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# Supportive and Unsupportive Responses From Parents as Moderators of the Relationship Between Stressful Events and Negative Outcomes in Adolescents

Karen A. Muehl

*Virginia Commonwealth University*

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Supportive and Unsupportive Responses from Parents as Moderators of the  
Relationship between Stressful Events and Negative Outcomes in Adolescents

A thesis submitted in partial fulfillment of the requirements for the degree of Master of  
Science at Virginia Commonwealth University.

by

Karen A. Muehl  
Bachelor of Arts, Boston College, 2000

Director: Kathleen M. Ingram, J.D., Ph.D.  
Associate professor, Department of Psychology  
Virginia Commonwealth University

Virginia Commonwealth University  
Richmond, Virginia  
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## Abstract

### SUPPORTIVE AND UNSUPPORTIVE RESPONSES FROM PARENTS AS MODERATORS OF THE RELATIONSHIP BETWEEN STRESSFUL EVENTS AND NEGATIVE OUTCOMES IN ADOLESCENTS

Karen A. Muehl, B.A.

A thesis submitted in partial fulfillment of the requirements for the degree of  
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Major Director: Kathleen M. Ingram, J.D., Ph.D.  
Associate Professor, Department of Psychology

The objective of this study was to investigate the relationship between stressful events in adolescents and negative outcomes of substance use, depressive symptoms, and anxiety symptoms. Parental support and unsupportive parental responses were examined as moderators of this relationship. The research design was cross-sectional, and self-report data were collected from 100 adolescents in the 8<sup>th</sup> and 9<sup>th</sup> grades. As hypothesized, significant positive associations were found between perceived stressors and each of the three negative outcomes, as well as between unsupportive parental responses and the

outcomes. Also consistent with hypotheses, and previous literature, was the finding of a significant inverse association between parental support and negative outcomes. Multiple linear regression analyses supported one of the moderator hypotheses, showing that parental support buffered the association between stressful events and adolescent substance use, such that adolescents with high stress and high perceived parental support engaged in significantly less substance use than adolescents with high stress and low perceived parental support. However, no significant evidence was found for parental support as a buffer of the associations between adolescent stressful events and either depressive symptoms or anxiety symptoms. Contrary to hypotheses, no significant moderation effects of unsupportive parental responses were found for the associations between stressful events and adolescent substance use, depressive symptoms, or anxiety symptoms. A major contribution of the present study is the evidence for unsupportive parental responses as a significant predictor of negative outcomes in adolescence. The present findings further suggest that unsupportive parental responses are a distinct construct from parental support, rather than simply opposite ends of the same continuum.

## Chapter One

### *Introduction*

Adolescence is considered by the majority American culture to be a difficult period of development because of increased conflict with parents, mood disruptions, and risk behavior (Arnett, 1999). Parent-child conflict tends to peak during early adolescence (Arnett, 1999). Depressive disorders in community samples of adolescents have a prevalence rate of about 7% (Frick & Silverthorn, 2001), while prevalence rates of self-reported mild to moderate depressive symptomatology range from 30 to 40% (see Roberts, Andrews, Lewinsohn, & Hops, 1990). Adolescent depression is particularly disconcerting because of the high rates of relapse associated with an early onset of mood disorders (Frick & Silverthorn, 2001).

Adolescence is also a time when young people may begin to experiment with tobacco, alcohol, and drugs. The Substance Abuse and Mental Health Services Administration reported that about 16.6% of youths aged 12 to 17 reported alcohol use during the past year in 2003, and 7.1% reported alcohol use during the past month (Office of Applied Studies, 2004). In addition to the health concerns associated with substance use, there is also evidence that health behaviors initiated during adolescence are associated with health behavioral styles in young adulthood (Fisher & Feldman, 1998). Therefore, it is important to gain a thorough understanding of the risk and maintenance factors that account for level of involvement in substance use.

Negative events during adolescence have been shown to have a direct relationship with increases in both substance use and depressive symptoms (e.g., Rowlison & Felner, 1988; Seiffge-Krenke & Shulman, 1993; or see Grant et al., 2003; or Hoffman & Su, 1998 for a review). Other variables associated directly and indirectly with levels of substance use and depressive symptoms are parental support, family conflict, and socioeconomic status (e.g., Beal, Ausiello, & Perrin, 2001; Hoffman & Su, 1998; Wills, McNamara, & Vaccaro, 1995; Wills, Sandy, Yaeger, & Shinar, 2001). In particular, social support has received attention in the adolescent literature as a moderator of the relationship between stressful events and negative outcomes.

Parental support has been shown to buffer the association between life stress in adolescence and levels of substance use (Wills & Cleary, 1996; Wills, Vaccaro, & McNamara, 1992). Parental support also buffers the relationship between negative life events and depressive symptoms (see Hoffman & Su, 1998 for a review) and the link between specific stressors, such as teen pregnancy, and depressive symptoms (Davis, Rhodes, & Hamilton-Leaks, 1997). On the other hand, a lack of perceived support from parents has been associated with higher rates of depressive symptoms and with onset of major depressive disorder (Stice, Ragan, & Randall, 2004).

Although the presence and absence of parental support have been examined in regard to negative outcomes in adolescents, there is a need for research exploring the effects of unsupportive responses from parents. All social relationships involve both positive and negative interactions (Rook, 1984); therefore, research examining parent-adolescent relationships should examine both positive and negative aspects of

interactions. Unsupportive social interactions—such as minimizing the problem or blaming the person—in response to a specific stressful event have been shown to be significant magnifiers of negative outcomes in adults (Ingram, Betz, Mindes, Schmitt, & Smith, 2001; Reynolds & Perrin, 2004; Rook, 1984; Schrimshaw, 2003). Similar research in an adolescent population found that problematic interactions with parents, such as criticism, intrusiveness, conflict, and disappointment had a strong, positive correlation with depressive symptoms (Davis et al., 1997).

The present study examined both parental support and unsupportive responses from parents as moderators of the relationship between stressful events and negative outcomes. The rationale for the study is grounded in empirical findings, and the design is guided by the theoretical framework of stress, appraisal, and coping described by Lazarus and Folkman (1984). The theory emphasizes cognitive appraisals as the determinants for how stressful an event is perceived to be by an individual. Support from parents, or unsupportive responses from parents, may impact the way in which an adolescent appraises an event. On one hand, the adolescent may experience less stress if parental support is perceived to be available; on the other hand, unsupportive responses from parents may contribute to events being appraised by the adolescent as more stressful. The impact of these two types of responses from parents may enhance or diminish the negative outcomes that are associated with the stressful event itself.

In the present study, the negative outcomes that were examined were substance use, depressive symptoms, and symptoms of anxiety. These outcomes have been studied in previous research on adolescent stress and parental support (see Grant et al., 2003; or

Hoffman & Su, 1998 for a review). Furthermore, substance use, depressive symptoms and anxiety symptoms pose important health concerns in adolescents. The independent variables that were examined were stressful events, parental support, and unsupportive parental responses. It was hypothesized that adolescents' perceptions of both the stressfulness of an event and of unsupportive parental responses would have direct, positive relationships with the level of substance use, depressive symptoms, and anxiety symptoms in adolescents. Conversely, it was expected that parental support would have a direct, negative association with the three outcomes. Finally, it was expected that there would be two interactions: (a) parental support would buffer the relationship between the stress of negative events and each of the outcomes; and (b) unsupportive parental responses would magnify this same relationship.

## Chapter Two

### *Literature Review*

The prevailing theory in stress and coping research is the transactional model posited by Lazarus and Folkman (1984). Using this model as a conceptual guide, the present study examined moderators of the relationship between stressful events and substance use, depressive symptoms, and anxiety symptoms in adolescents. The following review first explains Lazarus and Folkman's theory of stress, appraisal, and coping, and seeks to highlight how each aspect of the present study is conceptualized in terms of this model. Research addressing adolescent stress and other relevant variables that are shown to have a direct association with outcomes of substance use, depressive symptoms, and anxiety is reviewed. The literature on the indirect effects of stress via mediating and moderating variables will also be discussed, particularly with regard to parental support. Next, the literature on unsupportive social interactions is presented, and the rationale for studying the impact of unsupportive parental responses on adolescent substance use, depressive symptoms, and anxiety is explained. Finally, the design for the present research is described and hypotheses derived from existing findings, and consistent with the theory, are outlined.

#### *Theory of Stress and Coping*

Lazarus and Folkman (1984) defined stress as, "a relationship between the person and environment that is appraised by the person as taxing or exceeding his or her

resources and endangering his or her well-being” (p. 19). This definition considers the person and environment to have reciprocal influences on one another, where stress is a product of the interplay between the person and environment. Also central to the definition is the subjective appraisal by the person as to whether or not an environmental demand exceeds or threatens his or her resources. Measures of stress that are consistent with this conceptualization would rely on an individual’s subjective rating of an experience as stressful. Therefore, the stressful events examined in the present study were selected by adolescents based on their experience of a recent situation or event that exceeded their own coping resources.

Lazarus and Folkman (1984) defined coping as, “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” (p. 141). Coping is a dynamic process, governed by cognitive appraisals, which are the evaluative thoughts a person has regarding a significant event. Lazarus and Folkman defined cognitive appraisals as, “the process of categorizing an encounter, and its various facets, with respect to its significance for well-being” (p. 31). Supportive and unsupportive responses from other people can be conceptualized in the model for the present study as factors that may affect cognitive appraisals. For example, a person who receives a lot of unsupportive responses from other people may appraise a stressful event as more threatening than someone who is well supported. The ongoing evaluation of potentially stressful events results in constant changes being made to the way the events are dealt



with, depending on whether the threat is appraised as having increased or decreased. Thereby, cognitive appraisals impact the way a person copes with the stressful situation.

According to Lazarus and Folkman (1984), coping strategies may be problem-focused or emotion-focused. Problem-focused coping is aimed at managing the problem that has created the stress. Emotion-focused coping is an effort to change the affective response one has to a stressor, such as by reframing the meaning of the event, avoiding thinking about the event, or engaging in physical exercise (Lazarus & Folkman, 1984). Different coping strategies may have different implications for adjustment and well-being. Supportive and unsupportive interactions may also operate by increasing or decreasing coping resources that are available to an adolescent, thereby affecting the ability to cope, or impacting the degree to which different coping strategies are employed (Wills et al., 1995)

Well-being refers to adaptive functioning in social, psychological, and physical domains (Lazarus & Folkman, 1984). Adaptive functioning and well-being are compromised when adolescents experience anxious or depressive symptoms or engage in substance use. In the context of Lazarus and Folkman's model of stress and coping, substance use may be conceptualized as either a form of emotion-focused coping or an outcome of failed attempts at coping. However, the present study was concerned with substance use and depressive symptoms only insofar as they are potential outcomes of the stress-coping process. In particular, the outcomes of substance use, depressive symptoms, and anxiety symptoms were chosen because they are consistent with previous research and have important implications for health.

Some researchers have said that Lazarus and Folkman's (1984) theory should be applied cautiously to an adolescent population because of its emphasis on cognitive processes, given that adolescents still are undergoing cognitive development (Seiffge-Krenke & Shulman, 1993). However, the theoretical model should hold regardless of the sophistication of the adolescent's cognitive appraisals, or the objective validity of their experiences as stressful. This is because stress is conceptualized from the subjective viewpoint of the individual; consequently, different events may or may not be stressful for different people, but in any case the experience of stress is still real. Therefore, the model should apply to adolescents as well as adults. It is noted that the present study did not measure or evaluate cognitive appraisals, but rather used this construct as a conceptual vehicle for theorizing how supportive and unsupportive interactions may impact the stress-outcome pathway.

### *Stress in Adolescence*

Adolescence is seen as a time of both "storm and stress" (see Arnett, 1999) and opportunity for positive growth (Arnett, 1999; Compas, Hinden, & Gerhardt, 1995). Theories of adolescent development that are regarded as the most comprehensive are transactional, biopsychosocial models that incorporate biological, psychological and contextual factors (Compas et al., 1995). Physical changes during adolescence involve ongoing development of the brain and central nervous system, including thinking processes such as problem-solving skills, language capacity, and spatial skills (Compas, et al., 1995). Physical growth and hormonal changes are associated with changes in mood, behavior, interpersonal relationships, and social roles (Compas et al., 1995). The

major socio-emotional developmental tasks of adolescence include individuation from parents and development of peer relationships.

Adolescence is a developmental period when young people are beginning to transition out of childhood and become more independent. During this period, adolescents are likely to be exposed to new stressors as a result of asserting their independence and becoming increasingly self-reliant with regard to problem-solving. Consequently, these changes may also result in appraisals of stressful events as more threatening than were felt previously by adolescents. Some common major stressors and everyday hassles for adolescents between 12 and 20 years old include parents getting a divorce, something bad happening to a friend, a sibling getting married, homework, and household chores (Compas, Davis, Forsythe, & Wagner, 1987).

In the literature, the term *adolescence* generally refers to the period of development in the second decade of life (Compas et al., 1995). However, adolescence does not correspond strictly to a specific age range, but rather different authors use the term to refer to different ages of children and young adults. Sometimes adolescence is broken down into three stages: early, middle, and late. Other authors simply refer to younger adolescents or older adolescents. In the following review, the terminology of the original author will be maintained, and age ranges will be specified when a clarification is relevant or meaningful. In the present study, the sample includes adolescents aged 13 to 16, which shall be characterized as early to middle adolescence. During these years, parent-child conflict tends to peak, mood disruptions and fluctuations are more common, and opportunities to experiment with tobacco, alcohol, and drugs become available

(Arnett, 1999). Recent research has recognized that trajectories of adolescent development vary widely, and individuals may follow different paths from childhood to adulthood (for a review see Compas et al., 1995).

Reviews of the literature from the past 15 years show an established link between stress in adolescents and increased psychopathology (e.g., Grant, Compas, Thurm, McMahon, & Gipson, 2004; Grant et al., 2003; Hoffman & Su, 1998). A recent review by Grant and colleagues (2004) reported on findings from 53 (out of 60) studies that all concluded that stressful events significantly predicted increases in symptoms. Several studies have reported specifically on the association between stressors and increased depressive symptoms, anxiousness, and substance use (e.g., DuBois, Felner, Meares, & Krier, 1994; Rowlison & Felner, 1988; Seiffge-Krenke & Shulman, 1993).

Experimentation with tobacco, alcohol, and drugs in early adolescence is not only harmful to health, but can have long term consequences as well. Health-risk behaviors that begin during adolescence are associated with health behavioral styles that persist into young adulthood (Fisher & Feldman, 1998). Similarly, individuals who experience a depressive episode in adolescence have a high likelihood of relapse within 5 years of the initial episode (Frick & Silverthorn, 2001). Anxiety disorders diagnosed in childhood and adolescence also tend to be relative stable, although intervention studies report long-term success in treatment these disorders in children and adolescents (Frick & Silverthorn, 2001). The potential for adolescent health and behavioral patterns to set the course for adulthood, as well as the evidence for successful intervention at this malleable

stage of development, underscores the importance of studying substance use and depressive symptoms in the early adolescent age group.

One longitudinal research study on rates of substance use in adolescents during 7th, 8th, and 9th grade found that several risk factors were predictive of steady increases in substance use for a subset of participants, compared to the majority of participants who abstained or experimented without significant escalation in use (Wills, McNamara, Vaccaro, & Hirky, 1996). The investigators measured the frequency of cigarette, alcohol, and marijuana use at the three time points, and used cluster analysis to identify four subgroups: (a) *nonusers*, who may have tried one of the substances once but otherwise were not using substances at any of the three time points; (b) *minimal experimenters*, who showed minimal use at all three assessments; (c) *late starters*, who experimented during 7th and 8th grades but increased in 9th grade; and (d) *escalators*, who increased substantially over the years. Several predictive variables were assessed, including perceived availability of parental support, negative life events, perceived academic competence, deviance proneness, coping processes, family substance use, and peer substance use (Wills et al., 1996).

The analyses revealed that risk and protective factors observed in seventh grade predicted significantly the groups that showed increases in substance use. Specifically, adolescents who were late starters and escalators had greater risk factors, such as greater levels of life stress, parental substance use, deviant attitudes, and substance using peers. These subgroups also had significantly fewer protective factors, including lower parental support and lower self-control. The findings indicate that it may be possible to identify

adolescents who are vulnerable to large increases in substance use and subsequent adjustment problems (Wills et al., 1996). The association between certain risk factors and patterns of substance use is important because it reinforces the need to examine intervening factors that may influence this connection. Investigating the interaction of risk and protective variables serves to clarify how they impact negative outcomes, and thereby creates a framework for intervention approaches.

Fewer studies have been conducted that examine anxiety symptoms as an outcome of adolescent stress, compared to the rather large bodies of work on outcomes of substance use and depression. For example, several studies have examined mixed anxiety-depression symptoms (e.g., DuBois et al., 1994; Grant & Compas, 1995; or for a review see McMahon, Grant, Compas, Thurm, & Ey, 2003), and found that stressful events are a significant predictor of symptoms of mixed anxiety-depression in adolescents. Other studies have grouped outcomes as either internalizing (anxiety, depression) or externalizing disorders (ADHD, conduct disorder), and a majority of these studies have also reported significant effects of stress on both types of outcomes (e.g., Crean, 2004; or see Grant et al., 2004, or McMahon et al., 2003, for a review).

In one study that examined age (in 13 to 18 year olds) and gender as predictors of exposure to stress and associated outcomes of anxiety and depression, the relationship between stress and anxiety was found to be dependent on the type of stressor (Rudolph & Hammen, 1999). Specifically, exposure to non-interpersonal stress predicted anxiety but not depression; however, in boys this association was negative, such that increased anxiety was associated with lower exposure to non-interpersonal stress. In addition to

considering the type of stress that is examined in studies of the stress-outcome pathway, the authors also underscored the utility of examining anxiety and depression as separate outcomes (Rudolph & Hammen, 1999).

### *Stress-Outcome Pathway*

The pathway that links adolescent stress with negative outcomes occurs both directly and indirectly. According to Cohen, Cohen, West, and Aiken (2003), direct effects are “causal effects that are not mediated by any other variables in the model” (p. 75). Indirect effects occur when mediating or moderating variables interact to jointly influence the outcome, above and beyond the direct contribution of each variable. Mediating variables explain the relationship between an independent variable and an outcome whereby the independent variable has a causal effect on the mediator, which in turn has a causal effect on the outcome (Holmbeck, 1997). A moderating variable interacts with the independent variable so that the size or direction of the direct effect of the independent variable on the outcome changes (Holmbeck, 1997). Moderators that increase the effect of the independent variable on the outcome are frequently referred to as “magnifiers,” whereas moderators that decrease the effect are called “buffers.”

Research findings show that, in addition to stressful life events, other variables such as parental support, socioeconomic status (SES), gender, and problematic relationships with parents are associated with levels of adolescent depressive symptoms, anxiety symptoms, and substance use (e.g., Beal et al., 2001; DuBois et al., 1994; Hoffmann & Su, 1998; Wills et al., 2001). These factors often impact criterion variables directly, but they may also interact to affect levels of substance use, depressive

symptoms, and anxiety symptoms in adolescents indirectly. In the following discussion, relevant research findings on the direct and indirect effects of these variables on negative adolescent outcomes are reviewed. First, the social support literature will be discussed and research on parental support in adolescence will be reviewed, followed by research on certain demographic variables as predictors of adolescent depressive symptoms, anxiousness, and substance use.

### *Social Support*

There is an enormous body of literature on social support; however, the related terminology can be ambiguous because different authors may use similar phrasing to refer to substantively disparate constructs. Therefore, it is important for researchers to clarify which aspects of social support they are studying and measuring. First, social support is distinguished from social networks in that *social support* refers to social interactions of value to a person; whereas *social networks* refer only to the number of social connections one has (Lazarus & Folkman, 1984). Members of the social network are those who provide social support. Measures of social support that capture the quantity of social connections of an individual are known as *structural* measures, whereas measures that tap the quality and type of support for an individual are known as *functional* measures (Wills & Filer, 2001). There are two ways that functional support is commonly operationalized: (a) *received support* refers to supportive actions that actually occurred toward an individual; and (b) *perceived support*, or perceived available support, refers to social resources that one believes would be available to him or her if needed (Sarason, Sarason, & Pierce, 1990).



Among the two types of functional support, research shows that perceived support is a more meaningful predictor of health outcomes than received support (Sarason et al., 1990). Cohen and Hoberman (1983) posited that measures of perceived support offer a more sensitive index of the construct of social support in stress-buffering models that focus on cognitive appraisals. In accordance with such models, the beliefs an individual has about the support that is available to him or her would be more closely related to outcomes than would the actual occurrence of actions that are considered by researchers to be supportive (Cohen & Hoberman, 1983). This rationale is consistent with Lazarus and Folkman's model of stress, appraisal, and coping, in which an individual's evaluation of events plays an integral part in determining the impact of the event. In a discussion on the measurement of received and perceived support, Wills and Shinar (2000) stated that perceived support measures have been used consistently to measure stress-buffering effects. There is also a precedent for examining perceived availability of support in the literature on adolescent stress and adjustment (e.g., Rowlison & Felner, 1988; Short, Sandler, & Roosa, 1996; Wills et al., 1992; Wills & Cleary, 1996; also see Wills & Shinar, 2000). Therefore, the present study examined perceived parental support.

The social support literature includes research on several types of supportive responses. However, most of the work on the effects of social support on adolescents focuses on *emotional* and *instrumental* support (see Wills & Filer, 2001 for a review). Emotional support includes having someone to confide in, or talk to about the problem. Emotionally supportive behaviors include listening, providing empathy or encouragement, and sharing feelings. Instrumental support is tangible assistance in the

form of practical solutions, financial support, or other material aid. Other supportive functions include advice giving, or informational support, and companionship support, or simply spending time with someone (Wills & Filer, 2001).

The primary providers of social support to adolescents are parents and peers. In a comprehensive chapter on social support and health, Wills and Filer (2001) reviewed several studies on the effects of social support on adolescents and found that support from parents was a more important influence on adolescents than peer support. This finding was consistent across studies that examined mediators of social support, such as coping strategies, as well as studies of social support as a moderator, or stress-buffer (Wills & Filer, 2001). Given the influence that parents have on their adolescents, it is necessary to gain a better understanding of the responses that are perceived by adolescents as helpful or unhelpful, and to examine how these may impact emotional outcomes and substance use.

There is a substantial body of research on the mechanisms by which parental support may influence adolescents. Parental support is often described as a protective factor. Placing this in the context of Lazarus and Folkman's (1984) model, perhaps parental support protects by decreasing the level of threat that adolescents perceive in their appraisal of stressful events. Support might also operate by affecting coping ability, such as by enhancing the resources that an adolescent has at his or her disposal to handle a problem. More than likely, there are multiple avenues by which social support impacts the stress-outcome pathway, and several studies have examined different aspects of the role of parental support.

### *Parental Support*

Wills et al. (1992) examined parental support as a protective factor in a study that examined negative life events and substance use in 11 to 13 year-olds. Negative life events were assessed using a checklist that asked adolescents to indicate whether or not they experienced certain negative events affecting the family or affecting themselves in the past year, such as an illness, unemployment, or discipline in school. Overall life stress was indexed by the sum of events endorsed by the adolescent. The results showed that negative life events were related to higher levels of substance use, whereas increased parental support was related to decreased substance use. Perceived availability of both emotional and instrumental support from parents had significant inverse associations with adolescent substance use. This main effect suggests that both types of support are important. Significant interaction effects were also reported. Specifically, protective factors were most strongly associated with decreased substance use for adolescents with greater levels of negative life events. In conclusion, parental support seems to be a more important stress buffer when adolescents are highly vulnerable to stress and substance use (Wills et al., 1992).

In an effort to understand better how the effects of parental support on adolescent substance use may be mediated and moderated, Wills and Cleary (1996) measured perceived available emotional and instrumental support in 7th-, 8th-, and 9th-graders. Emotional support referred to closeness in the parent-adolescent relationship, and instrumental support referred to financial or environmental resources provided by the parent. Direct effects were reported in which both types of parental support were related

to significantly less tobacco, alcohol, and drug use in adolescents after a negative life event, such as serious illness of a family member or an accident (Wills & Cleary, 1996).

The indirect effects of parental support on substance use occurred via moderation and mediation. Wills and Cleary (1996) found that parental support moderated (buffered) the relationships between negative life events and three outcomes: (a) substance use; (b) deviance-prone attitudes; and (c) deviant peer affiliations. The latter two variables are also risk factors for substance use (Wills et al., 1996). Structural modeling also yielded mediation results, whereby social support reduced the effects of stress by improving coping ability. Specifically, parental support was related to increased protective factors (behavioral coping and academic competence), and to decreased risk factors (deviance-prone attitudes and behavioral under-control), each of which were associated with significantly decreased substance use (Wills & Cleary, 1996). The findings implicate parental support as an influential factor in adolescent adjustment to negative life events because of its direct impact on decreased substance use and its indirect impact on several risk and protective variables related to substance use.

Similar effects of parental support as a stress-buffer have been demonstrated in studies that examine a specific stressor. For example, Davis et al. (1997) sought to determine whether support from mothers or fathers differed in its influence on depression in the lives of African American adolescents who were pregnant and/or parenting. Five types of received social support were measured in regard to the stressors of teen pregnancy and parenting: emotional support, tangible assistance, cognitive guidance, positive feedback, and socializing support (participation in social activities). Total

parental support was significantly associated with depression, such that adolescents who received less support reported more symptoms of depression, while those who received greater parental support experienced fewer depressive symptoms (Davis et al., 1997).

Another study of adolescent girls between 11 and 15 years of age examined lack of perceived support from parents and peers and its relation to depressive symptoms (Stice et al., 2004). Assessments were conducted at three time points, each 1 year apart. Overall levels of perceived support from parents and peers were comparable, though peer support was inconsistent and parental support was more stable. Analyses showed that lack of parental support, but not peer support, was a significant predictor of higher rates of depressive symptoms and onset of major depressive disorder. An explanation for this finding is that parents may have provided higher quality support, so that deficiencies in parental support would have a greater impact on adolescents than would deficiencies in peer support. The authors also noted that a confounding third variable, such as family conflict or parental psychopathology, may be reflected in the measure of deficits in parental support (Stice et al., 2004). In fact, it is possible that the increase in depressive symptoms may be related not only to a lack of parental support, but also to responses from parents that adolescents perceived to be unsupportive.

#### *Unsupportive Parental Responses*

The studies discussed above demonstrate the connection between stressful events in adolescence and negative outcomes, as well as the importance of parental support. However, when considering the variables that contribute to the stress-outcome pathway, it is important to remember the potential for both a positive and negative impact from the

social network (Rook, 1984). Adolescents may not always perceive their parent's attempts to be supportive as actually being helpful. A recent study on major life stressors in a Latino adolescent population found that social conflict was a significant risk factor for negative adjustment (Crean, 2004). Although this study did not measure relationship-specific social conflict, conflict with both parents and peers was subsumed within the social conflict variable, and the author suggested that perhaps the predictive ability of his model would have been even more robust by specifying these two relationships (Crean, 2004).

Negative or unsupportive responses from significant others may exacerbate stress from negative life events, change the way an event is appraised, or hinder coping. Therefore, unsupportive interactions with parents may be conceptualized in Lazarus and Folkman's (1984) model in the same place as parental support. Unsupportive responses from parents may operate by increasing the level of threat that adolescents perceive in their appraisal of stressful events, or may reduce the coping resources that are perceived to be available to the adolescent. Given the parallel conceptual roles of supportive and unsupportive parental responses as perceived by adolescents, it is likely that these two variables may exert equally influential effects on the relationship between stressful events and negative outcomes. However, there is little research that takes into account the impact of negative aspects of parent-adolescent relationships on the stress-outcome pathway.

### *Unsupportive Social Interactions*

Although social relationships bring both costs and benefits, there is far less research on negative social interactions than there is on positive interactions and social support. The term *unsupportive social interactions* refers to the upsetting or unhelpful responses received by an individual from members of his or her social network in regard to a particular stressor (Ingram et al., 2001; see Rook, 1992). Researchers have used different terms to describe unsupportive social interactions, including negative social exchanges (Newsom, Nishishiba, Morgan, & Rook, 2003), negative support behaviors (Reynolds & Perrin, 2004), problematic interactions (Davis et al., 1997), and social strain (Rook, 1990). Additionally, some researchers measure *stressor-specific* unsupportive social interactions, which are the unhelpful behaviors one receives concerning a specific stressful event (Ingram et al., 2001; Mindes, Ingram, Kliewer, & James, 2003; Davis et al., 1997). Other research has examined *relationship-specific* unsupportive responses, which refers to interactions with particular network members, such as a spouse or parent (e.g., Manne, Taylor, Dougherty, & Kemeny, 1997; Mindes, 2004). In the following overview of the literature on unsupportive social interactions, any variations in the conceptual or operational meaning of these terms will be explained.

It is important to clarify that unsupportive social interactions should not be thought of as simply a lack of social support; rather, unsupportive social interactions and social support are distinct constructs. Studies that measure both unsupportive interactions and social support have found that they have significant, unique associations with psychological adjustment, well-being, and health in adults (Ingram et al., 2001; Mindes et

al., 2003; Reynolds & Perrin, 2004; Rook, 1984; Schrimshaw, 2003). Rook (1984) examined both the positive and negative aspects of social interaction in an effort to differentiate between the two in regard to their impact on well-being. She examined non-stressor-specific unsupportive social interactions in a sample of older women and found that received supportive and unsupportive social interactions had independent effects on well-being. Specifically, negative social interactions were more strongly associated with well-being than positive social interactions (Rook, 1984).

Significant, independent effects of unsupportive social interactions have also been demonstrated in a college aged sample (Ingram et al., 2001). Participants indicated a specific stressor they had experienced in the past 12 months and then rated the amount of unsupportive social interactions they received in regard to the particular stressor. The results revealed that stressor-specific unsupportive social interactions accounted for a significant amount of variance above and beyond the main effects of the stressful event and perceived social support (Ingram et al., 2001).

Several studies of stress and coping have also found unsupportive social interactions to be a significant predictor of negative adjustment in adults with chronic illness (e.g., Schrimshaw, 2003; Reynolds & Perrin, 2004). Reynolds and Perrin (2004) conducted a study on the match between desired support and received support in women with breast cancer. In order to assess the congruence of support interactions with desired supportive behaviors, participants were asked to rate each support item on two dichotomous factors: received or not, and wanted or unwanted. They found that mismatches, in which women received support that was unwanted, were associated with



poorer psychosocial adjustment after breast cancer (Reynolds & Perrin, 2004).

Furthermore, the women varied in regard to which supportive interactions they desired, indicating the need to assess congruence between support desired and support received when using a received social support measure. Actions that are thought to be supportive by some may not be desired by everyone.

Schrimshaw (2003) examined the effect of unsupportive social interactions on depressive symptoms in a sample of women with HIV or AIDS. It was hypothesized that the impact of unsupportive social interactions would vary depending on from whom they were received. Relationship-specific unsupportive interactions from the participants' partners, family, and friends were measured. The results showed that unsupportive interactions from all three sources had a significant positive relationship with depressive symptoms; however, the strongest impact was observed when unsupportive interactions were received from one's partner (Schrimshaw, 2003). The findings suggest that unsupportive interactions are particularly harmful when they are received from someone in a close, meaningful relationship.

Ingram and her colleagues (2001) identified four types of unsupportive responses an individual might receive from social network members in regard to a particular stressor: distancing, bumbling, minimizing, and blaming. *Distancing* is the behavioral or emotional disengagement of others from an individual in regard to a stressful event. *Bumbling* refers to behaviors that are awkward, uncomfortable, intrusive or inappropriately focused on "fixing" the person. *Minimizing* reflects attempts by others to force optimism or downplay the importance of the person's concerns. *Blaming* consists

of criticizing or finding fault with an individual concerning a particular stressful event. Although stressor-specific studies of the impact of unsupportive social interactions have provided consistent evidence for these problematic aspects of relationships as an appropriate categorization system (see Ingram et al., 2001; Ingram, Jones, & Smith, 2001), they have never been measured in the context of parent-adolescent relationships. Although a few studies have examined parent-child *conflict* (e.g., Lohman & Jarvis, 2000; Wills et al., 2001) this construct differs from unsupportive social interactions (see instrument development article, Ingram et al., 2001).

#### *Unsupportive Parental Responses and Adolescents*

Few studies have examined both parental support and unsupportive social interactions from parents in an adolescent population. Davis et al. (1997) explored received parental support and problematic interactions in a sample of African American adolescents who were pregnant or parenting. Young women (ages 13 to 19) were interviewed about five types of stressor-specific support they received from their mother and father in the past month in regard to being pregnant or parenting: (a) emotional support; (b) tangible assistance; (c) cognitive guidance; (d) positive feedback; and (e) social participation. These five subscales were aggregated into single variables for maternal and paternal support, as well as one composite variable for overall parental support. Four aspects of maternal and paternal stressor-specific problematic interactions were also assessed: (a) criticism; (b) intrusiveness; (c) conflict; and (d) disappointment (Davis et al., 1997).

The results showed that higher levels of overall received parental support were associated with lower levels of depressive symptoms in adolescents (Davis et al., 1997). Young women received more support from their mothers, although equal amounts of problematic interactions were reported for mothers and fathers. Overall problematic interactions were not significantly related to depression, although these variables had a strong positive correlation. An interaction was reported between paternal support and paternal problems, in which support from fathers seemed to buffer the effect of problematic relationships with fathers in regard to its impact on depressive symptoms (Davis et al., 1997).

### *Demographic Variables*

The above literature review demonstrates the relevance of both supportive and unsupportive parental interactions to adolescent adjustment following stressful events. However, there are certain demographic variables that also have been shown to relate significantly to adolescent substance use, depressive symptoms, and anxiety. Research shows that negative outcomes of stress in adolescence may be influenced by gender, socioeconomic status, and family structure or household make-up (Grant et al., 2003; Hoffmann & Su, 1998; Rudolph & Hammen, 1999; Seiffge-Krenke & Shulman, 1993; Wills et al., 1995).

Although males and females experience similar levels of stress during adolescence (Rudolph & Hammen, 1999; Seiffge-Krenke & Shulman, 1993), their reactions to stress may differ. During adolescence, gender role stereotypes are exaggerated, which may contribute to males and females having different behavioral

expressions of stress and coping. A recent review of the literature on adolescent stress and psychopathology reported consistent evidence that boys are more likely to exhibit externalizing symptoms, such as aggressive behavior, hostility, and misbehaving in school, in response to stressors, whereas girls are more likely to exhibit internalizing symptoms, such as somatic complaints or depressive symptoms (Grant et al., 2003). Seiffge-Krenke and Shulman (1993) examined these differences in the context of a transactional theoretical model, hypothesizing that boys and girls may appraise stressful events differently. They found that adolescent girls rated stressful events as more threatening than did males, and also reported more ongoing stress after the event.

Similarly, other researchers have suggested that males and females differ in their reactions to stressful events. Rudolph and Hammen (1999) examined gender differences in the type of stress adolescents experience as well as their reactions to stress. They interviewed parents and adolescents (ages 13 to 18) to assess *interpersonal* stressful events, which referred to conflict with parents, family and peers, and *non-interpersonal* stressful events, such as academic difficulty or the death of a pet. They found that overall exposure to stress was similar for males and females; however, girls experienced more stress from interpersonal interactions, whereas boys experienced more stress from non-interpersonal events. It was hypothesized that females would tend to internalize the blame for stressful interactions, thereby increasing vulnerability to depression. In fact, the association between interpersonal stressful events and depressive symptoms in females was only marginally significant. However, there was a significant relationship between total stressful events (interpersonal and non-interpersonal together) and greater

depressive symptoms in females but not in males (Rudolph & Hammen, 1999). These findings suggest that males and females experience different types of stress, or perhaps make different appraisals about the threat of stressful events, and also are affected differently by stress. Among the implications of this study is the importance of using a comprehensive measure of stressful events that assesses both interpersonal and non-interpersonal stressors.

Although there is research stating that females report overall higher levels of negative events and stress (Seiffge-Krenke & Shulman, 1993), and demonstrating a direct effect of stressful events on depressive symptoms in females (Rudolph & Hammen, 1999), it is important to consider how moderating variables may influence stress-outcome associations. Hoffman and Su (1998) reviewed 33 papers in an effort to assess gender differences in the direct and moderated effects of stressful life events on substance abuse and depressive symptoms. They found that males reported significantly more substance use than females, although there was no main effect between stressful life events and substance use for either gender. Consistent with the studies described previously, females reported more depressive symptoms than males and there was a significant positive relationship between stressful life events and depressive symptoms in females. However, parental support moderated the effects of stressful life events such that significant effects were found in levels of female substance use and male depression. Specifically, when perceived availability of parental support was low, stressful life events were related to increased substance use in females, and increased depressive symptoms in males (Hoffmann & Su, 1998). This finding is somewhat surprising because it shows the

opposite gender effect of that which was reported by Rudolph and Hammen (1999). This discrepancy serves as a reminder of the importance of examining the effect of gender on the stress-outcome pathway given that existing differences may not be consistent under varying conditions.

In addition to gender, another demographic variable that should be accounted for in analyses of stress and its negative outcomes in adolescents is socioeconomic status (SES). In a study of parental support as a mediator between stressful events and several behavioral outcomes, Wills, McNamara, and Vaccaro (1995) examined the relationship between SES and levels of perceived parental support. SES was measured using parental education as a proxy, and both emotional and instrumental parental support were measured. A significant mediation pathway was reported in which low parental education was related to lower parental support, which in turn was associated with lower behavioral competence in adolescents and more time spent with substance using peers. Conversely, higher parental education was associated with greater parental support, which predicted higher self-esteem and greater perceived control in adolescents (Wills et al., 1995). These findings speak to the importance of measuring and analyzing parental education because it may be related to parental support, and therefore may account for effects in the outcome of adolescent substance use.

A recent meta-analysis by Grant and her colleagues (2003) examined the effects of poverty on *negative parenting*, which was operationalized by several factors, including parent hostility, adolescent perception of parental support, and parental involvement in the child's life. Results indicated that negative parenting mediated the relationship

between poverty and psychological symptoms in adolescents; however, results differed by gender. The association between poverty and negative parenting was significantly stronger for parents of males than parents of females. However, the association between negative parenting and internalizing symptoms was significantly stronger in female adolescents than male adolescents (Grant et al., 2003). Although parents of females engaged in less negative parenting behaviors than parents of males, the association between negative parenting and internalizing symptoms was significant only for female adolescents.

Research also suggests that family structure may impact the stress-outcome pathway. One literature review found that parent-adolescent conflict is greater in single-parent homes and step-parent families than in homes with intact marriages between biological parents (Seiffge-Krenke & Shulman, 1993). Another study found that single mothers were only aware of about half the stressors experienced by their 13 to 15-year-old adolescents. The lack of awareness was, in turn, related to negative adjustment in adolescents as indexed by anxious/depressed and aggressive behaviors (Hartos & Power, 2000). Clearly, the unique impact of each of these demographic variables – gender, SES, and family structure – on adolescent adjustment to stressful events is difficult to disentangle. Although these three variables were not of primary interest to the conceptual questions in the present study, the literature suggests that it is important to measure and account for the potential impact of these factors.

*Statement of the Problem*

The research discussed in the previous review demonstrates a relationship between stressful events and negative outcomes, such as substance use, depressive symptoms, and symptoms of anxiety in adolescents (e.g., Rowlison & Felner, 1988; Seiffge-Krenke & Shulman, 1993; or see Grant et al., 2003; or Hoffman & Su, 1998, for a review). Several studies have found that increased parental support is related to decreased use of tobacco, alcohol, and marijuana, (e.g., Beal et al., 2001) as well as decreased symptoms of depression and anxiety (e.g., DuBois et al., 1994; Hoffman & Su, 1998; Wills et al., 2001). Additionally, there is evidence that parental support is an important moderator of the relationship between stressful events and negative outcomes (Davis et al., 1997; Wills et al., 1992; Wills & Cleary, 1996). However, most studies that examine these variables fail to assess the potentially harmful impact that may result during interactions with parents. Unsupportive social interactions have been studied in adults who have experienced a stressful event, and have been found to be associated with poorer adjustment (Ingram et al., 2001; Rook, 1984; Schrimshaw, 2003). Studies of supportive and unsupportive responses in adults show that these are two separate constructs that account for unique variability in health and psychological outcomes (Ingram et al., 2001; Rook, 1984). However, there are no recent studies conducted with an adolescent sample that examined both supportive and unsupportive behaviors from parents as moderators of the association between stressful events and outcomes of substance use, depressive symptoms, and anxiety symptoms.



The present study examined the pathway between stressful events and three common negative outcomes in adolescents. Specifically, this study investigated the direct association of stressful events, parental support, and unsupportive parental responses with the outcomes of substance use, depressive symptoms, and anxiety symptoms. Moderator effects of parental support and unsupportive parental responses on the link between stressful events and each negative outcome were also tested.

### *Hypotheses*

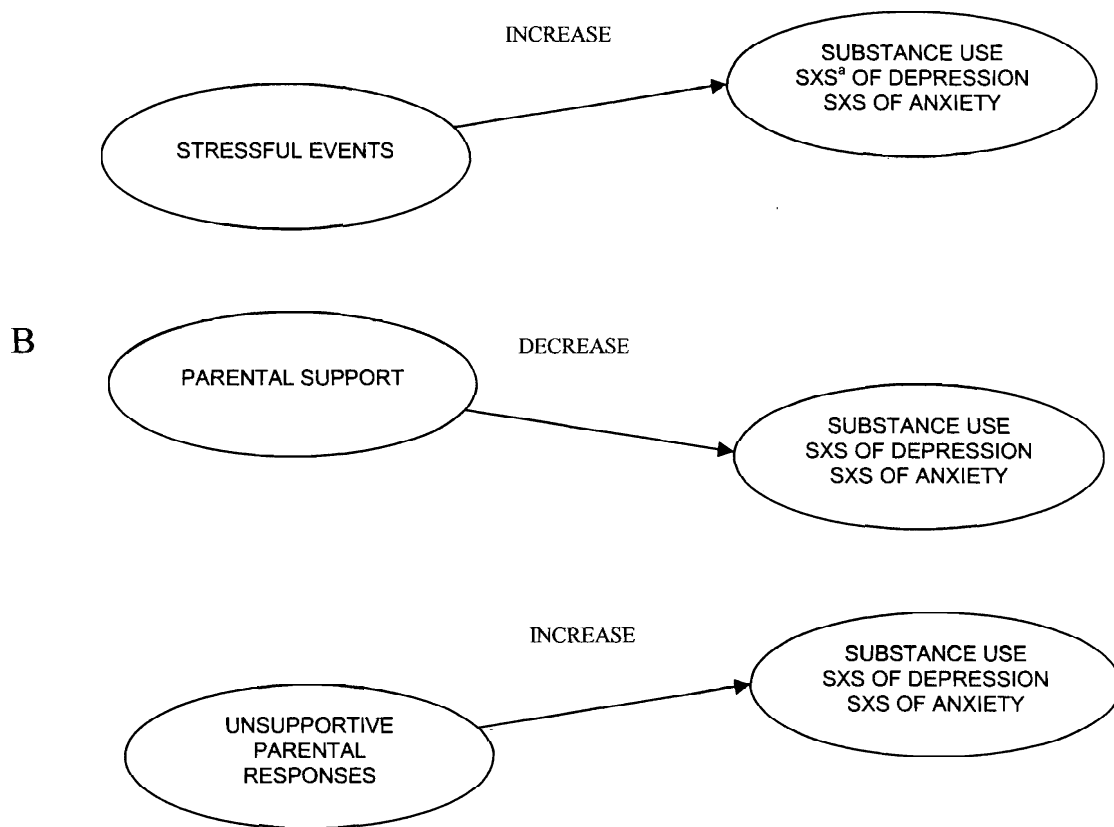
Five hypotheses for the present study were derived based on previous research findings and theoretical implications. Three direct findings were predicted about the relationship between each independent variable and each dependent variable (see Fig. 1). Two moderator effects were hypothesized about the effect of parental support and unsupportive parental responses on the relationship between stressful events and the outcomes of substance use and symptoms of anxiety and depression (see Fig. 2).

#### *Direct effects.*

1. Stressful events will have a direct, positive relationship with substance use and symptoms of depression and anxiety.
2. Parental support will have a direct, negative relationship with substance use and symptoms of depression and anxiety.
3. Unsupportive parental responses will have a direct, positive relationship with substance use and symptoms of depression and anxiety.

*Moderator effects.*

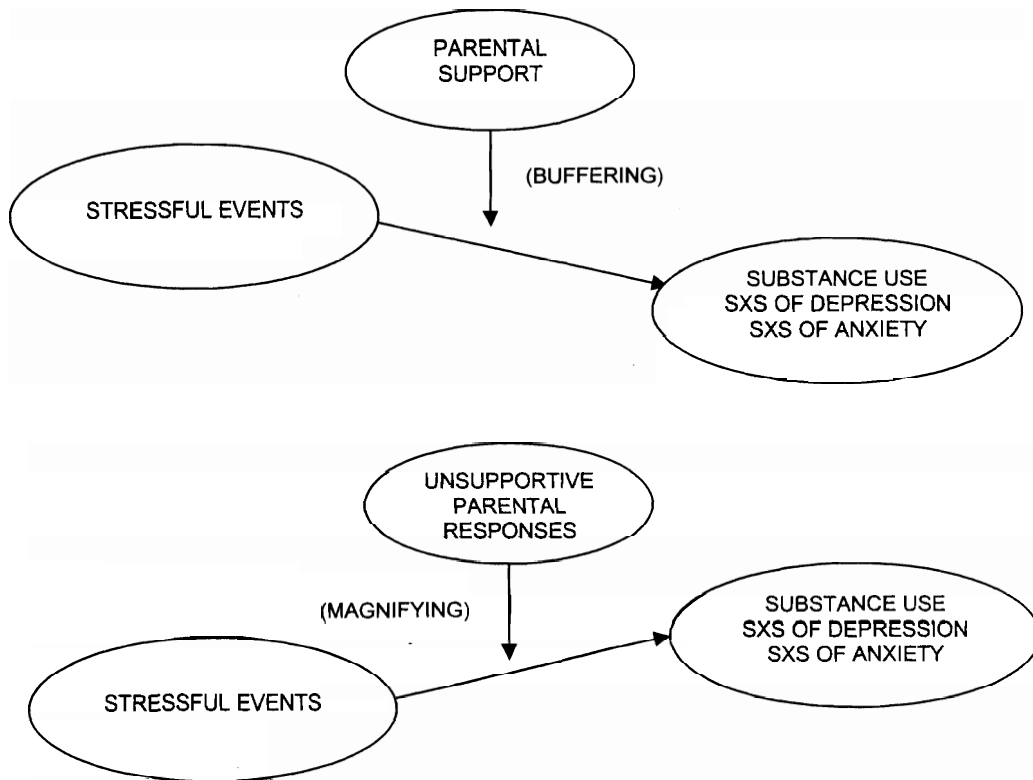
4. Parental support is expected to buffer the relationship between stressful events and substance use and symptoms of depression and anxiety.
5. Unsupportive parental responses are expected to magnify the relationship between stressful events and substance use, depressive symptoms, and anxiety symptoms.



*Figure 1.* Illustration of hypotheses about direct effects of the independent variables on the dependent variables. Panel A illustrates the relationship between stress and substance use and symptoms of depression and anxiety. Panel B illustrates the relationship between parental support and substance use and symptoms of depression and anxiety. Panel C illustrates the relationship between unsupportive parental responses and substance use and symptoms of depression and anxiety.

*Note.* Adapted from “Social Networks and Social Support,” by T. A. Wills and M. Filer, 2001, in, *Handbook of Health Psychology*, by A. Baum, T. A. Revenson and J. E. Singer (Eds.), 2001, New York: Erlbaum. Copyright 2001.

<sup>a</sup>Symptoms.



*Figure 2.* Illustration of hypotheses about moderator effects on the relationship between stress and the dependent variables. Panel A illustrates parental support as a buffer the relationship between stress and substance use and depressive symptoms. Panel B illustrates unsupportive parental responses as a magnifier of the relationship between stress and substance use and depressive symptoms.

*Note.* Adapted from “Social Networks and Social Support,” by T. A. Wills and M. Filer, 2001, in, *Handbook of Health Psychology*, by A. Baum, T. A. Revenson and J. E. Singer (Eds.), 2001, New York: Erlbaum. Copyright 2001.

## Chapter Three

### *Method*

#### *Participants*

Demographic information is presented in Table 1. Participants were a non-clinical sample of 100 middle and high school students from two private schools in the Richmond, Virginia area. The mean age of the sample was 14.60 years ( $SD = .65$ ), with a range from 13.08 to 16.50 years old. There were 78 females and 22 males, with 40 8<sup>th</sup> graders and 60 9<sup>th</sup> graders. The sample was largely Caucasian ( $n = 92$ ), with 4 students reporting their racial/ethnic background as African American, 2 Asian American or Pacific Islander, 1 Hispanic/Latino, and 1 person who reported 'other' but did not provide a description. The majority (85%) of the sample reported living in a two-parent household ( $n = 85$ ). Nine participants (9%) reported that they lived with a single parent, 3 (3%) reported living in two different households, and 2 (2%) participants reported a blended family structure (e.g., including a step-parent). Three percent ( $n = 3$ ) reported their parents' highest level of education (used as a proxy for socioeconomic status) to be an associate's degree, 32% ( $n = 32$ ) a bachelor's degree, 32% ( $n = 32$ ) a master's degree, and 17% ( $n = 17$ ) a doctoral degree. Sixteen participants (16%) did not know their parents highest level of education.

A sample size of 99 participants was required to test the hierarchical regression hypotheses with up to eight predictor variables and to detect significant findings with 80% certainty if findings exist ( $\alpha = 0.05, f^2 = 0.15$ ; Cohen et al., 2003).

Table 1

*Demographic Characteristics of Participants*

Variable	Number of Participants	Percent
Age		
13	22	22
14	46	46
15	31	31
16	1	1
Gender		
Male	22	22
Female	78	78
Grade		
8th	40	40
9th	60	60
Racial/ethnic background		
African American	4	4
Asian American/Pacific Islander	2	2
Hispanic/Latino	1	1
White/Caucasian	92	92
Other	1	1
Family/household structure		
Two parent household	85	85
Single parent household	9	9
Two different households	3	3
Blended family	2	2
Parental education		
Doctoral degree	17	17
Master's degree	32	32
Bachelor's degree	32	32
Associate's degree	3	3
Don't know	16	16

*Measures*

*Demographics.* Participants were asked to provide their age in years and months, gender, grade in school, racial/ethnic background, socioeconomic status (SES) as indexed by parents' highest level of education, and to indicate their family composition (see Appendix A). Category choices for racial/ethnic background are the same as those used by the U.S. Department of Health and Human Services (2005, April), with the addition of an 'other' category: (a) African American, (b) Asian American/Pacific Islander, (c) Hispanic/Latino American, (d) Native American/American Indian/Alaska Native, (e) White/Caucasian, and (f) Other (please describe).

Participants reported their family structure by selecting, from the following five choices, the one that best described what parent(s)/guardian(s) they live with: (a) Two parent household, (b) Single parent household, (c) Two different households (e.g., live part-time with one parent and part-time with the other parent), (d) Blended family (e.g., Step-parent present), (e) Other (please describe). These categories were chosen based on similar research (Hartos & Power, 2000; Seiffge-Krenke & Shulman, 1993; Wills, Sandy, & Yaeger, 2002). Socioeconomic status was assessed by parental education, which has been used as a proxy for SES in similar research (Wills et al., 1995; Wills et al., 1996).

*Symptoms of depression and anxiety.* Adolescent depressive symptoms and anxiety symptoms were measure using the Revised Children's Anxiety and Depression Scale (RCADS; Chorpita, Yim, Moffitt, Umemoto, & Francis, 2000; see Appendix B). The RCADS is a 47-item measure designed to assess symptoms of anxiety and major depression in children and adolescents from 3<sup>rd</sup> through 12<sup>th</sup> grades. Items correspond to



DSM-IV diagnostic criteria, and were factor analyzed to yield six subscales: Separation Anxiety, Generalized Anxiety, Panic, Social Phobia, Obsessions/Compulsions, and Depression. Items belonging to the depression scale include, “I have trouble sleeping,” “I have no energy for things,” and “I feel sad or empty.” Items from the anxiety scales include, “When I have a problem, I get a funny feeling in my stomach,” “I worry I might look foolish,” and “I can’t seem to get bad or silly thoughts out of my head.” Respondents are asked to indicate how often each item applies to them by circling one of four words: *Never*, *Sometimes*, *Often*, or *Always*. Responses are scored from 0 (*Never*) to 3 (*Always*).

Of the 47 items on the RCADS, 10 items comprise the depression scale and 37 items pertain to five anxiety subscales, which are summed to yield a total anxiety scale score. The instrument development article for the RCADS reported Cronbach’s alpha of .76 for the Depression scale, and .71 to .85 for the anxiety subscales. Test-retest reliability was good, with a correlation of .84 for the depression scale in a sample of 13 to 18 year olds, and correlations ranging from .63 to .85 on the anxiety scales for children in the same age range. Validity was established by correlations between the RCADS scales and other widely used measures.

RCADS total raw scores represent a sum of the item scores. Scores on the depression scale range from 0 to 30, with means varying slightly by grade and gender. Eighth-grade boys have a mean depression scale score of 6.71 ( $SD = 3.64$ ), compared to 9<sup>th</sup>-grade boys’ mean of 7.44 ( $SD = 4.10$ ). Girls have a mean depression scale score of 7.89 ( $SD = 3.91$ ) for 8<sup>th</sup> graders and 7.65 ( $SD = 3.68$ ) for 9<sup>th</sup> graders. Scores on the total

anxiety scale range from 0 to 111, with boys' means being 28.60 ( $SD = 13.10$ ) for 8<sup>th</sup> graders and 29.80 ( $SD = 12.77$ ) for 9<sup>th</sup> graders. Eighth-grade girls have a mean anxiety scale score of 33.53 ( $SD = 13.94$ ), and 9<sup>th</sup>-grade girls have a mean of 30.03 ( $SD = 12.75$ ). Participants' raw score totals on each scale are converted to *T*-scores to norm for grade and gender.

*Parental support.* Perceived available support from a parent was measured with a 15-item instrument that Wills and colleagues (Wills et al., 1992; see Appendix C) derived from the Interpersonal Support Evaluation List (ISEL; Cohen & Hoberman, 1983). This scale has been used in research with 12- to 15-year-old adolescents (Wills et al., 1992; Wills & Cleary, 1996) to measure emotional and instrumental support from a parent. The directions state:

“Here are some questions about a person you talk to when you have a problem or when you need advice. Read each question and circle a number (from 1 to 5) to show how you feel about talking to your mother or father. Answer for the parent or relative you talk to the most (Wills & Cleary, 1996).”

Responses are given on a 5-point scale that ranges from 1 (*not at all true*) to 5 (*very true*). The emotional support scale consists of seven items meant to assess sharing and communication with the parent. For example, “I can share my feelings with my parent;” “I feel that I can trust my parent as someone to talk to;” and “when I talk to my parent, they make me feel better.” The instrumental support scale is made up of eight items that tap availability of assistance from parents, such as “If I talk to my parent, they have suggestions about how to handle problems;” “If I need to know something about the

world (like how things work), I can ask my parent about it;” and “If I need help with my school work, I can ask my parent about it.” The instrument is scored by summing the responses for each item. Total scale scores range from 15 to 75. Scores can range from 7 to 35 on the emotional support scale, and from 8 to 40 on the instrumental support scale.

Confirmatory factor analysis has been used to validate the two-factor structure of the scale, and the correlation between the two subscales was  $r=.57$  (Wills, 1991). Both subscales have demonstrated good internal consistency, with Cronbach’s alpha ranging from 0.82 to 0.88 for emotional support and 0.76 to 0.83 for instrumental support (Wills & Cleary, 1996).

*Stressful life events.* The Negative Life Events Inventory (see Wills, Sandy, Yaeger, Cleary, & Shinar, 2001; Wills et al., 1996; see Appendix D) was used to assess stressful life events in adolescence. The instrument is a 20-item checklist based on previous inventories (Newcomb & Harlow, 1986; Wills et al., 1992) of adolescent life events. The scale was made for a target population of adolescents in 7th, 8th, and 9th grades, and can be administered in a classroom setting. Adolescents are asked to indicate whether each item occurred within the last 12 months using a dichotomous (*yes* or *no*) response scale. The inventory includes 11 items that happened to a family member, such as “my father/mother lost his/her job;” “my parents had problems with money;” and “someone in my family was arrested.” The remaining nine items are events that happened to the adolescent directly, such as “I got disciplined or suspended from school;” “I had a serious illness;” and “I had trouble with my weight or physical appearance.”

Three scores can be obtained from the Negative Life Events Inventory. First, a total score is derived by summing the number of *yes* responses for all items; higher scores indicate more negative life events. Second, a family events score can be obtained by summing the *yes* responses to the 11 family event items (1, 2, 3, 5, 6, 7, 8, 10, 14, 18, and 19). Third, an adolescent events score can be calculated by summing the nine items that refer to events occurring directly to the adolescent (4, 9, 11, 12, 13, 15, 16, 17, and 20).

Internal consistency values of .67 to .71 have been reported for the 20-item inventory (Wills et al., 2002), although the utility of these reliability estimates is not entirely clear because there is no theoretical or empirical reason to expect that items assessing stressful events would be inter-correlated. Evidence for construct validity of the instrument is indicated by significant positive correlations of the total score with substance use in adolescents and with deviant peer affiliations (Wills, Sandy, & Shinar, 1999). A significant negative relationship has been reported between total score on the inventory and parental support (Wills et al., 1996).

After completing the checklist, participants were instructed to choose the most negative event they experienced in last 12 months. They were asked to rate the difficulty of the event (“How difficult was the event for you?”) on a scale from 1 (*not at all difficult*) to 5 (*very difficult*), with 3 being *somewhat difficult*. Next, they were instructed to think about this event as the basis for responding to the Unsupportive Social Interactions Inventory (USII; Ingram, et al., 2001).

*Unsupportive Parental Responses.* There is currently no measure available to assess stressor-specific unsupportive responses from a parent to an adolescent; therefore,

the Unsupportive Social Interactions Inventory (USII; Ingram et al., 2001; see Appendix E) was adapted for this purpose. The 24-item USII asks participants to rate how often, on a scale from 0 (*none*) to 4 (*a lot*), they received certain unsupportive behaviors. The instrument is useful for measuring unsupportive social interactions in regard to a specific stressor, and can be used across a variety of different stressors nominated by respondents. Five scores can be derived from the USII: a total unsupportive social interactions score, as well as subscale scores for distancing, bumbling, minimizing, and blaming. These four types of unsupportive social interactions were identified using factor analysis (Ingram et al., 2001). The internal consistency reliability coefficients reported for the total scale range from .86 (Ingram et al., 2001) to .95 (Mindes et al., 2003). Construct validity for the USII is evidenced by significant correlations with measures of depression and psychological distress, after controlling for the influence of stress and social support (Ingram, Jones, Fass, Neidig, & Song, 1999; Ingram et al., 2001).

The USII was modified slightly for the proposed study so the wording of the instructions and the items would make it consistent with responses received from a specific network member. For example, the modified directions state,

“Listed below are a number of responses that you may or may not have received from your parent about your problem. For each statement, please indicate how much of that type of response you received from your parent.”

For the item “In responding to me about my problem, *someone* seemed disappointed in me” the wording was changed to “In responding to me about my problem, *my parent* seemed disappointed in me.” Similar modifications to the wording

have been made in a previous study that examined stressor-specific unsupportive social interactions from a spouse (Mindes, 2004).

*Substance Use.* Substance use was assessed using four items (Wills et al., 1992; Wills et al., 1996; Wills et al., 1999; See Appendix F). Three items concerned the frequency of tobacco, alcohol, and marijuana use. Participants were asked to indicate how often they used each substance on a 6-point scale (0 = *never used* to 5 = *usually use every day*). A fourth item assessed heavy drinking by asking whether the participant consumed three or more drinks in the past month (0 = *no*, 1 = *happened once*, 2 = *happened twice*, 3 = *happened more than twice*). A composite score (ranging from 0 to 18) is obtained by summing the response values for all four items. Internal consistency (Cronbach's alpha) for the four-item composite has been reported to be .82 (Wills et al., 1999).

#### *Order of Measures*

Questionnaires were assembled into a 14-page booklet, including a front and back cover page and an introduction page containing the following message to the student:

Dear student,

Thank you for taking the time to fill out this survey.

Please do the best you can to answer all the questions. There are no right or wrong answers. Please choose the answers that are most true for you. All of your responses are anonymous and confidential.

You are free to quit at any time without penalty.

Thank you,

Karen A. Muehl  
Virginia Commonwealth University

The demographic questionnaire was the first measure in the booklet. The Revised Child Anxiety and Depression Scale (RCADS) was next so that the responses would not be influenced by having already identified a stressful event and thought about the difficulty of the event, which could potentially prime the child to respond more negatively to items on the RCADS. The parental support measure was placed next because it is meant to tap perceived availability of support rather than situation-specific support, so it should be presented prior to asking the participant to think of a stressful event. The measure of stressful life events was placed next, along with the items asking the respondent to identify the most difficult event and to rate its difficulty. The unsupportive parental responses measure (USII) which asks participants to focus on a certain stressful event, was placed next. Finally, the substance use measure was last. Therefore, the order of the measures was: demographic questionnaire, RCADS, measure of parental support, measure of negative life events and stress, USII, and measure of substance use.

### *Procedure*

Recruitment was conducted in collaboration with two participating schools, located in the Richmond, Virginia area. The researcher obtained permission from the schools' administration to conduct the study with students, and then coordinated with faculty members to carry out the project. After obtaining approval from the Institutional Review Board at Virginia Commonwealth University, a letter describing the project (Appendix G) and an informed parental consent form (Appendix H) were sent to parents of children in the 8<sup>th</sup> and 9<sup>th</sup> grades. Signed consent forms were returned to the school

and kept by the homeroom teachers or by the guidance counselor or resource coordinator and then were picked up and secured by the researcher. Several announcements were made at the schools to inform the children about the study and remind them to return their signed parental consent forms. Response rates at both schools were good, around 60%.

Questionnaire booklets were distributed to students during school hours (in either a growth education class or a history class), and students spent between 15 and 30 minutes completing the items. Prior to conducting the surveys, students were informed, by the researcher or a graduate research assistant, about the nature of the study. A youth assent form (see Appendix I) was reviewed aloud, and children whose parents' had provided informed consent were asked to sign the assent. All students for whom parental consent had been obtained chose to participate in the study. Students who did not have parental consent to participate remained in the room and were asked by the teacher to sit quietly doing other work. After each student completed the questionnaires, the researcher, or a graduate research assistant, reviewed the items for completeness and ensured that the student had detached and kept the final page of the booklet, which provided contact information for the principle investigator (see Appendix J).

In exchange for conducting research at the schools, the researcher agreed to provide each school with a detailed report of the composite findings from the study. The researcher also assisted faculty in coordinating and implementing various extracurricular school activities, including serving as a group facilitator for a 9<sup>th</sup>-grade parents' meeting and for a 7<sup>th</sup> grade alcohol awareness event for parents and students.



## Chapter Four

### *Results*

#### *Data Screening*

Prior to analyzing the data, steps were taken to check for errors in the data set. First, frequencies were run on the categorical variables to check that the minimum and maximum values for all items were within the range of possible responses. Descriptives were run on the continuous variables to examine the minimum and maximum values, and means. None of the variables were found to have values outside the possible ranges. Second, a subset of 10 booklets (representing 10% of the data) was chosen and data entry was checked for accuracy. All booklets were found to be entered with 100% accuracy.

#### *Missing Data*

In screening the data, items containing missing data were identified. If greater than 20% of the items on a scale were missing, the participant was excluded from the analyses that used that scale. Otherwise, missing data were imputed using mean substitution based on the participant's scores on other items belonging to the scale containing missing data. Imputation was performed for a small number of missing data points on the measures for anxiety and depression, parental support, and unsupportive parental responses. Eleven individuals had missing data that could not be imputed. Specifically, in order to complete the unsupportive social interactions measure, the participant had to identify their most stressful event and rate its difficulty. Thirteen

participants either did not specify their most stressful event and/or failed to rate the difficulty of the event. Of these participants, 4 did not fill out the unsupportive social interactions questionnaire (2 people noted in their booklets that the USII did not apply since they did not experience a stressful event in the last year) and 1 person completed the USII but noted that she did not experience a stressful event so her responses reflected her parents' responses to her "in general." Another individual identified a stressful event and rated its difficulty, but noted that she did not talk with her parents about it and, therefore, the unsupportive parental responses survey did not apply. As a result of these missing data, the variable for the stressfulness of the event had  $n = 90$ , and the unsupportive parental responses variable had  $n = 94$ .

#### *Preliminary Analyses*

Diagnostic tests were conducted to ensure that the assumptions of regression analysis were met. Normality of the distribution of each variable was examined using visual inspection of histograms, normal probability plots, and detrended probability plots. No violations of normality were detected. Cook's distance was calculated and plotted to detect outliers. All outliers were checked and found to be valid observations, and therefore no adjustments were made.

#### *Internal Consistency Reliability*

Cronbach's alpha was computed to assess internal consistency reliability on all scales (see Table 2). Overall, the values were similar to those found in previous research. Internal consistency reliabilities were considered good (above .80) on all total scale scores, except the stressful events scale ( $\alpha = .56$ ). However, the utility of internal

consistency estimates for this type of instrument are not necessarily meaningful since the items on the measure refer to different stressful events and therefore would not be expected to “hang together.” Furthermore, the primary purpose of the stressful events scale in this study was to assist participants in identifying the most difficult event they experienced in the previous year. Scores on the stressful events scale were not used in analyses; rather, participant ratings of how difficult their most stressful event was (on a scale from 1 to 5) were used. It was decided that this rating would be a better indicator of the subjective level of stress felt by the participant, since this is consistent with the way stress is conceptualized in the present study (Lazarus & Folkman, 1984). Finally, the emotional support subscale of the parental support measure ( $\alpha = .69$ ), as well as the bumbling ( $\alpha = .65$ ) and minimizing ( $\alpha = .68$ ) subscales on the USII, had internal consistency estimates that were lower than would be desirable if these subscales were to be examined individually in analyses. However, for the present study, only total scale scores were used in the data analysis; therefore, internal consistency reliability estimates were considered good.

Table 2

*Internal Consistency Reliability Estimates for Scales and Subscales*

Instrument	Alpha
Stressful Events Scale	
Total	.56
Parental Support Scale	
Total	.87
Emotional	.69
Instrumental	.84
Unsupportive Social Interactions Inventory (USII)	
Total	.88
Distancing	.78
Bumblng	.65
Minimizing	.68
Blaming	.93
Substance Use Scale	
Total	.87
Revised Child Anxiety and Depression Scale (RCADS)	
Total	.92
Depression	.81
Anxiety	.91

*Descriptive Analyses*

Means, standard deviations, and ranges for all measures are presented in Table 3. Although the measure of parental support has been used in several studies by Wills and colleagues (e.g., Wills & Cleary, 1996; Wills et al., 1995; Wills et al., 1996), none of the articles reported on the means for the total scale score. One study reported least square

means adjusted by parental education, and controlling for effects of other demographic variables (Wills et al., 1995). That study had a diverse, urban sample of eighth grade students whose parents had ‘some college,’ or were a ‘college grad,’ or had ‘post-college’ education the least square mean scores for the emotional support scale were 18.18, 18.48, and 18.16, respectively (standard deviations were not reported). Least square means for the instrumental support scale were 27.73, 27.55, and 27.43 (Wills et al., 1995). However, in the absence of additional information about how Wills and colleagues computed the least square means for their sample, direct comparison with the present sample is not possible.

The Unsupportive Social Interactions Inventory (USII; Ingram et al., 2001) has never been used in an adolescent sample. However, the mean for the total scale ( $M = 1.05$ ,  $SD = 0.70$ ) in the present study was similar to the mean reported in the instrument development article ( $M = 1.27$ ,  $SD = 0.66$ ), which used a predominantly Caucasian college-aged sample. Also consistent with the instrument development article was the fact that the minimizing subscale had the highest mean ( $M = 1.41$ ,  $SD = 0.88$  in the present study;  $M = 1.57$ ,  $SD = 0.96$  in Ingram et al., 2001). Examples of items on this scale included, “my parent felt I was over-reacting,” “my parent said I should look on the bright side,” and “my parent said that it could have been worse or that it was not as bad as I thought.”

The mean score on the substance use scale was 1.37 ( $SD = 2.61$ ). This is consistent with means reported by Wills et al. (1996) for a subset of their diverse, urban adolescent sample. Specifically, they identified clusters of users ranging from *nomuser*

(virtual non-use over 3-year longitudinal study from 7<sup>th</sup> to 9<sup>th</sup> grade) to *escalator* (showed large increases in use from 7<sup>th</sup> to 9<sup>th</sup> grade). The nonusers had mean substance use scale scores of 0.47 (standard deviations were not reported) in 8<sup>th</sup> grade and 0.79 in 9<sup>th</sup> grade, while the next cluster, *minimal experimenters* (characterized by scores representing minimal use at all 3 time points), had means of 2.59 and 2.65 in 8<sup>th</sup> and 9<sup>th</sup> grade, respectively. Overall, substance use scores in the present sample were quite low. Inspection of the frequency of items endorsed reveals that greater substance use occurred among a minority of students. The substance that was most frequently endorsed was alcohol, with 45% of the sample saying that had tried alcohol at least ‘once or twice.’ Twelve percent of the sample reported that there had been a time at least once in the previous month when they had “three or more drinks (beer, wine, or liquor) on one occasion.” Fifteen percent of the sample had tried cigarettes at least ‘once or twice,’ and 8% reported trying marijuana at least ‘once or twice.’

Mean scores on the Revised Child Anxiety and Depression Scale (RCADS; Chorpita et al., 2000) were 6.38 ( $SD = 4.28$ ) for the depression scale, and 27.01 ( $SD = 12.21$ ) for the total anxiety scale. Norms from a diverse, non-clinical, school sample are available for all RCADS subscales by gender and grade. For 8<sup>th</sup> graders, the mean depression score for boys is 6.71 ( $SD = 3.64$ ), and for girls is 7.89 ( $SD = 3.91$ ), while the mean anxiety total score for boys is 28.60 ( $SD = 13.10$ ) and for girls is 33.53 ( $SD = 13.94$ ). For 9<sup>th</sup> graders, the mean depression score for boys is 7.44 ( $SD = 4.10$ ) and for girls is 7.65 ( $SD = 3.68$ ), and the mean anxiety total score for boys is 29.80 ( $SD = 12.77$ ) and for girls is 30.03 ( $SD = 12.75$ ; Chorpita et al., 2000). Depression and anxiety scores

in the present sample seem to be similar, though slightly lower, compared to the norms. However, the present sample was predominantly Caucasian, whereas the normative sample was only 8.1% Caucasian and represented over 20 different ethnicities (Chorpita, et al., 2000).

Finally, the frequencies for items positively endorsed on the stressful events checklist are presented in Table 4, with examples in Table 5 of responses provided to the open-ended question that asked participants to identify and describe their most stressful event of the past year. The most commonly reported stressor was “somebody in my family had a serious illness,” followed by “some people that I used to be friends with don’t pay attention to me anymore,” with the third most frequently reported stressor being “I had a lot of arguments with my family.” The average rating for the difficulty of the most stressful event was 3.98 ( $SD = .99$ ; range 1 – 5) on a 5-point scale where 1 = *not at all difficult*, 3 = *somewhat difficult*, and 5 = *very difficult*. Events identified by adolescents as their most stressful experience of the past year seemed to fall into six different categories of problems (see Table 5). These were problems relating to the health of the participant or a loved one (e.g. illness, an accident, a death in the family), problems with friends (e.g., break-up with boyfriend or girlfriend, no longer friends with someone), problems with school (e.g., grades, homework), family problems (e.g., fighting, sibling going to college), major changes (e.g., moving to a new house, changing schools), or other problems (e.g., not making a sports team, nervousness before a performance).

Consistent with the frequencies observed on the stressful events checklist, health-related problems also had the highest frequency ( $n = 31$ ) for being endorsed on the question asking adolescent to identify their most difficult event of the past year. The second most frequently named events were problems with friends ( $n = 22$ ), followed by family problems ( $n = 12$ ) and problems with school ( $n = 11$ ). Nine participants identified their most stressful event as being related to a major change, and 5 people described other kinds of events.



Table 3

*Means, Standard Deviations, and Ranges of Scales and Subscales Used in Hypothesis Testing*

Instrument	Mean	SD	Sample Range	Possible Range
<b>Parental Support Scale</b>				
Total	60.71	9.36	33-73	15-75
Emotional Support	26.52	4.54	15-34	7-35
Instrumental Support	34.19	5.42	17-40	8-40
<b>Unsupportive Social Interactions Inventory (USII)</b>				
Total	1.05	0.70	0-3	0-4
Distancing	0.76	0.87	0-3.5	0-4
Bumblng	1.08	0.81	0-3.3	0-4
Minimizing	1.41	0.88	0-3.7	0-4
Blaming	0.94	1.18	0-4	0-4
<b>Substance Use Scale</b>				
Total	1.37	2.61	0-12	0-18
<b>Revised Child Anxiety and Depression Scale (RCADS)</b>				
Depression	6.38	4.28	0-23	0-30
Total anxiety	27.01	12.21	7-66	0-111

Table 4

*Frequencies of items endorsed 'yes' on the Stressful Events Measure*

Item	Frequency	Percent
Somebody in my family had a serious illness	63	63
Some people that I used to be friends with don't pay attention to me anymore	53	53
I had a lot of arguments with my family	33	33
I broke up with my boy/girl friend	31	31
I had trouble with my weight or physical appearance	31	31
I got bad grades in school	30	30
I didn't get into a group or team that wanted to be in	24	24
Somebody in my family had a serious accident	21	21
My parents argued a lot	20	20
My family moved to a new home or apartment	15	15
My parents had problems with money	15	15
I got disciplined or suspended from school	13	13
A new person joined our household (a child, a grandparent, stepbrother or sister, or other)	11	11
Someone in my family was arrested	9	9
I had a serious illness	5	5
My parents got separated or divorced	3	3
I had a serious accident	3	3
My father/mother lost his/her job	2	2
I got a new stepmother/stepfather	2	2
I got into trouble with the police	2	2

Table 5

*Frequencies of the type of items identified as the most stressful event and selected responses*

Category and selected responses	<i>n</i>
Health-related problems	31
“My great-grandmother died...”	
“Finding out my grandma has breast cancer.”	
“My sister was rushed to the hospital with stomach pains...”	
Problems with friends	22
“Breaking up with my boyfriend...”	
“My friends from last year are ignoring me now.”	
“When my girlfriend broke up with me.”	
Family problems	12
“A foster brother came to live with us...”	
“A sibling went to college.”	
“My mom yelled at my older brother a lot...”	
School problems	11
“I didn’t get into [name] school, but all my friends did.”	
“I have not been doing as well as I used to in school...”	
“My grades have dropped in many classes.”	
Major changes	9
“I found out I was moving.”	
“I moved into a new house.”	
“My mom has a new fiancé.”	
Other	
“I got cut from the basketball team and put on another one.”	
“Someone broke into our house.”	
“Playing at a concert in front of a lot of people.”	

### *Correlations*

Pearson correlations were run to examine the relationships among the variables that were used in the hypothesis testing (see Table 6). Overall, the correlations were consistent with the hypotheses. Parental support was significantly negatively correlated with ratings of the difficulty of the stressful event, USII, symptoms of depression, symptoms of anxiety, and substance use. Difficulty of the stressful event was significantly associated with greater USII, greater symptoms of depression and anxiety, and increased substance use. Unsupportive parental responses were also significantly positively correlated with symptoms of depression and anxiety, and with substance use. Symptoms of depression and anxiety were found to be strongly positively correlated with one another. Depressive symptoms were also strongly correlated with substance use, although anxiety symptoms were not significantly correlated with substance use.

Table 6

*Correlations Among Variables Tested in Hypotheses*

	1	2	3	4	5	6
1. Parental Support Parental Support Scale	---					
2. Difficulty of Stressful Event Difficulty rating item	-.23*	---				
3. Unsupportive Parental Responses USII	-.46**	.22*	---			
4. Depression RCADS Depression <i>t</i> scores	-.46**	.29**	.41**	---		
5. Anxiety RCADS Total Anxiety <i>t</i> scores	-.26*	.27*	.25*	.60**	---	
6. Substance Use Substance Use Scale	-.40**	.26*	.40**	.60**	.00	---

\* $p < .05$ . \*\* $p < .01$ .

*Potential Covariates*

Analyses were conducted to test whether the demographic variables were linearly associated with any of the criterion variables (depression, anxiety, and substance use).

One-way ANOVAs were run to test each of the categorical variables (ethnicity, family structure, and parental education), correlation was used to test for significant associations with age, and *t* tests were used to examine the dichotomous variables (gender and grade).

Results of the first ANOVA showed that ethnicity was not a significant covariate with

any of the variables of interest. Next, a one-way ANOVA for family structure revealed a significant association with substance use,  $F(3, 98) = 3.01, p = 0.034$ . Tukey's HSD post-hoc analyses showed that children of two-parent households had significantly lower substance use scores ( $M = 1.13, SD = 2.09$ ) than children of single-parent households ( $M = 3.78, SD = 5.49$ ). Therefore, family structure was entered into the first step of the regressions examining substance use.

Parental education was also tested using a one-way ANOVA and was found to be significantly associated with substance use,  $F(4, 99) = 10.21, p = 0.00$ , and with depressive symptoms,  $F(4, 99) = 4.01, p = 0.00$ . Post-hoc Tukey HSD tests revealed that children whose parents held at least a bachelor's degree had significantly lower mean scores on the substance use scale ( $M = 1.09, SD = 2.24$ ) and the depressive symptoms measure ( $M = 46.19, SD = 10.16$ ) than children whose parents held an associate's degree ( $M = 9.33, SD = 2.52$  and  $M = 69.33, SD = 22.85$ , respectively). Furthermore, there were 16 participants who selected 'don't know' for the item that asked them to indicate their parents' highest level of education. This group had mean substance use ( $M = 1.25, SD = 2.05$ ) and depressive symptoms scores ( $M = 44.88, SD = 9.64$ ) similar to those of the group whose parents held at least a bachelor's degree. Likewise, the Tukey post-hoc tests showed that children who did not know their parents' highest level of education also differed significantly from those whose parents held an associate's degree. As a result of these findings, parental education was entered into the first step of regressions examining depressive symptoms and substance use.

Correlations were run to test whether age was significantly associated with depressive symptoms, anxiety symptoms, or substance use. Of these analyses, the only significant correlation was between age and substance use,  $r = 0.27, p = 0.01$ , indicating that as age increases so does amount of substance use. Therefore, age was controlled for in each of the regressions examining substance use.

Gender and grade level were tested for significance with each of the outcome variables using  $t$  tests. Gender was found to be significantly associated with substance use,  $t(98) = 2.06, p = 0.04$ , where males reported significantly more substance use ( $M = 2.36, SD = 3.26$ ) than females ( $M = 1.09, SD = 2.34$ ). Grade level was also found to be significantly related to substance use,  $t(98) = -2.99, p = 0.00$ , where 8<sup>th</sup> graders had a significantly lower mean substance use score ( $M = 0.45, SD = 0.75$ ) than 9<sup>th</sup> graders ( $M = 1.98, SD = 3.18$ ). No other significant associations were found for gender or grade level. Therefore, these two variables were controlled for in the regressions on substance use only.

### *Testing of Hypotheses*

*Hypothesis 1.* Difficulty of the stressful event will have direct, positive relationships with substance use, depressive symptoms, and anxiety symptoms.

*Analysis of Hypothesis 1.* Pearson correlations showed that ratings of the difficulty of the stressful event were significantly positively correlated with substance use scores,  $r = 0.26, p = 0.01$ , depressive symptoms,  $r = 0.29, p = 0.01$ , and anxiety symptoms,  $r = 0.27, p = 0.01$ . Therefore, the hypothesis was supported.

*Hypothesis 2.* Parental support will have direct, negative relationship with substance use, depressive symptoms, and anxiety symptoms.

*Analysis of Hypothesis 2.* Pearson correlations revealed that parental support was negatively associated with substance use,  $r = -0.40$ ,  $p = 0.00$ , symptoms of depression,  $r = -0.46$ ,  $p = 0.00$ , and symptoms of anxiety,  $r = -0.26$ ,  $p = 0.01$ . Therefore, the hypothesis was supported.

*Hypothesis 3.* Unsupportive parental responses will have a direct, positive relationship with substance use, depressive symptoms, and anxiety symptoms.

*Analysis of Hypothesis 3.* Another set of Pearson correlations was calculated. The results showed a significant positive association between unsupportive parental responses and substance use,  $r = 0.40$ ,  $p = 0.00$ , depressive symptoms,  $r = 0.41$ ,  $p = 0.00$ , and anxiety symptoms,  $r = 0.25$ ,  $p = 0.02$ . These findings support the hypothesis.

*Hypothesis 4.* Parental support is expected to buffer the relationship between the stressfulness of the event and substance use, depressive symptoms, and anxiety symptoms.

*Analysis of Hypothesis 4.* Three separate hierarchical regressions were conducted to examine the association of parental support with each of the three outcomes (see Table 7). The variables of interest were centered, and an interaction term was created for stressfulness of the event and parental support (stress x support). First, substance use was analyzed. The steps were as follows: (1) age, gender, grade, family structure, and parental education; (2) difficulty of stressful event; (3) parental support; (4) stress x support. The overall model was significant,  $F(8, 81) = 4.61$ ,  $p = 0.00$ . Step 3 of the



model shows that parental support significantly predicted 13% of unique variance in substance use, above and beyond that which is accounted for by demographic variables and by the stressfulness of the event,  $\Delta F(1, 82) = 14.32, p = 0.00$ . Furthermore, the interaction of stressfulness and parental support (stress x support) significantly accounted for an additional 4% of the variance in substance use,  $\Delta F(1, 81) = 4.68, p = 0.03$ . The nature of the interaction is also consistent with hypotheses, indicating that parental support acted as a buffer of the relationship between stress and substance use, such that high stress was associated with greater substance use only when parental support was low (see Figure 3).

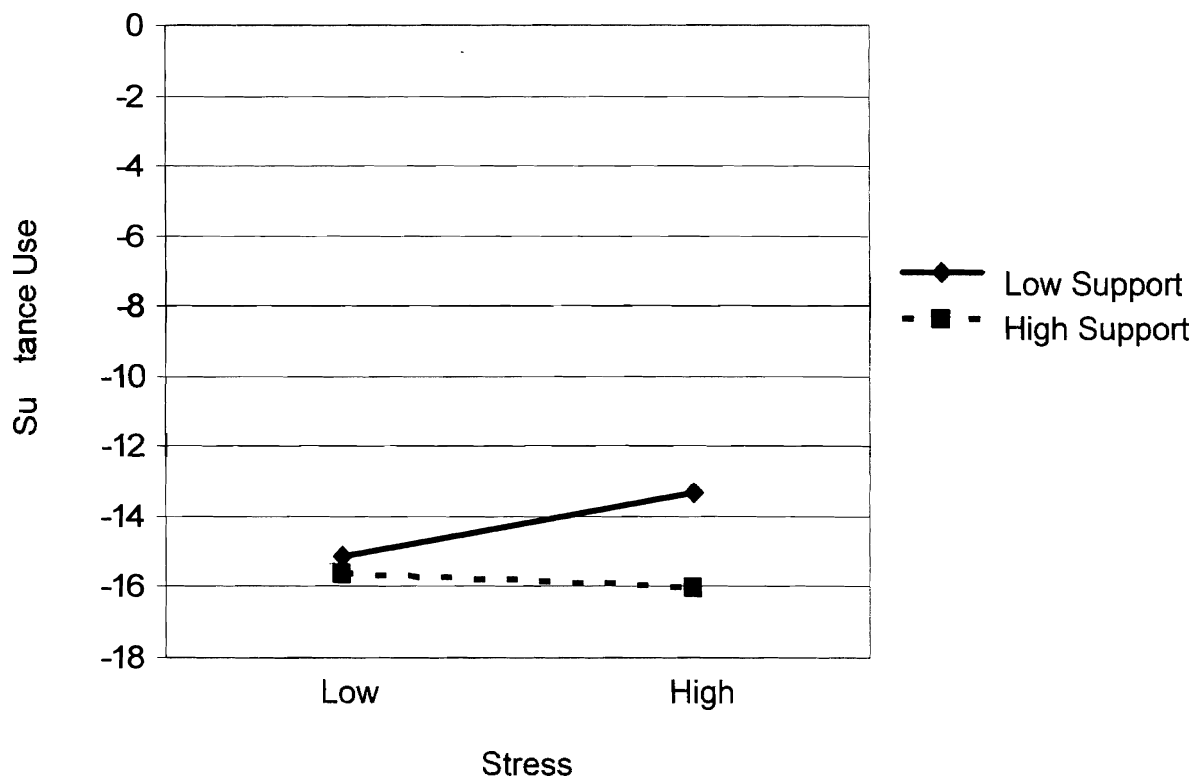


Figure 3. Interaction of parental support and stress predicting adolescent substance use.

Second, depressive symptoms were examined. The variables were entered into four steps as follows: (1) SES; (2) stress; (3) parental support; and (4) Stress x support. The overall model was significant,  $F(4, 85) = 9.06, p = 0.00$ . Step 2 of the equation shows that the stressfulness of the event significantly contributed to 8% of the variance in depressive symptoms after controlling for SES,  $\Delta F(1, 87) = 7.78, p = 0.01$ . Parental support also contributed an additional 19% of unique variance in depressive symptoms, above and beyond that which was accounted for by the stressfulness of the event,  $\Delta F(1, 86) = 22.01, p = 0.00$ . However, inconsistent with expectations, the interaction of stressfulness and parental support did not significantly predict additional variance in depressive symptoms.

The third regression was on symptoms of anxiety. The steps were: (1) stress; (2) parental support; and (3) stress x support. The overall model was significant,  $F(3, 86) = 3.58, p = 0.02$ . The stressfulness of the event (step 1) significantly predicted 7% of the variance in anxiety symptoms in the present model,  $\Delta F(1, 88) = 6.76, p = 0.01$ . However, neither parental support (step 2) nor the interaction term (step 3: stress x support) were significant predictors of variance in anxiety symptoms in this model. Therefore, hypothesis 4 was not supported.

Table 7

*Summary of Hierarchical Regression Analysis for Variables of Stress and Parental Support Predicting Substance Use, Depressive Symptoms, and Anxiety Symptoms (N = 90)*

Variable	<i>df</i>	<i>R</i> <sup>2</sup>	$\Delta R^2$	$\Delta F$	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>
Equation 1: Predicting Substance Use								
Step 1	5, 84	.12	.12	2.19				
Age					0.59	0.69	.15	-0.86
Gender					-0.32	0.74	-.05	-0.43
Grade					0.82	0.94	.16	0.88
Family Structure					0.76	0.50	.16	1.52
Parental Education					-0.00	0.14	-.00	-0.03
Step 2	6, 83	.15	.04	3.44	0.51	0.28	.19	1.85
Stress								
Step 3	7, 82	.28	.13	14.37***	-0.11	0.03	-.38	-3.79***
Parental Support								
Step 4	8, 81	.31	.04	4.30*	-0.06	0.03	-.21	-2.07*
Stress x Support								
Equation 2: Predicting Depressive Symptoms								
Step 1	1, 88	.00	.00	0.04	0.12	0.63	.02	0.19
Parental Education								
Step 2	2, 87	.08	.08	7.78**	3.32	1.19	.29	2.79**
Stress								
Step 3	3, 86	.27	.19	22.01***	-0.54	0.12	-.45	-4.69***
Parental Support								
Step 4	4, 85	.30	.03	3.57	-0.22	0.12	-.18	-1.89
Stress x Support								
Equation 3: Predicting Anxiety Symptoms								
Step 1	1, 88	.07	.07	6.76*	2.52	0.97	.27	2.60*
Stress								
Step 2	2, 87	.11	.04	3.73	-0.20	0.10	-.20	-1.93
Parental Support								
Step 3	3, 86	.11	.02	0.16	-0.04	0.11	-.04	-0.40
Stress x Support								

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

*Hypothesis 5.* Unsupportive parental responses will magnify the relationship between the stressfulness of the event and substance use, depressive symptoms, and anxiety symptoms.

*Analysis of Hypothesis 5.* Three separate hierarchical regressions were conducted to examine the association of unsupportive parental responses with each of the three outcomes (see Table 8). The variables of interest were centered, and an interaction term was created for stressfulness of the event and unsupportive parental responses (stress x USII). First, substance use was analyzed. The steps were as follows: (1) age, gender, grade, family structure, and parental education; (2) difficulty of stressful event; (3) USII; (4) stress x USII. The overall model was significant,  $F(8, 78) = 3.73, p = 0.00$ . Step 3 of the model shows that unsupportive parental responses significantly predicted 11% of unique variance in substance use, above and beyond that which is accounted for by demographic variables and by the perceived stressfulness of the event,  $\Delta F(1, 79) = 12.00, p = 0.00$ . However, contrary to expectations, the interaction between the stressfulness of the event and unsupportive parental responses did not contribute a significant amount of unique variance to the model.

Second, depressive symptoms were examined. The variables were entered into four steps as follows: (1) SES; (2) stress; (3) USII; and (4) stress x USII. The overall model was significant,  $F(4, 82) = 5.92, p = .000$ . In this equation, the stressfulness of the event (step 2) significantly accounted for 8% of unique variance in depressive symptoms,  $\Delta F(1, 84) = 7.45, p = 0.01$ . Also, unsupportive parental responses (step 3) significantly predicted an additional 13% of variance in depressive symptoms, above and beyond that

which was accounted for by demographics and by the stressfulness of the event,  $\Delta F(1, 83) = 14.13, p = 0.00$ . The interaction term (stress x USII), however, did not significantly predict additional variance in depressive symptoms in this model.

The third regression was on symptoms of anxiety. The steps were: (1) stress; (2) USII; and (3) stress x USII. The overall model was significant,  $F(3, 83) = 3.19, p = 0.03$ . The first step of the model showed that the stressfulness of the event significantly predicted 6% of unique variance in symptoms of anxiety,  $\Delta F(1, 85) = 5.67, p = 0.02$ . However, contrary to predictions, neither unsupportive parental responses nor the interaction term (stress x USII) significantly predicted additional variance in symptoms of anxiety. Therefore, hypothesis 5 was not supported by the data in the present study.

Table 8

*Summary of Hierarchical Regression Analysis for Variables of Stress and Unsupportive Parental Responses Predicting Substance Use, Depressive Symptoms, and Anxiety Symptoms (N = 87)*

Variable	<i>df</i>	<i>R</i> <sup>2</sup>	$\Delta R^2$	$\Delta F$	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>
Equation 1: Predicting Substance Use								
Step 1	5, 81	.11	.11	2.07				
Age					0.63	0.71	.15	0.89
Gender					-0.26	0.76	-.04	-0.34
Grade					0.83	0.95	.15	0.88
Family Structure					0.74	0.51	.15	1.47
Parental Education					-0.00	0.15	-.00	-0.03
Step 2	6, 80	.15	.04	3.45	0.53	0.28	.19	1.85
Stress								
Step 3	7, 79	.26	.11	12.10***	1.35	0.39	.36	-3.48***
USII								
Step 4	8, 78	.28	.02	1.71	0.54	0.41	.14	1.31
Stress x USII								
Equation 2: Predicting Depressive Symptoms								
Step 1								
Parental Education	1, 85	.00	.00	0.06	0.17	0.66	.03	0.25
Step 2	2, 84	.08	.08	7.45**	3.39	1.24	.29	2.73**
Stress								
Step 3	3, 83	.22	.13	14.13***	6.20	1.65	.38	3.76***
USII								
Step 4	4, 82	.22	.01	0.90	1.62	1.71	.09	0.95
Stress x USII								
Equation 3: Predicting Anxiety Symptoms								
Step 1	1, 85	.06	.06	5.67*	2.40	1.01	.25	2.38*
Stress								
Step 2	2, 84	.10	.04	3.41	2.63	1.42	.20	1.85
USII								
Step 3	3, 83	.10	.00	0.41	0.94	1.48	.07	0.64
Stress x USII								

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

## Chapter Five

### *Discussion*

The purpose of the present study was to investigate the relationship between adolescents' experience of a stressful event and three major outcomes: substance use, depressive symptoms, and symptoms of anxiety. In particular, the aim of this study was to explore whether these relationships are moderated by parental support and by unsupportive responses from parents. The findings of the study are summarized and integrated with the literature, followed by an interpretation of the results and a discussion of the implications for theory, research, and practice. Limitations of the study will be discussed, as well as directions for future research.

### *Summary of Findings*

This study had five major hypotheses. Three of these hypotheses concerned the direct relationships between the independent variables and the outcome variables. First, it was hypothesized that substance use, depressive symptoms, and anxiety symptoms would increase as the stressfulness of the event increased. The data supported this hypothesis, showing that adolescent ratings of the difficulty of their most stressful event in the past year were significantly correlated with increased substance use and symptoms of depression and anxiety. This finding is consistent with similar results reported widely in the literature (see Grant et al., 2003; or Hoffman & Su, 1998, for a review).

The second hypothesis in the present study stated that parental support would be significantly, inversely correlated with levels of substance use and with symptoms of depression and anxiety. Consistent with previous literature on the effects of parental support as a protective factor in the relationship between negative life events and adolescent substance use (e.g., Wills & Cleary, 1996; Wills et al., 1992), the data for the present study showed that increased parental support was associated with decreased substance use, depressive symptoms, and anxiety symptoms. These findings are also consistent with a study by Davis and colleagues (1997) that reported a significant inverse association between parental support and levels of depressive symptoms.

The third hypothesis concerning direct relationships between the independent variables and the criterion variables was that adolescent substance use, depressive symptoms, and anxiety symptoms would increase as unsupportive parental responses increased. This hypothesis was also supported. Previous literature has not looked at the construct of unsupportive parental responses in adolescents as it was conceptualized and measured in the present study; therefore, it would be important to replicate this finding. Nevertheless, the results are convergent with existing literature that has examined similar variables. For example, in one study of perceived support from parents, lack of parental support was a significant predictor of higher rates of depressive symptoms and of onset of major depressive disorder in adolescent girls (Stice et al., 2004). Another study found that problematic interactions between fathers and adolescent girls were associated with increased depressive symptoms (Davis et al., 1997).



The fourth and fifth hypotheses in the present study concerned parental support and unsupportive parental responses as moderators of the relationship between stressful events and negative outcomes. First, it was hypothesized that parental support would interact with stressful events and to produce a buffering effect, associated with decreased substance use and symptoms of depression and anxiety. The data supported a portion of this hypothesis. Consistent with moderator effects reported by Will and Cleary (1996), parental support moderated (buffered) the association between stressful events and substance use. High stress was associated with increased substance use only for adolescents who had low parental support. However, parental support did not significantly moderate the relationship of stressful events with symptoms of depression or anxiety.

There are several possible explanations for the finding of significant moderation for one of the outcomes (substance use) and not the other two. First, the outcomes may represent different components of the conceptual model used in the study. Specifically, substance use was conceptualized in the present study to be an expression of emotion-focused coping, whereas depressive symptoms and anxiety symptoms were considered to be consequences associated with an adolescent's appraisal of a stressor as exceeding his or her coping resources (Lazarus & Folkman, 1984). Therefore, perhaps the relationships between these variables would be better specified, and more consistent with the nuances of the theoretical framework, in a different conceptual model. For example, Wills and Cleary (1996) found that in addition to the stress-buffering effects of parental support on adolescent substance use, parental support also served a mediating role between negative

events and negative outcomes, and between protective factors and negative outcomes. In the present study, it is possible that because parental support buffered substance use for adolescents who reported high stress, those adolescents did not participate in substance use and, in turn, did not incur the additional toll on their coping abilities that may be associated with substance use.

Another possible explanation for why a significant moderator association was found for one dependent variable and not the others has to do with the nature of the outcomes themselves. Substance use is an action; images on television and movies, and drinking behavior of older adolescents or parents may contribute to adolescent views that drinking is fun and is a socially acceptable way to deal with stress. As such, adolescents with lower parental support may seek more support from peers, and may be more likely to experiment with drinking as a way of coping. Depressive symptoms and anxiety symptoms may be the result of several factors (e.g., genetic predisposition, physical illness, experience of abuse) in addition to stress, and therefore may be harder to predict with a simple moderator model.

The second moderator hypothesis stated that the interaction of stressful events and unsupportive parental responses would magnify the relationship with negative outcomes. Contrary to findings reported in a similar study by Ingram et al. (2001), the data in the present study did not support the moderation hypothesis. Ingram and colleagues examined a college aged sample that was asked to report on the unsupportive social interactions they received in regard to a specific stressor. The results showed that the unsupportive responses significantly moderated (magnified) outcomes evaluating well-

being and adjustment, above and beyond the variance accounted for by the stressful event. However, the present study did not replicate this finding in an adolescent sample. One explanation for the failure to detect significant moderation effects may be that there simply is no effect. Another possibility is that a mediator model would better account for the nature of the relationships between stress, unsupportive interactions with parents, and negative outcomes.

The results of analyses for hypotheses four and five yielded mixed findings with regard to moderation. However, the regression models do provide further support for the direct associations predicted in hypotheses two and three. Both parental support and unsupportive parental responses predicted a significant amount of variance in the dependent variables above and beyond that which was accounted for by demographic variables and by the stressfulness of the event. This supports the idea that both parental support and unsupportive responses should be examined in studies of adolescent stress and the risk and protective factors that are related to outcomes of psychological health and health-risk behaviors.

To summarize, the findings in the present study were consistent with the existing literature overall. The present study found significant positive associations between stressful events and the outcomes of substance use, depressive symptoms, and anxiety symptoms, as well as between unsupportive parental responses and each of the outcomes. A significant inverse association was found between parental support and the outcomes. In regard to the moderator hypotheses, only one effect was significant. Parental support was found to significantly buffer the relationship between stressful events and substance

use, such that adolescents with high stress and high parental support did not report increased substance use, whereas adolescents with high stress and lower perceived parental support did report greater substance use. However, no buffering effects were found for depressive symptoms or anxiety symptoms. Moreover, contrary to expectations, unsupportive parental responses did not magnify the relationship between stressful events and any of the three outcomes.

The failure to find significant moderator effects consistent with hypotheses may be explained by several factors. First, statistical power may have been a factor. Although the sample size of 100 satisfied the sample size needed ( $N = 99$ ) to detect significant effects with the maximum number of predictors—eight—and with a power level of 0.80, this calculation assumed “medium” effect sizes ( $f^2 = .15$ ) in lieu of being able to determine the actual effect sizes. However, when the effect size is adjusted to be “small” ( $f^2 = .02$ ), the necessary sample then becomes 689 people (for calculating power see Cohen et al., 2003, pp. 177-179). Therefore, if the actual effect sizes of parental support and unsupportive parental responses on each of the three outcomes were indeed smaller in the population, the present study would have had insufficient power to detect significance. That said, it is possible that doubling the sample size might have resulted in all of the moderation hypotheses achieving significance. Interestingly, the present study did detect the moderating effect of parental support on the relationship between stressful events and substance use, suggesting that parental support has a medium effect size in the population from which the present sample was drawn. Clearly, the results attest to the

importance of parental support for the protective effects it seems to have on decreasing adolescent substance use following a stressful event.

### *Implications*

The present study has several implications for research, practical applications, and theory. Although this study was unable to demonstrate findings similar to those of Ingram and colleagues (2001), which showed significant magnifying effects of unsupportive social responses on the stress-outcome relationship, the results nevertheless make a new contribution to the research literature by measuring unsupportive parental responses in an adolescent sample. Moreover, the significant direct effects that were found between unsupportive parental responses and each of the three negative outcomes reached levels of significance similar to those observed between parental support and the outcomes. This suggests that the two variables are comparable in the degree to which they are related to adolescent substance use, depressive symptoms, and anxiety symptoms. Indeed, both parental support and unsupportive responses from parents seem to play an important role in the health outcomes of adolescents. Moreover, parental unsupportive social interactions and parental support were significantly, though moderately ( $r = -.46, p < .01$ ), related. This suggests that they are separate constructs and not simply opposite ends of the same continuum. Despite the importance of both of the variables in contributing to adolescent outcomes, unsupportive parental responses have received very little empirical attention relative to the vast literature on parental support. Clearly, future research is needed to continue to explore the role of unsupportive parental responses in adolescent social development, coping, and health behaviors.

Another contribution of the present study to research in this field is the preliminary validation of the use of the Unsupportive Social Interactions Inventory (USII; Ingram, et al., 2001) with adolescents. The revised USII that was used in this study demonstrated excellent internal reliability consistency for the total scale, as indicated by Cronbach's alpha ( $\alpha = 0.88$ ). This provides reasonable support for the continued use of the scale in future studies aimed at measuring stressor-specific unsupportive social interactions in adolescents. Although participants in this study were asked to provide responses to the items on the measure based only on their relationship with their parents, the scale can also be used to assess unsupportive responses from people in general (non-relationship-specific). Therefore, the successful use of the USII in the present study represents a meaningful step toward introducing a new instrument to the literature on adolescent relationships.

The present study also has practical implications as a building block for applied research. Scientific bases for learning more about parental unsupportive responses, as they are perceived by adolescents, may inform research programs aimed at intervention. Parents and school counselors may benefit from information concerning the importance of unsupportive responses. A better understanding of not only what is helpful to adolescents, but also what is *not* helpful, may provide useful guidance for how to improve parent-child relationships. However, further research with samples representing a wide range of ages, racial and ethnic diversity, and SES, is needed in order to learn more about adolescent perceptions of unsupportive parental responses.

Finally, the present study has theoretical implications because it reinforces the applicability of Lazarus and Folkman's (1984) theory to an adolescent population. Although the conceptualization of stress and coping in a transactional model is sometimes criticized when applied to an adolescent population (e.g., Grant et al., 2003), the present study attests to the relevance of adolescents' subjective appraisals of stress, support, and unsupportive responses since these are directly and strongly correlated with meaningful outcomes. In order to further substantiate the utility of Lazarus and Folkman's model of stress, appraisal, and coping in adolescents, the current research could be expanded to examine ways of coping more explicitly and directly.

#### *Limitations*

Several limitations of the present study should be noted. First, measurement issues were an important limitation. In particular, adolescent stress was measured by a single item that asked about the level of difficulty of the stressful event that the participant identified. Therefore, the reliability and validity of the way this construct was assessed are unknown. Grant and colleagues (2003), in a recent discussion of the "state of the field" on conceptualization and measurement of stress in childhood and adolescence, pointed out the inconsistencies between how different researchers conceptualize and operationalize stress. They also noted the lack of assessment instruments that provide a measure of stress that is consistent with a transactional theoretical framework like that of Lazarus and Folkman (1984; Grant et al., 2003). In spite of these challenges, the design of the present study would have been stronger if a reliable and well-validated measure of event-specific adolescent stress had been used.

Another limitation of the present study was the reliance on adolescent self-reports for all data. Although a self-report design was determined to be the most appropriate given the time and financial parameters of the current project, such a method has weaknesses when used with child or adolescent populations. In particular, there is no way to know how truthful the participants were when responding to the items. Moreover, social desirability may have influenced responses, regardless of the confidential and anonymous nature of the questionnaires. A future project might improve upon the present design by gathering additional data from parents and teachers, or examining objective indices of adolescent functioning, such as grades. Similarly, this was the first time the USII was used in an early- to middle-adolescent population and there is no way to know whether the participants responded in a way that was truly consistent with how the scale is meant to be used. Therefore, it is uncertain whether the measure truly tapped the construct that it was intended to measure.

Another limitation of the present study is generalizability. The sample consisted of primarily Caucasian adolescents from intact, middle- to upper-SES families. The choice to study participants from this population was made because it allowed for examination of the variable of unsupportive parental responses in a group with very few other risk factors to cloud the data. Also, the majority of adolescent research focuses on underserved or at-risk populations, while the present study serves as a reminder that adolescents who seemingly have lots of protective advantages are still struggling with their own stressors and are still vulnerable to substance use, depressive symptoms, and anxiety symptoms. Acknowledging the existence of these problems in a more privileged



population may be a catalyst for parents and health care providers to take action and instigate change in a group with the resources to do so. However, the types of problems endorsed by the adolescents in this sample as being the most stressful event of the past year may not be similar to the problems that adolescents in other populations might have experienced. For example, the present sample did not identify any problems related to issues of diversity, such as feeling discriminated against, struggling with English as a second language, or immigration or acculturation issues. There were also no problems reported concerning neighborhood violence, safety issues, or issues of abuse. It is possible that adolescents in different cities, and representing a broader range of socioeconomic classes, may be facing these types of issues as well as other environmental stressors that were not observed in the sample of the present study.

Furthermore, it is important to note that, because of the research design of the present study, causation cannot be inferred. However, it is possible to speculate about the directionality that might account for the associations observed in the present study. Drawing on the transactional model of Lazarus and Folkman (1984), the stressfulness of an event is related to the person's beliefs about his or her coping ability. Parental support may increase an adolescent's confidence about his or her ability to cope, which in turn may decrease engagement in poor coping strategies, such as engaging in substance use. On the other hand, unsupportive parental responses may diminish an adolescent's perceptions about his or her coping ability, which would explain the direct, positive association between parental unsupportive social interactions and stress. The finding that unsupportive parental responses were associated with increased depressive symptoms and

anxiety symptoms would be consistent with the idea that such interactions are upsetting (Ingram et al., 2001). Rook (1990) has asserted that problematic social interactions can be “potent” in their effects on physical and psychological health. A longitudinal study would allow for examination of these hypotheses over time, thereby providing the opportunity to further examine the possible existence of causation.

Finally, the transactional model of stress, appraisal, and coping that provided the guiding theory for the present study emphasizes the reciprocal and dynamic processes that occur within an individual, and within his or her social and environmental context (Lazarus & Folkman, 1984). However, the research design and the conceptual model tested in the present study did not allow for directional causation to be inferred. It is possible that significant associations between substance use and parental support or unsupportive responses may operate in such a way that adolescent substance use elicits different parenting behaviors. For example, nonuse in adolescents may make parents happy and elicit more supportive behavior, whereas greater substance use may be disappointing to parents and reduce the overall supportiveness perceived by the adolescent. In regard to unsupportive parental responses, it is possible that adolescent substance use may elicit more unsupportive interactions from parents. In other words, reciprocal influences in parent-adolescent relationships are likely occurring and should be considered when speculating about significant associations.

#### *Future Directions*

The present study provides a strong starting point for further exploration of unsupportive parental responses in adolescents. Several avenues for future research are

suggested in the areas of theory, measurement, and applied research. First, the literature on adolescent social relationships should include a body of work rooted in a theoretical model that incorporates unsupportive social interactions. To this end, the construct of unsupportive social interactions should be conceptualized and measured as a unique variable that is different from social strain, conflict, or a lack of social support (Ingram et al., 2001; Rook, 1990). For example, studies on social support and coping in adolescents have found that greater parental support is associated with less avoidance coping and greater adaptive coping strategies (e.g., Compas, 1987; Phelps & Jarvis, 1994; Stern & Zevon, 1990). It would be interesting to further explore this relationship by measuring both parental support and unsupportive parental responses in association with coping styles, as well as examining how coping, in turn, is associated with outcomes of substance use, depressive symptoms, and anxiety symptoms. This would enhance the existing literature on coping styles as mediators of the stress-outcome relationship by making these models more comprehensive with the addition of the unsupportive social interactions variable.

Several methodological variations of the present study would also afford researchers a meaningful contribution to the literature. First, a longitudinal study is needed in order to further examine the possible existence of causality between the variables and to further substantiate the theoretical underpinnings of the present study. Also, the present study examined received stressor-specific, relationship-specific unsupportive social interactions; however, future studies should explore non-stressor-specific unsupportive interactions, as well as non-relationship specific interactions.

Future studies should include examinations of different types of stress, such as daily hassles or chronic stressors, as well as exploring the role of unsupportive social interactions in a sample of adolescents who all experienced the same stressor, such as surviving a hurricane or living with Type II diabetes. It is also recommended that future research examine the construct of unsupportive parental responses in different populations that offer diversity in culture and ethnicity, SES, and family structure, as well as in a broader age range of adolescents.

Future studies might also explore the specific types of support (e.g., emotional and instrumental) and unsupportive social interactions (e.g., distancing, blaming, bumbling, minimizing) with various populations and for various stressors. Perhaps patterns of association between social support or unsupportive social interactions and certain outcomes may depend, in part, on the type of stressor. For example, minimizing was the most frequently endorsed type of unsupportive parental response in the present study, whereas a study in which all participants are dealing with one type of stressor may find that interactions such as blaming or distancing are more problematic, particularly for stressors that are viewed more negatively in American society, such as obesity, drug addiction, or a stigmatizing illness. Also, the present study examined perceived availability of social support, whereas a future study might measure received social support. This would provide a parallel conceptualization and operationalization to the measure of received unsupportive parental responses.

The present study provides a good starting point for a validation study of an adolescent version of the Unsupportive Social Interactions Inventory (USII; Ingram et al.,

2001). Such a study might explore the relevance of the items to the nature of parent-child relationships. For example, advice-giving maybe an unsupportive social response among some adults, but may be appropriate, and perceived by an adolescent as desirable, when it is coming from a parent. It is further suggested that future studies measure the fit between types of support desired by adolescents relative to that which is received. Similarly, the USII could be modified to include an index of how upsetting the interaction was perceived to be. The utility of the USII with an adolescent sample has been supported by the present study, and this measure has the potential to be a gold-standard instrument for the measurement of unsupportive social interactions in adolescents.

Finally, directions for applied research stemming from the present study might include a qualitative study or an intervention study with parents and adolescents. A critical component of either would be finding a way to educate participants about unsupportive social interactions without making parents or adolescents feel criticized. Perhaps such an intervention would strive to establish a collaborative relationship with parents and adolescents by emphasizing the complexity, and reciprocal nature, of behavior in relationships. Researchers might also gain a better understanding of these complexities by listening to parents and hearing about ways they have been effective in supporting their adolescents. An open and honest dialogue between parents, adolescents, and researchers may elucidate some of the negative patterns that lead to problems in adolescents; and, perhaps even more importantly, such a dialogue might help researchers identify the interactions that are associated with positive outcomes. Ideally, it would be

meaningful and productive to be able to teach participants to recognize unsupportive social interactions and to provide them with alternative ways of relating that are more helpful to individuals experiencing stress.

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Appendix A  
Demographic Questionnaire

Please note today's date (Month/Day/Year): \_\_\_\_/\_\_\_\_/\_\_\_\_

**Please provide the following background information about yourself.**

1. Please provide your age in years and months (i.e. 14 years, 3 months):

\_\_\_\_\_ years, \_\_\_\_\_ months

2. What is your gender?

Male

Female

3. What grade are you in?

7th

8th

9th

10th

11th

4. What is your racial/ethnic background? (Check all that apply)

African American

Asian American/Pacific Islander

Hispanic/Latino American

Native American/American Indian/Alaska Native

White/Caucasian

Other (please describe): \_\_\_\_\_

5. Which of the following best describes what parent(s)/guardian(s) you live with?

- Two parent household
- Single parent household
- Two different households (e.g., live part-time with one parent and part-time with the other parent)
- Blended family (e.g., Step-parent present)
- Other (please describe) \_\_\_\_\_

6. What is your primary parent or guardian's highest level of education?

- Graduate school – Doctorate (e.g., M.D., J.D., Ph.D.)
- Graduate school – Master's degree
- College – Bachelor's degree (four years)
- College – Associate's degree (two years)
- High School
- Other (please describe) \_\_\_\_\_
- Don't know

-- CONTINUE --



Appendix B

Revised Child Anxiety and Depression Scale

**Please put a circle around the word that shows how often each of these things happened to you. There are no right or wrong answers.**

- |     |  |       |           |       |        |
|-----|--|-------|-----------|-------|--------|
| 1.  | I worry about things.....  | Never | Sometimes | Often | Always |
| 2.  | I feel sad or empty.....   | Never | Sometimes | Often | Always |
| 3.  | When I have a problem, I get a funny feeling in my stomach.....      | Never | Sometimes | Often | Always |
| 4.  | I worry when I think I have done poorly at something.....            | Never | Sometimes | Often | Always |
| 5.  | I would feel afraid of being on my own at home.....                  | Never | Sometimes | Often | Always |
| 6.  | Nothing is much fun anymore.....                                     | Never | Sometimes | Often | Always |
| 7.  | I feel scared when I have to take a test.....                        | Never | Sometimes | Often | Always |
| 8.  | I feel worried when I think someone is angry with me.....            | Never | Sometimes | Often | Always |
| 9.  | I worry about being away from my parents.....                        | Never | Sometimes | Often | Always |
| 10. | I get bothered by bad or silly thoughts or pictures in my mind.....  | Never | Sometimes | Often | Always |
| 11. | I have trouble sleeping.....   | Never | Sometimes | Often | Always |
| 12. | I worry that I will do badly at my school work.....                  | Never | Sometimes | Often | Always |
| 13. | I worry that something awful will happen to someone in my family.... | Never | Sometimes | Often | Always |

14.	I suddenly feel as if I can't breathe when there is no reason for this.....	Never	Sometimes	Often	Always
15.	I have problems with my appetite...	Never	Sometimes	Often	Always
16.	I have to keep checking that I have done things right (like the switch is off, or the door is locked).....	Never	Sometimes	Often	Always
17.	I feel scared if I have to sleep on my own.....	Never	Sometimes	Often	Always
18.	I have trouble going to school in the mornings because I feel nervous or afraid.....	Never	Sometimes	Often	Always
19.	I have no energy for things.....	Never	Sometimes	Often	Always
20.	I worry I might look foolish.....	Never	Sometimes	Often	Always
21.	I am tired a lot.....	Never	Sometimes	Often	Always
22.	I worry that bad things will happen to me.....	Never	Sometimes	Often	Always
23.	I can't seem to get bad or silly thoughts out of my head.....	Never	Sometimes	Often	Always
24.	When I have a problem, my heart beats really fast.....	Never	Sometimes	Often	Always
25.	I cannot think clearly.....	Never	Sometimes	Often	Always
26.	I suddenly start to tremble or shake when there is no reason for this.....	Never	Sometimes	Often	Always
27.	I worry that something bad will happen to me.....	Never	Sometimes	Often	Always
28.	When I have a problem, I feel shaky.....	Never	Sometimes	Often	Always
29.	I feel worthless.....	Never	Sometimes	Often	Always
30.	I worry about making mistakes.....	Never	Sometimes	Often	Always
31.	I have to think of special thoughts (like numbers or words) to stop bad things from happening.....	Never	Sometimes	Often	Always
32.	I worry what other people think of me.....	Never	Sometimes	Often	Always

33.	I am afraid of being in crowded places (like shopping centers, the movies, buses, busy playgrounds)...	Never	Sometimes	Often	Always
34.	All of a sudden I feel really scared for no reason at all.....	Never	Sometimes	Often	Always
35.	I worry about what is going to happen.....	Never	Sometimes	Often	Always
36.	I suddenly become dizzy or faint when there is no reason for this.....	Never	Sometimes	Often	Always
37.	I think about death.....	Never	Sometimes	Often	Always
38.	I feel afraid if I have to talk in front of my class.....	Never	Sometimes	Often	Always
39.	My heart suddenly starts to beat too quickly for no reason.....	Never	Sometimes	Often	Always
40.	I feel like I don't want to move.....	Never	Sometimes	Often	Always
41.	I worry that I will suddenly get a scared feeling when there is nothing to be afraid of.....	Never	Sometimes	Often	Always
42.	I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order).....	Never	Sometimes	Often	Always
43.	I feel afraid that I will make a fool of myself in front of people.....	Never	Sometimes	Often	Always
44.	I have to do some things in just the right way to stop bad things from happening.....	Never	Sometimes	Often	Always
45.	I worry when I go to bed at night...	Never	Sometimes	Often	Always
46.	I would feel scared if I had to stay away from home overnight.....	Never	Sometimes	Often	Always
47.	I feel restless.....	Never	Sometimes	Often	Always

-- CONTINUE --

Appendix C

Interpersonal Support Evaluation List

**Here are some questions about a person you talk to when you have a problem or when you need advice. Read each question and circle a number (from 1 to 5) to show how you feel about talking to your mother or father.**

1	2	3	4	5
Not at all true				Very true

	1	2	3	4	5
		Not at all true			Very true
1. I can share my feelings with my parent.	1	2	3	4	5
2. I feel that I can trust my parent as someone to talk to.	1	2	3	4	5
3. If I tell my parent about a problem, they will probably blame me for it.	1	2	3	4	5
4. If something good happens to me, I tell my parent about it.	1	2	3	4	5
5. When I feel bad about something, my parent will listen.	1	2	3	4	5
6. If I talk to my parent, I think they try to understand how I feel.	1	2	3	4	5
7. When I talk to my parent, they make me feel better.	1	2	3	4	5
8. If I talk to my parent, they have suggestions about how to handle problems.	1	2	3	4	5

	Not at all true				Very true
9. If I need to know something about how the world works (like how things work), I can ask my parent about it.	1	2	3	4	5
10. When I have a problem with money, I can talk to my parent about it.	1	2	3	4	5
11. If I need help with my school work, I can ask my parent about it.	1	2	3	4	5
12. If I need help in getting somewhere, I can ask my parent for a way to get there.	1	2	3	4	5
13. If I have a problem with my health, I think I can talk to my parent about it.	1	2	3	4	5
14. If I'm feeling bored, my parent has suggestions about things to do.	1	2	3	4	5
15. If I'm having a problem with a friend, my parent would have advice about what to do.	1	2	3	4	5

-- CONTINUE --

Appendix D

Negative Life Events Inventory



**Here are some things that may happen in people's lives. Read each one and circle *yes* or *no* to show whether this happened for you during the past year.**

DURING THE PAST YEAR:

- |  |     |    |
|--|-----|----|
| 1. My family moved to a new home or apartment.....   | yes | no |
| 2. Somebody in my family had a serious illness.....  | yes | no |
| 3. My parents got separated or divorced.....   | yes | no |
| 4. I got disciplined or suspended from school.....   | yes | no |
| 5. My parents argued a lot.....  | yes | no |
| 6. Somebody in my family had a serious accident.....   | yes | no |
| 7. I had a lot of arguments with my family.....  | yes | no |
| 8. My father/mother lost his/her job.....  | yes | no |
| 9. I had a serious illness.....  | yes | no |
| 10. I got a new stepmother/stepfather.....   | yes | no |
| 11. I broke up with my boy/girl friend.....  | yes | no |
| 12. I got bad grades in school.....  | yes | no |
| 13. I got into trouble with the police.....  | yes | no |
| 14. My parents had problems with money.....  | yes | no |
| 15. I had a serious accident.....  | yes | no |
| 16. I didn't get into a group or team that I wanted to be in.....                                    | yes | no |
| 17. I had trouble with my weight or physical appearance.....   | yes | no |
| 18. Someone in my family was arrested.....   | yes | no |
| 19. A new person joined our household (a child, a grandparent, stepbrother or sister, or other)..... | yes | no |
| 20. Some people that I used to be friends with don't pay attention to me anymore.....                | yes | no |

**1. What was the most difficult event that happened to you in the past year (it may be something from the list on the previous page, or it may be something else)? Please describe the event:**

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**2. How difficult was the event for you?**

Please circle the number below that best describes how difficult the event was for you.

1	2	3	4	5
Not at all difficult		Somewhat difficult		Very Difficult

-- CONTINUE --

Appendix E

Unsupportive Social Interactions Inventory

When responding to the following questions please focus on the event you just identified as being the **most difficult event** that you experienced in the last year.

Listed below are a number of responses that you may or may not have received from your parent about your difficult event. Answer for the parent you talk to the most. For each statement, please indicate *how much* of that type of response you received from your parent about the event you just named.

***“My parent...”***

	NONE				A LOT
1. ...felt I was over-reacting.	0	1	2	3	4
2. ...did not give me enough time, or made me feel like I should hurry.	0	1	2	3	4
3. ...made comments such as, “You <i>should</i> have _____” or “You <i>shouldn’t</i> have _____”	0	1	2	3	4
4. ...didn’t seem to know what to say, or seemed afraid of saying the “wrong” thing.	0	1	2	3	4
5. ...did not give me the help or support I was looking for.	0	1	2	3	4
6. ...tried to hug me, even though I didn’t want a hug.	0	1	2	3	4
7. ...said I should look on the bright side.	0	1	2	3	4

***“My parent...”***

	NONE				A LOT
8. ...said, “I told you so,” or something similar.	0	1	2	3	4
9. ...seemed to tell me what (s)he thought I wanted to hear.	0	1	2	3	4
10. ...seemed disappointed in me.	0	1	2	3	4
11. ...changed the subject before I wanted to.	0	1	2	3	4
12. ...felt I should stop worrying or felt I should just forget about it.	0	1	2	3	4
13. ...asked me “ <i>Why</i> did you _____?” or “ <i>Why</i> didn’t you _____?”	0	1	2	3	4
14. ...felt I should forget about what happened and get on with my life.	0	1	2	3	4
15. ...tried to cheer me up before I was ready to cheer up.	0	1	2	3	4
16. ...refused to take me seriously.	0	1	2	3	4
17. ...told me to be strong, to keep my chin up, or said I shouldn’t let it bother me.	0	1	2	3	4

***“My parent...”***

	NONE				A LOT
18. ...did not seem to want to hear about it.	0	1	2	3	4
19. ...told me I had gotten myself into the situation in the first place, and now I must deal with the consequences.	0	1	2	3	4
20. ...did some things for me that I wanted to do (and could have done) myself.	0	1	2	3	4
21. ...did not seem to want me to express my feelings, such as anger, hurt, or sadness.	0	1	2	3	4
22. ...felt that it could have been worse or that it was not as bad as I thought.	0	1	2	3	4
23. ...used a tone of voice, expression, or body language that gave me the feeling (s)he was uncomfortable talking about it.	0	1	2	3	4
24. ...blamed me or tried to make me feel like it was my fault.	0	1	2	3	4

-- CONTINUE --

## Appendix F

### Substance Use Inventory

**Please indicate how frequently you use tobacco alcohol or marijuana. Read each one and circle a number (from 0 to 5) to show how often you use each one.**

1. How often do you smoke cigarettes (or use tobacco)?

0	1	2	3	4	5
Never used	Tried once or twice	Used four or five times	Usually use a few times a month	Usually use a few times a week	Usually use every day

2. How often do you drink alcohol?

0	1	2	3	4	5
Never used	Tried once or twice	Used four or five times	Usually use a few times a month	Usually use a few times a week	Usually use every day

3. How often do you smoke marijuana?

0	1	2	3	4	5
Never used	Tried once or twice	Used four or five times	Usually use a few times a month	Usually use a few times a week	Usually use every day

4. Was there a time in the previous month when you had three or more drinks (beer, wine, or liquor) on one occasion?

0	1	2	3
No	Happened once	Happened twice	Happened more than twice



Appendix G

Letter to Parents

Dear Parents,

Your child is being invited to participate in a research project about teenagers' opinions of how supportive or unsupportive their parents are when discussing experiences that the teenagers found to be stressful. The purpose of the study is to explore whether teenagers' perceptions of their parents supportiveness are associated with teen substance use and feelings of depression and anxiousness.

The research project is being conducted by Karen Muehl, a doctoral student in counseling psychology at Virginia Commonwealth University. Ms. Muehl is also interested in providing a service to the school by facilitating discussions with students about alcohol awareness and findings ways teenagers might go about talking with their parents about concerns related to drinking. The discussion sessions will take place at school during your child's Health class, and will follow participation in the research project.

To participate in this project your child will be asked to fill out a survey asking questions about recent events in his/her life that may have been stressful, his/her perceptions of his/her parents' supportiveness (and/or unsupportiveness) concerning discussions about the event, questions about his/her experience with substance use, and whether he/she has experienced any depressive feelings or anxiousness. Your child will

not write his/her name on the survey, and his/her responses will not be shared with classmates, teachers, or parents. The survey will take about 30 minutes to complete.

Ms. Muehl will also present the purpose of the research to the class so that students can gain an understanding of how and why research projects are done. In particular, they will learn that some health behaviors (such as drinking, or smoking cigarettes) are predictive of the health behaviors that people continue to have as young adults. Similarly, teenagers who experience depression are more likely to struggle with depression again in their lives. Therefore, adolescence is an important time to establish a healthy lifestyle and help reduce the likelihood that teenagers may develop ongoing problems associated with substance use, depression, and anxiousness.

Perhaps one way to prevent these issues in adolescents is by encouraging teenagers to talk to their parents and by fostering supportive discussions between parents and children? This research project will help answer that question by providing information about the factors that may be associated with teen substance use, depression, and anxiousness.

Your child's participation in this project is voluntary. If you decide not to give consent, an alternate activity will be provided for your child during the class period. Information from the surveys collected at your child's school will be compiled with surveys from other Richmond area private schools and the entire pool of results will be written up by Ms. Muehl in fulfillment of requirements for her Master's thesis. Additionally, Ms. Muehl will prepare a report for you which summarizes the group-level findings from the research collected at all locations.

If you have any questions or concerns about this project, please call Karen Muehl at (804) 928-2483, or her supervisor, Dr. Kathleen Ingram, at (804) 828-6346, to discuss the project before you sign the enclosed consent form. If you agree to allow your child to participate in the project please read and sign the enclosed consent form.

Thank you.

Sincerely,

Karen A. Muehl, B.A.

Graduate Student

Counseling Psychology

Virginia Commonwealth University

Appendix H  
Parental Consent Form

**VIRGINIA COMMONWEALTH UNIVERSITY  
PARENTAL CONSENT FORM FOR RESEARCH PARTICIPATION**

**TITLE:** Supportive and Unsupportive Responses from Parents as Moderators of the Relationship between Stressful Life Events and Negative Outcomes in Adolescents

**VCU IRB NO.:** 6254

**INVESTIGATORS:** Kathleen M. Ingram, Ph.D. and Karen A. Muehl, B.A.

This consent form may contain words that you do not understand. Please ask the study staff to explain any words that you do not clearly understand. You may take home an unsigned copy of this consent form to think about or discuss with family or friends before making your decision.

**PURPOSE OF THE STUDY**

The purpose of this research study is to find out whether there is a relationship between teenagers' opinions of how supportive or unsupportive their parents are, and teenagers' use of drugs and alcohol, and their feelings of depression and anxiety. Specifically, this study is exploring teenagers' perceptions of their parents' supportiveness concerning a recent experience or event in the teenager's life that he or she found to be stressful. This study will examine whether or not teenagers' perceptions of their parents supportiveness is associated with changes (increases or decreases) in the teenagers' substance use and feelings of depression and anxiety.

Your child is being asked to participate in this study because he/she attends [name]<sup>1</sup> school, [name] school, or [name] school.

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<sup>1</sup> Names of schools have been removed, at their request, for privacy.

## **DESCRIPTION OF THE STUDY AND YOUR CHILD'S INVOLVEMENT**

If you decide to let your child be in this research study, you will be asked to sign this consent form after you have had all your questions answered and you understand what will happen to your child.

In this study your child will be asked to complete one 30-minute survey during his/her Health class at school. After completing the survey, the class will discuss the purpose of the research and your child will have the opportunity to ask questions and explore issues related to the survey content if he/she wishes.

Your child will not write his/her name on the survey. We will not tell anyone the answers your child gives us on the surveys. We will not share the answers with his/her teachers, parents, or friends. If your child tells us that someone is hurting him/her, or that he/she might hurt him/herself or someone else, the law requires us to let people in authority know so they can help your child.

## **RISKS AND DISCOMFORTS**

There are very few risks for your child if he or she participates in this research. There is a small risk that your child may feel uncomfortable or upset about answering personal questions about him or herself on the survey. Your child does not have to fill out any questions that he or she does not want to, and your child is free to decide, at any time, not to continue taking the survey. Should your child feel uncomfortable or upset as a result of participation in this research, he/she will be encouraged to meet with the school counselor. Should you or your child feel that additional counseling is needed as a result of participation in this research, you may contact the Dr. Kathy Ingram or Karen Muehl for counseling referrals.

## **BENEFITS**

Your child may not receive direct benefit from this study. However, he/she may gain awareness about research projects by participating in this study. During the class discussion following the study, your child may learn about the purpose of conducting research, such as in this study. Additionally, the information obtained in this study may provide us with a better understanding of the factors that contribute to emotional difficulties and substance use in teenagers. With more information about the factors that contribute to these problems, psychologists are better prepared to provide help adolescents when these problems arise. The findings from this research could also become the basis for the further research on adolescent emotional difficulties and substance use.

## **COSTS**

There are no costs for participating in this study other than the time your child will spend filling out questionnaires.

## **CONFIDENTIALITY**

In making this request for your consent we want to assure you that the information your child provides on the questionnaires is anonymous and confidential. Your child will not put his/her name on the survey, or any other identifying information aside from his/her age in years and months. Your child's survey will not be linked to the consent form signed by you or the assent form signed by your child. The consent and assent forms will be kept separately from the surveys in a locked file that is accessible only to the investigators of this study. However, the consent form signed by you and the assent form signed by your child may be looked at or copied for research or legal purposes by Virginia Commonwealth University. In addition, what we find from this study may be presented at meetings or published in papers, but your child's name and that of the school he/she attends will not ever be used in these presentations or papers.

## **VOLUNTARY PARTICIPATION AND WITHDRAWAL**

Your child does not have to participate in this study. If you choose to allow your child to participate, he/she is not required to answer any question that makes him/her uncomfortable. Further, he/she may stop at any time without any penalty. This will be explained to your child before he/she agrees to complete any part of the survey. Your agreement to allow your child to participate in this research is voluntary. You may decide not to allow your child to participate. If you do so, his/her teacher will provide your child with alternate work to do during class time. Your decision about whether you allow your child to participate in this research will not affect your child's academic performance in his/her health class.

## **QUESTIONS**

In the future, you may have questions about your child's participation in this study. If you have any questions, please feel free to contact Dr. Kathy Ingram at (804) 828-6346 or Karen Muehl at (804) 928-2483.

If you have any questions about your rights as a participant in this study, you may contact:



Office for Research Subjects Protection  
Virginia Commonwealth University  
800 East Leigh Street, Suite 111  
P.O. Box 980568  
Richmond, VA 23298  
Telephone: 804-828-0868

Do not sign this consent form unless you have had a chance to ask any questions you may have and until you have received satisfactory answers to those questions.

**WHY IS THE STUDY DOCTOR/INVESTIGATOR DOING THIS STUDY?**

The conduct of this research is being done in order to provide Karen Muehl with partial fulfillment of the requirements for the Master of Science degree in counseling psychology.

**CONSENT**

If you are willing to let your child participate in this research, please complete the form by filling in your child's first and last name, your name, your signature, and the date. Please have your child return the signed form to his/her health teacher.

I have been given the chance to read this consent form. I understand the information about this study. Questions that I wanted to ask about the study have been answered. My signature says that I freely consent for my child to participate in this research study.

---

Name of Child (please print)

---

Parent/Guardian Name (print)	Parent/Guardian Signature	Date
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---

Name of Witness (print)	Witness Signature	Date
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---

Karen A. Muehl, Research Coordinator	Date
--------------------------------------	------

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Kathleen M. Ingram, Principal Investigator	Date
--	------

Appendix I  
Youth Assent Form

**VIRGINIA COMMONWEALTH UNIVERSITY  
YOUTH ASSENT FORM FOR RESEARCH PARTICIPATION**

**TITLE:** Supportive and Unsupportive Responses from Parents as Moderators of the Relationship between Stressful Life Events and Negative Outcomes in Adolescents

**VCU IRB NO.:** 6254

This form may have some words that you do not know. Please ask someone to explain any words that you do not know. You may take home a copy of this form to think about and talk to your parents about before you decide if you want to be in this study.

**What is this study about?**

The purpose of this study is to find out what problems teenagers have. The study will also try to find out how those problems affect teenagers. The study will also try to find out how teenagers' relationships with parents might affect the way teenagers deal with problems. This study may help parents and teenagers talk to each other.

**What will happen to me if I choose to be in this study?**

In this study you will be asked to fill in answers to survey of questions about yourself. Some of the questions are about your relationship with your parents. Other questions are about problems you may have had. Some questions are about your thoughts and feelings. There are also questions about alcohol, smoking, and drugs. All the questions will take about 30 minutes to answer. You will be asked to fill in the survey during your health class. We will not write your name on your survey.

If you decide to be in this research study, you will be asked to sign this form. Do not sign the form until you have all your questions answered, and understand what will happen to you.

**What might happen if I am in this study?**

Sometimes thinking about difficult things makes people upset. You do not have to answer any questions that you do not want to. You may decide at any time that you don't want to fill out any more of the survey. If you are upset by the questions in the survey, your school counselor will help you.

**Will you tell anyone what I say?**

We will not tell anyone the answers you give us. We will not show your answers to your teachers or parents or friends. However, if you tell us that someone is hurting you, or that you might hurt yourself or someone else, the law requires us to let people in authority know so they can help you.

If we talk about this study in speeches or in writing, we will never use your name.

**Do I have to be in this study?**

You do not have to be in this study. If you choose to be in the study you may stop at any time. No one will blame you or criticize if you drop out of the study.

**Questions**

If you have questions about being in this study, you can talk to the following persons or you can have your parent or another adult call:

Karen Muehl  
Research Coordinator  
(804) 928-2483

Dr. Kathy Ingram  
Principal Investigator  
(804) 828-6346

Do not sign this form if you have any questions. Be sure someone answers your questions.

**Assent:**

I have read this form. I understand the information about this study. I am willing to be in this study.

---

Youth name printed	Youth signature	Date
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---

Signature of Karen A. Muehl Research Coordinator and Person Conducting Informed Assent	Date
---	------

---

Signature of Kathleen M. Ingram, Ph.D. Principal Investigator	Date
--	------

Appendix J

Final Page of Booklet for Participants to Keep

*– Please detach this page and take it with you –*

If you have any questions about this survey or if you would like to contact me about this research, please do not hesitate to call or e-mail Karen Muehl, Research Coordinator or Dr. Kathy Ingram, Principal Investigator:

Karen A. Muehl  
Research Coordinator  
Graduate Student in Counseling Psychology  
Virginia Commonwealth University  
(804) 928-2483  
muehlka@vcu.edu

Kathleen M. Ingram, Ph.D.  
Associate Professor, Principal Investigator  
Department of Psychology  
Virginia Commonwealth University  
(804) 828-6346  
kingram@vcu.edu

Some of the questions on this survey asked you to think about a difficult event in your life. It may have been upsetting to think about this event. If you are feeling upset you are encouraged to meet with your school counselor to discuss what happened.

If you believe you are in need of counseling as a result of taking this survey, please contact Karen Muehl or Dr. Kathy Ingram so that we may address your concerns and provide you with a referral for therapy.

**THANK YOU FOR YOUR PARTICIPATION!**

## Vita

Karen A. Muehl was born on July 16, 1978 in Cooperstown, New York where she and her sister, Kristin DiMeo, were raised by their parents, Douglas and Patricia Muehl. Karen received her Bachelor of Arts in May, 2000 from Boston College where she majored in psychology and minored in Spanish language and literatures. After college she worked in Boston as a research assistant in the pediatric psychopharmacology unit at Massachusetts General Hospital until 2003. As a research assistant, Karen conducted diagnostic interviews, cognitive and neuropsychological assessments, coordinated an NIH-funded research study, and assisted on several NIH grant submissions.

Karen moved to Richmond, Virginia in 2003 to begin her graduate education in the counseling psychology doctoral program at Virginia Commonwealth University. Her area of subspecialty is in group dynamics and consultation, for which she has gained experience in leadership development, organizational consulting, and provision of group therapy. She will pursue research on group therapy for her doctoral dissertation and will be applying for pre-doctoral internship for 2007.