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Development and Initial Validation of the Coping with Academic Demands Scale (CADS):  
How Students in Accelerated High School Curricula Cope with School-Related Stressors

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*This is a pre-copyedited, author-produced PDF of an article accepted for publication in the Journal of Psychoeducational Assessment following peer review. The version of record [citation information below] is available online at*

<https://journals.sagepub.com/doi/10.1177/0734282914552165>

Suldo, S. M., Dedrick, R. F., Shaunessy-Dedrick, E., Fefer, S. A., & Ferron, J. (2015). Development and initial validation of the Coping with Academic Demands Scale: How students in accelerated high school curricula cope with school-related stressors. *Journal of Psychoeducational Assessment*, 33(4), 357–374. <https://doi.org/10.1177/0734282914552165>

The research reported here was supported by the Institute of Education Sciences, U.S. Department of Education, through Grant R305A100911 to The University of South Florida. The opinions expressed are those of the authors and do not represent views of the Institute or the U.S. Department of Education.

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## Abstract

Successful coping with academic demands is important given the inverse relationship between stress and positive adjustment in adolescents. The Coping with Academic Demands Scale (CADS) is a new measure of coping appropriate for students pursuing advanced high school curricula, specifically Advanced Placement (AP) classes and the International Baccalaureate (IB) program. We developed the CADS in parallel with a new measure of stress designed for this same population (Suldo, Dedrick, Shaunessy-Dedrick, Roth, & Ferron, in press). We generated an initial item pool using multiple sources including focus groups and individual interviews with 177 students, 72 teachers, and 47 parents. Multiple iterations of expert review and item analyses resulted in 120 items, which were completed by 727 high school students in six schools (312 IB, 415 not in IB but taking at least one AP class). Exploratory factor analyses and additional item review indicated a 16-factor solution with 58 items. Cronbach's alpha reliabilities for the factors ranged from .53 to .90, with 11 factors exceeding .70. All 16 factors had test-retest reliabilities greater than .70. Support for the construct validity of the CADS scores was provided using a nomological network, which specified relationships between the CADS and broader dimensions of school-related coping dimensions (task, avoidance, and emotion-oriented), as well as indicators of achievement (GPA) and mental health (life satisfaction). An additional seven items that were not part of the 16-factor CADS, but which were identified as relevant in different phases of instrument development, are provided as a resource for researchers.

*Keywords:* coping, academic demands, accelerated programs, high school, measure development

Development and Initial Validation of the Coping with Academic Demands Scale (CADS):  
How Students in Accelerated High School Curricula Cope with School-Related Stressors

High school students in accelerated courses are a growing population (Suldo, Dedrick, Shaunessy-Dedrick, Roth, & Ferron, in press) with research indicating that these students face academic stressors that exceed those of students in the general curriculum (Suldo, Shaunessy, Thalji, Michalowski, & Shaffer, 2009). Recognizing that variability in strategies for managing stressors partially explains why some adolescents adapt effectively while others experience negative outcomes, researchers have begun to explore how these students cope with academic stress. In a qualitative study focusing on students in an International Baccalaureate (IB) program in one rural high school, Suldo, Shaunessy, Michalowski, and Shaffer (2008) found that IB students used different coping strategies than those used by their peers in general education. These findings support a need to expand on this research with a larger and more diverse group of students enrolled in accelerated academic coursework. To accomplish this goal, we developed a quantitative instrument that measures coping strategies used by high school students in IB and Advanced Placement (AP) courses. This instrument was grounded in students' responses to stress as self-reported by students and observed by parents and teachers from several urban and suburban schools offering AP and IB coursework. We reviewed the literature that ties coping strategies to student outcomes, and advanced a conceptual framework that guided development of the Coping with Academic Demands Scale (CADS). Scale development procedures align with DeVellis's (2012) eight-step process as summarized in Table 1.

### **Coping and Student Outcomes**

Coping generally refers to "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the

resources of the person" (Lazarus & Folkman, 1984, p. 184). Coping dimensions include *problem-focused* strategies (e.g., seek information, generate and evaluate solutions) to directly manage the stressor, and *emotion-focused* strategies (e.g., cry, vent) to manage negative affect resulting from the stressor (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001). Both problem-focused and emotion-focused strategies can be conceptualized as attempts to gain *primary control* over either the stressor itself or personal reactions to the stressor, respectively. In contrast, a *secondary control* dimension includes strategies to adapt to the stressor (e.g., cognitive restructuring). Compas et al. (2001) note many challenges with attempts to organize categories/subtypes of coping into such broad dimensions, and indicate that factor analyses of coping behaviors typically support solutions with multiple factors over simplistic solutions aligned with dimensions.

Recent studies of high school students have illustrated that greater use of active, problem-focused coping strategies is associated with fewer mental health problems (Zhang, Chang, Zhang, Greenberger, & Chen, 2011) and higher life satisfaction and better academic adjustment (MacCann, Lipnevich, Burrus, & Roberts, 2012). Suldo, Shaunessy, and Hardesty (2008) found that IB students with better mental health used more secondary control strategies that entailed cognitive reappraisal and support seeking (termed "positive appraisal"), whereas diminished mental health co-occurred with coping through substance use and becoming angry. Moreover, the associations between stress and mental health outcomes were attenuated among students with higher use of positive appraisal strategies and exacerbated through anger coping, which underscores the importance of understanding students' personal coping strategies.

Coping strategies used most frequently by youth appear to differ as a function of student characteristics, such as developmental stage (Zimmer-Gembeck & Skinner, 2011) and academic

context. Most of the stressors faced by students in accelerated programs pertain to intense academic demands (Suldo et al., 2009), which these students attempt to manage primarily through problem-solving and task avoidance (Suldo, Shaunessy, Michalowski, & Shaffer, 2008). For example, IB students from one school in a rural area often used extensive time management efforts to attain life balance, but also sometimes fixated on problems without taking action or reduced their academic workload. Additional research with a larger and more diverse sample of students in accelerated courses is needed to identify the full range of coping strategies employed by this population. While a growing number of self-report surveys of youth coping behaviors have been advanced (Frydenberg, 2008), none are specific to U. S. students in accelerated high school courses. A more useful measure of coping for this population would capture the full range of adaptive and problematic responses and, as recommended by Compas et al. (2001), reflect the primary stressors relevant for this group.

### **Conceptual Framework of Coping for High School Students in Accelerated Curricula**

Coping behaviors can be classified based on the behaviors' intended adaptive function in response to stress, as evidenced in Skinner and colleagues' (2003) 12-family conceptualization. We reviewed additional literature specific to coping behaviors common among adolescents (e.g., Skinner & Zimmer-Gembeck, 2007) and strategies of IB and AP students to develop a 13-category conceptual framework, presented in the left columns of Table 2. The first 12 coping families are generally aligned with Skinner and colleagues' (2003) model, whereas a 13<sup>th</sup> category (sleep) emerged from prior research with AP and IB students (Foust, Hertberg-Davis, & Callahan, 2008; Suldo, Shaunessy, Michalowski, & Shaffer, 2008). Diversions are included in the avoidance rather than the accommodation family in keeping with the escape-oriented terms

utilized in prior research of IB students, which described the function of students' diversion-seeking coping strategies (Suldo, Shaunessy, Michalowski, & Shaffer, 2008).

### **Study Aims**

Our purpose in Study 1 was to create an item pool that reflects the wide range of coping strategies used by high school students pursuing accelerated curricula, in line with our underlying conceptual framework of coping. In Study 2, we administered this item pool and several related instruments to separate samples of AP and IB students in order to provide initial validation evidence of the scores for the CADS. We assessed the validity of the resulting CADS factors by examining correlations between CADS factors and (a) an alternate measure of coping dimensions and (b) academic and psychological outcomes linked to coping in earlier research with IB students (Suldo, Shaunessy, & Hardesty, 2008).

## **STUDY 1: ITEM POOL DEVELOPMENT**

### **Method**

#### **Participants**

As part of a larger project that included development of item pools for measures of stressors (Suldo, Dedrick, Shaunessy-Dedrick, Roth, & Ferron, in press) and coping, we interviewed students, parents, and teachers affiliated with AP and IB courses in six Florida schools. We conducted 30 individual student interviews, 24 focus groups with 147 students, 19 focus groups with 72 parents, and six focus groups with 47 teachers. We later piloted items with a different sample of 56 AP and IB students from two of these schools in order to obtain feedback on items and preliminary psychometric results for the CADS. Demographic features of each participant group, and participant recruitment strategies, are presented in Suldo et al. (in press).

## **Procedures**

In fall 2010, AP and IB participants reported (a) situations or events that cause students stress (results reported in Suldo et al., in press) and (b) behaviors that students exhibit in response to stressors (primarily academic demands). Two members of the research team listened to each of the 80 audio files and independently classified participants' sentiments into the conceptual framework of coping behaviors. As an index of intensity, the number of times any participant mentioned a given sentiment (i.e., a coping strategy, such as "use a planner") was summed across audio files. The team drafted at least three items to represent each coping family from the 13-category conceptual framework. The number of items written for a given category varied as a function of the intensity in which a category emerged in the qualitative work, and the breadth of a given family. We drafted two to three items to tap each of the three new themes that emerged from the qualitative data analysis, for a total of 16 conceptual categories.

In early spring 2011, a national panel of five consultants with expertise in stress and coping, gifted education, and/or measurement reviewed the items for comprehensiveness, accuracy, and parsimony. In spring 2011, we piloted the retained items with AP/IB students; immediately after they completed the survey we interviewed small groups of students about (a) problematic words or phrases, (b) clarity of survey instructions and response options, and (c) comprehensiveness of the measure.

## **Results**

### **Item Generation**

After reviewing the audio files, we developed 115 items across the 16 coping categories. Six categories (e.g., Be Alone, Vent/Co-rumination) had 3 to 5 items while four categories (e.g., Emotion Expression or Regulation, Reduce Workload) had 7 to 9 items; the categories with the

most items included Cognitive Reappraisal (11 items), Problem-Solving strategies such as time and task management (14 items), and Escape via withdrawal, diversions, and substance use (30 items). Items were derived from participants' words used to describe AP and IB students' coping, as opposed to adapted from pre-existing measures.

### **Item Review**

In line with the expert panel's feedback, we added six items to ensure adequate representation of all conceptual coping categories. We dropped one redundant item and revised 10 items to increase clarity.

### **Pilot**

Based on students' feedback to the 120 items we changed some words to increase clarity. For instance, "Shut down" became "Shut down (mentally withdraw)." No items were recommended for deletion or addition.

### **Final Item Pool**

The 120 items are consistent with the conceptual framework developed based on the larger body of research on coping in youth and also reflect new themes of coping (i.e., spirituality, caring for other people or pets, and self-harm) absent from prior research with smaller convenience samples of AP and IB students. Sample items are presented in the far right column of Table 2. A full list of the items is available from the authors.

## **STUDY 2: PSYCHOMETRIC PROPERTIES OF THE CADS**

### **Method**

#### **Participants**

We administered the 120 coping items along with several self-report measures used as part of the validation process, and the Student Rating of Environmental Stressors Scale (StRESS;



Suldo et al., in press), to 415 AP and 312 IB students in six public high schools (85 to 160 participants per school). The sample was primarily female (63%) and evenly distributed across 9<sup>th</sup> to 12<sup>th</sup> grade levels (22% - 26% per grade). Participants were from diverse racial/ethnic backgrounds: 62.1% Caucasian, 13.1% Hispanic, 13.1% Asian, 6.4% multi-racial, 2.9% African American, and 2.5% other identity. Eighteen percent of the sample qualified for free or reduced-price school lunch, and the most common parent educational level was a college degree for mothers (43%) and fathers (37%).

### **Procedures**

In spring 2011, students from two classrooms per grade at each of the six schools (none from Study 1) completed the measures. A subsample of 103 participants from two schools (one AP, one IB) completed the CADS two to four weeks later to evaluate test-retest reliability. Unweighted cumulative high school grade point averages (GPA) came from school records. Details on participant recruitment and data collection procedures are included in Suldo et al. (in press).

### **Measures**

**CADS.** We developed the 120 CADS items in Study 1. Directions instructed students to think about how they responded to school-related stress rather than reflect on their general responses to stressors. Each page began with the stem “think about the current school year. When you are (or have been) faced with school-related challenges or stress, how often do you...”. Students responded on a five-point scale: 1 (*never*), 2 (*rarely*), 3 (*sometimes*), 4 (*frequently*), and 5 (*almost always*).

**Coping with School-Related Stress Questionnaire (CSSQ; Wrzesniewski & Chylinksa, 2007).** The 33-item CSSQ measures how often youth cope with school-related

stressors through use of three types of coping strategies (task-, emotion-, and avoidance-oriented). Task-oriented coping refers to attempts to change the situation (e.g., “I seek information which could help me to solve my problem”). The factor termed *emotion-oriented coping* focuses on one’s emotional response to the stressor (e.g., “I am mad and yell at people”) and co-rumination (e.g., “I complain to someone in the family; I complain to friends”). The factor termed *avoidance-oriented coping* is heterogeneous and includes many types of temporary diversions (e.g., “I watch TV”, “I socialize”) as well as general avoidance of the stressors (e.g., “I miss classes”) and associated thoughts and feelings (e.g., “I drink beer, wine, or liquor”). Students respond using a 4-point scale from 1 (*never*) to 4 (*always*). While other measures of youth coping have a longer history of use, we administered the CSSQ due to its unique focus on how high school students manage school-related stress. Content validity of the CSSQ was supported by rigorous methods used for item selection. Discriminant validity was evidenced by weak correlations with a measure of social desirability. Estimates of internal consistency ranged from .74 to .86 across subscales. In the current study, coefficient alphas for the CSSQ scales were .83 (Task-Oriented), .70 (Emotion-Oriented), and .68 (Avoidance-Oriented).

**Students’ Life Satisfaction Scale (SLSS; Huebner, 1991).** We selected global life satisfaction to represent students’ positive mental health. Students indicate their agreement with 7 items (e.g., “My life is going well”) using a 6-point Likert scale from 1 (*strongly disagree*) to 6 (*strongly agree*). Good internal consistency has been obtained in secondary students ( $\alpha = .84$ ; Haranin, Huebner, & Suldo, 2007). Huebner (1991) reported strong test-retest reliability and support for convergent validity. In the current study,  $\alpha = .87$ .

## Results

### Internal Structure

Exploratory factor analyses (EFA) using principal axis factoring and promax rotation were conducted in SPSS Version 20 using listwise deletion of participants with missing data, leaving a final sample of 669 for the EFA. We used an oblique rotation because we hypothesized that the factors underlying the CADS would be correlated. We considered multiple criteria and several alternate solutions to determine the number of factors. There were 31 eigenvalues greater than one, the minimum average partial (MAP) test suggested a 17-factor solution, and a parallel analysis indicated 14 factors. When interpreting results of the 14 versus 17-factor solution, the latter appeared more consistent with the conceptual framework (e.g., the seek information category was only represented in items retained in the 17 factor solution). Thus, we selected the most parsimonious solution that was also empirically and conceptually sound, which included 79 items that loaded satisfactorily (i.e., pattern coefficients  $\geq .40$ ) on 17 factors. The 17 factors accounted for 49.5% of the total item variance. One factor (Turn to Pets) was deleted because it had only two items. We reviewed each item in the remaining 16 factors and dropped 19 more items after considering (a) sound conceptual representation of similar items retained in a factor, (b) factor loadings for items dropped, (c) redundancy of dropped items with other items in the factor, (d) number of items left to represent a factor, and (e) internal consistency reliability ( $\alpha$ ) of the remaining items in the factor. Table 3 presents the retained items with their pattern and structure coefficients from the EFA that included all 120 items from the 17-factor solution. In subsequent analyses, items were assigned to the factor for which they yielded the largest loading. No retained item had a pattern coefficient  $\geq .40$  on a second factor. Table 4 presents the conceptual families reflected in the 16 factors.

Table 5 displays descriptive statistics and reliabilities for the 16 retained CADS factors. Mean scores on each factor were created for participants with responses on at least two-thirds of

the items. Cronbach's alphas were above .70 for 11 of the factors. Four of the factors with alphas below .70 contained three items (Social Diversions,  $\alpha = .68$ ; Creative Diversions,  $\alpha = .62$ ; Seek Academic Support,  $\alpha = .55$ ; Technology Diversions,  $\alpha = .53$ ). Handle Problems Alone, a four-item factor had an alpha of .61. All test-retest reliability coefficients were above .70 and ranged from .71 (Sleep) to .93 (Substance Use). Participants most frequently endorsed Cognitive Reappraisal ( $M = 3.44$ ,  $SD = 0.84$ ) and Attempt to Handle Problems Alone ( $M = 3.24$ ,  $SD = 0.76$ ), while students least frequently endorsed Substance Use ( $M = 1.17$ ,  $SD = 0.47$ ) and Skip School ( $M = 1.69$ ,  $SD = 0.88$ ). As shown in Table 6, the intercorrelations between factors ranged from  $-.40$  between Time and Task Management and Reduce Effort on Schoolwork to  $.44$  between Time and Task Management and Cognitive Reappraisal with most correlations being small in magnitude, providing support for the discriminant validity of the CADS factors.

After reviewing the 41 items not retained from the EFA, we placed seven in an item bank for possible inclusion in future studies. These additional items did not load on any of the 16 CADS factors, but represented three constructs in the conceptual framework that were not fully reflected in the 16 factor solution: relaxation strategies (Emotion Regulation family), mental withdrawal (Escape family), and reduce academic demands and activities (Reduce Workload family). Table 7 presents each item and its sample mean and standard deviation.

### **Concurrence of CADS Factors with Task, Emotion, and Avoidance-Oriented Coping**

The CADS factors of Time and Task Management, Cognitive Reappraisal, and Seek Academic Support were conceptualized as task-oriented, and these factors had moderate, positive correlations with the CSSQ Task-Oriented Coping scale ( $r_s = .48$ ,  $.48$ , and  $.29$ , respectively; see Table 8). The CSSQ Emotion-Oriented factor yielded large associations with Talk with Classmates and Friends ( $r = .65$ ) and Deterioration ( $r = .59$ ), and a moderate

correlation with Turn to Family ( $r = .33$ ). The CADS factors that reflect the distractions and escape attempts contained within CSSQ Avoidance-Oriented coping included four types of diversions (Social, Technology, Creative, and Athletic), Sleep, Skip School, Substance Use, and Reduce Effort on Schoolwork. Accordingly, the Avoidance-Oriented factor yielded large associations with Social Diversions ( $r = .65$ ), and moderate correlations with Sleep ( $r = .40$ ), Skip School ( $r = .36$ ), Technology Diversions ( $r = .30$ ), and Substance Use ( $r = .28$ ). Reduce Effort on Schoolwork and Athletic Diversions were most strongly associated with Avoidance-Oriented coping ( $r = .26$ ) but also had small, significant associations with at least one other CSSQ scale. The remaining three CADS factors (Creative Diversions, Spirituality, Attempt to Handle Problems Alone) yielded only weak, albeit sometimes significant, associations with one to three CSSQ scales, suggesting not all coping behaviors used by AP and IB students are easily captured by a conceptualization restricted to three dimensions.

### **Discussion**

In this research we developed a comprehensive yet relatively efficient (3 to 6 items per factor) instrument to measure a range of coping behaviors of students in accelerated academic programs. Twelve of the 13 coping families from the conceptual framework of adolescents' coping are reflected in the 16 factors of the 58-item CADS (see right column of Table 4). The overlap in coping factors suggests that the prior research we consulted when developing the CADS provided an extensive representation of the types of behaviors AP and IB students utilize to cope with academic demands. We retained three items in the CADS that formed a spirituality factor, consistent with other self-report surveys of coping in general populations of youth. The other two potential new coping factors (caring for other people or pets; self-harm) did not meet criteria for inclusion in the streamlined version of the measure.

As noted in prior qualitative research with IB students, Suldo, Shaunessy, Michalowski, and Shaffer (2008) suggest that these students emphasized avoidance strategies via seeking diversions nearly as often as they reported task-oriented strategies. In the current study, we also found students reported wide use of avoidance-oriented strategies, as six of the 16 CADS factors belong conceptually to the avoidance family. Students most commonly reported avoidance through social (e.g., “hang out with friends”), athletic (e.g., “exercise”), and technology (e.g., “surf the Internet”) diversions. Participants rarely reported using illicit substances to cope.

The number and diversity of students included in this study facilitated our identification of coping strategies most likely to be used by AP and IB students. Both coping factors with the highest means (Cognitive Reappraisal, Attempt to Handle Problems Alone) emerged in prior exploratory qualitative work with IB students (Suldo, Shaunessy, Michalowski, & Shaffer, 2008). While the factor Be Alone was discussed by only eight of 48 students in that earlier study, this factor emerged as the second most frequently-endorsed coping strategy in the current sample, suggesting more widespread attempts to handle problems alone than previously discerned.

Participants in the current study indicated that they commonly responded to academic stress through sleeping for different purposes (i.e., to recharge, to escape). Coping by seeking sleep may be a unique strategy among this population given the risk for sleep deprivation among AP and IB students, as Jin and Shi (2008) demonstrated based on results from a state-wide survey of high school students in college-level classes (including AP) who reported sleeping significantly less than their peers in general or honors-level courses. Furthermore, Jin and Shi also found that students with multiple college-level courses got less sleep than peers with fewer college-level classes. It appears that in times of stress, students attempt to cope by surrendering

to their physiological need for sleep.

A few pairs of coping families (i.e., a higher-order category that subsumes multiple distinct ways of coping) were represented in a single CADS factor, suggesting that theoretically-separable families have strong empirical similarities. Turn to Family and Talk with Classmates spanned two conceptual families: support-seeking and venting/co-rumination. This is consistent with prior literature that specifies that social support is a multidimensional construct with many functions and forms, including emotional, instrumental, appraisal, and information support (Tardy, 1988). The latter form of social support was reflected most purely in a separate factor—Seek Academic Support—that did not converge with more emotional forms of support. Reduce Effort on Schoolwork captured reducing workload as anticipated, but also included items reflecting a general tendency to abandon efforts. The empirical ties between these conceptually separable responses suggest that prioritizing academic demands in order to reduce or even eliminate focus on tasks perceived as less important may be more a manifestation of cognitive exhaustion than an extreme behavioral form of task management and problem-solving. The CADS factor we termed Deterioration spanned two coping families: aggression and rumination. This pairing indicates students who were likely to respond to academic stress through experiencing negative affect, specifically through anger, were similarly likely to experience intrusive, negative cognitions about the stressor, perhaps as a consequence to or facilitator of aggressive/angry behavioral responses.

Preliminary support for the psychometric properties of the CADS is promising. Test-retest reliability of the 16 CADS factors was strong, indicating that students' self-reports of their coping behaviors are relatively stable across a few-week period. Internal consistency of CADS factors was also satisfactory, with the exception of two 3-item factors (Technology Diversions;

Seek Academic Support) that have considerable variability in item content. Content validity was supported through the rigorous process used in developing and refining the CADS items, while construct validity was supported through associations in logical directions between CADS factors and broad coping dimensions (task-, emotion-, or avoidance-oriented) identified in an existing measure of coping behaviors (CSSQ). Further, associations between CADS factors and student outcomes were in line with prior research (MacCann et al., 2012; Zhang et al., 2011). In the current study, students with higher GPAs and life satisfaction tended to rely more often on strategies commonly viewed as approach/problem-focused, including Time and Task Management and Turn to Family, rather than those viewed as maladaptive, such as Reduce Effort on Schoolwork. Students with the lowest levels of life satisfaction responded to stress with more indicators of Deterioration (e.g., getting mad, annoyed, or irritated) and less use of Cognitive Reappraisal, which is consistent with links identified in a prior sample of IB students (Suldo, Shaunessy, & Hardesty, 2008). Our findings further advance the notion that high life satisfaction co-occurs with greater reliance on Athletic Diversions and less frequent use of Attempting to Handle Problems Alone.

### **Limitations and Directions for Future Research**

Our study provides a snapshot of students' coping, but precludes an understanding of how coping evolves as a function of students' developmental stage or continued curriculum exposure. Experimental studies are needed to verify that given outcomes are affected by use of specific coping behaviors.

The CADS factor structure advanced in the current study should be examined in additional samples. Our initial structure included some factors that appear heterogeneous, such as Deterioration. Other measures like the CSSQ have also found items tapping co-rumination and



verbal aggression load on one Emotion-Focused factor. Still, our initial factor structure can be verified and/or refined through confirmatory factor analytic techniques (DiStefano & Hess, 2005). In an exploratory fashion, composites can be formed from items in the item bank to index additional coping, such as relaxation strategies. Then, higher-order factor analyses of the CADS factors and composites could be used to determine the existence of underlying categories (e.g., a broad diversions factor) that may convey the relationships with a smaller number of more global factors.

In order to determine which coping strategies are associated with optimal outcomes among AP and IB students, future research should compare CADS scores with more sensitive indicators of academic success (e.g., performance on end-of-course AP and IB exams), academic enablers (e.g., self-efficacy, positive affect toward school, valuing school), and mental health (e.g., narrow-band measures of psychopathology). Identifying associations between coping strategies/factors and authentic indicators of success in highly-relevant areas will enable researchers to determine with more confidence which coping strategies should be targets for school-based interventions. Future studies could also investigate moderators of associations between coping and student outcomes, such as demographic features (e.g., socioeconomic status, gender), as well as facilitative factors that may offset the potentially deleterious impact of stressors or problematic coping behaviors.

### **Implications for Practice**

The current study represents a first step in the validation of a comprehensive measure of coping appropriate for the specific academic demands faced by a growing population of adolescents. The identification of coping factors differentially associated with student outcomes lends support to the notion that AP/IB students' preferred coping responses may serve as helpful

or harmful strategies for managing their academic demands. The relatively elevated sample means for some potentially maladaptive strategies such as Handle Problems Alone, Deterioration, and Sleep suggest an opportunity for school-based interventions targeting reductions in such coping behaviors. Findings from preliminary research on school-based interventions that provide direct instruction in effective and maladaptive coping strategies support the notion that student coping behavior is malleable (e.g., Frydenberg et al., 2004). Frydenberg and Brandon (2007) assert that a critical step in coping is the initial process of appraisal, which includes developing self-awareness of one's coping profile. When working with high school students in college-level courses, school psychologists could administer the CADS to students identified as experiencing particularly high stress levels or who are at-risk for academic or emotional challenges, perhaps as indicated by universal review of students' current GPA and/or life satisfaction. The CADS profile (i.e., mean scores across factors) of a student who is at-risk for academic and/or mental health challenges can be compared to the normative levels of student coping evident in the current sample to determine relatively high or low use of coping strategies relevant to the target outcomes. A school psychologist could reference such data in subsequent recommendations to increase, maintain, or decrease reliance on specific coping strategies associated with the target outcome. The CADS could be re-administered to assess if frequency of reliance on various coping strategies had changed in line with intervention aims. These possible clinical applications of the CADS may be logical but have not yet been tested with AP/IB students as there is a paucity of research on the efficacy of coping-focused interventions among this population.

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Table 1

*Scale Development Process Used in Creation of the Coping with Academic Demands Scale*

Step <sup>a</sup>	Research Team Activities	
1	Specify domain of construct to be measured	<ul style="list-style-type: none"> <li>Created 13-category conceptual framework based on review of prior literature and theory.</li> </ul>
2	Generate item pool	<ul style="list-style-type: none"> <li>Conducted interviews and focus groups with &gt; 300 AP and IB students, parents, and teachers. Drafted at least 2 items (that reflected participants' sentiments) for each category from the Step 1 framework.</li> </ul>
3	Determine response metric and options	<ul style="list-style-type: none"> <li>Developed a 5-point response scale, with every option labeled and operationally defined (e.g., 3 = sometimes; this means you respond to stress in this way <u>about half the time</u> you feel stress).</li> </ul>
4	Have experts review initial item pool	<ul style="list-style-type: none"> <li>Consulted national panel of experts in stress/coping, gifted education, and scale development, who critiqued the measure.</li> <li>Piloted the modified measure with 56 AP and IB students to ensure readability.</li> </ul>
5	Plan how to assess construct validity	<ul style="list-style-type: none"> <li>Identified pre-existing measures of student coping and outcomes (i.e., mental health, academic achievement) for inclusion in Step 6.</li> <li>Consulted with national panel of experts from Step 4, who reviewed and affirmed research plan for examining validity</li> </ul>
6	Administer items to a development sample	<ul style="list-style-type: none"> <li>Administered the 120 coping items and other measures identified in Step 5 to 727 AP/IB students from 6 schools.</li> <li>Re-administered coping items to subsample of 103 AP/IB students 2 – 4 weeks later.</li> </ul>
7	Evaluate items via means such as factor analysis and reliability estimates	<ul style="list-style-type: none"> <li>Conducted exploratory factor analysis and parallel analysis, which suggested a 17-factor solution with 79 items.</li> <li>Retained 16 factors with at least 3 items each.</li> <li>Calculated coefficient alpha values and test-retest reliability correlations.</li> </ul>
8	Optimize scale length	<ul style="list-style-type: none"> <li>Reviewed lengthy factors and dropped 19 items according to factor loadings and/or redundancy with other items in the factor.</li> <li>Revised CADS contains 58 items on 16 factors, and 7 additional items for optional use.</li> <li>Full pool of developed items (including descriptive statistics for each) available upon request from the authors.</li> </ul>

*Note.* <sup>a</sup>Scale development process followed guidelines by DeVellis (2012). AP = Advanced Placement; IB = International Baccalaureate; CADS = Coping With Academic Demands Scale.

Table 2

*Coping Families and Strategies in Conceptual Framework of Coping Behaviors of High School Students in Advanced Courses*

Family	Description of Strategies	Sample Item
<i>Framework Advanced by Skinner et al. (2003)</i>		
Problem-Solving	Take deliberate action steps to prevent and address problems	<ul style="list-style-type: none"> <li>• Work hard just to get the work done</li> </ul>
Cognitive Reappraisal	Focus on the positive in one's situation, place problems in perspective, and positive self-task	<ul style="list-style-type: none"> <li>• Look for the good things in a difficult situation</li> </ul>
Seek Information	Ask for advice and help from classmates and other friends, educators, family, counselors, etc.	<ul style="list-style-type: none"> <li>• Study with other students</li> </ul>
Seek Social Support	Talk with classmates, other friends including romantic partners, parents, and teachers	<ul style="list-style-type: none"> <li>• Talk to parent(s) about what's bothering you</li> </ul>
Venting/Co-Rumination	Complain to classmates, other friends, parents, and teachers	<ul style="list-style-type: none"> <li>• Go over and over a negative situation in a conversation with a friend</li> </ul>
Escape	Withdraw behaviorally and mentally	<ul style="list-style-type: none"> <li>• Not think about anything (zone out)</li> </ul>
	Engage in temporary diversions (activities to get mind off of a problem) that are active, passive, or both	<ul style="list-style-type: none"> <li>• Read for pleasure</li> </ul>
Cognitive Exhaustion	Abuse substances	<ul style="list-style-type: none"> <li>• Smoke cigarettes or use other tobacco products</li> </ul>
	Shut-down, give-up, and stop trying	<ul style="list-style-type: none"> <li>• Stop caring about schoolwork</li> </ul>
Reduce Workload	Renegotiate and lower expectations, activities, deadlines, and work quality	<ul style="list-style-type: none"> <li>• Take less demanding classes</li> </ul>
Emotion Expression or Regulation	Cry, laugh, attempt to relax; awareness and expectation of personal stress reactions	<ul style="list-style-type: none"> <li>• Focus on calming yourself down</li> </ul>
Be Alone	Avoid others, isolate self, and/or withdrawal	<ul style="list-style-type: none"> <li>• Become quiet (talk less or not at all to others)</li> </ul>
Rumination	Dwell or fixate on problems without taking action; experience intrusive thoughts	<ul style="list-style-type: none"> <li>• Blame or criticize yourself for actions or choices</li> </ul>
Aggression	Take out problems on others via verbal and physical aggression; blame others	<ul style="list-style-type: none"> <li>• Yell, scream, or swear</li> </ul>

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*Additional Coping Strategies that Emerged in Prior Study of IB Students*


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Sleep	Sleep for one of many purposes, including to escape, recharge, or promote health	<ul style="list-style-type: none"> <li>• Sleep to recharge so you can tackle a problem</li> </ul>
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*Additional Coping Strategies that Emerged in Qualitative Studies*


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Spirituality	Seek comfort, advice, or help from spiritual source	<ul style="list-style-type: none"> <li>• Pray</li> </ul>
Care for Others	Help other people or care for pets	<ul style="list-style-type: none"> <li>• Seek comfort with pets, for instance by talking to them or being with them</li> </ul>
Self-Harm	Hurt self by cutting or refusing to eat	<ul style="list-style-type: none"> <li>• Cut or hurt yourself</li> </ul>

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*Note.* IB = International Baccalaureate.



Table 3  
*Coping with Academic Demands Scale Items and Coefficients (Pattern/Structure) from Principal Axis Factor Analysis with Promax Rotation (n = 669)*

Factor	Item	F1	F2	F3	F4	F5	F6	F7	F8
F1. Time and Task Management	Prioritize the order in which you complete your work.	<b>.68</b> /.68	.11/.34	-.07/-.04	-.09/-.04	.07/.26	.05/-.01	-.09/-.05	.05/.01
	Focus on the work until it is complete.	<b>.67</b> /.65	-.02/.23	.01/.06	-.08/.09	.03/.11	.02/-.11	.03/.04	.11/.06
	Get and keep materials for school organized.	<b>.63</b> /.61	.01/.30	.08/.13	-.04/.10	.01/.18	-.12/-.13	.28/.29	-.02/-.05
	Be purposeful about how you schedule and spend all of your time.	<b>.64</b> /.60	.10/.40	.10/.18	-.02/.18	-.02/.15	.04/-.03	.04/.16	.03/.10
	Break work into manageable pieces.	<b>.58</b> /.57	.06/.36	.11/.11	.12/.25	-.03/.11	.03/-.07	-.06/.05	-.09/.05
	Use a planner to keep track of activities and assignments due.	<b>.46</b> /.49	-.04/.19	.03/.06	.01/.03	-.02/.17	.02/-.04	.24/.22	.01/-.12
F2. Cognitive Reappraisal	Tell yourself that you can do it, for example that you've managed similar situations before.	.13/.38	<b>.62</b> /.60	-.01/.13	.15/.26	-.09/.16	.04/.04	-.10/.08	.06/.19
	Adopt an optimistic or positive attitude.	.07/.32	<b>.54</b> /.62	-.10/.13	-.04/.24	.06/.21	-.03/-.04	.06/.21	.08/.29
	Think about the bigger picture (your goals or values) to put things in perspective.	.14/.31	<b>.46</b> /.53	.03/.22	.09/.23	-.07/.14	.06/.08	-.02/.17	.05/.19
	Remind yourself of future benefits or rewards of finishing your school program, such as getting into college or getting scholarships.	.24/.43	<b>.43</b> /.53	.12/.28	.00/.16	-.09/.20	-.02/.02	.04/.19	.10/.16
F3. Seek Academic Support	Get extra help for class from tutors.	.20/.19	-.09/.22	<b>.51</b> /.47	.05/.14	-.09/.14	.03/.09	.07/.26	.05/.06
	Study with other students.	.13/.24	.06/.36	<b>.48</b> /.47	-.07/.10	.05/.31	-.07/.03	.15/.26	.09/.22
	Ask teacher(s) questions about assignments or coursework.	.36/.34	-.04/.33	<b>.45</b> /.48	.07/.22	.03/.24	-.01/.05	.07/.24	-.01/.14
F4. Turn to Family	Vent or complain to parent(s).	.03/.21	.01/.20	-.08/.12	<b>.70</b> /.50	.27/.39	.08/.05	-.04/.13	-.07/-.01
	Talk to parent(s) about what's bothering you.	.04/.25	.07/.28	-.01/.18	<b>.67</b> /.51	.24/.38	.14/.08	-.03/.18	-.05/.03
	Spend time with family.	-.05/.16	.14/.34	.05/.25	<b>.52</b> /.59	-.02/.14	-.04/-.07	.12/.34	.06/.20
F5. Talk with Classmates and Friends	Talk to classmates (friends in your school program) about what's bothering you.	.11/.23	-.09/.27	.12/.29	.18/.15	<b>.71</b> /.73	-.06/.11	-.05/.14	-.05/.12
	Talk to others to get your mind off the problem.	-.10/.10	.08/.36	-.07/.29	.14/.21	<b>.67</b> /.66	-.03/.16	.17/.34	-.04/.17
	Vent or complain to friends outside of your school program.	-.10/-.07	-.05/.12	-.01/.27	.00/-.02	<b>.60</b> /.56	.01/.25	.02/.18	.01/.08
	Go over and over a negative situation in a conversation with a friend.	-.01/.05	-.01/.13	-.12/.16	.02/-.09	<b>.59</b> /.58	.04/.26	-.01/.08	-.07/-.01

Factor	Item	F1	F2	F3	F4	F5	F6	F7	F8
F6. Skip School	Take a day off from school to get work done.	.04/-.12	-.03/-.10	.00/.17	.03/-.06	-.07/-.10	<b>.89</b> /.79	.04/.15	-.07/.07
	Take a day off from school to sleep or relax (a “mental health day”).	.05/-.12	-.02/-.13	-.03/-.19	.05/.01	-.05/-.11	<b>.84</b> /.76	.09/.24	-.07/-.11
	Skip school to avoid tests you are not ready for or assignments you have not finished.	.01/-.20	-.05/-.05	-.06/-.12	-.03/-.10	-.01/-.11	<b>.78</b> /.75	.11/-.19	-.04/-.11
F7. Social Diversions	Go shopping.	.08/.11	.00/.24	.01/.27	-.01/-.15	.02/.24	.04/.19	<b>.62</b> /.63	-.03/-.16
	Hang out with friends.	-.03/-.05	-.05/-.28	.09/.35	.01/.25	.24/.34	.08/.22	<b>.51</b> /.59	.18/.47
	Have fun with other people to get your mind off the problem.	-.15/-.09	.01/.30	.09/.38	.03/.20	.27/.39	.08/.26	<b>.47</b> /.54	.18/.43
F8. Athletic Diversions	Play team sports (basketball, soccer, football, crew, etc.).	.02/-.03	.00/.10	.07/.15	-.09/-.10	-.09/-.00	-.09/-.08	-.04/-.14	<b>.80</b> /.63
	Take part in enjoyable extracurricular activities.	.02/.14	.11/.30	-.09/-.10	.01/.19	.06/.18	-.06/-.01	.02/.22	<b>.78</b> /.60
	Exercise (run, go to the gym, swim, dance, etc.).	.11/.08	-.04/-.20	.07/.23	-.03/-.18	-.07/-.09	-.02/-.05	.17/.33	<b>.71</b> /.60
F9. Creative Diversions	Write creatively (poetry, lyrics, etc.).	-.17/-.03	.06/.15	.08/.16	-.04/-.02	-.01/-.05	.10/.09	.06/.15	.00/-.04
	Write about problems and feelings.	-.08/-.07	.08/.17	.10/.21	-.03/-.00	.13/.19	-.04/-.07	.01/.17	-.06/-.10
	Pursue a hobby or interest, such as cooking, drawing, playing an instrument, etc.	.01/.12	.02/.20	.04/.14	-.05/-.08	-.03/-.09	-.05/-.01	.10/.22	.23/.20
F10. Technology Diversions	Surf the Internet (YouTube, news websites, etc.).	-.03/-.02	.04/.15	-.09/-.04	-.09/-.09	-.02/-.19	-.06/.15	.32/.15	-.30/-.07
	Play videogames.	-.18/-.17	-.04/-.10	.04/-.05	-.01/-.03	-.14/-.15	.03/-.01	-.11/-.20	-.17/-.01
	Watch TV or videos.	-.14/-.10	.00/-.07	.08/.13	.16/.12	-.04/-.10	-.10/-.05	.09/-.08	-.16/-.10
F11. Substance Use	Drink alcoholic beverages, such as beer, wine, liquor, etc.	.05/-.20	.01/-.02	-.02/-.15	-.21/-.04	.12/-.07	.14/.30	.12/.24	-.03/-.22
	Use drugs, such as marijuana, medications not prescribed to you, etc.	-.02/-.19	.04/.01	.00/.11	-.19/-.05	.15/-.05	.08/-.20	.00/.13	-.07/-.13
	Smoke cigarettes or use other tobacco products.	.10/-.05	.04/.04	-.09/-.07	-.05/-.05	.15/-.07	.08/.15	-.05/-.10	-.10/-.05
F12. Reduce Effort on School-work	Stop caring about schoolwork.	-.13/-.38	-.06/-.09	-.08/-.04	-.01/-.16	.04/-.07	.08/-.33	-.04/-.07	.05/-.05
	Stop trying (give up).	-.09/-.35	-.02/-.09	.07/-.17	.01/-.14	-.11/-.01	-.01/-.29	.05/-.16	-.11/-.10
	Work less on or just don't do assignments that are less important.	-.07/-.30	-.02/-.01	.02/-.09	-.01/-.13	.02/-.09	.13/-.34	-.12/-.00	.02/-.11
	Turn in assignments late.	-.28/-.47	-.04/-.04	.08/.16	-.01/-.10	-.01/-.02	.35/-.47	.09/-.06	.04/-.13
F13. Attempt to Handle Problems Alone	Keep problems to yourself.	.20/-.02	-.05/-.06	-.09/-.09	-.31/-.31	-.20/-.18	-.05/-.06	-.02/-.12	-.01/-.08
	Try to ignore feelings of stress.	.01/-.06	.08/-.08	-.05/-.06	-.11/-.12	-.06/-.02	-.07/-.07	-.03/-.00	.08/-.02
	Become quiet (talk less or not at all to others).	.02/-.02	-.01/-.03	-.01/-.12	-.01/-.16	.03/-.06	-.08/-.09	-.01/-.01	-.10/-.17
	Try to handle things on your own.	.14/-.08	.03/-.03	-.31/-.20	-.18/-.23	.07/-.05	-.02/-.05	-.04/-.15	.11/-.06

Factor	Item	F1	F2	F3	F4	F5	F6	F7	F8
F14. Deterioration	Get mad, annoyed, or irritated.	.00/-11	-.11/-12	-.09/.09	.12/-09	.05/.19	-.10/.20	-.01/.02	.07/.01
	Take it out on other people (lash out, be mean, be sarcastic).	.02/-13	-.08/-11	-.15/.07	.08/-13	.08/.21	-.08/.23	.09/.09	.06/.07
	Yell, scream, or swear.	.01/-18	-.08/-07	-.07/.17	.16/.05	-.07/.09	-.04/.24	.10/.20	.11/.21
	Panic or “freak out” about the problem without trying to fix it.	-.05/-06	.00/-04	.01/.18	.05/-18	.10/.25	-.06/.19	.03/.07	-.03/-20
	Continue to think about your problem(s) even when doing other activities.	.13/.13	.04/.11	.15/.24	-.06/-23	.12/.30	.02/.22	-.12/-08	-.05/-13
	Keep thinking about work to be done (obsess about workload).	.27/.26	-.01/.12	.09/.20	-.14/-29	.04/.30	.08/.25	.10/.04	-.14/-21
F15. Sleep	Take naps.	-.08/-16	-.09/.01	.13/.19	.00/-03	.04/.13	-.01/.29	.05/.17	.01/.14
	Sleep to recharge so you can tackle a problem.	.12/.13	.08/.27	-.01/.14	.07/.19	.03/.14	.00/.19	.10/.30	.00/.19
	Sleep to escape or put off the problem.	-.05/-19	.01/.07	.04/.20	.00/-07	.06/.16	.01/.38	.00/.18	-.05/.08
F16. Spirituality	Pray.	.06/.10	-.03/.20	.00/.25	.08/.19	.06/.14	.04/.04	-.03/.15	.00/.02
	Rely on your faith to help deal with the problem.	.02/.08	.06/.26	-.04/.25	.09/.22	.04/.12	.02/.03	-.04/.16	-.02/.04
	Go to church or place of worship.	.01/.04	-.08/.17	.00/.24	.06/.20	-.01/.07	.05/.04	.06/.21	.12/.12

*Note.* The largest loading for each item is bolded.

Table 3, continued

Factor	Item	F9	F10	F11	F12	F13	F14	F15	F16
F1. Time and Task Management	Prioritize the order in which you complete your work.	-.05/.10	-.02/.05	.00/-.25	.14/-.08	-.06/-.12	.03/.01	-.05/-.04	.02/.01
	Focus on the work until it is complete.	-.09/.10	-.09/-.10	.13/-.10	-.19/-.38	.21/.14	.02/-.11	-.09/-.16	.03/.03
	Get and keep materials for school organized.	-.06/.14	-.14/-.16	-.01/-.18	.08/-.13	-.02/-.06	.10/.03	.03/-.02	-.06/.05
	Be purposeful about how you schedule and spend all of your time.	-.13/.06	-.08/-.03	.14/-.03	-.02/-.18	.06/.05	-.07/-.12	.04/-.01	.08/.13
	Break work into manageable pieces.	-.03/.09	.10/.09	.08/-.03	.06/-.09	.04/.05	-.17/-.21	.05/-.03	-.03/.01
F2. Cognitive Reappraisal	Use a planner to keep track of activities and assignments due.	.02/.17	-.15/-.20	-.24/-.33	.26/-.08	-.14/-.17	.08/.09	.00/.00	-.01/.09
	Tell yourself that you can do it, for example that you've managed similar situations before.	.06/.13	.01/.11	.05/.03	-.10/-.10	-.04/.07	.07/-.11	.03/.02	-.04/.07
	Adopt an optimistic or positive attitude.	-.01/.04	.08/.11	.03/.06	-.01/-.01	-.01/.06	-.30/-.34	.00/-.03	.08/.13
	Think about the bigger picture (your goals or values) to put things in perspective.	.12/.19	-.01/.08	.08/.08	-.07/-.05	.02/.13	.00/-.08	.04/.05	-.02/.11
	Remind yourself of future benefits or rewards of finishing your school program, such as getting into college or getting scholarships.	.00/.11	.00/.03	.04/-.03	-.21/-.21	-.07/.04	.12/.00	.01/.01	-.07/.08
F3. Seek Academic Support	Get extra help for class from tutors.	.13/.18	-.07/-.05	-.10/-.03	.06/.01	-.08/.03	-.02/.02	.08/.11	-.02/.18
	Study with other students.	.04/.04	.15/.14	-.16/-.07	-.06/-.04	-.13/-.04	-.18/-.02	-.03/.03	-.01/.12
	Ask teacher(s) questions about assignments or coursework.	-.05/.05	.05/.06	.07/.06	-.06/-.09	.04/.11	.02/.04	-.03/.01	-.02/.11
F4. Turn to Family	Vent or complain to parent(s).	-.07/.01	.01/.00	-.20/-.16	.01/-.02	-.25/-.24	.26/.14	-.05/.02	.03/.13
	Talk to parent(s) about what's bothering you.	-.04/.03	-.03/-.02	-.22/-.15	-.02/-.05	-.23/-.19	.16/.06	-.02/.03	.00/.14
	Spend time with family.	.05/.12	.10/.04	-.13/.07	-.08/-.05	-.12/-.01	.01/-.13	.02/.02	.12/.26
F5. Talk with Classmates and Friends	Talk to classmates (friends in your school program) about what's bothering you.	.09/.09	.07/.20	.05/-.07	.09/.11	-.19/-.21	.05/.21	-.01/.11	.01/.10
	Talk to others to get your mind off the problem.	.02/.06	-.02/.13	.06/.01	-.07/.05	.07/.06	.00/.14	.07/.17	-.01/.12
	Vent or complain to friends outside of your school program.	-.09/-.03	-.18/.03	.19/.04	-.07/.06	.04/.01	.22/.37	.06/.21	.04/.13
	Go over and over a negative situation in a conversation with a friend.	-.04/.03	-.04/.10	.14/-.08	-.08/.04	.06/.02	.34/.45	-.03/.16	.00/.04

Factor	Item	F9	F10	F11	F12	F13	F14	F15	F16
F6. Skip School	Take a day off from school to get work done.	.01/-03	-.04/.10	.03/.11	.05/.21	-.06/.04	-.14/.19	-.02/.27	.06/.08
	Take a day off from school to sleep or relax (a “mental health day”).	.06/.03	-.05/.10	.18/.23	.01/.21	-.08/.04	-.12/.18	.01/.29	.02/.08
	Skip school to avoid tests you are not ready for or assignments you have not finished.	.03/-03	-.08/.14	.09/.18	.16/.34	-.03/.05	-.12/.21	.02/.32	-.01/.01
F7. Social Diversions	Go shopping.	.02/.09	.13/.07	.03/.10	-.13/.06	-.17/-.08	.09/.17	.14/.28	.03/.17
	Hang out with friends.	-.08/-.11	.11/.26	.06/.29	-.01/.18	.01/.08	-.15/-.05	-.03/.14	-.04/.03
	Have fun with other people to get your mind off the problem.	-.08/-.10	.11/.26	-.07/.17	-.07/.15	.14/.20	-.07/.04	-.05/.15	-.09/.00
F8. Athletic Diversions	Play team sports (basketball, soccer, football, crew, etc.).	-.06/-.10	-.24/.18	.00/.22	-.02/-.02	-.03/.01	.05/-.11	.00/.01	.07/.10
	Take part in enjoyable extracurricular activities.	.11/.08	-.25/.09	-.21/.03	.08/.03	.03/.09	-.07/-.16	.03/.03	.02/.06
	Exercise (run, go to the gym, swim, dance, etc.).	.02/.03	-.20/.06	-.07/.17	-.01/-.01	.01/.07	.05/-.06	-.02/.04	.06/.14
F9. Creative Diversions	Write creatively (poetry, lyrics, etc.).	<b>.66</b> /.63	.06/-.05	-.08/-.02	-.05/.00	.02/.15	-.06/.10	-.04/.01	-.02/.16
	Write about problems and feelings.	<b>.61</b> /.63	-.08/-.10	.07/.01	.05/.08	-.04/.07	.12/.27	.06/.11	.01/.22
	Pursue a hobby or interest, such as cooking, drawing, playing an instrument, etc.	<b>.46</b> /.44	.07/.09	-.08/.02	.03/.07	.03/.14	-.07/.02	.05/.07	-.04/.09
F10. Technology Diversions	Surf the Internet (YouTube, news websites, etc.).	.16/.11	<b>.84</b> /.62	-.07/.00	-.05/.26	.01/.10	.05/.20	-.01/.23	.03/-.03
	Play videogames.	.06/-.03	<b>.57</b> /.35	.01/.08	-.13/.03	.10/.16	-.12/-.09	-.17/-.10	.03/-.10
	Watch TV or videos.	-.11/-.15	<b>.55</b> /.42	-.13/.02	-.06/.15	.00/.07	.03/.08	.05/.17	.00/-.02
F11. Substance Use	Drink alcoholic beverages, such as beer, wine, liquor, etc.	-.07/-.09	-.07/.15	<b>.67</b> /.57	.01/.23	-.03/.03	.06/.13	.09/.20	-.06/-.04
	Use drugs, such as marijuana, medications not prescribed to you, etc.	.03/-.01	-.09/.09	<b>.61</b> /.49	.02/.19	-.02/.03	-.01/.07	.05/.11	-.11/-.07
	Smoke cigarettes or use other tobacco products.	-.06/.00	-.11/.02	<b>.59</b> /.40	-.01/.09	-.04/-.02	.12/.11	-.01/.05	.01/.03
F12. Reduce Effort on School-work	Stop caring about schoolwork.	.00/-.02	-.13/.20	-.03/.13	<b>.62</b> /.68	.15/.15	.21/.37	.05/.30	.03/.02
	Stop trying (give up).	-.10/-.04	-.11/.10	.01/.12	<b>.56</b> /.63	.06/.11	<b>.36</b> /.49	.07/.32	.01/.06
	Work less on or just don't do assignments that are less important.	.08/.02	.05/.34	.03/.18	<b>.54</b> /.64	.11/.16	.10/.28	.02/.25	-.05/-.06
	Turn in assignments late.	.03/-.07	-.07/.20	-.04/.20	<b>.41</b> /.54	.13/.20	.09/.18	-.01/.23	.01/.01
F13. Attempt to Handle Problems Alone	Keep problems to yourself.	.01/.10	.07/.10	-.01/-.07	.14/.11	<b>.49</b> /.45	.10/.17	.04/.11	.03/-.06
	Try to ignore feelings of stress.	-.07/.02	-.06/.07	-.07/-.04	.17/.06	<b>.45</b> /.44	.16/.17	-.05/.05	.00/-.03
	Become quiet (talk less or not at all to others).	.13/.25	-.02/-.03	-.04/-.14	-.06/-.03	<b>.45</b> /.44	.28/.36	.09/.17	.05/.10
	Try to handle things on your own.	.03/.06	.11/.22	-.08/-.11	.16/.14	<b>.43</b> /.35	.15/.13	-.14/-.01	.01/-.13

Factor	Item	F9	F10	F11	F12	F13	F14	F15	F16
F14. Deterioration	Get mad, annoyed, or irritated.	-.07/.02	.05/.19	.01/.00	.10/.23	.16/.16	<b>.83</b> /.69	-.07/.20	-.07/-.05
	Take it out on other people (lash out, be mean, be sarcastic).	-.01/.03	.13/.26	.16/.12	.06/.26	.01/.02	<b>.78</b> /.66	-.06/.23	-.03/-.02
	Yell, scream, or swear.	.04/.08	.12/.31	.30/.35	.01/.27	.00/.20	<b>.73</b> /.57	-.08/.21	-.03/.02
	Panic or “freak out” about the problem without trying to fix it.	-.07/.06	-.16/-.11	-.09/-.21	.01/.06	.02/.02	<b>.69</b> /.67	-.05/.15	.00/.09
	Continue to think about your problem(s) even when doing other activities.	-.06/.05	.00/.07	-.01/-.24	.00/.01	.20/.20	<b>.49</b> /.53	-.10/.09	-.06/-.01
	Keep thinking about work to be done (obsess about workload).	-.07/.09	.09/.03	-.17/-.37	-.09/-.06	.12/.11	<b>.45</b> /.56	-.05/.16	.00/.05
F15. Sleep	Take naps.	.00/-.07	.00/.20	.02/.10	-.04/.18	-.02/.05	-.09/.20	<b>.73</b> /.71	-.03/.09
	Sleep to recharge so you can tackle a problem.	.01/.03	-.06/.16	.09/.13	.07/.17	-.04/.03	-.26/-.04	<b>.70</b> /.61	-.01/.14
	Sleep to escape or put off the problem.	-.03/-.04	-.06/.24	.07/.11	.14/.35	.14/.21	.06/.34	<b>.67</b> /.74	-.07/.06
F16. Spirituality	Pray.	-.04/.17	.02/-.12	-.04/-.04	.00/-.04	-.04/-.05	-.01/.08	-.02/.12	<b>.89</b> /.88
	Rely on your faith to help deal with the problem.	-.02/.18	.05/-.07	.00/.02	.00/-.02	.00/.01	-.02/.04	-.01/.13	<b>.88</b> /.88
	Go to church or place of worship.	.00/.17	.04/-.08	-.14/-.01	.01/-.02	.07/.07	-.07/.01	-.05/.10	<b>.83</b> /.82

*Note.* The largest loading for each item is bolded.

Table 4

*Coping Families in Conceptual Framework of Coping Behaviors and Retained in Factor**Structure of CADS*

<b>Conceptual Framework: Coping Family</b>	<b>CADS Factors</b>
Problem-Solving	Time and Task Management
Cognitive Reappraisal	Cognitive Reappraisal
Seek Information	Seek Academic Support
Seek Social Support	Turn to Family
Venting/Co-Rumination	Talk with Classmates and Friends
Escape: Withdrawal	Skip School
Escape: Diversion	Social Diversions Athletic Diversions Creative Diversions Technology Diversions
Escape: Substance Use	Substance Use
Cognitive Exhaustion	
Reduce Workload	Reduce Effort on Schoolwork
Emotion Expression or Regulation	None
Be Alone	Attempt to Handle Problems Alone
Rumination	Deterioration
Aggression	
Sleep	Sleep
<i>Additional Coping Styles that Emerged in Qualitative Studies</i>	
Spirituality	Spirituality
Care for Others	None
Self-Harm	None

*Note.* None = no factor retained. CADS = Coping with Academic Demands Scale.

Table 5

*Descriptive Statistics and Reliabilities for Coping with Academic Demands Scale Factors*

Factor	# of items	Normality <sup>b</sup>				Reliability	
		<i>M</i>	<i>SD</i>	Skew	Kurtosis	$\alpha_c$	Test-Retest <sup>d</sup>
Time and Task Management	6	3.18	0.80	-0.21	-0.28	.77	.89
Cognitive Reappraisal	4	3.44	0.84	-0.27	-0.27	.74	.73
Seek Academic Support	3	2.50	0.78	0.41	-0.08	.55	.73
Turn to Family	3	2.66	1.04	0.27	-0.71	.79	.84
Talk with Friends and Classmates	4	2.97	0.90	-0.01	-0.47	.75	.75
Skip School	3	1.69	0.88	1.36	1.31	.86	.89
Social Diversions	3	3.07	0.88	-0.03	-0.48	.68	.76
Athletic Diversions	3	3.05	1.11	0.08	-0.99	.73	.88
Creative Diversions	3	2.13	0.87	0.98	0.78	.62	.80
Technology Diversions	3	2.95	0.87	0.08	-0.45	.53	.74
Substance Use	3	1.17	0.47	3.76	16.62	.71	.93
Reduce Effort on Schoolwork	4	2.06	0.85	0.74	-0.04	.79	.84
Handle Problems Alone	4	3.24	0.76	-0.11	-0.27	.61	.77
Deterioration	6	2.73	0.82	0.36	-0.08	.79	.81
Sleep	3	2.71	0.98	0.25	-0.47	.75	.71
Spirituality	3	2.09	1.24	0.91	-0.40	.90	.92

*Note.* Factor mean scores range from 1 (*never*) to 5 (*almost always*). <sup>a</sup>  $n = 669$ , <sup>b</sup>  $n = 727$ , <sup>c</sup>  $n = 719$  to  $727$ , <sup>d</sup>  $n = 103$  for test-retest sample.



Table 6

*Intercorrelations among Coping with Academic Demands Scale Factors*

Factor	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
F1. Time and Task Management	1														
F2. Cognitive Reappraisal	.44*	1													
F3. Seek Academic Support	.41*	.39*	1												
F4. Turn to Family	.31*	.30*	.29*	1											
F5. Talk with Friends and Classmates	.21*	.26*	.32*	.39*	1										
F6. Skip School	-.10*	.05	.05	.02	.12*	1									
F7. Social Diversions	.09*	.29*	.35*	.26*	.36*	.29*	1								
F8. Athletic Diversions	.14*	.26*	.25*	.13*	.13*	.07	.39*	1							
F9. Creative Diversions	.16*	.21*	.18	.10*	.18*	.07*	.19*	.16*	1						
F10. Technology Diversions	-.13*	.02	.00	.02	.03	.03	.11*	-.06	.03	1					
F11. Substance Use	-.16*	-.00	.00	-.05	.11*	.29*	.22*	.10*	.02	-.01	1				
F12. Reduce Effort on Schoolwork	-.40*	-.16*	-.12*	-.14*	.09*	.39*	.14*	-.04	.06	.17*	.25*	1			
F13. Handle Problems Alone	.04	.02*	-.07	-.24*	-.08*	.01	-.04	-.07	.13*	.14*	-.01	.24*	1		
F14. Deterioration	.03	-.03	.11*	.07	.38*	.20*	.20*	-.04	.20*	.09*	.15*	.41*	.33*	1	
F15. Sleep	-.04	.09*	.13*	.07	.19*	.31*	.31*	.09*	.05	.11*	.17*	.30*	.08*	.20*	1
F16. Spirituality	.16*	.23*	.22*	.27*	.19*	.07	.16*	.14*	.17*	.07	-.06	-.03	-.05	.06	.12*

Note. \* $p < .05$ .  $n = 727$ .

Table 7

*Additional Items in Coping with Academic Demands Scale Item Bank*

Item	<i>M</i>	<i>SD</i>
Not think about anything (zone out) <sup>a</sup>	2.89	1.20
Focus on calming yourself down <sup>b</sup>	2.84	1.11
Take deep breaths <sup>b</sup>	2.59	1.14
Avoid thinking about the problem <sup>a</sup>	2.57	0.96
Share (split-up) assignments with classmates <sup>c</sup>	2.42	1.11
Copy other students' homework and assignments <sup>c</sup>	2.19	1.07
Take less demanding classes <sup>c</sup>	1.40	0.70

*Note.* Sample sizes ranged from 725 to 727 by item.

<sup>a</sup>Mental withdrawal, <sup>b</sup>Relaxation strategies, <sup>c</sup>Reduce academic demands

Table 8

*Correlations between Coping with Academic Demands Scale Factors (CADS), Coping with School Related Stress Questionnaire (CSSQ) Factors, and Student Outcomes*

CADS Factor	CSSQ			Adjustment	
	Task-Oriented Coping	Emotion-Oriented Coping	Avoidance Oriented Coping	Life Satisfaction	GPA
Time and Task Management	.49*	.11*	-.10*	.18*	.20*
Cognitive Reappraisal	.48*	.12*	.16*	.26*	.06
Seek Academic Support	.29*	.25*	.21*	.06	-.09*
Turn to Family	.21*	.33*	.10*	.25*	.11*
Talk with Classmates and Friends	.21*	.65*	.27*	-.08	.03
Skip School	-.03	.17*	.36*	-.08	-.20*
Social Diversions	.14*	.31*	.66*	.11*	-.14*
Athletic Diversions	.12*	.03	.26*	.27*	-.02
Creative Diversions	.17*	.18*	.10*	-.09*	-.08*
Technology Diversions	.07*	.11*	.30*	-.10*	-.08*
Substance Use	-.04	.04	.28*	-.05	-.15*
Reduce Effort on Schoolwork	-.16*	.23*	.26*	-.33*	-.30*
Attempt to Handle Problems Alone	.08*	.06	.03	-.28*	-.05
Deterioration	-.02	.64*	.19*	-.42*	.03
Sleep	.03	.22*	.40*	-.09*	-.12*
Spirituality	.11*	.14*	.07	.07*	-.04

*Note.* \* $p < .05$ . Sample sizes ranged from 720 – 727.