The Role of Social Support and Coping Skills in Promoting Self-Regulated Learning Among Urban Youth

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Abstract

Self-regulation is a well-known construct in educational and psychological research, as it is often related to academic success and well-being. Drawing from criticisms of a lack of context applied to the investigation of this construct, the current study examined the multi-dimensional role of social support (teachers, parents, peers) and coping skills as predictors of self-regulated learning among a diverse sample of urban youth (*N* = 229). Based on a cross-sectional and longitudinal design, structural equation modeling was used to test two models. Social support predicted self-regulated learning at Time 1 and Time 2 after controlling for grades. Results further indicated that coping skills did not predict self-regulated learning in either model. The implications for practice, limitations of the study, and future directions for research are discussed.

Keywords

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Self-regulation (or self-regulated learning) refers to a multi-dimensional construct consisting of learning strategies, abilities, and skills that enable students to monitor and organize their learning, manage time, focus attention, reduce anxiety, delay gratification, and persist in goal-directed behavior (Schunk & Zimmerman, 2013). As one of the most widely investigated and conceptualized constructs in educational and psychological research, Weinstein, Acee, and Jung (2011) described self-regulation as "both the glue and the engine that helps students manage their strategic learning" (p. 47). Indeed, self-regulation has been linked to a host of positive youth outcomes, including academic success and well-being (e.g., Bynum & Brody, 2005; Mih, 2013). As active seekers of information, self-regulated learners are thought to possess resilience that enhances their academic performance and buffers them from stressors associated with poor mental health (Buckner, Mezzacappa, & Beardslee, 2009).

Karoly, Boekaerts, and Maes (2005) contend that while self-regulation has branched out in many new directions, some important challenges remain in synthesizing the advancements in theory and research that have proliferated since the 1970s. As part of their critique, they noted that educational psychologists have largely overlooked "social exchange processes and cultural conditionings" pertinent to self-regulation (p. 306). By integrating the role of social support and coping skills from a culture-specific perspective, we seek to address these limitations of context. Specifically, this study is guided by a multi-dimensional view of social support that incorporates peers, parents, and teachers—one situated within a coping model unique to understanding the learning of urban youth. Drawing from this framework, the "glue and engine" of learning can be more comprehensively investigated. The present study used a cross-sectional and longitudinal design to investigate how social support and coping skills predict self-regulated learning.

Teachers, Parents, and Peers: A Multi-Dimensional View of Social Support

Although a variety of studies among adolescents have focused on one type or source of social support, the analysis of two sources of support within the same study is unusual; no study has examined the three major sources of social support usually found in self-regulation research. Given that parents, teachers, and peers can all play a significant role in youth development and adjustment, their lack of integration in this particular area is striking. When investigated in a piecemeal fashion, our understanding of the effects of social support becomes oversimplified (Cauce, Mason, Gonzales, Hiraga, & Liu, 1996).

The role of teachers as social agents in promoting self-regulated learning has been extensively investigated, consistently revealing positive relationships between teacher support for autonomous learning and academic motivation, persistence, self-esteem, and other outcomes of well-being (e.g., Bonneville-Roussy, Vallerand, & Bouffard, 2013). For example, researchers in Belgium (e.g., Sierens, Vansteenkiste, Goossens, Soenens, & Dochy, 2009; Vansteenkiste et al., 2012) have found that structured learning environments associated with fair, firm, and consistent expectations, when paired with support for autonomous learning, predict greater use of self-regulated learning strategies. These studies applied self-determination theory (SDT; Deci & Ryan, 1985, 2000). In brief, SDT posits that individuals are endowed with propensities that strive to meet three psychological needs: (a) autonomy, (b) competence, and (c) relatedness. To the extent that these needs are satisfied, it is assumed that people will function in a more optimal, self-regulated manner. Drawing from SDT, teacher support for autonomous (or self-regulated) learning is conceptualized as providing students with choice, a rationale when such choice is limited, empathizing with student perspectives, eliciting student values and goals, and avoiding controlling language (Assor, 2012).

With regard to the role of parents, a meta-analysis by Gonzalez-Dehass, Willems, and Holbein (2005) found that parental involvement in education increases students' perceived control and competence, sense of security and connectedness, and internalization of education values. These favorable outcomes are consistent with the principles of SDT. Moreover, the authors found that students are more likely to take personal responsibility for their learning, seek challenging tasks, persist in difficult academic tasks, and show more interest in learning when exposed to greater levels of parental involvement. Other studies (e.g., Bynum & Brody, 2005; Gaylord-Harden, 2008) support these findings among low-income, African American families. A structured, supportive family environment characterized by fair, firm, and consistent expectations has been understood as a way to buffer low-income, African American youth from various stressors (Gaylord-Harden, 2008), which may, in turn, improve academic achievement (Mih, 2013).

Returning to SDT, Soenens and Vansteenkiste (2005) examined an integrated model of relationships among the following constructs: (a) perceived parenting support, (b) perceived teaching support, (c) self-determination in three domains of adjustment (i.e., school, socio-emotional, vocational), and (d) a variety of positive youth outcomes (social competence, grade point average, vocational identity) among two samples of adolescents in Belgium, ranging from Grades 10 to 12. In this exceptional study, two sources of autonomy support (teachers and parents) were hypothesized to positively influence multiple forms of self-determination and, in turn, multiple youth outcomes.

Consistent with SDT, results indicated that autonomy-supportive parenting significantly contributed to self-determination across all three domains of adjustment, while autonomy-supportive teaching added significantly to the prediction of self-determination in school and job-seeking behaviors.

Given that peers become a salient source of influence on identity, self-esteem, mental health, and general adaptation upon entry into adolescence (Harter, 1999), it is plausible that relationships with peers may lead to the transmission of beliefs and behaviors that affect youth's self-regulated learning (Ryan, 2000). Peer social support has been rarely studied within the context of self-regulation, however, as opposed to studies that examine the role of peers in relation to academic achievement and performance (Jones, Estell, & Alexander, 2008). So far, the pattern of findings indicates that membership in high-achieving peer groups can increase academic achievement via educational aspirations and behaviors, suggesting that low-achieving students may benefit from support offered by high-achieving friends/peers (South, Baumer, & Lutz, 2003). To this end, Jones et al. (2008) observed that "peers can instruct each other on factors pertaining to self-regulation, such as metacognition and strategy use" (p. 3).

The Role of Coping Skills: A Culture-Specific Perspective

In general, coping skills refer to how people manage or respond to stress, often divided into two basic categories: (a) active coping or problem-focused strategies, and (b) avoidance coping or emotion-focused strategies. Among children and adolescents, a meta-analysis of 40 studies found that active coping (e.g., problem solving, seeking support) was associated with less behavioral problems and greater social competence when youth were facing *controllable* life stressors (Clarke, 2006). Effect sizes modestly ranged from 0.02 to 0.12. Over the past 25 years, coping skills have also been investigated from a culture-specific lens, nearly all on African Americans (e.g., Brady, Gorman-Smith, Henry, & Tolan, 2008; Gaylord-Harden & Cunningham, 2009; Gaylord-Harden, Elmore, Campbell, & Wethington, 2011).

When considering low-income youth from culturally and linguistically diverse backgrounds, economic inequalities and experiences of oppression stemming from racial discrimination, chronic poverty, and community violence have been posited as requiring coping strategies that more advantaged youth may not use, or need to draw upon, to cope with everyday stress (Gaylord-Harden, Mance, Gipson, & Grant, 2008). These differences may be manifested in terms of frequency of use or types of coping skills. Alternative coping skills which have been proposed and empirically investigated among

African American adolescents pertain to religion and spirituality, extended family, diversion seeking, ventilating feelings, avoidant strategies, and relaxation (Chapman & Mullis, 2000). According to Gaylord-Harden et al. (2008), previous studies of African American youth have not found positive effects for active coping, but evidenced positive effects for *avoidant* coping; they proposed that "dangerous neighborhoods require youth to avoid a number of risky situations in order to maintain physical and mental health. . . . Thus, particular avoidance strategies . . . might also represent active strategies in the context of urban poverty" (p. 19). In this respect, Brady et al. (2008) examined the interplay between coping skills, culture, and stress among urban African American and Latino adolescent males. Youth who effectively coped with *uncontrolled* violent events used an array of coping strategies, such as praying or engaging in distracting activities.

The theoretical and empirical connections which coping skills share with self-regulated learning are largely neglected. To date, coping research among African Americans has examined relationships between coping and maladaptive outcomes such as depression, anxiety, or violent behavior (e.g., Gaylord-Harden et al., 2011; Gaylord, Cunningham, & Zelencik, 2011) and stress. Similar to the absence of research on self-regulation, the relationship between coping skills and academic outcomes requires greater empirical attention. In a study of 235 African American children, Gaylord-Harden (2008) found that while positive parenting (measured by child self-report) predicted higher levels of achievement (tests in math, reading, and language), coping strategies did not function as a significant mediator or moderator, as they were neither related to positive parenting nor academic achievement. To account for this non-significant result, the author suggested that the coping measure may not have been appropriate.

Social Support and Coping Skills: SDT

Drawing from SDT, scholars have proposed a model that views self-regulation and coping as promoted in the context of relationships and social structures that develop competence and a sense of mastery (Skinner & Edge, 2002). Social support and coping skills, when situated within this model, can be viewed as facilitating self-determined or self-regulated learning: an autonomous, persistent, and intrinsic motivational style to learn in school (Reeve, 2002). Insofar as coping skills function as a buffering mechanism for stress in a manner similar to how social support protects youth against stress (Cohen & Wills, 1985), it may be construed as an asset that can enhance the impact of social support on self-regulated learning. Accordingly, if youth can utilize coping skills that are responsive to their environments, they may be better

equipped to utilize social support. On the other hand, if youth do not have such coping skills, the benefits of social support may be weakened because the stressors they face are too taxing. In contrast to the moderator hypothesis, we were further interested in examining if coping skills that are relevant to managing stress among urban youth may enhance self-regulated learning in a way that is distinct from social support; in other words, coping skills may enhance self-regulated learning regardless of social support. Drawing from our review of the literature and these considerations, the hypothesis and research questions below framed the central aims of the study:

> **Hypothesis 1:** Perceived social support from teachers, parents, and peers will predict self-regulated learning.
>
> **Research Question 1:** Do coping skills moderate the effects of social support?
>
> **Research Question 2:** Does perceived social support from teachers, parents, and peers predict self-regulated learning over time?

Method

Participants

The sample consisted of 229 students. Participants attended one of four public high schools located in a major urban city and metropolitan area in the Midwest, ranging from 13 to 19 years old ($M = 15.71$; $SD = 1.24$). They were distributed across all grade levels, with 27.5% ($n = 63$) enrolled as freshmen, 35.4% ($n = 81$) as sophomores, 8.7% ($n = 20$) as juniors, and 28.4% ($n = 65$) as seniors. According to state public records, the students enrolled in School A (68%; $n = 210$) consist of 56.5% designated as economically disadvantaged or eligible for free/reduced-price lunch; School B (13.2%; $n = 42$) and School C (6.6%; $n = 21$) have 100% economically disadvantaged, whereas School D (12.2%; $n = 39$) has 76.1% economically disadvantaged. A greater percentage of females (59%) than males (41%) were represented. The self-reported race/ethnicity of the sample was predominantly Black/African American (62.4%), with 23.6% bi/multi-ethnic, 8.7% White/Caucasian, 2.5% Latino/Hispanic, 1.3% Other, and less than 2% Asian American, American Indian, or Caribbean.

Analytic Approach

Structural equation modeling (SEM) is a method for determining the magnitude of effect of multiple presumed influences on multiple presumed outcomes. The chief advantage of latent variable SEM is that latent variables,

based on multiple measures of the construct, more closely approximate the construct level of true interest by allowing the isolation of unreliability and invalidity (Kline, 1998). The structural equation programs Amos (Arbuckle, 2012) and MPlus (version 7; Muthén & Muthén, 1998-2012) were employed.

Procedure

The research proposal was approved by the university human subjects review board, principals, and superintendents. Permission of school administrators and participating teachers was obtained. Students who returned a signed informed consent form from their parent(s)/legal guardian were allowed to participate. Data were collected from classes in Language Arts/English. Students completed a demographic sheet and a series of questionnaires during two class periods at Time 1 (September or October) and Time 2 (April or May). Portions of the questionnaires were not used as they were part of a larger group of studies independent from the current study. The average number of days that passed between Times 1 and 2 was 199, or approximately 7 months. Students read and signed an assent form and were given a small snack for participating.

Measures

Social support. This study used three measures of social support. The first measure, the Teacher Support Scale (TSS; Metheny, McWhirter, & O'Neill, 2008), is designed to assess the extent to which students perceive that teachers are invested in them (e.g., "care about me as a person"), show positive regard or emotional support (e.g., "believe I am capable of achieving"), hold high expectations (e.g., "expect me to work hard in school"), and are accessible (e.g., "will listen if I want to talk about a problem"). The TSS is a self-report measure consisting of 26 items rated on a Likert-type scale (1 = *strongly disagree* to 5 = *strongly agree*). The present study used the 21-item version based on Metheny et al.'s (2008) finding of a single factor. Previous research among urban youth has provided evidence for its internal consistency and validity, predicting career and academic outcomes as expected (Metheny et al., 2008; Perry, Liu, & Pabian, 2010). Cronbach's alpha for the TSS was .95 in the current study.

The second measure of social support, the Parental Career Behavior Checklist (PCBC; Keller & Whiston, 2008), is a 23-item self-report scale assessing the extent to which students perceive that a parent provides psychosocial support (e.g., "My parent really tries to understand my thoughts, feelings and opinions about various topics") and career-specific support (e.g.,

"My parent encourages me to talk to him/her about my career plans"). The items are rated using a Likert-type scale (1 = *never* to 5 = *very often*). A total score is obtained by summing the items, with higher scores indicating higher levels of support. Previous research with the PCBC has revealed high levels of internal consistency and evidence of validity among urban adolescents (Perry et al., 2010). The total scale was used in this study, indicating strong internal consistency of .94.

The third measure of social support is a subscale (peer support for academic behaviors) from the Peers' Academic Aspirations and Support measure (Murdock, 1999). This measure is designed to assess perceptions of peer support for academic activities and engagement in school. The subscale consists of five items (1 = *strongly agree* to 5 = *strongly disagree*), with higher scores indicating higher levels of perceived support. A sample item reads, "I can call my friends for help with homework when I'm stuck." Murdock's (1999) study among seventh-grade students revealed a Cronbach's alpha of .70, including correlations with teacher-related, peer-related, and academic variables consistent with expectations. The alpha coefficient for this subscale was .78 in the current study.

Coping skills. Culturally specific coping skills were assessed by an adapted version of the Africultural Coping System Inventory–Youth Version (Y-ACSI; Gaylord-Harden & Utsey, 2007), consisting of 34 items rated on a Likert-type scale (1 = *not at all* to 4 = *used a lot*) designed to measure four types of coping skills: (a) emotional debriefing, or attempts to manage stress through self-expression and creativity (e.g., "I listen to music or the radio"); (b) spiritually centered coping, or attempts to manage a situation through faith or religion (e.g., "I pray or talk to God"); (c) maintaining harmony or creating a balance with environmental stimuli and others (e.g., "When things don't go my way, I just accept the way things are"); and (d) communalism, or a collectivistic strategy to managing stress through relationships with others (e.g., "I talk about the problem to someone my age outside of my family"). In this study, the four coping types were treated as multiple indicators of coping skills. Research among African American youth offers evidence for the internal consistency and validity of the original 52-item version of the Y-ACSI (Gaylord-Harden & Cunningham, 2009). The 34-item version of the measure was used based on consultation with N. Gaylord-Harden, who provided an updated four-factor model that consisted of fewer items (personal communication, November 10, 2010). Cronbach's alphas for emotional debriefing was .66, .86 for spiritually centered coping, .79 for maintaining harmony, and .49 for communalism in the present study. All four subscales showed substantial and statistically significant loadings on the coping skills latent variable, ranging from .54 to .65.

Self-regulated learning. As the latent outcome variable of interest, this construct was assessed by the two measures (Intrinsic Value and Self-Regulation) drawn from the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich & De Groot, 1990). The Intrinsic Value scale, the first measure, consists of nine items rated on a Likert-type scale (1 = *not at all true* to 7 = *completely true*) designed to assess the extent to which students are intrinsically motivated to learn, prefer challenging work, and perceive the importance of school (e.g., "I think what I am learning in school is useful for me to know"). We adapted items that used the phrase "this class" by replacing it with "school," as we were interested in general perceptions of school rather than a class. Higher scores indicate higher levels. Pintrich and De Groot (1990) reported an alpha of .87 for the instrument, which positively correlated with academic self-efficacy, cognitive strategy use, and self-regulation among youth in middle school. The scale correlated significantly with academic performance (e.g., grades, quizzes, essays) as expected. The alpha coefficient for Intrinsic Value at Time 1 was .72 and at Time 2 was .83 in the present study.

The second measure from the MSLQ (Pintrich & De Groot, 1990), the Self-Regulation scale, consists of nine items designed to assess metacognitive learning strategies and effort management (e.g., "I ask myself questions to make sure I know the material I have been studying"). The items were rated on the same Likert-type scale as Intrinsic Value. Pintrich and De Groot (1990) reported a Cronbach's alpha of .74 for this scale, which correlated with academic performance as expected. The alpha at Time 1 was .66 and that at Time 2 was .52 in the present study.

Academic performance. Students were asked to report their estimated grades in school based on an ordinal scale: mostly Fs, mostly Ds, mostly Cs, mostly Bs, or mostly As (*mostly As* = 1, *mostly Fs* = 5). This method of assessing academic performance has been highly correlated with students in urban schools self-reporting their estimated cumulative grade point average on a 4-point scale (Perry et al., 2010). Previous research has indicated that self-reported grades can serve as a valid indicator for academic performance (Gilger, 1992). In this study, estimated grades were controlled for because of their relationship with self-regulated learning.

Structural Equation Model

The main analytic models we tested are presented in Figures 1 and 2. In both figures, coping skills and social support represent latent constructs predicting self-regulated learning. To examine the moderator hypothesis, the interaction
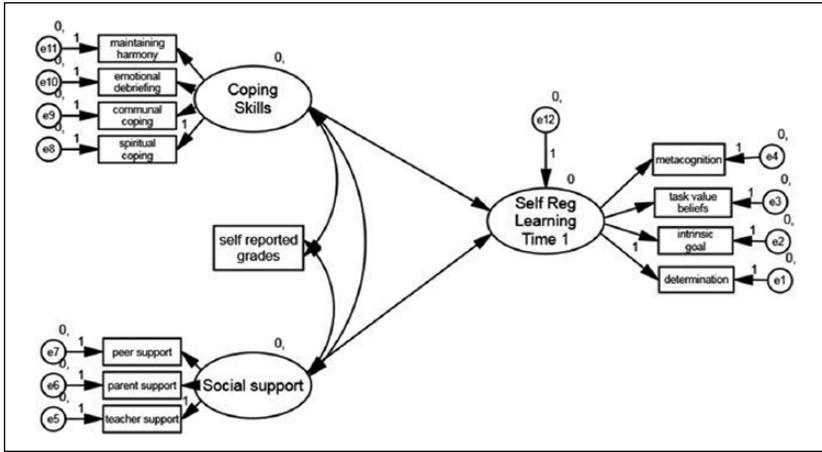
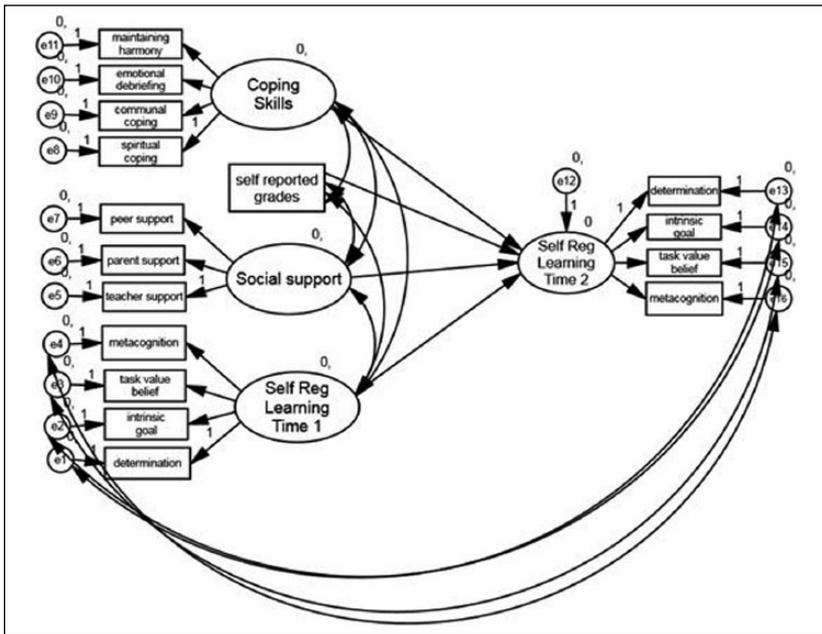**Figure 1.** Theoretical model in cross-sectional design.

Figure 2. Theoretical model in longitudinal design.

between coping skills and social support was included in both models, though not visually presented in the figures themselves.

Results

Factor Analyses

A preliminary confirmatory factor analysis (CFA) was performed to ensure the validity of the predictor latent constructs in the model and outcome latent construct. These analyses suggested that the predictors were well measured. The latent construct of self-regulated learning (i.e., the two measures drawn from the MSLQ; Pintrich & De Groot, 1990), however, was a source of misfit in the preliminary models. For this reason, exploratory factor analysis (principal axis factoring) was conducted on the self-regulated learning items. Following psychometric guidelines (Tabachnick & Fidell, 2001), the criterion for determining the salience of an item was a loading of .40. These analyses suggested that the 14 items (with one item deleted) measured five underlying, correlated (oblique rotation) constructs. This solution was supported in subsequent CFAs at both the item and composite levels. (Due to space limitations, the findings are not reported.) The fifth factor revealed low correlations with other factors. When these three items were added together to an equally weighted composite, the composite showed a low, non-significant loading on the self-regulated learning construct; hence, this factor was dropped from subsequent analyses. For the SEM models, self-regulated learning was thus indexed by four composites that included 11 of the 15 items. The pattern of loadings were interpreted with respect to common dimensions of self-regulated learning (Schunk & Zimmerman, 2013): (a) *determination*, or the ability to work persistently on a task; (b) *intrinsic goal*, or the tendency to challenge one's self; (c) *task value beliefs*, or the perception of the value of school/education; and (d) *metacognitive strategies*, or self-management and study skills.

Descriptive Statistics

The means, standard deviations, and intercorrelations among the measures at Time 1 are presented in Table 1. Clearly, the primary variables of interest were all significantly correlated in expected directions, ranging from small ($r = .15$) to moderate ($r = .40$) strength. Most notably, all four self-regulated learning strategies were positively associated with all four coping skills as well as all three types of social support, though relatively weak. The three types of social support were significantly correlated with each other at

Table I. Means, Standard Deviations, and Bivariate Correlations Among Measured Variables ($N = 229$).

	Grades	Factor 1	Factor 2	Factor 3	Factor 4	Harmony	Emotional	Communal	Spiritual	Peers	Parents	Teachers
Grades	—											
Factor 1	−.25**	—										
Factor 2	−.27**	.46**	—									
Factor 3	−.26**	.43**	.46**	—								
Factor 4	−.25**	.42**	.45**	.42**	—							
Harmony	−.01	.20**	.21**	.20**	.19**	—						
Emotional	.00	.16*	.18**	.16*	.16*	.31**	—					
Communal	−.01	.22**	.23**	.22**	.21**	.41**	.34**	—				
Spiritual	.00	.18**	.19**	.18**	.18**	.33**	.28**	.37**	—			
Peers	−.10	.19**	.21**	.19**	.19**	.17*	.14*	.18**	.15*	—		
Parents	−.13	.26**	.28**	.26**	.26**	.22**	.19**	.25**	.20**	.29**	—	
Teachers	−.14*	.27**	.29**	.27**	.27**	.23**	.19**	.26**	.21**	.30**	.40*	—
M	2.50	14.00	17.75	10.01	13.74	23.16	26.11	24.92	16.27	17.60	65.41	67.69
SD	0.80	3.85	3.24	2.79	3.84	4.80	6.89	7.35	5.53	4.03	20.51	15.28

Note. Factors 1 to 4 represent the four factors of self-regulated learning. Factor 1 refers to determination; Factor 2 refers to intrinsic goals; Factor 3 refers to task value beliefs; Factor 4 refers to metacognitive strategies. Harmony refers to Maintaining Harmony subscale of the Y-ACSI; emotional refers to Emotional Debriefing subscale; communal refers to the Communalism subscale; spiritual refers to Spiritually Centered Coping subscale. Peers refer to peer's academic aspirations and support; Parents refer to Parental Career Behavior Checklist; teachers refer to Teacher Support Scale. Self-report grades were coded in such a way that lower scores measure higher grades; this variable was not reverse scored, explaining the negative correlation. Y-ACSI = Africultural Coping System Inventory—Youth Version.
*p < .05. **p < .01.

a moderate level. As expected, a modest, significant relationship between self-reported grades and self-regulated learning was revealed. Interestingly, they were not significantly correlated with any other variable except for teacher support, revealing a weak relationship.

Missing Data Analyses

Following data preparation, the data were analyzed via Mplus (Muthén & Muthén, 1998-2012), version 7. Weighted maximum likelihood estimation was used. Mplus handles missing data through the Full Information Maximum Likelihood (FIML) procedure. Currently, FIML is a strongly recommended procedure for handling missing data (Enders, 2010; Enders & Bandalos, 2001; Schafer & Graham, 2002). Approximately 30% of students ($n = 69$) did not complete the self-regulated learning questionnaire at Time 2. Most of the missing data were from the same school due to a scheduling conflict on the day of data collection. The consistency in findings from Time 1 to Time 2 suggests that the missing data did not affect the integrity of the model.

Structural Equation Models

Time 1. The first SEM analysis tested the effects of social support and coping skills. The model fit was acceptable and interpretable, with $\chi^2(df = 50, N = 226) = 92.85$, $p = .001$, comparative fit index (CFI) = .92, root mean square error of approximation (RMSEA) = .06, and Tucker–Lewis index (TLI) = .87. In Table 2, the path model is summarized. For this model, social support yielded a significant and large effect size on self-regulated learning ($\beta = .44$). As a second step, the interaction between social support and coping skills was added to the model to examine a moderator effect. The interaction term was not significant. Self-report grades, the covariate, were also significant ($\beta = -.29$). A negative sign represents the coding of this variable, with higher (better) grades measured by lower scores.

Time 2. At Time 2, we again examined the effects of social support and coping skills based on a longitudinal design, controlling for grades and self-regulated learning at Time 1. This model fits the data well, with $\chi^2(df = 91, N = 157) = 119.59$, $p = .001$, CFI = .96, RMSEA = .04, and TLI = .94. As shown in Table 2, the findings from Time 2 replicate those from Time 1. Namely, social support (at Time 1) showed a large and significant direct effect on self-regulated learning at Time 2 ($\beta = .47$), whereas coping skills (at Time 1) did not have a significant effect. Indeed, the effect of social support was overwhelmingly stronger than self-regulated learning at Time 1 ($\beta = .01$). Once again, the test of moderation showed no effect on self-regulated learning.

Table 2. Standardized Direct Effects of Social Support and Coping Skills on Self-Regulated Learning at Time 1 and Time 2.

Predictor	Estimate	SE	*p* value
Structural Model A: Effects of social support and coping skills at Time 1 with interaction term			
Self-report grades	−.29	0.08	.00**
CS	.23	0.13	.07
SS	.44	0.13	.00**
SS × CS	−.04	0.05	.42
Structural Model B: Effects of Time 1 social support, Time 1 coping skills, and Time 1 interaction term on Time 2 self-regulated learning			
Self-report grades	−.33	0.10	.00**
Self-regulation Time 1	.01	0.18	.05*
CS	.12	0.15	.42
SS	.47	0.19	.02*
SS × CS	−.07	0.08	.37

Note. CS = coping skills; SS = social support.
*p < .05. **p < .01.

The effect sizes for social support were equally large in both models, supporting its predictive stability over time. Baseline grades were significant predictors ($\beta = -.33$).

Discussion

The purpose of this study was to investigate the role of social support and coping skills as predictors of self-regulated learning within the developmental context of an urban environment. Consistent with our hypothesis, the multi-dimensional measurement of social support contributed substantially to this important outcome. The availability and frequency of support acquired from teachers, parents, and peers may thus provide a more accurate understanding of variation in self-regulated learning, while supporting the need to marshal these social agents when designing and implementing interventions that may be most effective. On the other hand, the results suggest that coping skills do not play a salient role in facilitating self-regulated learning. Although social support was a robust latent predictor at both Time 1 and Time 2, the findings suggest that global metrics of academic performance (grades) are also predictors of self-regulated learning, both at baseline and over a period of a single school year.

Perhaps the most intriguing aim of the study was to explore the effects of coping skills from a cultural perspective, building from Karoly et al.'s (2005)

prior assertion of "the central importance of emotion (stress) regulation" (p. 302) in self-regulated learning. If coping with affective stress is an integral component, what might account for the null findings associated with coping skills? One explanation is that social support overrides the need for such skills; when social support is available and offered through different mechanisms, it may not matter how much coping skills youth possess because the support in itself can offset emotional stress that may interfere with learning. Alternatively, the characteristics of the sample may have played a role; it is possible that these youth may not have been exposed to (or were experiencing) the kind of severe, chronic, or uncontrollable stress scholars have suggested are more effectively coped with using the strategies assessed in the current study. Another interpretation may reside in issues of measurement. Although two subscales had acceptable reliability, the other two subscales did not. This final explanation may have the least tenability given the significant intercorrelations found between all coping subscales and all four factors of self-regulated learning. Furthermore, the substantial loadings of all four subscales on the latent variable supported the inclusion of coping skills as a latent variable in the model.

As we expected, the critical role of social support was confirmed. Indeed, the findings from the longitudinal investigation are clear, indicating that the magnitude of the effects from teachers, parents, and peers remains constant over time—at least for approximately 1 school year. Hence, social support can be viewed as a protective factor against gradual declines youth experience in self-regulated learning, a trend documented among urban youth in middle school and high school (Balfanz, Herzog, & Mac Iver, 2007; Wang & Eccles, 2012). When assessing self-regulated learning, it may not be sufficient to measure learning strategies alone, such as test taking, time management, or study skills, to identify a holistic plan for interventions.

It should be noted that the measurement of support from teachers and parents was not solely focused on either academic or emotional support. Returning to SDT, we were interested in psychosocial aspects of teaching (e.g., showing positive regard, listening to students' problems) that supports autonomy to learn through the development of youth's "inner compass" or personal identities (Assor, 2012). Likewise, we sought to understand parent involvement as a mixture of emotional support with career-specific instrumental support; in this regard, parents who engage their secondary school-aged children in career exploration, and help prepare them for the transition into the workforce, provide added value in the academic domain by concurrently promoting self-regulation. This makes sense if parental career support is viewed as a vehicle for goal-directed behavior in school (Perry et al., 2010). Taken together, these results suggest that teachers and parents who

support youth in areas of their lives that fall outside of academics may actually enhance their capacity to persist in school.

As for the measurement of peer support, only the academic domain was assessed. Based on the results, learning activities that involve academic support from peers, both during school and outside of school, may be a highly impactful method for promoting self-regulated learning. Indeed, this implication is consistent with the conclusions of Jones et al. (2008). The findings support the view that peers are not only salient sources of self-regulated learning, which tends to be overlooked in the literature, but may also yield influence over time. Despite the strengths of our study, several limitations should be kept in mind. First, while the sample was diverse, it did not permit separate analyses by grade or race/ethnicity. A multi-group analysis comparing freshmen and sophomore students (as one group) with juniors and seniors (as another group) showed no differences in effects. Given that African Americans comprised 62% (*n* = 142) of the sample and that there were not sufficient numbers from other groups, the sample could not be disaggregated and analyzed based on race/ethnicity. Future studies should seek to investigate our findings among larger samples that can address these issues with greater specificity. Second, the temporal effects of the predictors were tested over a single school year; although the longitudinal design made a contribution, tracking youth over a greater length of time would provide a more sophisticated understanding of how the effects of social support may change across different phases of adolescence. Third, the assessment of self-regulated learning relied on self-report; future research should triangulate self-report data with observational ratings from social agents such as teachers or parents. A final limitation pertains to the omission of a measure of stress; it is plausible that our sample had unusually low levels of stress compared with youth in other urban settings.

In conclusion, this study supports the interrelatedness between different sources of social support as important factors to consider in understanding and improving self-regulated learning across multiple domains of well-being and adjustment. At the same time, our study also suggests that coping skills may not be salient factors of self-regulated learning; further research will need to confirm this finding, while addressing how various forms of stress may or may not deplete the cognitive resources necessary for maintaining self-regulated learning when taking into account coping skills youth possess. Ultimately, coping skills may not necessarily be a mitigating factor of stress if various types of social support are accessible to urban youth, potentially providing a lasting impact on self-regulation throughout the course of their adolescent years.

Authors' Note

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Declaration of Conflicting Interests

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