

Dealing With the Stress of College

A Model for Adult Students

Jennifer Kohler Giancola

Matthew J. Grawitch

Dana Borchert

St. Louis University

With an increase in nontraditional students attending college, there is a need to understand how work/school/life stress affects adult students. The purpose of this study is to test a comprehensive stress model that posits appraisal (cognitive evaluation) and coping as mediators between stressors/interrole conflict and psychosocial outcomes. The model proposes that higher levels of stressors/interrole conflict will be associated with lower positive and higher negative appraisals. The model also predicts that positive and negative appraisals will predict specific adaptive and maladaptive coping behaviors. Adaptive coping results in positive outcomes, whereas negative coping leads to negative outcomes. The results support appraisal and coping as partial mediators with positive appraisal and adaptive coping having the hypothesized positive effects. Family-school conflict and school-work conflict and work stressors, in particular, emerge as key stressors for the adult student. This study provides direction for future researchers and implications for adult higher education.

Keywords: *stress; nontraditional students; adult undergraduates; role strain; coping; adult education*

There is and will continue to be an increase in the number of nontraditional students who attend institutions of higher education. In contrast to the traditional 18- to 22-year-old, full-time student, some of the trends include more first-generation students, females, part-time students, students attending 2-year institutions, and students with dependents (Choy, 2002; Kohler, Munz, & Trares, 2007). In particular, approximately one third of undergraduate students are now working adults (Berker & Horn, 2003). Many of these adult students bring with them unique needs that should be addressed by academic institutions, both inside and outside of the classroom (Carney-Crompton & Tan, 2002; Kasworm & Pike, 1994; Knowles, 1988).

An area of particular salience for adult students is the stress of balancing multiple demands and roles at work, at school, and in their personal life. In accordance with resource scarcity theory, going back to school creates another role domain that competes for limited resources: the student's time, energy, and finances (Butler, 2007). Although this role strain and conflict have been documented (Fairchild, 2003; Home, 1998; Kaplan & Saltiel, 1997), there are few studies within

the adult education literature that have provided a comprehensive examination of stress. A study by Sandler (2002) did examine the role of perceived stress in a model of academic persistence for adult students. *Stress* emerged as an important variable with key relationships to grade point average (GPA), intent to persist, and goal commitment. However, few, if any, studies have built on Sandler's findings in subsequent research.

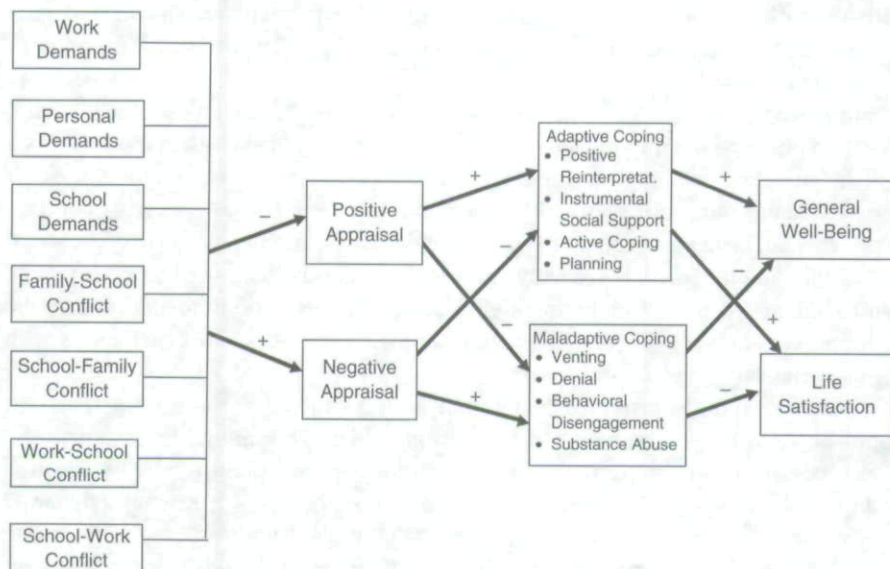
Furthermore, the model of college outcomes for adults (Donaldson & Graham, 1999) emphasizes the importance of prior experiences and psychosocial orientations in understanding adult undergraduates. This should include examining (a) adult undergraduate sources of stress, (b) the meaning of demands and interrole conflict, (c) the management of stressors, (d) personal moderator variables, and (e) psychosocial and academic outcomes. If we truly want to facilitate the learning and retention of adult students, it is important for higher education institutions to understand the stress process and provide resources that can lessen stressors and assist adults with coping (McClary, 1990).

The current study provided and tested a stress model for adult learners that could be used by researchers and institutions alike. This model is based on the stress literature concerning the well-known transactional stress model by Lazarus and Folkman (1984). A transactional approach views the stress process as a dynamic interaction between the environment and the individual with an emphasis on the cognitive appraisal process. The hypothesized model and relationships can be found in Figure 1.

The first component of a transactional stress model is one's perception of stressors. The current study included two facets directly applicable to adult students: (a) extent of perceived demands within work, school, and personal life, and (b) the interrole conflict between work, family, and school. In contrast to traditional students, adult students have additional responsibilities within their job and personal life that can lead to demand overload and interrole conflict when combined with school (Fairchild, 2003; Schlossberg, Lynch, & Chickering, 1989). Hence, these three domains of stressors must be examined if one is to understand the stress reactions and outcomes of adult students.

The intensity or amount of demands adult students face is important, but so, too, are interrole conflicts that these students experience while managing the demands of each domain (Fairchild, 2003; Home, 1998; Kaplan & Saltiel, 1997). These outside demands and conflicting responsibilities create time limitations that traditional-age students may not encounter (Lundenberg, 2003). Adult students' lifeworld environment, or the work, personal, and social life contexts, can promote or impede their learning (Donaldson, Graham, Martindill, & Bradley, 2000). For this study, the emphasis was on ways in which school life was a central aspect of interrole conflict. Thus, the following areas of interrole conflict were examined in the model: family to school, school to family, work to school, and school to work.

Figure 1
Hypothesized Model of Stress for Adult Students



According to the model, once the student experiences or perceives a demand or interrole conflict, cognitive appraisals give meaning to that event. This is equivalent to Lazarus and Folkman's (1984) primary appraisal in which the individual evaluates the positive or negative aspects and the impact of the stressor. If negative appraisal occurs, then the event is viewed as harmful or threatening. In contrast, positive appraisal includes viewing the event as a challenge to be overcome. As supported by prior research (Folkman, 1984; Kohler, Munz, & Grawitch, 2006), the present study examined positive and negative appraisal styles as separate constructs, as opposed to opposite ends of a continuum.

To date, the literature has failed to examine the appraisal style of adult students, yet this style determines, in part, how the student perceives and reacts to work, personal, and school stressors. This is further supported by Donaldson and Graham's (1999) model of college outcomes, which emphasizes that adult learners' psychosocial and value orientations filter their college and learning experiences. In the proposed stress model for adult students, positive and negative appraisal is the filter system that mediates the relationship between stressors and coping behaviors, with positive appraisal acting as a mediator for more adaptive coping mechanisms (Ashford, 1988; Folkman, 1984; Santiago-Rivera, Bernstein, & Gard, 1995). Specifically, the

hypothesized model proposes that higher levels of stressors and interrole conflict are negatively related to positive appraisals and positively related to negative appraisals. Thus, higher levels of stressors and interrole conflict will be associated with lower levels of positive appraisals and higher levels of negative appraisals.

The next piece of the model is coping, defined as the "cognitive and behavioral efforts to master, reduce, or tolerate the internal and/or external demands that are created by the stressful transaction" (Folkman, 1984, p. 843). Coping has been widely investigated in the stress literature, with some examination in academic settings but with few studies specific to adult education. One study by Morris, Brooks, and May (2003) found a difference between the coping styles of traditional and nontraditional students, further supporting a need for research specific to adult students. In accordance with Donaldson and Graham's model (1999), coping style and behaviors are part of the adult student's personal biography and psychosocial orientation that influences his or her college experience.

In the current model, two categories of coping behaviors are included: maladaptive and adaptive coping. Adaptive coping behaviors are those that lead to constructive, healthy psychosocial and physical outcomes for the individual. Conversely, maladaptive coping has a negative impact. Four types of adaptive (i.e., positive reinterpretation, instrumental social support, active coping, and planning) and maladaptive (i.e., venting, denial, behavioral disengagement, and substance use) coping behaviors were examined.

The model of the current study predicts that adaptive coping behaviors are correlated with positive appraisal (Kohler et al., 2006; Latack, 1986) and are predictive of positive outcomes (i.e., higher general well-being, higher life satisfaction). Previous research supports the link between coping behaviors that utilize positive appraisal, social support, or task-problem focus (i.e., adaptive coping) and positive well-being outcomes (Kohler et al., 2006; Latack, 1986; MacNair & Elliot, 1992; Morris et al., 2003; Santiago-Rivera et al., 1995). In contrast, maladaptive coping behaviors are correlated with negative appraisal (Kohler et al., 2006; Latack, 1986; Terry & Callan, 1997) and are predictive of negative outcomes (i.e., lower general well-being, lower life satisfaction). Again, research supports these types of avoidance or escape dimensions as maladaptive coping behaviors leading to more negative outcomes (Kohler et al., 2006; Latack, 1986; Sigmon, Stanton, & Snyder, 1995; Terry & Callan, 1997).

Two outcome variables were investigated in this study to examine the psychosocial impact of stressors on adult students: *general life satisfaction* and *mental well-being*. As already indicated, it was proposed that appraisal and coping would act as mediators in the relationship between stressors/interrole conflict and the outcomes. Hence, how the student evaluates the events with positive and negative appraisal, and the behaviors that the student utilizes to cope, either adaptive or maladaptive, will determine the outcomes. Again, it was hypothesized that positive appraisal and

adaptive coping would be predictive of higher life satisfaction and well-being with the opposite effects predicted for negative appraisal and maladaptive coping.

Although the model is a more comprehensive approach than has been taken in the past, there are still a number of moderator and outcome variables that are not included. The purpose of this study was to create a preliminary model that includes the key pieces with the hope that additional variables will be added and tested at a later date. The main objective was to test appraisal and coping as mediators between stressors/interrole conflict and psychosocial outcomes.

Method

Participants

The data were collected from adult students in St. Louis University's School for Professional Studies (SPS). SPS consists of for-credit major, minor, and certificate programs designed specifically for adults. Classes are offered on weeknights, Saturdays, and online. The makeup of the student body and this study's sample are comparable to adult and continuing education programs (Aslanian Group, 2006). The final sample consisted of 159 students whose ages ranged from 20 to 56 years ($M = 36$, $SD = 8.63$). In all, 68% of the participants were women and 32% men.

Measures

Amount of stressors. Perception of the amount of work, personal, and school stressors was measured using the inventory developed by Hammer, Grigsby, and Woods (1998). The inventory includes three subscales: 17 questions measure work life stressors, 11 measure personal life stressors, and 13 measure school life stressors. The respondents were asked to think back to the last 6 months and determine the extent to which they had experienced each particular demand or condition. Work life stressors included "unpleasant physical surroundings at work" and "long work hours," school life stressors included "excessive amount of school work" and "unclear expectations in classes," and personal life stressors included "poor relationships with friends and family" and "financial difficulties." The inventory asked respondents to indicate their level of agreement on a 5-point scale ranging from 1 (*never*) to 5 (*always*). Reliability analyses resulted in alpha coefficients of .90 (work stressors), .61 (personal stressors), and .84 (school stressors).

Interrole conflict. Interrole conflict was measured using questions from the work-family-school conflict measure developed by Kirby, Biever, Martinez, and Gomez (2004). Fourteen items were selected from the inventory to measure interrole

conflict in the following four areas: family to school (three items reverse scored, for example, "My family is happy that I am attending school"), school to family (four items, for example, "Because my school work is demanding, at times I am irritable at home"), work to school (three items reverse scored, for example, "My employer and colleagues are supportive of my educational goals"), and school to work (three items, for example, "The demands of school make it difficult to be the kind of worker I would like to be"). These 14 items were rated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The alpha coefficients were .74 (family-school), .81 (school-family), .72 (work-school), and .83 (school-work).

Appraisal styles. Negative and positive appraisal styles were measured by eight items from the appraisal scale (Skinner & Brewer, 2002). Four items measured negative appraisals and four items measured positive appraisals. Participants were asked to indicate the extent to which she or he agreed with each statement using a 6-point scale ranging from 1 (*strong disagree*) to 6 (*strongly agree*). Sample items include "I tend to focus on the positive aspects of any situation," and "I worry that I will say or do the wrong things." The negative appraisal scale had an alpha coefficient of .76, whereas the positive appraisal scale had an alpha coefficient of .63.

Coping. Eight scales with four items each were selected from the COPE (Carver, Scheier, & Weintraub, 1989). The COPE is a self-assessment survey that measures problem-focused, emotion-focused, and dysfunctional dimensions of coping. For the current study, the following COPE strategies were measured: positive reinterpretation and growth (i.e., to interpret from a different and more specifically positive view point; $\alpha = .79$), focus on and venting emotions (i.e., the verbalization of one's emotions; $\alpha = .80$), use of instrumental social support (i.e., the use of peers, friends, and family to accomplish effective coping; $\alpha = .75$), active coping (i.e., taking a positive and forward thinking cognitive focus; $\alpha = .61$), denial (i.e., a refusal to grant the truth of a statement or allegation; $\alpha = .74$), behavioral disengagement (i.e., to extricate from one's current environment and social system; $\alpha = .68$), substance use (i.e., the utilization of alcohol and/or drugs to deal with stress; $\alpha = .93$), and planning (i.e., a program or method worked out beforehand for the accomplishment of an objective; $\alpha = .83$). Each item was rated on a 4-point scale from 1 (*I usually don't do this*) to 4 (*I usually do this a lot*). Sample items include, "I make a plan of action," and "I let my feelings out."

Satisfaction with life. The Satisfaction With Life scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) is a global measure of life satisfaction comprised of five items. Sample items include, "In most ways, my life is close to my ideal," and "The conditions of my life are excellent." Participants indicated their response on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The reliability coefficient was .91.

General well-being. The General Health Questionnaire 12 (GHQ-12; Goldberg, 1978) measures overall mental health and well-being. The GHQ-12 consists of 12 items pulled and analyzed for reliability and validity from the original GHQ (Goldberg, 1978). The 12-item scale asks respondents to indicate the extent to which they have experienced particular symptoms over the last few weeks using a 4-point scale ranging from 0 (*not at all*) to 3 (*much more than usual*). For instance, one item asks participants whether they "felt constantly under strain." The GHQ-12 had a Cronbach's alpha of .77.

Demographics. A demographic questionnaire was included to assess gender, ethnicity and race, course load, class level, employment status, tenure and level, marital status, first-generation status, age, number of children, income, and GPA. The demographic questions were multiple choice and fill-in-the-blank.

Procedure

Survey packets were given to 386 adult students enrolled at St. Louis University's School for Professional Studies. Packets included the stressor scale (created for this study), Work-Family-School Conflict scale (Hammer et al., 1998); Appraisal scale (Skinner & Brewer, 2002), COPE (Carver et al., 1989), Satisfaction With Life scale (Diener et al., 1985), General Health Questionnaire 12 (GHQ-12; Goldberg, 1978), and demographic questions. The surveys were distributed to SPS students in the classroom and completed surveys were returned to the PI. In all, 159 students voluntarily and anonymously completed the surveys (41% response rate).

Results

Means, standard deviations, and correlations for all variables included in the analyses can be found in Table 1.

Correlations with nominal data, sex, and race were utilized in this study, as they point to necessary controls for the path analysis. The correlation matrix provides the justification for including them as control variables in the analysis. Though they are nominal, sex and race were dummy coded into two categories, which allows for appropriate correlations to be calculated (Pedhazur, 1997). Race was recoded to compare White students to non-White students, as White students represented the majority of the sample.

Table 1 provides some interesting data regarding adult students and their experience of different stressors. Adult students tended to report their greatest stressors coming from the workplace. They rated workplace stressors significantly higher than personal life stressors, $t(148) = 2.86, p < .01$, and school stressors, $t(148) = 13.76, p < .001$. In addition, adult students also rated their personal life stressors significantly higher than their school stressors, $t(148) = 11.57, p < .001$.

Table 1
Descriptive Statistics for Study Variables

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Sex	1.68	0.46																					
2. Race Caucasian	0.62	0.49	-.18																				
3. Age	36.69	11.80	.07	-.05																			
4. Work stressors	2.65	0.72	.03	-.11	.12																		
5. Pers. stressors	2.47	0.54	.25	.12	.03	.26																	
6. School stressors	1.87	0.59	.06	-.05	-.15	.41	.35																
7. F-S conflict	1.91	0.91	.03	-.05	.13	.23	.09	.07															
8. S-F conflict	3.34	1.08	-.10	-.12	.04	.45	.21	.41	.17														
9. W-S conflict	2.20	0.91	.00	-.11	.01	.26	.06	.15	.39	.10													
10. S-W conflict	2.47	1.02	-.02	-.16	.03	.41	.09	.49	.13	.61	.17												
11. Positive app.	4.94	0.79	-.01	.10	-.10	-.26	-.07	-.13	-.33	-.06	-.19	-.22											
12. Negative app.	2.72	1.19	.12	-.19	.02	.30	.09	.24	.12	.17	-.02	.37	-.36										
13. Pos. reint.	3.17	0.67	.06	.21	-.12	-.20	.06	-.04	-.27	-.05	-.11	-.18	.54	-.24									
14. Venting	2.34	0.75	.24	.01	-.07	.05	.19	-.05	.14	.11	.07	.13	.06	.19	-.03								
15. Inst. SS	2.78	0.73	.21	-.01	-.06	.02	.09	-.08	-.05	.00	.04	-.10	.24	.08	.33	.32							
16. Active coping	2.94	0.63	-.13	.07	-.03	-.13	.06	.00	-.31	.02	-.14	-.10	.43	-.26	.51	.07	.40						

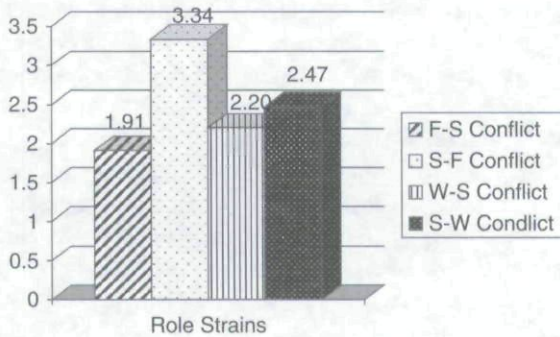
(continued)

Table 1 (continued)

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
17. Denial	1.40	0.49	.14	.17	-.10	.18	.06	.00	-.06	.06	.01	.17	-.21	.28	-.07	.13	.02	-.28					
18. Beh. dis.	1.45	0.51	.14	-.05	.03	.24	.15	.08	.13	.13	.05	.16	-.30	.39	-.14	.22	.01	-.27	.43				
19. Substance use	1.28	0.56	-.12	-.21	.05	.20	-.05	.07	.01	.08	-.05	.17	-.10	.15	-.21	-.06	-.21	-.10	.23	.13			
20. Planning	3.18	0.68	-.07	.09	.02	-.20	.08	-.04	-.21	.04	-.06	-.17	.38	-.28	.57	.06	.44	.71	-.40	-.33	-.25		
21. General well-being	1.76	0.48	-.03	.23	-.07	-.43	-.18	-.32	-.25	-.29	-.31	-.46	.44	-.49	.36	-.20	.10	.35	-.25	-.33	-.18	.34	
22. Life sat.	4.54	1.65	-.09	-.15	-.05	-.26	-.24	-.16	-.40	-.03	-.28	-.18	.28	-.25	.34	-.16	.07	.27	-.20	-.16	.00	.29	.43

Note: All significant at the .05 level are indicated in bold; sex was coded as 1 = male and 2 = female; race Caucasian = Dummy coded for Caucasian; pers. stressors = personal stressors; F-S conflict = family-school conflict; S-F conflict = school-family conflict; W-S conflict = work-school conflict; S-W = school-work conflict; Positive App. = positive appraisals; negative app. = negative appraisals; pos. reint = positive reinterpretation; instrumental SS = instrumental social support; beh. dis. = behavioral disengagement; life sat. = life satisfaction.

Figure 2
Mean Comparisons for Interrole Conflict Variables



Note: Abbreviations used are S-F = school-family; S-W = school-work; W-S = work-school; F-S = family-school. All differences are statistically significant *t*-test results in the order of decreasing means values:

S-F to S-W: $t(148) = 11.88, p < .001$.

S-W to W-S: $t(148) = 3.13, p < .01$.

W-S to F-S: $t(148) = 3.55, p < .05$.

In terms of interrole conflict, adult students reported the greatest conflict occurring from school to family. All mean differences between the interrole conflict variables were significant (see Figure 2).

Adult students also reported greater positive appraisals as compared to negative appraisals, $t(148) = 16.75, p < .001$. Finally, they generally reported relying more on adaptive coping strategies, such as planning and positive reinterpretation, and less on maladaptive strategies, such as denial and substance abuse, though actual *t* tests were not conducted given the large number of potential paired comparisons.

Examination of the correlation matrix also reveals significant relationships between the variables. First, reporting greater amounts of work stressors was significantly related to more conflict, appraisal, and coping outcomes than were perceptions of personal or school stressors. Second, perceptions of work, personal life, and school stressors were all significantly related to general well-being and life satisfaction. The more work, personal life, and school stressors respondents experienced, the lower were their general well-being and overall life satisfaction. Finally, most of the coping dimensions analyzed in the current study were correlated in the expected direction with general well-being and life satisfaction, suggesting that more adaptive coping mechanisms (i.e., planning, active coping, positive reinterpretation) were positively associated with positive psychological outcomes, and the use of more maladaptive coping mechanisms (i.e., venting, denial, substance use, behavioral disengagement) were negatively associated with positive psychological outcomes. There were, however,

two exceptions. The use of instrumental social support was unrelated to both psychological outcomes. In addition, whereas the substance use was negatively correlated with general well-being, it was unrelated to life satisfaction.

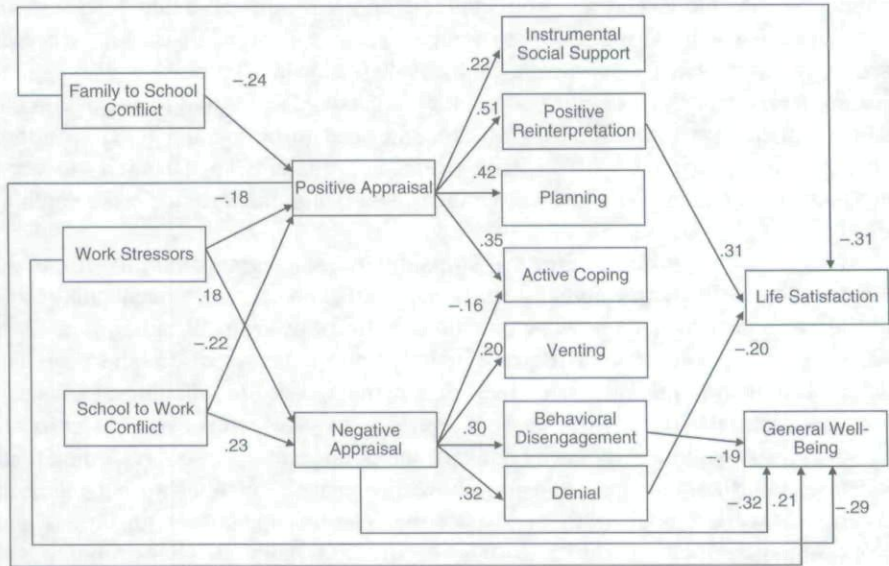
To test the hypothesized model and relative contribution of each variable to the prediction of the outcomes, path analysis was employed. The path analysis was used for the following reasons: (a) We wanted to test a model that was more complex than a simple predictor-outcome model, (b) All variables in the model were measured as continuous variables, and (c) The model included multiple outcomes that we wanted to simultaneously predict (Schumacker & Lomax, 1996). In essence, then, path analysis was used because it provided a way to simultaneously test a series of relationships that would normally have required several multiple regression analyses. The theoretical model as presented in Figure 1 identifies three sets of variables that are hypothesized to be important to the prediction of life satisfaction and general well-being. To test this model, SPSS Amos 6.0 was used. The model specified (a) paths from the stressor variables to appraisals; (b) paths from appraisals to the coping variables; and (c) paths from the coping variables to life satisfaction and general well-being, using significant correlations to determine specific paths, as a way to eliminate possible suppressor effects. All significant bivariate correlations were the basis for direct paths, and the model controlled for gender and the dummy-coded race variable. The final model eliminated variables and paths that were nonsignificant, thus integrating the theoretical model with the empirical realities of the current study.

The results of the path analysis can be found graphically in Figure 3.

The numeric values represent beta weights, comparable to the statistic reported in multiple regression analysis. In total, the direct effects (comparable to an R^2 value) accounted for 21.7% of the variance in life satisfaction and 34.8% of the variance in general well-being. As can be seen in Figure 3, three of the demand and interrole conflict inputs (i.e., work stressors, family-school conflict, and school-work conflict) were integral parts of the model and predicted positive and negative appraisal in the expected directions. Contrary to the hypothesized model, personal stressors, school stressors, school-family conflict, and work-school conflict did not predict the appraisal variables.

In support of the model, positive appraisals were predictive of adaptive coping strategies, whereas negative appraisals were generally predictive of maladaptive coping strategies, with the exception of the path to active coping. Thus, the more adult students tend to see stressors as challenges to be overcome, the more likely they are to use adaptive coping strategies. In addition, the more adult students tend to view stressors as disrupting their lives, the more likely they are to engage in more maladaptive coping strategies. However, the hypothesized relationships between coping and life satisfaction and general well-being were only partially supported. Only positive reinterpretation and denial were predictive of life satisfaction, and only behavioral disengagement was predictive of general well-being.

Figure 3
Results of Path Analysis



Note: Model controls for sex and the dummy-coded race variable; values reported are beta weights; only significant paths are shown; school stressors, personal stressors, school-family conflict, and work-school conflict were not significant predictors; therefore, they are not included in the model. In addition, substance use was not predicted by anything except race; therefore, it is not included in the model.

Appraisal and coping acted as partial mediators in the final model with some direct effects of stressors and appraisal on the psychosocial outcomes. Specifically, family-school conflict demonstrated a direct, negative relationship with life satisfaction that was not accounted for by appraisals or coping behaviors. In addition, results indicated a direct negative relationship between work stressors and general well-being that was not accounted for by appraisals or coping behaviors. Finally, both positive and negative appraisals showed evidence of a direct relationship with general well-being that could not be accounted for by the coping behaviors.

Discussion

The results of the study provide partial support for the proposed model. The findings suggest that, for this population, the amount of work stressors may play a greater role than personal and school stressors. Not only did participants report

significantly more work stressors, but work stressors generally demonstrated stronger correlations with *interrole conflict*, *appraisal*, and *coping* variables than did the other stressor variables. Most important, *work stressors* was the only stressor variable that entered into the model and was a direct predictor of general well-being. It seems that *work stressors* may be the greatest source of stress for the adult student, whereas school stressors have less impact on life satisfaction and general well-being. If researchers, faculty, and institutions want to understand stress and its impact on the adult learner, then multiple types of stressors need to be examined. This further supports the contribution of the "life-world environment" to the adult student's academic experience (Donaldson & Graham, 1999) and may provide more depth to this concept.

Work may be a stronger source of stress due to its integral role in the life of an adult student. Of the three domains (personal, work, and school), students may have the least control over their work situation. A study by Yum, Kember, and Siaw (2005) found that adult students were better able to make sacrifices and negotiate demands in their family and social lives than in their work life. Though students can forego certain social activities or find someone to take care of a child or other personal responsibilities, they may not have the same level of control regarding their job tasks. Furthermore, research has shown a negative relationship between job control and work-school conflict and a positive relationship between job control and work-school facilitation (Butler, 2007). The stress literature also has proposed and supported the role of job control in the stress process (Bond & Bunce, 2001; Kohler et al., 2006; Spector, 2002). Hence, job control may be an underlying cause of the impact of work stressors and should be investigated in future model testing with adult students.

This does not mean, however, that school and family stressors are meaningless. The highest level of interrole conflict was actually between school and family, though it was not included in the final path analysis. In contrast, family-school conflict and school-work conflict made significant, negative contributions to the model. The direct correlations (Table 1) between the role-conflict variables and life satisfaction and general well-being also demonstrate the impact that role strain has on a student. Although not all of the role-conflict variables remained in the final model, they are still significantly correlated with psychosocial outcomes. In addition, the current study examined only two outcomes. Thus, the inclusion of additional outcomes may yield results that support the importance of additional conflict and stressor variables.

These findings support the current role strain research (Fairchild, 2003; Kaplan & Saltiel, 1997) and provide further insight regarding the specific types and direction of interrole conflict that contribute to stress. Garnering support from one's family for school and ensuring that school does not interfere with work may be key to alleviating an adult student's stress. Support from a student's family, friends, and work colleagues has been shown to alleviate the negative consequences of role strain

(Dyk, 1987). Family support has also been linked to retention in higher education (Chartrand, 1992).

The role of appraisal has long been examined in the stress research (Lazarus & Folkman, 1984) and emerged as a significant variable in this study as well. Positive and negative appraisal acted as a partial mediator between stressors and coping, and negative appraisal had direct negative effects on general well-being. Consistent with the hypotheses and the literature, positive appraisal was correlated with lower stressor perceptions and with more adaptive coping behaviors, and negative appraisal was associated with higher stressor perceptions and with more maladaptive coping behaviors. Donaldson and Graham's (1999) model of college outcomes proposes that adult learners' psychosocial and value orientations act as filters in their college and learning experiences. It seems that an important part of this filter system is the adult student's cognitive appraisal style that strongly predicts the coping choices made by the student. Hence, psychosocial outcomes, and possibly academic outcomes, are not strictly a product of the demands, but depend on how the student positively or negatively views those experiences. The good news is that adult students seem to be using more positive appraisal.

Coping also acted as a partial mediator in the model. There were significant correlations between most of the coping variables and the outcomes, but only three coping behaviors emerged as important predictors of life satisfaction and general well-being: positive reinterpretation, behavioral disengagement, and denial. *Instrumental social support* was the only coping variable that was not correlated with the outcome variables, and *substance use* was the only one that did not enter the model.

Both the intervariable correlations and the model relationships supported the distinction between adaptive and maladaptive coping behaviors. In particular, the findings suggest that adult learners should be encouraged to use proactive as opposed to avoidance strategies. This is supported by previous research that has found a link between task and problem-focused coping and academic outcomes. Academic achievement has been shown to be related to challenge appraisal and task-focused coping, which mediated the negative impact of stress (Santiago-Rivera et al., 1995). Another study found a positive relationship between the problem-solving skills of students and the use of task-focused coping (MacNair & Elliot, 1992). For nontraditional students specifically, task-focused coping was related to learning goal orientation, or learning for "it's own sake," which was related to higher GPAs (Morris et al., 2003). This study provides direction to specific types of adaptive coping that should be examined in future studies including the impact on academic outcomes for adult students. Further examination of these coping behaviors is needed in the adult education research to fully understand which behaviors mediate the harmful effects of stressors and negative appraisal and lead to more positive outcomes for adult students, both psychosocially and academically.

The final model explained 21.7% of the variance in life satisfaction and 34.8% of the variance in general well-being, indicating that stressors, appraisals, and coping are

important variables of interest in understanding the satisfaction and well-being of adult students. (The number of significant correlations between these outcomes and the variables as a whole lends further support.) As already discussed, there are some direct effects of stressors on the outcomes, but appraisal and coping also act as partial mediators suggesting that the student does have some control over the negative impact of stress. There is still a portion of variance in the psychosocial outcomes that was not explained by the model, requiring further study into the types of stress, appraisal, and coping that contribute to the adult student's satisfaction and well-being.

Implications for Researchers and Institutions

The results of the study point to variables of significance and give direction to future research. Though the relationships between the variables were in the expected directions and reflected the stress literature, not all of the variables made significant contributions to this model and predicted the outcome variables. In particular, there is a need to further examine the sources of stress and the impact on a variety of psychosocial and academic outcomes. Specifically, it is recommended that school stressors applicable to adults be investigated in more depth including such areas as classroom instruction, academic advising, admissions and financial aid, safety and security, and so on (Kohler et. al, 2008). Academic effects, such as learning outcomes, GPA, course drops, intent to persist, goal commitment, and graduation rates (Sandler, 2002), should also be examined in the model.

As previously noted, there are a number of mediators and moderators that could be tested in the model in the future. For instance, secondary appraisal in which the individual evaluates his or her ability to cope with the stressor could be added (Lazarus & Folkman, 1984). Mack, Nelson, and Quick (1998) listed locus of control, social support, commitment, type A-B personality, and negative/positive affectivity as possible moderators. The adult student literature also suggests that social and academic integration at any age is important to learning (Lundenberg, 2003). Hence, integration including peer and faculty relationships may play a role in moderating how stress affects academic and psychosocial outcomes.

This study may be limited by the particular sample or the fact that all of the variables were measured by a self-report survey at one point in time. Hence, longitudinal research with multiple measures and populations is needed. A qualitative study that gathers student stories and experiences would provide more depth to the research and additional direction for hypothesis testing.

An adult student's success goes beyond academic preparation. Higher education has a responsibility to assist these students as they make the transition back to school. Stress and time management programs can be provided to those who need help with managing the additional stressors and interrole conflict that arises (Kohler & Munz, 2006; McClary, 1990). Support services should be geared toward adults, including their own orientations, academic and financial aid advisors, and peer

advisors, and support staff and faculty should understand the needs of adult learners without compromising academic rigor (Johnson, Schwartz, & Bower, 2000; Kaplan & Saltiel, 1997; Kohler et al., 2007). Courses can be offered in convenient formats (evening, weekend, accelerated, and/or online) that fit with the busy adult's schedule (Home, 1998). Universities may even be able to alleviate interrole conflict by integrating families and employers into their services. For instance, families can be invited to orientations and university events. Childcare can be provided onsite (Johnson et al., 2000). Letters of support, Dean's lists, and commencement invitations can be extended to employers, as appropriate.

This study is just the start to understanding how adult students are affected by the stress of managing demands at work, home, and school. Furthermore, its findings lend support and depth to the model of college outcomes for adult students (Donaldson & Graham, 1999). With the increasing number of adult learners entering higher education, it is vital that this line of research continues so that their educational needs can be met.

References

- Ashford, S. J. (1988). Individual strategies for coping with stress during organizational transitions. *Journal of Applied Behavioral Science*, 24(1), 19-36.
- Aslanian Group. (2006). *Trends in adult learning: A 2006 snapshot*. New York: Author.
- Berker, A., & Horn, L. (2003). *Work first, study second: Adult undergraduates who combine employment and postsecondary enrollment* (NCES No. 2003-167). Washington, DC: U.S. Government Printing Office.
- Bond, F. W., & Bunce, D. (2001). Job control mediates change in a work reorganization intervention for stress reduction. *Journal of Occupational Health Psychology*, 6, 290-302.
- Butler, A. B. (2007). Job characteristics and college performance and attitudes: A model of work-school conflict and facilitation. *Journal of Applied Psychology*, 92, 500-510.
- Carney-Crompton, S., & Tan, J. (2002). Support systems, psychological functioning, and academic performance of nontraditional female students. *Adult Education Quarterly*, 52, 140-154.
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56, 267-283.
- Chartrand, J. M. (1992). An empirical test of a model of nontraditional student adjustment. *Journal of Counseling and Psychology*, 39, 193-202.
- Choy, S. (2002). *Nontraditional undergraduates* (NCES No. 2002-12). Washington, DC: U.S. Government Printing Office. Retrieved April 10, 2006, from <http://nces.ed.gov/pubs2002/2002012.pdf>
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71-75.
- Donaldson, J. F., & Graham, S. (1999). A model of college outcomes for adults. *Adult Education Quarterly*, 50, 24-40.
- Donaldson, J. F., Graham, S. W., Martindill, W., & Bradley, S. (2000). Adult undergraduate students: How do they define their experiences and their success? *The Journal of Continuing Higher Education*, 48(2), 2-11.
- Dyk, P. (1987). Graduate student management of family and academic roles. *Family Relations*, 36, 329-332.
- Fairchild, E. E. (2003). Multiple roles of adult learners. *New Directions for Student Services*, 102, 11-16.

- Folkman, S. (1984). Personal control and stress and coping processes: A theoretical analysis. *Journal of Personality and Social Psychology*, 46, 839-852.
- Goldberg D. (1978). *Manual of the General Health Questionnaire*. Windsor, UK: NFER-Wilson.
- Hammer, L. B., Grigsby, T. D., & Woods, S. (1998). The conflicting demands of work, family, and school among students at an urban university. *Journal of Psychology*, 132, 220-226.
- Home, A. (1998). Predicting role conflict, overload and contagion in adult women university students with families and jobs. *Adult Education Quarterly*, 48, 85-97.
- Johnson, L. G., Schwartz, R. A., & Bower, B. L. (2000). Managing stress among adult women student in community colleges. *Community College Journal of Research and Practice*, 24, 289-300.
- Kaplan, P. L., & Saltiel, I. M. (1997). Adults who do it all. *Adult Learning*, 8(5/6), 17-20.
- Kasworm, C. E., & Pike, G. R. (1994). Adult undergraduate students: Evaluating the appropriateness of a traditional model of academic performance. *Research in Higher Education*, 35, 689-710.
- Kirby, P. G., Biever, J. L., Martinez, I. G., & Gomez, J. P. (2004). Adults returning to school: The impact on family and work. *Journal of Psychology*, 138, 65-76.
- Kohler, J. M., & Munz, D. C. (2006, Winter). Combining individual and organizational stress interventions: An organizational development approach. *Journal of Consulting Psychology*, 58(1), 1-12.
- Kohler, J. M., Munz, D. C., & Grawitch, M. (2006). Test of a dynamic stress model for organizational change: Do males and females require different models? *Applied Psychology: An International Review*, 55, 168-191.
- Kohler, J. M., Munz, D. C., & Trares, S. (2007). First- vs. continuing-generation nontraditional students on college perceptions: Are differences actually due to demographic variance? *Adult Education Quarterly*.
- Knowles, M. S. (1988). *The modern practice of adult education: From pedagogy to andragogy* (rev. ed.). New York: Cambridge University Press.
- Latack, J. C. (1986). Coping with job stress: Measures and future directions of scale development. *Journal of Applied Psychology*, 71, 377-385.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.
- Lundenberg, C. A. (2003). The influence of time-limitations, faculty, and peer relationships on adult learning: A causal model. *Journal of Higher Education*, 74, 665-688.
- Mack, D. A., Nelson, D. L., & Quick, J. C. (1998). The stress of organisational change: A dynamic process model. *Applied Psychology: An International Review*, 47, 210-232.
- MacNair, R. R., & Elliot, T. R. (1992). Self-perceived problem-solving ability, stress appraisal, and coping over time. *Journal of Research in Personality*, 26, 150-164.
- McClary, S. A. (1990, Spring). Stress, coping, and adult education. *New Directions for Adult and Continuing Education*, 45, 65-75.
- Morris, E. A., Brooks, P. R., & May, J. L. (2003, March). The relationship between achievement goal orientation and coping style: Traditional vs. nontraditional college students. *College Student Journal*, 37(1), 3-8.
- Pedhazur, E. J. (1997). *Multiple regression in behavioral research: Explanation and prediction* (3rd ed.). Orlando, FL: Harcourt Brace.
- Sandler, M. E. (2002, April). *A structural examination of academic integration, perceived stress, academic performance, and goal commitment from an elaborated model of adult student persistence*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Santiago-Rivera, R. A. L., Bernstein, B. L., & Gard, T. L. (1995). The importance of achievement and the appraisal of stressful events as predictors of coping. *Journal of College Student Development*, 36, 374-383.
- Schlossberg, N., Lynch, A., & Chickering, A. (1989). *Improving higher education for adults*. San Francisco: Jossey-Boss.

- Schumacker, R. E., & Lomax, R. G. (1996). *A beginner's guide to structural equation modeling*. Mahwah, NJ: Lawrence Earlbaum.
- Sigmon, S. T., Stanton, A. L., & Snyder, C. R. (1995). Gender difference in coping: A further test of socialization and role constraint theories. *Sex Roles, 33*, 565-587.
- Skinner, N., & Brewer, N. (2002). The dynamics of threat and challenge appraisals prior to stressful achievement events. *Journal of Personality and Social Psychology, 83*, 678-692.
- Spector, P. E. (2002, August). Employee control and occupational stress. *Current Directions in Psychological Science, 11*(4), 133-136.
- Terry, D. J., & Callan, V. J. (1997). Employee adjustment to large-scale organisational change. *Australian Psychologist, 32*, 203-210.
- Yum, J. C. K., Kember, D., & Siaw, I. (2005). Coping mechanisms of part-time students. *International Journal of Lifelong Education, 24*, 303-317.

Jennifer Kohler Giancola, PhD, is associate dean/assistant professor of St. Louis University School for Professional Studies, Missouri, which offers degree programs for adult students. Her teaching and research focus is organizational behavior and adult learners.

Matthew J. Grawitch, PhD, is chair/assistant professor organizational studies in School for Professional Studies, St. Louis University, Missouri.

Dana Borchert, MS, is a graduate student in St. Louis University Industrial/Organizational Psychology Doctoral Program, St. Louis University, Missouri.

Copyright of Adult Education Quarterly is the property of American Association for Adult & Continuing Education and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.