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Factors Underlying Contextual Variations in the Structure of the Self: Differences Related to SES, Gender, Culture, and “Majority/Nonmajority” Status During Early Adolescence

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Multilevel modeling was used to examine contextual variations in the structure of the “self” in a sample of 918 lower- and upper-middle class early adolescents (M age = 10.37 years, SD = 1.19) from a “majority” cultural context (i.e., Barranquilla in the Caribbean region of Colombia) and a “nonmajority” context (i.e., Montréal, Québec, Canada). It was expected that the associations between measures of the self-concept (i.e., indices of self-perceived competence) and a measure of general self-worth would differ in majority and nonmajority contexts and would vary as a function of socioeconomic status, the relative emphasis placed on individualism and collectivism and gender. Findings indicate that contextual factors moderated the extent to which self-worth is associated with components of early adolescents’ self-concept.

Although the self is a dynamic phenomenon that can be influenced by experiences across the life span (Heckhausen, Wrosch, & Schulz, 2010; James, 1991 [1890]) it has been identified as an especially important component of development during early adolescence (DuBois, Tevendale, Burk-Braxton, Swenson, & Hardesty, 2000; Sebastian, Burnett, & Blakemore, 2008). It is known already that (a) adolescents with low self-esteem are at risk for poor health, criminal behavior, and limited economic prospects during adulthood (Trzesniewski et al., 2006), and (b) that early adolescents that have a defensive self or an excessively positive self that is unlinked to high levels of actual competence are at risk for externalizing behavior (Bukowski, Schwartzman, Santo, Bagwell, & Adams, 2009). In the present paper, we examine contextual variations in “self” in early adolescent boys and girls from lower- and upper-middle class families from two different communities.

Research on the self-concept during early adolescence has been based on two fundamental premises (Harter, 2012). The first is that the self is a multidimensional phenomenon with two components, the self-concept and the evaluative self (Dusek & Flaherty, 1981; Marsh, Byrne, & Shavelson, 1992; Sebastian et al., 2008). Whereas the self-concept refers to individuals’ perceptions of their functioning in specific domains, the evaluative self refers to a person’s overall sense of well-being and adequacy (Pullmann & Allik, 2008). It is often referred to as self-worth. Well-known domains of the self-concept include social functioning, cognitive/academic performance, and athletic ability (Harter, 2012). The second premise is that the construction of the self is the result of both individual and contextual factors (Bukowski, Adams, & Santo, 2006; Hu, Yang, Wang, & Liu, 2008). Contexts vary in the significance that is ascribed to particular domains of the self-concept. For example, the association between perceptions of social competence and self-worth should be higher when social functioning is seen as important than when social functioning is not regarded as important. This is a

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crucial distinction because without considering the structural inter-relations between various components of the self, simply reporting mean differences ignores the complexity by which self-worth is constructed.

In the present study, we examine contextual variation in the association between self-worth and the components of the self-concept. Whereas most research has focused on assessing mean differences in measures of the self-concept or of self-worth, our goal was to examine *structural differences* in how the aspects of the self are inter-related. The specific goal of our structural approach was to assess contextual variations in the processes by which early adolescents from “majority” and “non-majority” worlds integrate their views of their functioning in particular domains of competence to create an overall assessment of their self-worth. The specific contexts that we studied were children’s school-based peer groups. Aside from their location in either a “majority” or a “nonmajority” context, we assessed differences due to gender and to the culturally relevant dimensions of individualism, collectivism, and socioeconomic status (SES).

Two forms of variability in the self have been observed in research on gender differences. First, there is evidence that boys tend to have higher scores than girls on indices of self-worth (e.g., Birndorf, Ryan, Auinger, & Aten, 2005; Chubb, Fertman, & Ross, 1997; Quatman & Watson, 2001). Second, and more importantly for the present study, gender differences have been observed in the association between self-worth and aspects of competence. Specifically, self-worth and perceptions of athletic competence are more strongly (positively) associated for boys than for girls (Wigfield & Eccles, 1994), whereas evaluations of social competence (Rudolph & Conley, 2005) and of cognitive competence (Burnett, 1996; Wigfield & Eccles, 1994) are more strongly associated with self-worth for girls than boys.

Variations related to SES have also been found. Children from high-SES families typically show higher scores on measures of self-worth than children from low-SES families (Rhodes, Roffman, Reddy, Fredriksen, & Way, 2004; Zhang & Postiglione, 2001). The effect of SES on self-worth may not be direct; for example, Campbell, Pungello, and Miller-Johnson (2002) showed that the association between self-worth and SES might result from the higher importance placed on academic achievement in upper SES families and the more positive views of academic functioning maintained by children from these families. This reinforces the idea

that to understand differences in self-worth, antecedent mechanisms must be examined. The current report attempts to clarify whether SES-related variations in the associations between the aspects of competence and self-worth account for mean differences in self-worth.

Other research has considered variations in self-worth across cultures. Perhaps the most prevalent view concerns variations between cultures in the importance ascribed to particular aspects of the self-concept in shaping self-worth. A more extreme view suggests that the purported link between competence and self-worth may be more applicable to some cultural contexts (e.g., “nonmajority contexts”) than to others. For example, Henrich, Heine, and Norenzayan (2010) recently emphasized the need to study human development beyond WEIRD samples (Western, Educated, Industrialized, Rich, and Democratic). Specific to the study at hand, Watkins and Dhawan (1989) argued that the model in which the self-concept is antecedent to self-esteem is particularly relevant to Western/individualist cultures in which well-being is closely tied to individual achievements and competencies. In contrast, they suggest that this model may be less relevant in collectivist contexts, where the link between competence and self-worth may be weaker due to a cultural emphasis of these culture groups rather than individual functioning. As a result, an individual’s level of functioning in a particular domain will have less significance in a group-oriented society than in one that emphasizes individual achievement. Given these concerns about the generalizability of data collected in “minority” contexts, the current study was designed to clarify the structural relations between perceived competencies and overall self-worth. The current special issue is aimed to go beyond applying concepts from theories derived in minority settings and instead evaluating them critically and proposing expansions. As such, the current study hopes to serve as a critical evaluation of existing models in a novel context, using a mixed method design and rigorous cross-cultural tests of a widely used developmental model, that of self-worth.

In the present study, a multilevel format was used to examine variations in the utility of the model proposed by Harter (1982, 2012) and Shavelson, Hubner, and Stanton (1976) in which self-worth is seen as constructed based on perceived competencies in various areas which are themselves “informed” by information from the peer group. Specifically we assessed associations between measures of competence and self-worth in

classroom-based peer groups drawn from two different cultural contexts. One context, Montréal in Québec, Canada, presumably a “nonmajority” context, was expected to emphasize individualism more than collectivism, whereas the other, Barranquilla, a city on the Caribbean coast of Northern Colombia, a presumably “majority” context was expected to emphasize collectivism more than individualism. Whereas many studies have needed to make assumptions about the characteristics of particular contexts, we made direct assessments of the dimensions of individualism and collectivism (INDCOL). By doing so we could distinguish between the effects of place (Montréal, Barranquilla) and the effects due to specific processes within places (INDCOL) while at the same time determining how much of the effects due to place could be attributed to these dimensions or to others (such as differences in SES).

We examined the extent to which the associations between perceived competence and self-worth varied between individuals and across groups of adolescents. Our first research question was to explore how self-reported social, cognitive, and physical competencies would be associated with overall self-worth. The second research question concerned gender differences. Based on previous literature (Quatman & Watson, 2001), we expected that boys would report higher levels of self-worth than girls and that the associations links between competence and the self-worth would differ by gender with girls emphasizing social and cognitive competence more than boys and with boys emphasizing more physical competence than girls. In addition, we expected there to be variability in these associations between same-sex peer groups (Question 3).

The fourth research question constitutes the centerpiece of the present study in that it is most directly concerned with structural variations in associations observed with the early adolescents from the “majority” context (i.e., Barranquilla) and the “nonmajority” context (i.e., Montréal). Current theory and the existing empirical data base are not of sufficient strength and clarity to guide the formation of clearly specified hypotheses. Accordingly we have stated these hypotheses as general questions rather than as well articulated expectations.

Question 5 was concerned with the effects of SES. It was expected that SES would explain group differences in the associations between perceived social, cognitive, and physical competence and overall self-worth above and beyond already observed effects. Specifically, based on previous

literature, it was our belief that high-SES groups would place more emphasis on cognitive competence than low-SES groups. Question 6 aimed to identify potential interaction based on place of testing (country) and SES. Finally, in question 7, we tested the effects of peer group INDCOL. We predicted that the association between achievement oriented aspects of the self-concept such as cognitive competence would be more strongly associated with self-worth in groups that are high in individualism, whereas the association between more communal endeavors (i.e., social competence) and self-worth was expected to be stronger among collectivistic groups.

METHOD

Participants

The sample consisted of 918 early adolescents (mean age = 10.37 years, $SD = 1.19$; 51.2% female) from upper-middle class ($n = 430$) and lower-middle class backgrounds ($n = 488$) in Montréal, Canada ($n = 371$) and in Barranquilla, Colombia ($n = 547$). Respondents attended mixed-sex schools (three in each country). Each participating child was “nested” into a group that included all of his/her classmates who were taking part in the study. These classroom-based groups served as the between-group units in the multilevel analysis. The proportion of boys and girls, and of upper-middle class and lower-middle class participants, was roughly the same in each country.

Procedure

Recruitment varied depending on the location of the data collection. In Montréal, permission was first obtained from the relevant school board, then from school principals. Active consent was required from parents of potential participants; over 80% of parents provided consent for their children. In Barranquilla, permission for participation was obtained from school principals, who often act as proxies for the parents. Participants were then informed of the purposes and procedures of the study in their classrooms and provided assent. Using this recruitment procedure, a participation rate of approximately 95% was obtained (with the exception of children who were absent on the day of testing).

A questionnaire designed to be completed in a 1-hr session was group administered to participating students during their homeroom class time.

The students' rights as participants were explained to the class. Colombian children participating in the study completed a Spanish version of the questionnaires. The original English version of the scales was given to school psychologists in Colombia, who assessed their meaning and relevance for Colombian children. The questionnaires were translated into Spanish by translators working in the fields of education and psychology, and then back-translated into English by a separate group of individuals to ensure that the meaning of items was retained in the translation.

Measures

Descriptive statistics of study measures are provided in Table 1. Participants completed a revised version of the Harter (1982) Perceived Competence Scale for Children, which assessed general self-worth (e.g., *I feel good about the way I act*) as well as perceived cognitive competence (e.g., *I feel that I am very good at school*), social competence (e.g., *I am popular with others my age*), and physical competence (e.g., *I do very well at all kinds of sports*). The internal consistency of these measures has been shown in a number of studies (e.g., Cole, 1991; Harter, 1982).

To assess INDCOL, a revised version of the Singelis (1994) INDCOL scale was used. The scale was edited to make it easier for the children to understand and abridged due to time constraints. The adapted version of the scale consisted of subscales designed to measure individualism (e.g., *I don't talk to my friends about my problems. I solve them myself*) and collectivism (e.g., *I would lend money to someone in my family if he or she needed help*). This scale was used to assign an individualism score and a collectivism score to each child and aggregated to create mean scores for each classroom-based peer group.

Peer groups were designated as being either upper-middle or lower-middle SES. In Colombia, this designation was based on an index of neighborhood SES known as *estrato*, assigned by the Colombian government based on the housing and services in the area (Rueda-Garcia, 2003). Scores range from 1 to 6, with higher scores indicating greater affluence. The mean *estrato* score for the children from lower-middle SES schools was 2.52, ($SD = 0.70$) indicating that the participants at the low-SES schools were indeed within the lower socio-economic strata. In regard to the upper-middle class children, nearly all of them were from neighborhoods with an *estrato* score of 6. Although individual *estrato* ratings were not obtained from

the high-SES school sampled in Barranquilla, school officials indicated that children who attended this school typically fell into the highest *estrato* category (6).

Socioeconomic status for the Montréal children was based on the average family income of the children in their school. Parents completed a questionnaire on which they selected the income level (from 10 choices ranging from below \$15,000 to over \$95,000) that was closest to that of each adult member of the household in the last year. A total income score was calculated by adding the income of each family member. There were large between-school differences: one school had a mean family income of \$36,027 CAN whereas the others had means that were nearly twice as high (Means = \$76,194 and \$68,400). The mean of one school differed from that of the other two schools which did not significantly differ from each other. Information from the 2001 Canadian census indicates that the mean family income of participants from the first school was considerably lower than the provincial average of \$59,296, whereas the mean family income of participants in the latter two schools was above the provincial average (Statistics Canada, 2002). The peer groups in the first school were designated as lower SES, and those from the two other schools as upper SES, classes.

Statistical Analyses

Data were analyzed using ANOVAs, structural equation modeling in M-Plus (Muthén & Muthén, 2006) and multilevel modeling in HLM (v. 6.08, Bryk & Raudenbush, 1992). In the multilevel modeling analysis individual participants were grouped into "nests" that included the participating peers from each classroom. These "nests" were the level 2 units of the analysis. In the level 1 analysis, or the between-subject analysis, the individual participants' scores on the measure of general self-worth were entered as the dependent variable and the measures of perceived social, cognitive, and physical competence were used as the predictors along with gender. At level 2, or the between-group analysis, the characteristics of the same-sex peer group were used to account for variability observed in the level 1 effects. These were place of testing (country), SES (including a potential place by SES interaction) and the classroom peer groups' means of INDCOL. All variables were entered into the models as grand-mean centered and treated as random while interaction terms were created by using the product of the standardized values.

TABLE 1
Descriptive Statistics of the Study Variables (Separated by Place of Testing and SES)

Scale and Specific Items	Barranquilla (n = 547)		Montréal (n = 371)	
	Low SES (n = 277)	High SES (n = 270)	Low SES (n = 209)	High SES (n = 162)
	M (SD)	M (SD)	M (SD)	M (SD)
General self-worth ($\alpha = .65$)	3.82 (0.76)	4.15 (0.71)	3.96 (0.75)	4.17 (0.73)
I feel good about the way I act	4.04 (1.37)	4.20 (1.00)	3.75 (1.28)	4.06 (1.19)
I am very happy being the way I am	4.36 (1.28)	4.53 (0.91)	4.25 (1.14)	4.33 (1.08)
I am usually sure that what I am doing is the right thing	4.00 (1.34)	4.14 (1.03)	3.84 (1.12)	4.08 (1.06)
Social competence ($\alpha = .66$)	3.80 (0.87)	4.06 (0.83)	3.66 (0.91)	3.90 (0.89)
I am always doing things with a lot of kids	3.87 (1.50)	4.25 (1.05)	3.78 (1.24)	4.01 (1.24)
I am popular with others my age	3.46 (1.51)	3.21 (1.49)	3.17 (1.50)	3.38 (1.41)
I am really easy to like	3.93 (1.34)	4.12 (1.16)	3.38 (1.34)	3.45 (1.32)
Cognitive competence ($\alpha = .55$)	3.87 (0.78)	3.91 (0.77)	3.66 (0.80)	3.88 (0.83)
I feel that I am very good at school	4.04 (1.16)	4.04 (0.92)	3.84 (1.07)	4.12 (0.97)
I feel like I am just as smart as other kids my age	3.98 (1.39)	4.02 (1.25)	3.74 (1.34)	4.19 (1.11)
I like school because I do well in school	4.35 (1.21)	3.86 (1.33)	3.58 (1.37)	3.70 (1.34)
Physical competence ($\alpha = .56$)	3.28 (0.65)	3.69 (0.77)	3.42 (0.82)	3.57 (0.82)
I do very well at all kinds of sports	4.26 (1.23)	4.16 (1.17)	3.65 (1.35)	3.70 (1.26)
I think I could do well at just about any new outdoor activity I have not tried before	4.05 (1.42)	1.88 (0.25)	2.27 (0.21)	2.02 (0.22)
I feel that I am better than others my age are at sports	3.58 (1.57)	4.22 (1.20)	3.72 (1.27)	4.04 (1.15)
Classroom level individualism ($\alpha = .67$)	2.90 (0.51)	1.67 (0.36)	2.69 (0.39)	2.37 (0.36)
It would not help to tell my relatives about my problems	3.03 (0.70)	3.44 (1.46)	2.63 (1.48)	2.54 (1.46)
I would not let my cousin use my bicycle	2.86 (0.72)	1.74 (0.29)	2.01 (0.27)	2.09 (0.48)
My grades should not matter to my parents	3.08 (0.86)	1.65 (0.40)	1.75 (0.28)	1.65 (0.35)
Classroom level collectivism ($\alpha = .64$)	4.20 (0.23)	4.16 (0.09)	3.84 (0.20)	3.98 (0.12)
The help of classmates is really important for getting good grades	3.86 (0.46)	3.74 (0.26)	3.59 (0.24)	3.65 (0.40)
Students should be able to count on their classmates for help with their schoolwork	3.65 (0.52)	3.52 (0.42)	3.63 (0.39)	3.64 (0.42)
It is always good for classmates to study in groups	4.19 (0.37)	3.84 (0.38)	3.89 (0.37)	3.92 (0.37)

RESULTS

Measurement Invariance and Group Differences

First, to establish that the scales of self-worth, social, cognitive, and physical competence function similarly in both samples (Montréal and Barranquilla), a latent variable structural equation model was used to test for factorial invariance. This step was crucial to ensure that any mean differences or differences in the associations between the measures discovered in the analyses were not the result of differences in how factors were comprised in each of the samples. The resulting model was a good fit to the data ($\chi^2_{(51)} = 125.34$, $p < .05$, CFI = .96, RMSEA = .04), indicating that each of these factors were measurably distinct from each other. Next, a model was tested using the Montréal group and the Barranquilla group with the coefficients, intercepts, (partial) error variances, and latent factor variances constrained to be equal in each group. Even though this led to a significant decrease in the model's fit ($\Delta\chi^2_{(77)} = 131.05$, $p < .05$), the constrained model remained an adequate fit to the data ($\chi^2_{(128)} = 356.39$, $p < .05$, CFI = .90, RMSEA = .06). Therefore, we assumed that self-worth as well as social, cognitive, and physical competence was measured in a comparable fashion between Montréal and Barranquilla.

It was also important to establish that INDCOL could be measured similarly in both samples. A latent variable structural equation model was again used to test for factorial invariance. The resulting model was a good fit to the data ($\chi^2_{(8)} = 8.40$, $p > .05$, CFI = .99, RMSEA = .01). Then, a model was tested with the coefficients, intercepts, (partial) error variances, and latent factor variances constrained to be equal in each group. Although this again led to a significant decrease in the model's fit ($\Delta\chi^2_{(20)} = 31.53$, $p < .05$), the constrained model remained an adequate fit to the data ($\chi^2_{(28)} = 79.90$, $p < .05$, CFI = .91, RMSEA = .06). Accordingly, we could be relatively certain that INDCOL were measured in a comparable fashion between Montréal and Barranquilla.

Finally, the peer group means for INDCOL were tested for differences as a function of SES and place of testing using an analysis of variance. With regards to individualism, a strong SES effect was observed ($F(1,43) = 35.44$, $p < .05$, $\eta^2 = .47$) and a weaker effect of place ($F(1,43) = 4.86$, $p < .05$, $\eta^2 = .11$). However, a significant SES by place interaction was also observed ($F(1,43) = 13.76$, $p < .05$, $\eta^2 = .26$). To explain, participants in Montréal generally reported less individualism than

those in Barranquilla, and higher SES was associated with a lower individualism. However, the difference in individualism as a function of SES was stronger for the Barranquilla group (Figure 1). On the other hand, with respect to collectivism, no SES effect was observed ($F(1,43) = 1.34$, $p > .05$, $\eta^2 = .03$) and a strong effect of place ($F(1,43) = 22.16$, $p < .05$, $\eta^2 = .36$). To explain, participants in Montréal also generally reported less collectivism than those in Barranquilla. No significant SES by place interaction was observed for collectivism ($F(1,43) = 3.01$, $p > .05$, $\eta^2 = .07$). It is important to note that there also appeared to be a sex difference in ratings of individualism in that girls reported slightly lower individualism values compared to boys (mean difference = $-.21$, $t_{(916)} = 6.15$, $p < .05$). Interestingly, INDCOL were weakly positively correlated ($r = .09$, $p < .05$).

Between-Subject Analyses

We started by assessing a between-subjects "unconditional model" that included only the dependent variable (i.e., the measure general self-worth) so that we could compute an intra-class correlation. The intra-class correlation revealed that almost all of the variance in the dependent variable was within groups or between individuals (96.36%) with the remaining variability being at the between-group level (3.64%). Nevertheless, null hypothesis testing indicated that there was signifi-

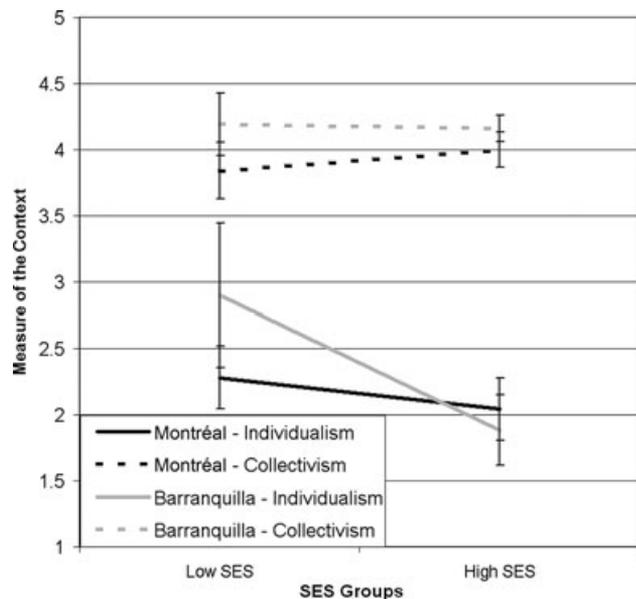


FIGURE 1 Mean differences in individualism and collectivism as a function of the place of testing and SES.

cant amount of between-group variability in the outcome ($\chi^2_{(43)} = 76.40, p < .05$).

Question 1: Perceived competencies would positively predict self-worth. The between-subject analyses began by using the three domain-specific perceived competence scores as predictors of general self-worth. We first examined the univariate effects of each of the three competence scores. Three models were assessed, one for each of the three predictors. Each predictor accounted for a significant amount of the variation in the general self-worth measure. Specifically, the social, cognitive, and physical perceived competence scores were positively associated with self-concept and accounted for 12.71%, 12.89%, and 5.16%, respectively, of the variance in the general self-worth measure.

We next assessed a model in which the effects of the measures were examined together. Using a sequential entry strategy, perceived social competence was added first ($b = .215, SE = .031, t_{(43)} = 7.06, p < .05$), followed by perceived cognitive then perceived physical competence. The measure of perceived cognitive competence ($b = .261, SE = .037, t_{(43)} = 7.09, p < .05$) explained an additional 10.97% of the variance in the general self-worth measure. The measure of perceived physical competence ($b = .121, SE = .028, t_{(43)} = 4.37, p < .05$) added 2.13% of additional explained variance. Together the measures of perceived social and cognitive competence accounted for 27.75% of the variance in the measure of self-worth. Finally, the addition of each variable significantly reduced level 1 variability (social competence: $\Delta\chi^2_{(2)} = 143.68, p < .05$; cognitive competence: $\Delta\chi^2_{(3)} = 96.11, p < .05$; and physical competence: $\Delta\chi^2_{(4)} = 10.07, p < .05$).

Question 2: Testing for gender (main effects and interactions). Gender was then added to the model and, contrary to our expectations, girls reported higher general self-worth than boys ($b = .086, SE = .021, t_{(43)} = 4.04, p < .05$). The effect of gender explained an additional 1.48% of the remaining between-subject variability which represented a significant decrease ($\Delta\chi^2_{(5)} = 11.22, p < .05$). Next, interactions between sex and the measures of self-concept were entered into the model to test whether any of the perceived competence associations varied as a function of sex. There were no significant interactions between sex and cognitive, social, and physical competence (all $ps > .05$). The addition of the interactions to the models explained 2.63% of the remaining variability, representing a nonsignificant decrease ($\Delta\chi^2_{(21)} = 10.68, p > .05$). To summarize,

the only gender effect observed in the structural composition of self-worth was a weak main effect favoring girls and none of the associations between the measures of self-concept and self-worth differed as a function of gender.

Question 3: Contextual variability. This hypothesis stated that the strength of the associations between cognitive, social, and physical competence to general self-worth would vary as a function of the classroom peer group. Tests of between-group variability revealed that the effect of each perceived social and cognitive competence varied significantly (social competence slope: $\chi^2_{(43)} = 58.88, p < .05$; cognitive competence slope: $\chi^2_{(43)} = 63.96, p < .05$). However, the effects of physical competence and the three interactions did not vary between groups (all $\chi^2_{(43)} < 18.17, p > .05$). Nevertheless, between-group analyses tested for differences in all of these effects (treating them as random) given that it can be assumed that these effects would vary in the population (Luke, 2004; Snijders & Bosker, 1999).

Between-Group Analyses

Question 4: The effect of place on perceived competence effects. Place of testing (Montréal/Barranquilla) was added to the model as a between-group predictor of variability in the associations between general self-worth and perceived social, cognitive, and physical competence (and in the interactions with sex). General self-worth scores were significantly higher among the classes from Montréal ($b = .133, SE = .029, t_{(38)} = 4.58, p < .05$) explaining 23.96% of the between-class variability in general self-worth overall. Moreover, place of testing had a statistically significant effect on the association between social competence and general self-worth ($b = .074, SE = .036, t_{(38)} = 2.02, p < .05$) explaining 12.46% of the between-group variance in the association. Place of testing also had a statistically significant effect on the association between cognitive competence and general self-worth ($b = -.088, SE = .043, t_{(38)} = 2.04, p < .05$) explaining 4.60% of the between-group variance in the association. In other words, the association between social competence and self-worth was stronger for participants in Montréal compared to those in Barranquilla while the opposite effect was found for cognitive competence (Figure 2).

In addition, significant differences were observed in sex by perceived competence variables as a function of place of testing. For social competence,

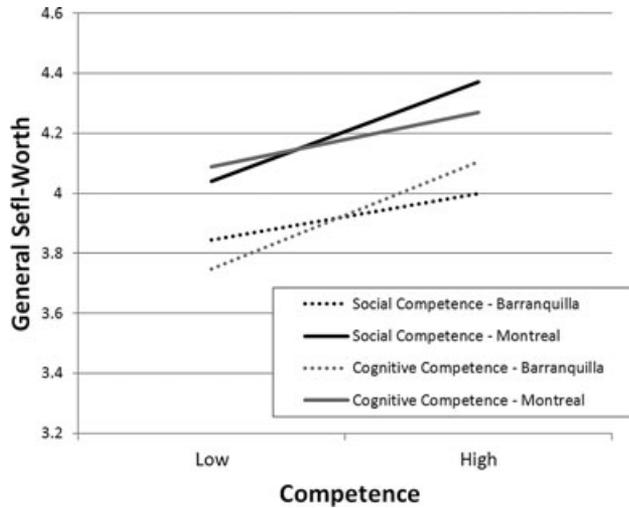


FIGURE 2 Associations of cognitive and social competence (as represented by slopes) with general self-worth as a function of place of testing.

Note. The vertical scale has been adjusted to highlight the slope differences (general self-worth had a potential range from 1 to 5).

the difference between girls' and boys' general self-worth shrunk at higher levels among the participants from Montréal. Among the participants in Barranquilla, the opposite was observed with a larger difference between boys and girls at higher levels of social competence. In fact, the slope between social competence and general self-worth was almost flat among boys from Barranquilla. The opposite pattern was observed in the association between cognitive competence and general self-worth. At higher levels of cognitive competence, the difference between boys and girls decreased among participants in Barranquilla and increased among those in Montréal. For the association between physical competence and general self-worth, female participants from Montréal showed a stronger slope than the other groups. The addition of place of testing explained 5.56%, 21.80%, and 32.52% of the between-group variability in the interaction between sex and social competence, cognitive competence, and physical competence, respectively. All told, the addition of place of testing led to a statistically significant improvement to the model ($\Delta\chi^2_{(1)} = 15.02, p < .05$).

Question 5: The effect of SES on perceived competence effects. Next, SES was added to the model as a between-group predictor of variability in the associations between perceived social, cognitive, and physical competence and general self-worth (and the interactions with sex). Above and beyond

the effects of place of testing, general self-worth scores were significantly higher among high-SES classes ($b = .066, SE = .029, t_{(38)} = 2.27, p < .05$), explaining 46.77% of the remaining between-class variability in general self-worth. SES was also a positive predictor of the association between perceived social competence and general self-worth ($b = .101, SE = .05, t_{(38)} = 2.02, p < .05$) explaining 40.45% of the remaining variance, but a negative predictor of the cognitive competence slope ($b = -.131, SE = .049, t_{(38)} = 2.65, p < .05$) explaining 16.99% of the remaining variance. That is, the association between social competence and self-worth was stronger among high-SES compared with low-SES groups. However, the association between cognitive competence and self-worth was stronger among low-SES compared with high-SES groups (Figure 3). The addition of SES to the model led to a statistically significant improvement ($\Delta\chi^2_{(1)} = 31.38, p < .05$).

Question 6: Testing for the potential SES by place of testing interaction. The potential interaction between place of testing and SES was then added to the model. Only one significant country by SES effect was observed (explaining an additional 26.69% of the remaining variability). Specifically, while reported general self-worth was higher among participants in Montréal than in Barranquilla, the difference was smaller among the high-SES classes. The addition of the place of testing by SES

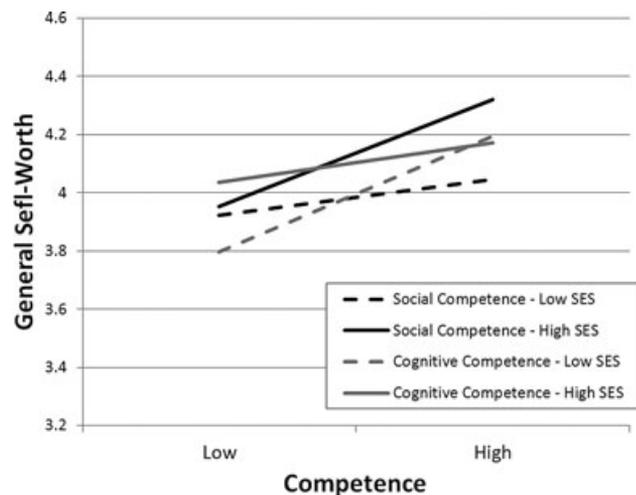


FIGURE 3 Associations of social and cognitive competence with general self-worth as a function of SES.

Note. The vertical scale has been adjusted to highlight the slope differences (general self-worth had a potential range from 1 to 5).

interaction led to a statistically significant improvement to the model ($\Delta\chi^2_{(1)} = 10.93, p < .05$).

Question 7: The effect of individualism and collectivism on the perceived competence effects.

Finally, classroom means of INDCOL were added to the model as between-group predictors. General self-worth scores were significantly higher among more collectivistic classes ($b = .352, SE = .131, t_{(38)} = 2.68, p < .05$) explaining 3.08% of the remaining between-class variability in general self-worth overall. As expected, collectivism was positively associated with the social competence slope ($b = .240, SE = .111, t_{(38)} = 2.16, p < .05$), explaining 6.97% of the remaining variance; the effect of individualism was nonsignificant. In other words, adolescents in more collectivistic groups showed a stronger association between social competence and general self-worth. Moreover, individualism did not have a statistically significant influence on the cognitive competence slope. Instead, collectivism was significantly negatively associated ($b = -.306, SE = .131, t_{(38)} = 2.34, p < .05$) explaining 6.04% of the remaining variance. To explain, individuals in collectivistic groups showed a weaker association between cognitive competence and general self-worth. The addition of INDCOL to the model led to a statistically significant improvement ($\Delta\chi^2_{(2)} = 6.52, p < .05$). It should be mentioned that we did test for a potential individualism by collectivism interaction and place of testing or SES by INDCOL interactions. There were no observable effects.

DISCUSSION

The goal of the current study was to assess contextual variations in a fundamental structural component of the self, specifically the associations between perceptions of competence in particular domains of functioning and the evaluative component of the self often known as self-esteem or general self-worth. The study's goal is predicated on the idea that the constructive processes by which self-perceptions of competence are combined to form the basis of the evaluative self will vary as a function of the contextual factors. Three contextual factors were of particular interest to us: SES, location in a majority or nonmajority culture, and the cultural dimensions of INDCOL. The capacity to assess variation in the structure of the self is the unique feature of the present study. Our findings show clearly that the self varies across contexts and that these variations are linked to particular

contextual factors. Specifically, the strength of the association between the measures of perceived competence and the evaluative measure varied as a function of SES, majority/nonmajority status, and cultural factors.

The strongest effects were observed for SES. Perhaps most interesting is the finding that social competence was more strongly associated to self-worth among high-SES groups, while cognitive competence was more strongly associated to self-worth among low-SES groups. Our explanation for this finding is that obtaining an education might be seen as the most salient route to success among low-SES peer groups. Such a belief would foster linkages between cognitive skills and general self-worth among the low-SES groups. On the other hand, among high-SES groups, in which the drive for social status has been identified as being especially strong (de Botton, 2004; James, 2007), perceiving oneself to be highly effective at acquiring attention from and contact with others may be seen as a particularly potent indicator of one's worth or value. Moreover, it may be that competent functioning within the social context is recognized by upper SES early adolescents as an essential component in one's strivings to maintain one's position as an upper status person.

Peer-group collectivism was also observed to moderate the associations between social and cognitive competence and self-worth. In line with expectations, collectivistic peer groups revealed stronger slopes for social competence but weaker slopes for cognitive competence. It is understandable how the link between an individual's perceived social competence and self-worth might be stronger among peer groups which report higher amounts of collectivism. On the other hand, it is reasonable to expect to see that the connection between an individualistic pursuit such as cognitive competence would be weaker in collectivistic peer groups.

Several sex by place interaction effects emerged in the associations of social, cognitive, and physical competence to general self-worth. It might have been expected based on the work of Rudolph and Conley (2005) that perceived social competence and general self-worth would be more strongly associated among girls. Perhaps the differences in the effects of the competencies on the evaluative self varies are a reflection of processes at the individual level (Findlay & Bowker, 2009). However, the sex differences varied by place of testing. Additional research would be required to replicate these findings and hopefully explain the processes at work.

Moreover, some of the sex differences appear to be inconsistent with results from prior studies. For example, girls' scores on the measure of self-worth were slightly higher than those of boys. The majority of previous findings in the area of self-esteem reveal that males consistently report higher self-esteem (Birndorf et al., 2005; Burnett, 1996; Chubb et al., 1997; Quatman & Watson, 2001; Wigfield & Eccles, 1994). The difference between the present findings and prior results may reflect a cohort difference. Perhaps the historical change in the equality of opportunity for men and women has had a positive effect on self-worth among girls.

One potential limitation to the current findings is the relatively minimally acceptable levels of reliability (i.e., Cronbach's alpha) for the measures of INDCOL. It may be that some of our effects would have been stronger if the psychometric properties of these measures had been stronger. Nevertheless, it is a tribute to the strength of our effects that we observed many of our hypothesized results in spite of the limited reliability of our measures. Moreover, the specific items that were chosen to reflect INDCOL were picked based on tests of measurement equivalence in the samples. In other words, more items could have been used to bolster the scale strength but at the cost of ability to interpret the results across samples. In the end, the current study sacrificed a small degree of internal reliability for the sake of ecological validity.

The contextual effects observed here are multifaceted. In some cases, these contextual variables are broad characteristics such as SES, gender and place whereas other contextual effects (INDCOL) are related to interpersonal processes. These variations highlight the breadth of the factors that distinguish one context from another. Aside from the variability between them they share a functional similarity in their effects. In general the contextual variables were observed to have effects as moderators rather than as "main" effects that had a direct effect on a particular outcome. This pattern shows that contextual effects serve to moderate processes at the level of the individual rather than to affect individual development directly. These findings show that one cannot disentangle individual-level processes from the contextual circumstances in which they occur and one cannot expect contextual variables to have their own effects.

A fundamental assumption of this study is that the evaluative component of the self is the same phenomenon in different contexts regardless of their emphasis on INDCOL. It is conceivable that the evaluative self per se may be a fundamentally

different concept in some circumstances than others. A full consideration of this issue is beyond the scope of this study. We recognize, however, that the concept of the "self" may be more conducive to contexts which place more emphasis on individualism than collectivism. Perhaps by its very nature self-worth is an individual-level construct. It may be necessary, however, to consider that there may be a collective self-worth that is especially prevalent in contexts in which individuality is given minimal significance. We are not arguing that these two "selves" would need to be indexed with different measures. Instead we are proposing that the self may be influenced by factors that are outside the individual such as in the peer group itself. The extent to which the self is formed by factors at the level of the individual and those at the level of the group is likely to vary across contexts. Accordingly, the structure of these selves may not be comparable from one culture to another.

Indeed, perhaps the main overriding finding of the study is that one cannot reach an unequivocal conclusion about the effects of being from a majority or a nonmajority context. There were some effects of place to be sure. Specifically, social competence was a stronger predictor of self-worth among Montréal peer groups while the association between cognitive competence and self-worth was stronger among Barranquilla peer groups. Nevertheless, the findings showed no other discernible difference in the structure of adolescent self-worth between the samples. Other context-related effects, however, that are relevant to the concept of the differences between majority and nonmajority contexts (or between WEIRD and non-WEIRD contexts) accounted for a larger proportion of the group-related differences. Indeed, SES was observed to have the most powerful effects of all the group-related variables in the study. This observation points to the critical importance of SES as a moderator of individual-level processes. These findings reinforce the need to continue to conduct research that is ecologically valid within the majority world but also to explore the disparities that differences in SES can cause in both majority and nonmajority contexts.

In summary, this study extended and clarified previous studies of self-esteem in several ways. First, previous studies have focused on individual effects (e.g., Harter, 1982). By examining the characteristics of the context, the current report is able to account for associations between individuals' perceived competencies and general self-worth in ways that would have been impossible otherwise.

Moreover, the current report attempted to quantify the differential effects of gender, SES and place in addition to characteristics of individuals and the peer group context such as INDCOL. While this study has helped explain associations with individual's general self-worth, further exploration is required to transfer the information into a means of targeting children of low esteem and improving the view from which they see themselves.

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