
<th>Approval</th>
<th>Affiliation</th>
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<td>.860</td>
<td>.437</td>
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<td>.343</td>
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<tr>
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<td>.821</td>
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<td>.385</td>
<td>.328</td>
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<td>.483</td>
<td>.245</td>
<td>.227</td>
<td>.193</td>
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<td>.438</td>
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<td>.347</td>
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<td>.407</td>
<td>.801</td>
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<td>.266</td>
<td>.274</td>
<td>.405</td>
<td>.666</td>
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Factor correlation (phi) matrix

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<td>.470</td>
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<td>1.000</td>
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<tr>
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<td>.091</td>
<td>.399</td>
<td>.412</td>
<td>.609</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Note: Italicized numbers are the factor pattern coefficients (i.e., factor loadings) for each item with its designated factor. Nonitalicized numbers are the factor structure coefficients (i.e., correlations) of each item with its nondesignated factor. For the present model, the factor pattern and factor structure coefficients are equal for the items with their designated factors.

goal, so we decided to keep it distinct in testing this model. The one-factor model subsumes all the social goal items into one omnibus social goal factor. This model is evident in research in Asian psychology where all types of social goals are subsumed into one category, and this social goal is juxtaposed with the more individualistically oriented goals such as mastery and performance goals (e.g., Chang & Wong, 2008; Yu & Yang, 1994). We also tested a second-order model wherein the five types of social goals were first-order factors that loaded onto a higher order social goals factor. Results indicated that the five-factor model fit the data best when compared with all these other alternative models. The fit indices of the five-factor model were superior to the other alternative models. In addition, chi-square difference tests also indicated that when compared with the five-factor model, the alternative models such as the four-factor, the three-factor, the one-factor, and the second-order factor models had a significantly worse fit. A look at the AIC and BIC also showed that the five-factor model had the smallest AIC and BIC among all the models examined, providing further support to the cross-cultural validity of the model.
Between-Network Construct Validation

A correlational analysis of the relationship between the five types of social goals and engagement showed that, in general, social goals were positively correlated with both behavioral and emotional engagement. However, there was an exception with regard to social affiliation goals which were not significantly correlated with behavioral engagement (See Table 4).

Discussion

The aim of this study was to examine the cross-cultural validity of the five-factor structure of social goals proposed by Dowson and McInerney (2001, 2003, 2004) using both within-network and between-network approaches to construct validation.

For the within-network test, we focused on the Cronbach’s alpha and the results of the CFA. The Cronbach’s alpha coefficients of all the social goal scales were adequate. CFA indicated that the five-factor model exhibited the best fit to the data when compared with a series of alternative models. Results of the between-network test showed that, in general, different types of social goals were positively related to both behavioral and emotional engagement. Social affiliation goals, however, did not correlate significantly with behavioral engagement. This was not unexpected as previous studies on social affiliation goals have shown that they are not strong predictors of other educational outcomes (McInerney, 2008). However, in general, social goals were positively correlated with both forms of engagement which provides support to the contention that social goals are important influences on various educational outcomes (Dowson & McInerney, 2003; Urdan & Maehr, 1995). It should be noted, however, that the variance accounted for by social goals on engagement is modest given that the correlation coefficients ranged from $r = .157 (p < .001)$ to $r = .394 (p < .001; \text{see Cohen}, 1988)$. However, this is in line with the literature on achievement motivation. Research investigating the relationship of the more well-studied achievement goals such as mastery and performance goals with other educational outcomes has also found modest effect sizes (e.g., Elliot & McGregor, 2001; Elliot & Murayama, 2008; Wolters, 2004).

Research on social goals has been beset by a lack of consensus with regard to which types of social goals should be studied in relation to student motivation. Dowson and McInerney (2001, 2003, 2004) proposed the five-factor structure of social goals based on a series of quantitative and qualitative studies. They identified social affiliation, social approval, social concern, social responsibility, and social status goals as the most important social goals of students. Their model represents a significant advance in social goal research by helping identify the most important types of social goals that researchers interested in studying motivation in the classroom should focus on. Their proposed five-factor structure provides a possible answer to Urdan and Maehr’s

### Table 4. Bivariate Correlations of Social Goals With Behavioral and Emotional Engagement

<table>
<thead>
<tr>
<th>Social goals</th>
<th>Behavioral engagement</th>
<th>Emotional engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social affiliation goals</td>
<td>.040</td>
<td>.157***</td>
</tr>
<tr>
<td>Social approval goals</td>
<td>.180***</td>
<td>.222***</td>
</tr>
<tr>
<td>Social concern goals</td>
<td>.309***</td>
<td>.394***</td>
</tr>
<tr>
<td>Social responsibility goals</td>
<td>.331***</td>
<td>.383***</td>
</tr>
<tr>
<td>Social status goals</td>
<td>.300***</td>
<td>.288***</td>
</tr>
</tbody>
</table>

***$p < .001$. 
(1995) call more than a decade ago for educational researchers to focus on a viable and limited set of social goals when examining student motivation. Goal theory argues that goals can be powerful catalysts that direct student behavior. The effects of social goals on various outcomes is still underexplored although the few studies that did examine social goals showed that they are important predictors of achievement-related outcomes such as learning strategies (Watkins, McInerney, Akande, et al., 2003; Watkins, McInerney, & Boholst, 2003; Watkins, McInerney, & Lee, 2002; Watkins, McInerney, Lee, et al., 2002), self-regulated learning (Miller et al., 1996), help-seeking (Ryan, Hicks, & Midgley, 1997), and other cognitive, affective, and behavioral outcomes in school (Dowson & McInerney, 2001, 2003).

To the best of our knowledge, this study is the first to assess the cross-cultural validity of the five-factor structure of social goals. Different kinds of goals are linked with distinct thoughts, feelings, and behaviors in achievement situations (e.g., Ames, 1992; Dweck & Leggett, 1988). Although much is known about the effects associated with mastery and performance goals, our knowledge of the effects associated with social goals is still very limited. The importance of investigating social goals cannot be understated. Dowson and McInerney (2001) argued that “students’ social orientations are not peripheral to . . . academic performance and achievement. Rather, these orientations may directly influence students’ psychological processes as they strive toward academic achievement” (p. 40). They went on to make a bold claim that “it is possible that researchers have got it wrong in putting the emphasis on mastery and performance goals.”

The generativity of achievement goal research can be attributed in part to the consensus among various scholars that mastery and performance goals form the crucial constructs of this theoretical paradigm. Hopefully, the validation of the five-factor structure of social goals can offer further support to the argument that the five types of social goals identified by Dowson and McInerney (2003, 2004) can become the focus of future social goal research.

Limitations

A limitation of the study was that all the students were drawn from the Metro Manila area in the Philippines. Future studies using a more heterogeneous group of students might be needed. In addition, we only used emotional and behavioral engagement as between-network measures. Future studies could widen the range of theoretically relevant constructs that could be assessed. In this study, we were not able to test for the cross-cultural invariance of social goals across the Filipino and the Australian students originally tested in Dowson and McInerney’s (2004) study. Perhaps future studies including a wider range of cultures could assess the invariance of social goals across different cultures as had been done for example with achievement goals (e.g., Campbell, Barry, Joe, & Finney, 2008; Murayama et al., 2009).

Conclusion

In his review of motivational research, Pintrich (2003) posed an important question, “What motivates students in the classroom?” Our study shows that it might be important to look beyond mastery and performance goals and focus on social goals as salient factors in investigating student motivation. The current study provided cross-cultural evidence to support the five-factor structure of social goals. Eccles, Wigfield, and Schiefele (1998) claimed that “categorizing children’s goals as ego (performance) or task involved (mastery) oversimplifies the complexity of motivation” (p. 1032). Social goals also exert an important influence on various educational outcomes. Future research into the correlates of the various types of social goals would be welcome.
Declaration of Conflicting Interests

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Notes

1. A 6-point Likert-type scale was used in the current study while Dowson and McInerney (2004) used a 5-point Likert-type scale. We did this to extend the range of possible responses and also to reduce the midpoint bias, which is an issue for 5-point Likert-type scales (Garland, 1991). Research has shown that the validity of an instrument is not significantly influenced by the number of points (e.g., 5 point or 6 point) in the Likert-type scale (Chang, 1994; Chomeya, 2010). As noted by Matell and Jacoby (1971), “Validity was found to be independent of the number of scale points contained in the rating scale” (p. 670).

2. The original scale developed by Dowson and McInerney (2004) initially comprised 36 items. However, after further analysis, they deleted 14 items because of bad psychometric properties. Thus their final scale only consisted of 22 items. In this study, we used the final version of their scale with 22 items.

References


