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Coping With Stress in Children

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Abstract

Unique stressors can prompt child adjustment difficulties. Coping strategies and emotion regulation that impact the adjustment of children in general and military family children were investigated. Eighty children, 36 with deployed parents, their parents and teachers participated. All experienced stress related to hurricane Katrina. Correlational analyses indicate that children with more hurricane-related losses or moves, use some coping strategies less often; hurricane-related child distress is related to lower maternal support; and parental hurricane-related distress is associated with high levels of child externalizing problems. When dealing with general stressors, some coping strategies were positively associated with child internalizing problems. Analyses indicate that children with high emotion regulation and use of certain coping strategies experienced less externalizing problems, and children with deployed parents were not more emotionally dysregulated or maladjusted than children with non-deployed parents. Analyses did not confirm the hypothesized roles of parental support. Gender differences are also discussed.

Introduction

All children experience stress from time to time. It is during times of stress that the child's coping skills and resources must be mobilized to help manage the stressor in ways that help the child adapt to the challenges prompted by the stressor. Although some stressors are part of normal childhood events and transitions, other stressors are more unique and present special challenges. Military family lifestyle is one such stressor.

Military-wide, there are at least 1.3 million children living in active duty, ready reserve and National Guard military families (Shelton, 2003). Children of reservists usually recognize that their parents have regular, full time jobs outside the military with only part-time and generally non-threatening military service obligations. However, since late 2001, a significant proportion of these children have been and remain impacted by family separations prompted by the military service of their parents in support of war efforts in or near Afghanistan and Iraq.

Children whose parents have been called to active duty in recent years in connection with the Marine Corps Reserve, Army Reserve, Army National Guard, Naval Reserve, Air Force Reserve and Coast Guard Reserve have been hardest hit by their parents' service obligations. These children may now be forced to cope with their parents being in life threatening situations. Indeed, military leadership has expressed concern about the growing numbers of adolescent military children experiencing mental health problems and exhibiting adjustment difficulties through involvement in youth violence, substance abuse and gang activity (Shelton, 2003).

Not only are military children under intense stress and pressure in today's society, so are other children. Today's youth can experience a barrage of stressful events in their daily lives. Such stressors present themselves in many different areas including, but not limited to: home, peers, school and other contacts with society. Life changes in any of these areas, as well as those

life stressors that provide change through children's parents, can present themselves in three distinctive forms as noted by Mates, Allison, and Kenneth (1992). Major life events are identified as those of an intense but relatively brief duration, while "enduring life strains" point to chronic events that exert long-term pressures upon the individual. A third category, everyday problems, seems interchangeable with the term "daily hassles" and has become commonly referred to as such in literature regarding stress.

As summarized by Printz, Shermis, and Webb (1999), vulnerability to behavioral and psychological maladjustment significantly increases when a person experiences stressful events during childhood. In addition, an accumulation of unresolved stressful experiences increases the child's susceptibility to maladjustment, especially undesirable stressors associated with major life events (Printz, et al., 1999; Wertlieb, Weigel, & Feldstein, 1987). Unhealthy attempts at adaptation inconsistent with coping resources and the needs of the situation are likely to promote the emergence of maladaptive coping patterns to manage stressors. To promote healthy adjustment, the tension and pressure that the stressor (either as a single event or multiple events) exerts on the child by the stress of must be managed. Learning to cope with emotions related to stress, especially negative emotions, in adaptive and constructive ways is a central process in producing well-adjusted children (Zeman, Shipman, & Suveg, 2002).

Distinctions in the nature of stress prompting adaptation to change have been frequently mentioned in the literature along the lines of controllability versus uncontrollability (e.g., Altshuler & Ruble, 1989; Causey & Dubow, 1992; Roecker, Dubow, & Donaldson, 1996). The occurrence of distress, or lack thereof, can vary depending upon whether and to what extent the child perceives the stressor to be controllable or uncontrollable. Efforts to cope with the stressor serve as an attempt "to regulate behavior, emotion, and orientation" (Sandler, Tein, Mehta,

Wolchik, & Ayers, 2000, p. 1100). More specifically, the process of learning to manage emotions in adaptive and socially appropriate ways is a central part of healthy emotion regulation development for children (Eisenberg and Morris, 2002). While coping reflects the broad interrelationship among emotion, cognition and behavior during efforts to prevent or manage general distress, emotion regulation is a specific type of coping for the purpose of managing emotions in stressful contexts that may include the use of cognitive and/or behavioral coping strategies.

This study will attempt to better understand how factors such as emotion regulation, coping and parental support are most beneficial in helping improve child adjustment to unique stressors. Although the focus will be stress faced by military family children, the study will also examine child stress related to the recent hurricane, of which all of the children in the sample were impacted.

Coping and Emotion Regulation

Research literature over the past several decades has noted several ways to view coping that have continued to guide the study of its role in adaptation and adjustment to stress. One of the most influential coping research programs that continues to be relevant today has been conducted by Lazarus and Folkman (1984). Though primarily applied to adult populations, such pioneering research has identified a generalized view of coping. Coping has been described as fluctuating cognitive and behavioral efforts during perceived stressful situations that seek to manage the person's external and/or internal demands when such demands are appraised as taxing or exceeding the person's current resources. These responses are not seen as a stable feature of personality but as part of a process that changes over time in response to personal demands and appraisals of stressful situations.

Prior to Lazarus and Folkman, Pearlin and Schooler (1978) also contributed to the field of coping research with adult populations by providing a basic view of coping as concrete efforts that people carry out to deal with life strains. However, Pearlin and Schooler originally made distinctions among three types of coping responses: (1) responses that change the strainful situation itself, (2) responses that control the meaning of the potentially strainful situation after it occurs but before stress surfaces, or (3) responses that control the situation-induced stress after the stress has already surfaced. Thus, a recurrent theme has emerged to integrate the various definitions of coping. Based on past definitions, the current study utilizes a standard definition of coping, "a dynamic process consisting of cognitive and behavioral responses to reduce or eliminate stressors or psychological distress" (Roecker, et al., 1996, p.288).

Research on stress and coping has not only produced definitions of coping but also models to enhance the understanding of coping responses or styles. Folkman posited problem- and emotion-focused coping (1984). Problem-focused coping responses would be aimed at altering a stressful situation, while emotion-focused coping responses would be aimed at regulating stressful emotions prompted by the stressful situation. Roth and Cohen (Roecker, et al., 1996) alternatively identified coping responses as guided by either approach or avoidance. Moos (Roecker, et al., 1996) suggested that problem- and approach-based responses are more active and direct in dealing with the stressor, while emotion- and avoidance-based responses would be more indirect and oriented away from dealing with the stressor.

There are two stress and coping models developmentally relevant for children. Shermis and Coleman (Printz, et al., 1999) developed a cognitive-behavioral model for adolescents that views stress and coping as composed of environmental stressors and moderators, personal factors, and stress and behavioral outcomes. Ayers et al (1994) developed and tested a multi-

dimensional model of coping for preadolescents. The dimensions of the model covered four coping strategies that separated avoidance and distraction strategies (as had not been done routinely in previous research) along with the added dimensions of active and social support strategies. However, both the active and social support strategies were viewed similarly as efforts to immediately reduce negative affect. The avoidance dimension was defined as a cognitive strategy with a behavioral component-- avoiding thinking about or exposure to stressful situations. The distraction dimension was described as a behavioral strategy involving the use of an activity to take the child's mind off the stressor, and later expanded by Ayers, Sandler, West and Roosa (1996) to include the purpose of keeping from dealing with or thinking about the stressor.

Emotion regulation is a specific, emotion-focused type of coping. It is viewed as a more basic process that focuses on the management of affect through an integration of physiological, cognitive, social and behavioral processes. Eisenberg and Morris (2002) have posited that emotion regulation in children is a dynamic process involving efforts to control the occurrence, form, intensity, or duration of distress through initiation, avoidance, inhibition, maintenance, or modulation of emotion. Children attempt to regulate emotion via effortful control of their attention and the cognitions that affect how situations are interpreted as well as through neurophysiological processes (Eisenberg & Zhou, 2000).

Focus remains on regulation processes in three domains: the emotional experience, the emotion-evoking situation and the emotionally-driven behavior (Eisenberg, et al., 1995). Furthermore, emotion regulation strategies regulate the child's emotional experiences in more complex ways as the child grows older and continues to experience increasingly sophisticated attention, memory and other cognitive skills (Grolnick, Bridges, & Connell, 1996, p. 929). In

accordance with these views, childhood emotion regulation seems to be a more intraindividual process.

Nevertheless, various definitions of emotion regulation found in the literature seem to suggest somewhat interdependent and overlapping views of emotion regulation and coping. When combined, an even more thorough view of emotion regulation emerges-- an internal process that includes external behavioral regulation for the purpose of managing emotional arousal and supporting adaptive coping responses to stress (Eisenberg and Morris, 2002; Calkins, Smith, Gill, & Johnson, 1998; Rubin, Hastings, Chen, Stewart, & McNichol, 1998). In stressful situations children learn to assess how useful particular emotion-regulating strategies are, how to match them to the demands of a situation, and integrate them into a larger range of self-regulatory processes as the child psychologically matures (Diamond and Aspinwall, 2003b). Thus, emotion regulation and coping are viewed as active, functional and goal-directed modes of affect management.

Losoya et al. (1998) identified three distinct types of emotion regulation viewed as interrelated with types of coping. Regulation of internally experienced emotion is seen as similar to emotion-focused coping. However, regulation of behavior associated with the experience of an emotion is not connected to any one particular coping style. And, regulation of the emotion-eliciting context is seen as similar to active, problem-focused and approach coping styles. Silk and colleagues (Silk, Steinberg & Morris, 2003) also delineate types of emotion regulation response control strategies adapted from coping research by Compas and colleagues (Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000). Primary control involves direct engagement with a stressor in an effort to modify negative aspects of the situation, while

secondary control involves efforts to maximize the person's fit to the situation when modification of the situation is not an option.

Developmental trends exist in the progression of emotion regulation and coping abilities during childhood. According to Eisenberg and Morris (2002), infancy necessitates almost total reliance on others to help the child with emotion regulation. Although social support from others continues to be needed throughout the early years, the child becomes increasing capable of regulating his or her own emotions with age. Via greater effortful control, developmental changes in representational skills, memory and cognitive maturity, and increasing adult expectations, children learn to regulate more effectively throughout childhood and into adulthood. Emotion regulation capabilities also continue to progress as the child becomes more self aware of emotions and coping; attains a better understanding of the nature of emotions and the emotional experience; and can regulate emotion more independently and effectively. With advancing physical and psychological maturity, children also become better able to match appropriate coping strategies with stressors; distinguish between controllable and uncontrollable situations; and gain a better understanding of the nature of stressors and the range of appropriate strategies available to regulate their emotions and thus manage the stressors.

According to Altshuler and Ruble (1989), emotional arousal can interfere with problem solving efforts. Other researchers have also found that the presence of negative emotions can hinder children's social functioning (Diamond & Aspinwall, 2003a); and social interaction problems result from children's failure to acquire the skills needed to manage emotional arousal and emotional responses (Calkins, Gill, Johnson, & Smith, 1999; Zeman, et al., 2002). Yet, well-regulated children have the ability to appropriately and constructively manage impulses and behavior (Eisenberg, et al., 1995). Well-regulated children are also characterized by flexible self-

control and high active and voluntarily effortful control of their attention and behavior as needed to respond in an adaptive manner (Eisenberg & Morris, 2002; Eisenberg, Spinrad, & Morris, 2002).

A child's style of coping can help or hinder emotion regulation success in the face of stress. Generally, the greater the number of stressful events that occur, the more coping the child is expected to do. In attempting to cope, the child may try a wide range of coping strategies over time and as the event increases in stressfulness (Sandler, et al., 1994). Research by Ayers et al (1996) underscores this fact in older children--children use a combination of active, avoidant, distraction and support seeking coping strategies frequently in their efforts to manage stressful events. Thus, it becomes difficult to assess the effectiveness of any single coping strategy, though some clearly work better than others when used alone. Difficulty also exists because strategies chosen depend upon specific characteristics of the situation (Roecker, et al., 1996; Hardy, Power, & Jaedicke, 1993). However in a general sense, use of a combination of strategies is likely to be effective and refraining from using ineffective strategies is the best approach to adaptive coping (Sandler, et al., 2000).

For young children, coping strategies leading to better adjustment include problem-focused approaches, especially when the stressor is controllable. Yet across early childhood, children increasingly utilize secondary control, emotion-focused and dependence on others strategies to manage stressors (Berg, et al., 1998). Unlike older children, younger children seem unable to deal with dual emotional reactions (Altshuler & Ruble, 1989). With age, coping strategies generally become more inner- or emotion-focused, and this is believed to be in connection with the emergence of maturing cognitive sophistication (Losoya, et al., 1998). Research by Chapman and Mullis (1999) found that adolescents most frequently deal with stress

by utilizing such strategies as seeking diversions, developing social support and self reliance, and engaging in demanding activities.

A review of the literature regarding use of specific coping strategies shows that active, problem-focused, and approach strategies are correlated with successful child adjustment to stress. Generally, active coping strategies can be effectively utilized to regulate negative affect and attempt to change the stressful situation (e.g., Sandler, et al., 2000). Eisenberg et al (1995) found that instrumental problem-focused coping is associated with positive outcomes, especially when the stressor is perceived by the child as controllable. In addition, adolescents' use of problem solving coping strategies is positively correlated with perceptions of controllability (Roecker, et al., 1996); predicted lower rates of depression and greater self efficacy (Sandler, et al., 1994); and is negatively correlated with adjustment problems (Losoya, et al., 1998). Thus, adolescents generally experience better adjustment when approaching or engaging with the stressor (Silk, et al., 2003) and utilizing less avoidant strategies (Hardy, et al., 1993).

The literature regarding avoidant coping is mixed. Several studies have noted links between the use of avoidant coping strategies and higher rates of maladjustment, namely depression, anxiety and conduct problems for children of divorce (Sandler, et al., 1994). Negative effects are even stronger when the use of active coping strategies is limited (Silk, et al., 2003). Though generally avoidant coping is related to poorer outcomes, this stance does not necessarily hold in situations viewed by the child as uncontrollable and where avoidance might prevent a negative escalation of the situation (Losoya, et al., 1998). Thus, where avoidant coping produces low child behavior problems, the coping strategy could be more constructive and adaptive in that particular situation (Eisenberg, Fabes, Nyman, Bernzweig, & Pinuelas, 1994).

Along with attentional control and instrumental coping strategies, situations involving anger would represent such a situation (Calkins, et al., 1999).

Distraction coping strategies have only scant findings available. Where it was previously combined with avoidance coping, as a separate category of responses there is still little research. One exception has been its prediction, with aggression and religious coping, of lower self-efficacy (Sandler, et al., 1994).

Support seeking coping as a strategy has also received little attention. Similarly to avoidance coping, the findings are mixed. More positive social adjustment has been noted with greater emotion regulation by the child or with the help of a caregiver (Calkins, et al., 1999). However, there appears to be a positive path from support seeking coping to depression and anxiety (Sandler, et al., 1994). Yet, no adaptive explanation for such a differential effect has been suggested.

Parental Roles and Behavior as Support

Parents provide an important context for children to learn emotion regulation, coping and many other life skills that will become increasingly important to master and refine throughout the child's development. Parents continually aid the child in adaptive emotion regulation, especially if the child is younger; however, the parental role in assisting the child with emotion regulation diminishes as the child ages (Grolnick, et al., 1996). According to Eisenberg, Fabes and Murphy (1996), parents socialize their children to emotion through: providing opportunities to indirectly teach the child via dyadic interactions with others; directly teaching or coaching the child about rules regarding emotional expression and regulation; and providing opportunities to learn about emotions through controlling exposure to particular kinds and intensity of emotions.

Hardy et al. (1993) indicate that parents who act in a supportive manner towards their child make the child feel comfortable in the parent's presence and confirm in the child's mind that he or she is approved of and accepted. It is this responsive maternal parental support that likely makes the child feel secure in the face of stress and more confident in his or her ability to cope with stress-inducing situations. Thus, parental support plays a facilitating role in the child's development towards adaptive and appropriate coping strategies.

Gottman (Berg, et al., 1998) further emphasized that parents also promote the child's adaptive capabilities towards greater independent emotion regulation and coping by serving as "emotion coaches." In this capacity, the parent utilizes the child's experience and expression of negative emotion as an opportunity for intimacy, learning, and/or personal growth without dismissing or denying the child's distress. The child is assisted in confronting the stressful event with a sense of control and optimism as the parent actively communicates understanding and empathy. In addition, parents can help children cope better in many other ways: as sources of information, advice or support; as role models for functional coping, as sources of praise or encouragement, or as collaborators in coping efforts. Especially for children experiencing more emotion dysregulation, parents who add structure and regulation to the child's social experiences while also providing the child with opportunities to practice more appropriate regulation independently (Rubin, et al., 1998) would seem a beneficial approach. Yet, parents and children likely experience a bi-directional and dyadic relationship with each influencing the emotional experience, emotional expression and coping of the other. This ongoing parent-child relationship is characterized by reciprocal influences, mutual responsiveness and empathy (Barber, Bolitho, & Bertrand, 2001).

Research regarding the beneficial role of social support, via parents and others, is prevalent. However, the relationship between stress and social support is explained from two different points of view. A main effect model posits that the relationship is characterized by social support directly exerting its influence upon the child's ability to manage stress. Thus, research incorporating this point of view suggests that social support is generally beneficial regardless of the level of stressors. Alternatively, a buffering model characterizes the relationship between stress and adjustment as one that is diminished by high levels of social support. (e.g., Dubow, et al., 1991)

Evidence for a buffering or protective role of social support in its effect upon a child's ability to cope with stress suggests that there is an inverse relationship between social support and child behavior symptoms (Wertlieb, et al., 1987) and depression (Printz, et al., 1999). Scaramella, Conger and Simons (1999) further demonstrated that social support protected against increases in the level of externalizing behaviors in adolescents such that no greater increases in externalizing behaviors were detected where social support was present. Social support is further suggested to exert a protective influence by impacting the child's sense of security, self-esteem, and control over the stressor (Roecker, et al., 1996).

To further describe the extent of the relationship between social support and coping, other research has examined the specific effects of a problem-focused (active) coping style on child adjustment. Dubow and Tisak (1989) and Dubow et al. (1991) found that higher levels of social support and problem- solving coping together buffered the effect of stressful life events on behavior problems, such that the effects of stressful life events on behavior problems were reduced. However, research by Dubow et al (1991) also suggested that this beneficial effect of social support and problem solving on child adjustment does not seem to hold long term.

The quality of the social support, or parenting, has also been linked to children's socioemotional regulation, functioning and competency. Parental care giving practices may either support or undermine the child's ability to develop health and appropriate self-regulatory behavior. While positive maternal guidance, via reinforcement and support, contribute to the development of appropriate self regulatory behavior, a lack of positive maternal interactions might hinder or harm the child's attempts at self management (Calkins, et al., 1998). There is much evidence on the relationship between parental warmth and support and children's emotion regulation and adjustment. Positive parental responses that have been shown to coincide with better emotion regulation in children are generally warm qualities such as comforting, nurturing, supporting, willing to discuss emotions (especially negative emotions), encouraging emotional expression, accepting and agreeing (Cumberland-Li, Eisenberg, Champion, Gershoff, & Fabes, 2003; Eisenberg, et al., 1996; Kliewer, Fearnow, & Miller, 1996). In young children, maternal facilitation and encouragement (i.e., assistance with regulation) were found to be correlated with more cooperative behavior during dyadic play (Calkins, et al., 1999).

In contrast, research by Hardy et al (1993) demonstrated that high levels of supportive maternal behavior in part coincided with heightened uses of avoidant coping strategies in children, but in controllable situations only. Research by Eisenberg et al (1999) found no definitive support for a correlation between supportive parenting and more adaptive socioemotional functioning in the child directly.

However, Eisenberg et al. (1999) did find limited longitudinal support for the view that nonsupportive and punitive parenting behavior is negatively correlated with adaptive socioemotional outcomes for children. Other parenting behaviors found to be detrimental to the child's emotion regulation and associated with maladaptive coping are minimizing the child's

negative emotion and parental discomfort or distress. In other research, additional negative parenting qualities associated with poor child outcomes are insensitivity, negativity and hostility along with coldness, intrusiveness, aversiveness and punitiveness, disagreeableness, controlling, less nurturing, and more negative emotionality (Bell & Calkins, 2000; Cumberland-Li, et al., 2003; McLoyd, 1990; Kochanska, Clark, & Goldman, 1997; Rubin, et al., 1998).

In summary, the role of parents in promoting adaptive child emotion regulation, coping and adjustment cannot be underestimated according to the prevailing research literature. Parents can serve as invaluable avenues of social support that can be continually relied upon throughout the childhood years to facilitate healthy child outcomes. The quality of support provided by the parents, in combination with the coping style utilized by the child, may provide the most maximal benefits seen in child adjustment. Parental social support may be especially important for children from military families because the military lifestyle prompts many demands for child adaptation in connection with continuous family relocations, parental separations for military assignments, school changes, and a lack of proximal extended family support.

Military Family Children

Children of active duty United States service members face many stressors that test their personal and familial coping resources. In today's political climate of general uncertainty and war, the occurrence of longer and more numerous parental separations from the family unit has become more common. In addition, at no time in at least a decade have military family children had to cope with such dangerous and uncontrollable events affecting the core of their social support network. Such events as repeated separations via the voluntary or involuntary activations of parents, as well as children's awareness of the nature of their parents' military service, can be a source of significant stress for children.

A child's knowledge that the parent's military occupation is in support of or directly involved in the activities of war could represent a major source of stress for the child, especially when coupled with the necessity that the parent be away from the family at any time during the performance of military duties. Such stressful circumstances can prompt adjustment difficulties due to possible strains on military family children's emotion regulation and coping capabilities as well as their resources.

Dubow and Tisak (1989) found that stressful life events were only modestly related to adjustment. However, since the researchers also noted that social support and problem solving presented significant stress-buffering effects, their findings have limited application in situations where the stressful event also involves significant distance from or loss of a key person in the child's social support network. In further clarification longitudinally, Dubow et al. (1991) suggested that major events influence adjustment via a more indirect pathway of heightened levels of daily hassles, and that it is those daily hassles that continuously strain the coping efforts of the child. Thus, findings by Dubow and colleagues may not necessarily apply to military family children whose parents are separated from the family for military assignments. However, conceptualizing stress by connecting family separations and increased daily hassles may be a better fit.

The Current Study

Review of the scant literature available regarding military families shows that children from military families experience adjustment difficulties prompted by particular stressors such as frequent family relocations, maternal functioning difficulties and school changes (Strobino & Salvaterra, 2000). Research by Finkel, Kelley and Ashby (2003) suggests that the most important factors relevant to military children's adjustment are maternal functioning and family

relationships. Yet no previous research could be located specifically regarding emotion regulation and coping styles of military family children or the value of parental support in these two areas. This highlights as well the absence of attention to military family children in psychological research, whom often experience frequent and uncontrollable life disruptions in connection with the occupations of their parents.

In addition to child adjustment difficulties prompted by military family lifestyle, adjustment difficulties can also be prompted by the occurrence of natural disasters, such as that prompted by Hurricane Katrina's landfall in the area where data were collected, seven months earlier. Mental health outcomes for children who experience catastrophes can be determined by characteristics of the disaster, the individual and the environment (cf. Reijneveld, Crone, Verhulst & Verloove-Vanhorick, 2003; Richman, 1993). However, the literature demonstrates that negative child outcomes are not inevitable. Numerous studies show high prevalence rates for internalizing child behavior problems several months after serious disasters (Durkin, Khan, Davidson, Zaman, & Stein, 1993; Evans & Oehler-Stinnet, 2006; Reijneveld, et al., 2003; Richman, 1993; Russoniello, et al., 2002) and increased aggressive and disruptive behaviors (Durkin, et al., 1993; Khoury, et al., 1997; Reijneveld et al., 2003). However other studies show little or no adverse impart in comparison to peers unaffected by the same disasters (Jeney-Gammon & Daugherty, 1993; McDermott & Palmer, 1999).

Since there is little to no research on emotion regulation and coping styles of military family children or those affected by a hurricane, the current study is specifically interested in the emotion regulation and coping strategies most beneficial in the healthy adjustment of children. affected by two life stressors. Both military family children (with currently nondeployed parents or parents deployed in the past year), the original focus of the study, and children affected by

Hurricane Katrina were involved. Interest is specifically on the examination of emotion regulation aspects such as the effortful, voluntary control that is associated with temperamental definitions of emotion regulation. It also aims to explore the impact of the quality of parental social support as a moderator between coping/emotion regulation and child behavioral outcomes, such that positive forms of coping will be associated with better outcomes when children receive quality social support from their parents.

<div align="center">Hypotheses</div>

This study has two aims: to better understand emotion regulation and coping strategies most beneficial in the healthy adjustment of military family children with currently non-deployed parents and children with parents deployed in the past year; and to explore how the quality of parental social support affects the relationships between coping/emotion regulation and child behavioral outcomes. The following three hypotheses will be tested:

1. Military family children who have had parents deployed away from the family in support of war efforts within the past year will be experiencing greater emotion dysregulation and behavioral maladjustment compared to children whose parents are not away (non-deployed) in support of war efforts.

2. Children who demonstrate high emotion regulation and use of positive coping strategies (active, distraction, and support seeking) will exhibit better adjustment.

3. The quality of parental support will moderate the relationship between child coping and adjustment as well as emotion regulation and adjustment. More specifically, supportive parenting behaviors will prove more beneficial when paired with high emotion regulation and positive coping. Analyses will be run for both mothers and fathers.

Methods

Participants

Participants included 80 children, parents and teachers at Belle Chasse Academy, a

charter school located on the Naval Air Station-Joint Reserve Base in Belle Chasse, Louisiana.

Children were in grades four through eight, ranging in age from nine to 15 (*M*=11.78 years). The

sample was 49% male and 51% female. Ethnic groups represented were 49% Caucasian, 32%

African-American, 5% each Hispanic and biracial, 3% Asian and 6% other. Of the entire sample,

81% were military family children and 19% were non-military family children. Forty-five

percent of the military family children had parents deployed in the past year (ranging from one to

six times), while 36% did not.

Eighty-four percent of the children resided in two-parent families, while 16 percent

resided in single-parent families. Maternal level of education above a GED (or high school

diploma) was 81%, while paternal education at the same level was 71%. Annual family income

ranged from $10,000 to over $90,000 annually with a median annual family income of $50-

60,000. Hurricane related information for the sample is presented in Tables 1 and 2. One hundred

percent of all participants were affected.

Table 1. *Hurricane Information for Entire Sample by Group: Means, Standard Deviations and*

Percentages

_____

Variable	Percentage, Mean and SD
Hurricane Location Status	100% away from home
Current Residential Status	85% same home 11% new home

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	4% other
Cumulative Material Loss	1.54 (1.47)
Parental Separation	28% yes
	72% no
Child Distress	1.24 (.72)
Repaired Home	64.3% yes
	35.7% no
Leaking Roof	6% yes
	94% no
Moves Since Hurricane	1.44 (1.09)
Cumulative Parental Distress	2.54 (2.13)
Flood Insurance	68% yes
	32% no

Note*: SD*=standard deviation, and is noted in parentheses in table.

Table 2. *Hurricane Information for Entire Sample: Minimum, Maximum, Mean and Standard Deviation*

Variable	Min	Max	Mean	SD
Cumulative Material Loss	0	7	1.54	1.47
Child Distress	0	3	1.24	.72
Moves Since Hurricane	0	3	1.44	1.09
Cumulative Parental Distress	0	9	2.54	2.13

Note: The cumulative parental distress variable is an addition of three variables representing three sources of parental distress.

Procedures

Initial recruitment began at the school during March, 2006 when a packet was sent home in each child's regular weekly parent contact folder (Tuesday Folder). The packet contained a cover letter explaining the study, two consent forms (one to sign and return and one to keep for their records), a demographics questionnaire, and a family hurricane survey. The information in the packet explained that the consent form was to be returned to the school with the child in the sealed envelope provided whether the family consented or declined participation. The information packet further explained that the demographics questionnaire and hurricane survey (for parental completion only) was to be included in the sealed packet only if parental consent to participate was granted. Also, parents were notified via the consent form that their child would not be asked any questions about their hurricane experiences, and whether they consented or declined participation, their child would receive a special pencil just for returning the consent form in the sealed envelope. Confidential and sealed packets returned by the children were later collected by their teachers and returned to the office of the school liaison for prompt collection by the Co-Principal Investigator. Other than completion of the demographics questionnaire and family hurricane survey, no other data was collected from the parents. Also, parents did not receive any compensation or award for their participation.

After the consent forms, demographics forms and hurricane surveys were collected, the child participants were then gathered over the next several weeks in small groups (no more than 12 children) during non-required/elective course time for self-report data collection sessions. The project coordinator, a licensed professional counselor, and an assistant were present during the data collection sessions. It was explained to the children first the purpose of the study and that their parents had given permission for them to participate; however, the children were made

aware that they did not have to participate and would not be penalized if they chose not to participate. After all children indicated that they wanted to participate, the project coordinator read through the assent procedures. (Children were offered an accompanied walk back to class or the front office, at the discretion of the child's teacher, if they chose not to participate.) Each child was presented with two child assent forms (one to keep and one for collection during the session). The project coordinator then read the assent forms to the children, informing them that they may withdraw their participation, stop answering questions, or skip a question at any time without penalty. Children were then asked if they had any questions and to fill in their names and sign each form if they agreed to participate. During the remainder of the session, children were asked to complete the questionnaires as the questions are read to them. Children were routinely debriefed after each data collection session by reiterating that neither their parents, teachers, or anyone else at school would see their answers to the questionnaires. Children were also reminded of the purpose of the project as detailed during the prior assent procedures.

On the same day that child participants completed their packets of self-report questionnaires, their teachers were given a packet containing two consent forms, with copies of parent consent forms and teacher report measure of child adjustment for each of their participating students. (Children in grades six through eight, due to having multiple teachers and sometimes no courses with the homeroom teacher, were asked if their homeroom teachers knew them well and to provide the name of an alternative teacher if this was not the case.) Each teacher was asked to sign both consents for teacher participation, also keeping one copy, and requested to complete the forms promptly and return them in the sealed envelope provided to the office of the school liaison. The two teachers with the highest percentage of returned consent forms, whether parents consented to participation or not, received a $25 WalMart gift certificate.

Measures

       <u>*Demographics Information.*</u> Parents answered 18 questions to elicit basic information about the child, family and military lifestyle. Parents reported on ethnicity, family income, household demographics, and family deployment history

       <u>*Hurricane Survey.*</u> Parents completed 17 questions from an adaptation of the Port Charlotte (FL) battery of questions (similar to Sullivan, Saylor, & Foster, 1991) originally used to assess experiences after Hurricane Andrew. Responses, currently to assess experiences after Hurricane Katrina, were both Likert-type and categorical. Parents reported of the effects of the hurricane on the child, parents and family unit. Sample questions included: "Overall, how upset was your child after the hurricane?" and "Was your home damaged badly or destroyed by the hurricane?"

       <u>***Emotion Regulation Scale.***</u> This child self-report scale had 14 items with Likert responses that measured the child's emotion regulation/effortful control in domains of attention and inhibitory control. It was adapted from *The Early Adolescent Temperament Questionnaire-Revised* (EATQ-R) that contained 12 scales measuring subcomponents of self-regulation, reactivity and emotionality, along with two social-emotional scales. Sample questions from the measure included: "It is really easy for me to concentrate on homework lessons" and "I have a hard time finishing things on time." Ellis and Rothbart (2001), in their validation of the sample in children aged 10-15 years old, reported coefficient alpha levels for the attention and inhibitory control subscales as .67 and .69 respectively. Coefficient alphas for this study were acceptable (see Table 3). However, one item was eliminated from analysis to improve the reliability of the measure.

Table 3. *Descriptive Statistics for All Participants*

Variable	Min	Max	Mean	SD	Alpha
Coping Strategy					
Active	1.14	3.71	2.47	.52	.56
Avoidant	1.00	3.86	2.81	.64	.76
Distraction	1.14	3.71	2.46	.58	.58
Support Seeking	1.00	3.71	1.98	.68	.82
Emotion Regulation					
Attention	1.50	4.67	3.12	.66	.63
Inhibitory Control	1.57	4.29	3.00	.62	.48
Total Emotion Regulation	1.69	4.38	3.05	.60	.75
Parental Support					
Maternal	2.00	5.00	4.00	.82	.84
Paternal	.00	5.00	3.69	.89	.82
Total Parental Support	2.25	4.88	3.22	.37	.89
Maladjustment (child report)					
Internalizing	.00	1.60	.67	.41	.52
Externalizing	.00	1.40	.55	.40	.64
Total Maladjustment	.00	1.20	.59	.30	.61
Maladjustment (teacher report)					
Internalizing	.00	1.20	.28	.34	.69
Externalizing	.00	1.80	.25	.38	.78
Total Maladjustment	.00	1.10	.26	.27	.72

Parental Support Appraisal Scale. Children reported on social support from mothers and fathers separately (8 identical questions for each parent). Questions assessed the child's perceived quality of their relationship support with each parent via Likert responses. This scale was adapted from Dubow and Ullman's (1989) Social Support Appraisals Scale, a general social support scale that originally measured social support from family, peers and teachers. Sample questions from the original and adapted measures included: "Some kids' mothers make them feel bad, but other kids' mothers don't. Does your mother make you feel bad?" and "Some kids think

their fathers really care about them, but other kids don't. Do you think your father really cares about you?" Dubow and Ullman reported Cronbach's alpha at .88 for the entire measure, subscale reliabilities ranging from .66 to .73, and three- to four-week test-retest reliability for the entire 31-item original scale at .75. During their validation of the full scale using a sample of third through fifth graders, the original subscales were shown to correlate highly with the subscales of a similar, established scale measuring children's perceived social support. See Table 3 for Cronbach's alphas for the current study.

Children's Coping Strategies Checklist-Revision 1 (CCSC-R1). The CCSC-R1 is a self-report inventory where children described their coping efforts. Coping strategies were grouped along scales of active, distraction, avoidance and support seeking coping. Responses were in Likert format. Sample items from the measure included statements about how often the child used a particular coping strategy to solve a problem in the past month: "You tried to ignore it" and "You told someone how you felt about the problem." Items in the avoidance coping dimension focused on cognitive strategies, specifically avoidance of thinking about or exposure to stressful situations. Items in the distraction coping dimension focused on behavioral strategies, such as the use of an activity to take the child's mind off the stressor, that also reflected the cognitive component of keeping the child from dealing with or thinking about the stressor (Ayers, Sandler, West and Roosa, 1996).

In a sample of nine-13 year-olds during a study by Arizona State University (1999), alphas were reportedly .88 for the active coping strategies subscale, .65 for avoidance, and .86 for support seeking. (No alpha was reportedly available for the distraction scale since it was not used in the project.) However, the four dimensional structure of measuring coping in children was found in their study to be a better fit than other two-dimensional conceptualizations used by

colleagues after deletion of a minimization subscale that showed high cross-loadings with all four factors. See Table 3 for Cronbach's alphas for the current study.

Strengths and Difficulties Questionnaire (*SDQ*). Teacher and child report versions of the *SDQ* for ages 4-10 and 11-17 were used to assess child adjustment. The *SDQ* was commonly used to measure children's behavioral adjustment and psychopathology. The scores on two subscales were combined to generate a total difficulties score based on 10 items in the categories of problems. The response format included "not true," "somewhat true" and "certainly true," while sample stem items for both age groups included: "often loses temper" and "any worries or often seems worried." In a large sample of 5-15 year-olds, Goodman (2001) reported that the *SDQ* demonstrated adequate reliability with a Cronbach's alpha of .73 and test-retest stability of .62. Validity was demonstrated via scores above the 90th percentile predicting a significantly raised probability of independently diagnosing a child's psychiatric disorder. See Table 3 for Cronbach's alphas for the current study.

Plan of Analysis

First, Cronbach's alpha was calculated for all variables to be certain that scales were internally consistent. Second, mean differences were examined for all variables based on sex, age, and ethnicity using ANOVAs. The main research hypotheses were tested using a variety of statistical procedures.

The first hypothesis, military family children with parents deployed to war will be experiencing greater emotion dysregulation and behavioral maladjustment than children with non-deployed parents, was tested using two independent-samples t tests. It was expected that children with deployed parents would show higher mean levels of emotion dysregulation and behavioral maladjustment than children with nondeployed parents.

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The second hypothesis, children with high emotion regulation and use of positive coping strategies (active, distraction and support seeking) will exhibit better adjustment, was tested using correlations and hierarchical multiple regressions. Correlations were used to determine the association between emotion regulation and child adjustment and, separately between coping scores (for each type of coping) and child adjustment. It was expected that the relationship between emotion regulation and adjustment would be moderately positive. The associations between types of coping and adjustment were expected to be moderately positive for active coping, distraction, and support seeking, with the strongest effect for active coping, and moderately negative for avoidant coping. Hierarchical multiple regression analyses were used to examine the extent of the relationships between the variables. It was expected that there would be significant interactions between high emotion regulation and use of positive coping strategies, such that both, in combination, significantly predicted higher child adjustment. Effects were tested for both military family children and the entire sample. Adjustment was examined separately for both groups as total adjustment, internalizing adjustment and externalizing adjustment.

The third and final hypothesis, perceived quality of parental support will moderate the relationship between child coping and adjustment as well as between emotion regulation and adjustment, was tested separately for mothers and fathers using the same procedures outlined in hypothesis 2. First, the correlations between types of coping and parental support were examined with the expectation that high parental support would be associated with more frequent use of all coping strategies independently. Next, parental support (for mothers, fathers and total parental support separately) was tested as a moderator between coping types and adjustment and between emotion regulation and adjustment, with the expectation that a combination of parental support

and emotion regulation/coping would result in the highest levels of adjustment. Adjustment was examined separately for both parents as total adjustment, internalizing adjustment and externalizing adjustment. It was expected that similar patterns would be found for mothers and fathers. However, findings were likely to be stronger for mothers. For all regression analyses, when interactions were significant, the variables were centered and relations between emotion regulation and adjustment were graphed using 1 standard deviation above and 1 standard deviation below the mean on the coping variable. To probe the interaction further, a median split was created for the coping variable, and correlations were computed between emotion regulation and adjustment for each group.

<div align="center">Results</div>

Descriptive Analyses

Means for all major variables are presented in Table 4 for all participants. Independent-samples t tests and ANOVAs for sex, ethnicity and age were conducted to compare mean scores on all major variables for the entire sample and for military family children. Significant gender and ethnic differences were found.

Table 4. *Means and Standard Deviations for Major Variables by Group*

Variable	Group	N	Min	Max	Mean	SD	T

Coping Strategy

Active	Nondeployed	29	1.43	3.71	2.52	.51	
	Deployed	36	1.14	3.71	2.46	.56	.46
Avoidant	Nondeployed	29	1.71	3.71	2.81	.60	
	Deployed	35	1.00	3.86	2.89	.65	-.49
Distraction	Nondeployed	29	1.14	3.29	2.41	.59	
	Deployed	35	1.43	3.71	2.47	.58	-.41
Support Seeking	Nondeployed	29	1.00	3.71	2.07	.83	
	Deployed	36	1.14	2.86	1.90	.51	.96
Emotion Regulation	Nondeployed	29	2.15	4.23	3.12	.58	
	Deployed	36	1.69	4.00	2.94	.57	1.30
Parental Support							
Maternal	Nondeployed	29	2.25	5.00	4.00	.86	
	Deployed	36	2.00	5.00	3.82	.82	.85
Paternal	Nondeployed	29	0.00	5.00	3.67	1.09	
	Deployed	36	1.50	5.00	3.47	.78	.86
Total Parental Support	Nondeployed	29	2.25	4.88	3.29	.46	
	Deployed	36	2.63	3.69	3.24	.24	.54
Maladjustment (child report)							
Internalizing	Nondeployed	29	0.00	1.60	.63	.38	
	Deployed	36	0.00	1.60	.73	.43	-.97
Externalizing	Nondeployed	29	0.00	1.00	.52	.29	
	Deployed	36	0.00	1.40	.63	.45	-.50
Total Maladjustment	Nondeployed	29	0.00	1.20	.57	.26	
	Deployed	36	0.00	1.20	.64	.33	-.96
Maladjustment (teacher report)							
Internalizing	Nondeployed	29	0.00	1.20	.30	.32	
	Deployed	36	0.00	1.20	.25	.34	.64
Externalizing	Nondeployed	29	0.00	1.20	.26	.33	
	Deployed	36	0.00	1.00	.18	.28	.96
Total Maladjustment	Nondeployed	29	0.00	1.00	.57	.28	
	Deployed	36	0.00	1.10	.21	.24	1.03

Sex differences. Significant sex differences in mean scores were found on five major variables: support seeking coping, emotion regulation, child-reported internalizing and teacher-reported externalizing. Females ($M=2.17$, $SD=.69$) used more support seeking coping than males ($M=1.79$, $SD=.62$, $t=-2.55$, $p=.01$), but males ($M=3.21$, $SD=.61$) had better emotion regulation than females ($M=2.90$, $SD=.55$, $t=2.42$, $p=.01$). According to child reports, females ($M=4.22$, $SD=1.81$) had more internalizing symptoms than males ($M=2.44$ $SD=1.92$, $t=-4.28$, $p=.00$), and teachers reported that males ($M=1.67$, $SD=2.29$) had more externalizing symptoms than females ($M=.80$, $SD=1.33$, $t=2.05$, $p=.04$). Due to lack of power and few sex differences in coping, analyses were conducted for the entire sample.

Independent-samples t tests showed some of the same significant sex differences in mean scores on several variables for the military family children that were found for all participants. Females (*M*=2.18, *SD*=.68) again used more support seeking coping than males (*M*=1.77, *SD*=.60, *t*=-2.55, *p*=.01), but males (*M*=3.24, *SD*=.53) again had better emotion regulation than females (*M*=2.81, *SD*=.55, *t*=3.22, *p*=.00). Also, according to child reports, females (*M*=4.27, *SD*=1.79) again had more internalizing symptoms than males (*M*=2.59, *SD*=1.95, *t*=-3.62, *p*=.00). However, for military family children, child reports indicated more total child maladjustment problems for males (*M*=2.75, *SD*=1.87) than for females (*M*=2.61, *SD*=1.78, *t*= -2.12, *p*=.03).

Age differences. To examine age differences on all major variables for all participants, another one-way analysis of variance was performed. There was a statistically significant difference in parental support scores [*F*(6, 4.34), *p*=.001]. However, the effect size was small, *eta²*=.03. Post hoc comparisons using the Tukey test indicate that the mean scores for children who were age 9 (*M*=2.97, *SD*=.37) were significantly lower than those of children who were age 12 (*M*=3.34, *SD*=.43) and age 13 (*M*=3.43, *SD*=.25).

A one-way analysis of variance showed no significant differences in mean scores by ethnicity (Caucasian and African-American children, in sufficient numbers in the sample). No differences were found either among deployed, nondeployed and nonmilitary family children on hurricane variables, indicating that children experienced similar levels of hurricane related stress.
Relations Between Constructs

Hurricane variables. Significant correlations among the major variables and hurricane variables are shown in Table 5. Cumulative material loss as a result of the hurricane was negatively associated with child support seeking coping, suggesting that as material loss

increased, children used less support seeking strategies. Child distress was negatively correlated with maternal support, suggesting that as child distress increased, the quality of maternal support decreased. Cumulative parental distress was negatively associated with paternal support, suggesting that as parents become more distressed the quality of perceived paternal support to the child diminishes. However, cumulative parental distress was positively associated with child-reported externalizing adjustment problems, suggesting that as parental distress increases so do externalizing adjustment problems. Number of moves as a result of the hurricane was negatively correlated with use of active, avoidant and support seeking coping, suggesting that children used these strategies less often to cope as moves due to the hurricane increased.

Table 5. *Correlations Among Major Variables and Hurricane Variables for Entire Sample*

Variable	Cumulative Material Loss	Child Distress	Cumulative Parental Distress	Number of Moves
Active Coping	-.19	-.16	-.10	-.24*
Avoidant Coping	-.08	.03	-.12	-.24*
Distraction Coping	-.09	-.14	-.09	-.15
Support Seeking Coping	-.31**	-.13	-.16	-.40**
Emotion Regulation	.14	-.16	-.13	-.03
Maternal Support	-.08	-.26*	-.21	-.13
Paternal Support	-.03	.00	-.34**	-.09
Total Parental Support	.15	-.07	.19	.01
Internalizing (C)	-.09	.02	-.06	-.06
Externalizing (C)	-.00	.16	.32**	.20
Total Maladjustment (C)	-.10	.02	-.15	-.02

(table 5 continued) Internalizing (T)	-.14	-.06	-.17	-.01
Externalizing (T)	-.01	.09	-.07	-.03
Total Maladjustment (T)	-.03	.10	.12	.07

Note: C=child report, T=teacher report. **$p<.01$. * $p<.05$. Pearson and Spearman calculations were highly similar.

Major variables and full sample. Inter-correlations among all major variables are shown in Table 6. Many relationships between constructs for the entire sample were found in directions already established by the literature: coping strategy inter-correlations, coping and maternal support, parental support and maladjustment, emotion regulation and child reported maladjustment. Specifically, use of positive coping strategies (except distraction) was positively associated with maternal support; internalizing behavior problems were positively associated with use of avoidance coping strategies; emotion regulation was negatively associated with child reported externalizing behavior problems and overall maladjustment; paternal support was positively associated with emotion regulation; and parental support was negatively associated with child reported externalizing behavior problems and overall maladjustment.

Table 6. *Inter-correlations Among Major Variables for Entire Sample*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Child Active Coping														
2. Child Avoidant Coping	.60**													
3. Child Distraction Coping	.26*	.07												
4. Child Support Seeking Coping	.33**	.34**	.06											
5. Child Emotion Regulation	.10	-.03	-.01	-.18										
6. Maternal Parental Support	.33**	.21	.18	.25*	.20									
7. Paternal Parental Support	.11	.02	.22	.01	.33**	.60**								
8. Parental Support	-.09	.07	-.19	.18	-.18	-.30**	-.44**							
9. Child Internalizing (C)	.05	.34**	.02	.28*	-.42**	-.07	-.17	-.01						
10. Child Externalizing (C)	-.15	-.15	.14	-.12	-.47**	-.40**	-.30**	-.14	.19					
11. Child Maladjustment (C)	-.01	.21	.14	.14	-.52**	-.24*	-.28*	.06	.78**	.71**				
12. Child Internalizing (T)	.10	-.02	.00	.03	.11	.12	.15	-.04	.13	-.09	.04			
13. Child Externalizing (T)	.-.12	.04	.19	-.12	-.00	.03	.10	-.04	.01	.20	.29**	.15		
14. Child Maladjustment (T)	-.02	.01	.14	-.08	.08	.09	.16	-.04	.08	.08	.23*	.72**	.79**	

C=child report, T=teacher report. **$p<.01$. * $p<.05$

Major variables and military family children. Relationships between constructs for deployed and nondeployed military family children are noted in Table 7. Significant relationships in similar directions were found for both deployed and nondeployed military family children. Active and avoidant coping were positively correlated, with the relationship for deployed children being nearly twice that of nondeployed children. Negative correlations for both groups were shown for emotion regulation with both child-reported internalizing and total child-reported maladjustment problems, and between maternal support and child-reported externalizing problems.

Other significant associations were different between deployed and nondeployed military family children. For deployed military family children, positive correlations were shown for teacher-reported internalizing problems with both avoidant and support seeking coping, and between emotion regulation and paternal support. For the same group, negative associations were shown between active coping and child-reported externalizing problems and for emotion regulation with both child-reported externalizing and teacher-reported internalizing problems. For nondeployed military family children, positive correlations were found for avoidant coping with both child-reported internalizing and total maladjustment problems, support seeking coping with maternal support and child–reported internalizing problems, and distraction coping with both teacher-reported internalizing and total maladjustment problems.

Table 7. *Inter-correlations Among Major Variables, Deployed Above the Diagonal and Nondeployed Below the Diagonal*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Child Active Coping		.71**	.24	.21	.28	.26	.18	.08	-.01	-.33*	-.14	.04	-.07	.05
2. Child Avoidant Coping	.38*		.01	.27	.28	.14	.09	-.13	.27	-.32	-.05	.43*	-.03	-.01
3. Child Distraction Coping	.27	.05		.04	.05	.20	.18	-.16	.00	-.08	-.06	.07	.06	-.10
4. Child Support Seeking Coping	.33	.27	.04		-.15	-.03	.21	.18	.32	.00	.18	.44*	-.19	-.08
5. Child Emotion Regulation	-.01	-.33	.30	-.28		.29	.42*	-.16	-.46**	-.62**	-.60**	-.52**	-.05	-.11
6. Maternal Parental Support	.35	.27	.12	.40*	.13		.60**	-.30	-.15	-.33*	-.24	-.06	.14	.15
7. Paternal Parental Support	.07	.01	.30	-.13	.24	.54**		-.09	-.16	-.28	-.27	-.17	-.07	.01
8. Parental Support	-.10	.16	-.24	.34	-.31	-.26	-.66*		-.15	-.03	-.12	-.14	-.21	.07
9. Child Internalizing (C)	.05	.44*	.06	.44*	-.52**	-.07	-.20	.19		.34	.81**	-.25	.08	.22
10. Child Externalizing (C)	.31	.09	.38	-.23	-.17	-.40*	-.18	.17	.10		.79**	-.14	.01	.00
11. Child Maladjustment (C)	.19	.38*	.32	.24	-.47*	-.23	-.21	.20	.80**	.62**		-.26	.17	.21
12. Child Internalizing (T)	-.06	-.19	.39*	-.04	.29	.15	-.19	-.09	-.25	.02	-.17		.24	.81**
13. Child Externalizing (T)	-.24	-.05	.24	-.24	-.03	-.06	.25	-.07	-.14	.26	.20	.10		.75**
14. Child Maladjustment (T)	-.20	-.16	.42*	-.19	.17	.00	.30	-.11	-.26	.19	.02	.74**	.75**	

C=child report, T=teacher report. **p<.01. * p<.05.

Hypothesis 1

Deployed military family children will be experiencing more emotion dysregulation and maladjustment than nondeployed military family children. Independent-samples t tests showed no significant differences (see Table 4 for t values). Deployed military family children (*M*=2.94, *SD*=.57) were not significantly different from nondeployed military family children (*M*=3.12, *SD*=.58) on emotion regulation. According to child-reported maladjustment scores, deployed military family children (*M*=.64, *SD*=.33) did not differ significantly from nondeployed military family children (*M*=.57, *SD*=.33, *p*=.34). Teacher maladjustment reports also showed no significant differences between deployed military family children (*M*=.21, *SD*=.24) and nondeployed military family children (*M*=.28, *SD*=.24, *p*=.30).

Hypothesis 2

Children with high emotion regulation and use of positive coping (active, distraction and support seeking) strategies will exhibit better adjustment. This will be tested for the entire sample and military family children. Correlations for the entire sample are shown in Table 6. Significant negative associations were found for emotion regulation with child-reported measures of maladjustment (internalizing, externalizing and total). As expected, these correlations suggest that children who are well regulated have less adjustment problems. Contrary to expectations, a positive association was found between support seeking coping and child-reported internalizing, suggesting that as children use more support seeking coping internalizing problems increase. There were no significant associations found for distraction coping with emotion regulation or any type of maladjustment.

For military family children (see Table 8), the same significant negative associations were found between emotion regulation and all child-reported measures of maladjustment

Table 8. *Inter-correlations Among Major Variables for all Military Family Children*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Child Active Coping														
2. Child Avoidant Coping	.57**													
3. Child Distraction Coping	.25	.03												
4. Child Support Seeking Coping	.27 *	.25*	.03											
5. Child Emotion Regulation	.17	.00	.16	-.19										
6. Maternal Parental Support	.30*	.19	.16	.22	.23									
7. Paternal Parental Support	.12	.04	.24	.00	.33**	.57**								
8. Parental Support	-.02	.08	-.20	.30*	-.23	-.26*	-.46**							
9. Child Internalizing (C)	.02	.34**	.03	.35**	-.49**	-.13	-.18	.04						
10. Child Externalizing (C)	-.06	-.08	.13	-.10	-.36**	-.26*	-.20	.03	.21					
11. Child Maladjustment (C)	-.03	.19	.10	.18	-.55**	-.24	-.24	.04	.81**	.75**				
12. Child Internalizing (T)	.06	-.09	.06	.01	.08	.09	.14	.06	.03	.00	.02			
13. Child Externalizing (T)	.-.14	-.04	.14	-.20	-.02	.05	.13	-.11	-.04	.31*	.16	.19		
14. Child Maladjustment (T)	-.05	-.09	.13	-.12	.04	.10	.17	-.03	.00	.19	.12	.79**	.75**	

C=child report, T=teacher report. **p<.01. * p<.05

(internalizing, *r*=-.49, *p*<01; externalizing, *r*=-.36, *p*<.01; total, *r*=-.55, *p*<.01), suggesting that military family children who are well regulated also have less adjustment problems. Correlations for this group also show a significant positive association between support seeking coping and child-reported internalizing (*r*=.35, *p*<.01), such that these children also experience more internalizing problems as use of support seeking coping strategies rises. There were also no significant associations found for distraction coping with emotion regulation or any type of maladjustment for military family children. Hierarchical multiple regressions analyses showed a similar and significant interaction between emotion regulation and distraction coping predicting child-reported externalizing problems for both the entire sample and military family children (Tables 9 and 10, Figures 1 and 2). One significant interaction, only for the entire sample, was found between emotion regulation and support seeking coping predicting child-reported externalizing problems (Table 11, Figure 3).

Table 9. *Hierarchical Multiple Regression Analysis for Variables Interacting to Predict Child-reported Externalizing Behavior Problems for Entire Sample*

Variable	B	*SE β*	*β*
Step 1			
Emotion Regulation	-.37	.34	-1.16*
Step 2			
Emotion regulation	-.36	.33	-1.15*
Distraction coping	.19	.35	.64
Step 3			
Emotion regulation	-.33	.33	-1.03*

(table 9 continued)

Variable	B	SE β	β
Distraction coping	.26	.35	.87*
Emotion regulation X distraction coping	.24	.61	1.35*
Post hocs			
High distraction coping	-.08	.52	-.26*
Low distraction coping	-.57	.44	-1.81*

Note: B=standardized, *SE β*=standard error of unstandardized beta, *β*=unstandardized. R^2=.13 for Step 1; ΔR^2=.04 for Step 2; ΔR^2=.05 for Step 3 (*ps*<.05).

Table 10. *Hierarchical Multiple Regression Analysis for Variables Interacting to Predict Child-reported Externalizing Behavior Problems for Military Family Children*

Variable	B	SE β	β
Step 1			
Emotion Regulation	-.36	.37	-1.10**
Step 2			
Emotion regulation	-.39	.37	-1.19**
Distraction Coping	.19	.37	.60
Step 3			
Emotion regulation	-.37	.34	-1.15**
Distraction coping	.37	.38	1.13**
Emotion regulation X distraction coping	.38	.71	2.19**
Post hocs			
High distraction coping	.04	.54	.11
Low distraction coping	-.78	.52	-2.40**

Table 11. *Hierarchical Multiple Regression Analysis for Variables Interacting to Predict*

Child-reported Externalizing Behavior Problems for Entire Sample

Variable	B	*SE* β	β
Step 1			
Emotion Regulation	-.37	.34	-1.18**
Step 2			
Emotion regulation	-.40	.34	-1.27**
Support seeking coping	-.16	.30	-.45
Step 3			
Emotion regulation	-1.55	.36	-.48**
Support seeking coping	-.58	.30	-.21*
Emotion regulation X support seeking coping	-.24	.55	-1.17 **
Post hocs			
High support seeking coping	-.73	.61	-2.35**
Low support seeking coping	-.24	.41	-.75

Note: B=standardized, *SE* β=standard error of unstandardized beta,
β=unstandardized. R^2=.14 for Step 1 (*p*<.01); ΔR^2=.03 for Step 2; ΔR^2=.05 for Step 3 (*p*<.01).

Figure 1 demonstrates the interaction between emotion regulation and distraction coping

for the entire sample. It shows that among children high in emotion regulation, use of less

distraction coping strategies is related to lower levels of externalizing problems (B=-.57, *p*<.05).

The relation between emotion regulation and externalizing is less strong among children high in distractive coping (B=-.08, *p<.05*), but is still significant.
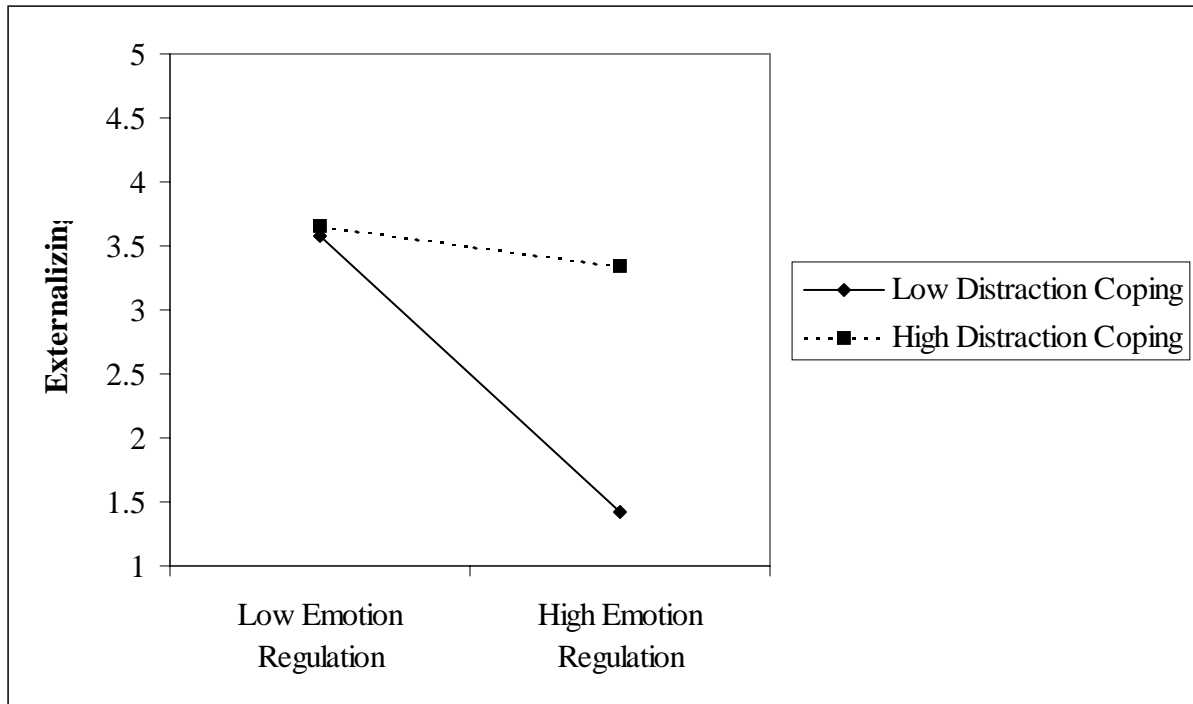

Figure 1. *Interaction Between Emotion Regulation and Distraction Coping on Child-reported Externalizing Adjustment Problems for Entire Sample*

Note: Plotting program using means and standard deviations of independent variable and moderator at http://www.jeremydawson.co.uk/2-way standardised.xls.

Figure 2 demonstrates the interaction between emotion regulation and distraction coping for the military family children. It shows that among children high in emotion regulation, use of less distraction coping strategies is related to lower levels of externalizing problems (B=-.78, *p*<.01). The relation between emotion regulation and externalizing is less strong among children high in distraction coping (B=.04), and non-significant.
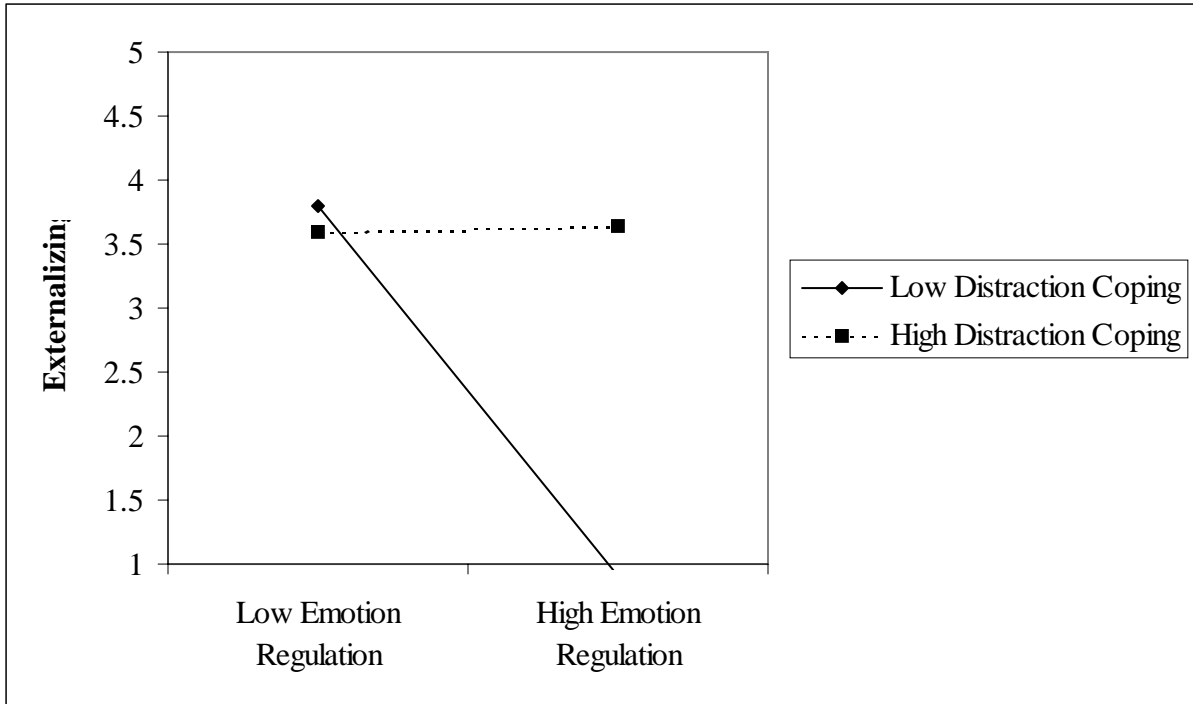
Figure 2. *Interaction Between Emotion Regulation and Distraction Coping on Child-reported*

Externalizing Adjustment Problems for Military Family Children

Note: Plotting program using means and standard deviations of independent variable and moderator at http://www.jeremydawson.co.uk/2-way standardised.xls.

Figure 3 demonstrates the interaction between emotion regulation and support seeking coping for the entire sample. It shows that among children with high use of support seeking coping strategies, emotion regulation is associated with lower levels of externalizing problems (B=-.73, *p*<.01). Among children with low use of support seeking coping strategies, emotion regulation is associated with lower levels of externalizing problems (B=-.24), but this relationship is less strong and non-significant. Children with low emotion regulation show the highest externalizing problems regardless of how much support seeking coping is used. A similar finding regarding the association between emotion regulation, support seeking coping and externalizing problems, found for the entire sample, was not found for military children.
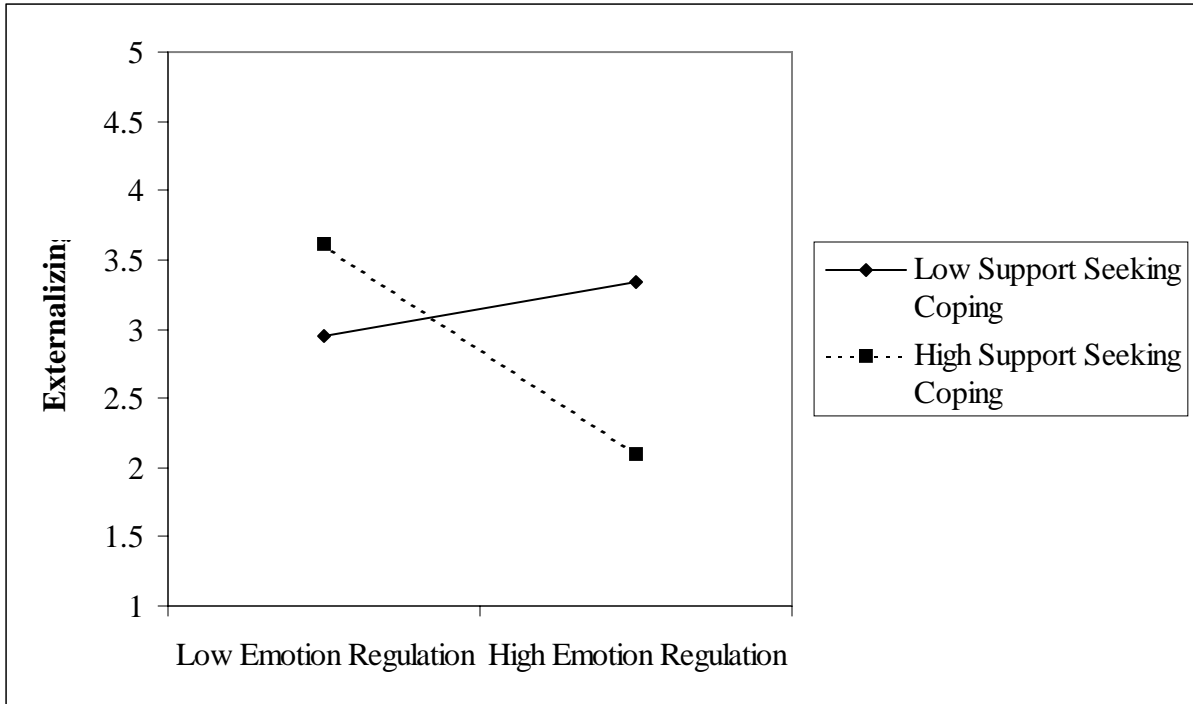
Figure 3. *Interaction Between Emotion Regulation and Support Seeking Coping on Child-reported Externalizing Adjustment Problems for Entire Sample*

Note: Plotting program using means and standard deviations of independent variable and moderator at http://www.jeremydawson.co.uk/2-way standardised.xls.

Hypothesis 3

Parental support will moderate the relationship between child coping and adjustment as well as between emotion regulation and adjustment, such that better child adjustment can be predicted for children with high parental support and use of greater or lesser amounts of particular coping strategies. Better adjustment will occur with greater use of positive coping strategies (active, distraction, and support seeking) or lesser use of a negative coping strategy (avoidant). Correlations for variables for the entire sample are shown in Table 6. The entire sample shows significant positive associations for avoidant and support seeking coping with child-reported internalizing problems. Regarding the positive association between support

seeking coping and child internalizing problems, support seeking coping and maternal support (the moderator) were also positively correlated. There were no significant correlations for parental support moderators with child-reported internalizing problems.

Correlations for military family children show similar positive associations to those shown for the entire sample. Child-reported internalizing problems shows a positive correlation with both avoidant coping (r=.34, p<.01) and support seeking coping (r=.35, p<.01). The maternal support moderator shows a positive correlation with active coping (r=.30, p<.05). The total parental support moderator shows a positive correlation with support seeking coping (r=.30, p<.05). There were no significant correlations for parental support moderators with child-reported internalizing. Hierarchical multiple regressions analyses showed no significant evidence that maternal, paternal, or total parental support played a role in improving child adjustment when children use avoidant or support seeking coping strategies for either the entire sample or military family children.

For the second proposed moderation relationship—parental social support moderating the relationship between emotion regulation and adjustment—significant associations for the entire sample are shown in Table 6. Emotion regulation was negatively correlated with child-reported internalizing, externalizing and total maladjustment. Emotion regulation and the paternal support moderator were positive correlated. Both maternal and paternal support moderators were negatively correlated with both child-reported externalizing and total child-reported maladjustment.

Correlations for military family children show similar significant associations as those shown for the entire sample. Emotion regulation was negatively correlated with child-reported internalizing (r=-.49, p<.01), externalizing (r=-.36, p<.01), and total maladjustment (r=-.55,

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p<.01). However, only the paternal support moderator was positively correlated with emotion regulation (*r*=.33, *p*<.01), and only the maternal support moderator was negatively correlated with total child-reported maladjustment (*r*=-.26, *p*<.05). Hierarchical multiple regressions analyses showed no significant evidence that maternal, paternal, or total parental support played a role in improving child adjustment when children had higher emotion regulation for either the entire sample or military family children.

Discussion

The current study explores emotion regulation and coping strategies most beneficial in the healthy adjustment of children under unique stressful circumstances and how the quality of parental social support affects the relationships between coping/emotion regulation and child behavioral outcomes. The two stressors addressed by the current study involve prior exposure to a catastrophic hurricane and military family lifestyle, including parental deployments.

All of the children in the study were affected by Hurricane Katrina's impact on the area, and had to evacuate from their homes. The children either resided in the area hit by the storm, attended school there, or both. Correlations indicated that children who were more distressed had less supportive mothers, and children with more externalizing adjustment problems had more distressed parents. In addition, children who experienced more material loss (home and/or possessions) used less support seeking coping strategies, and children who moved more often as a result of storm losses used less approach-based (active and support seeking) and avoidant coping strategies.

Such results suggest that under uncontrollable and stressful circumstances, both qualities of the child (perception of distress, preference for coping strategies) and the child's post disaster environment (maternal factors, residential moves prompted by losses) are important factors in

determining child outcomes. More specifically, the child's diminished use of healthy coping strategies after the child has experienced more material loss or moved more often as a result of those losses might indicate more difficulty managing the stressor. Also, results indicate that healthy maternal functioning, including the mother's availability and support to the child, is critical when the child is facing a stressor. Findings of this study are thus consistent with the cognitive-behavioral model proposed by Shermis and Coleman (Printz et al, 1999) that views stress and coping as determined by the personal characteristics of the child, the amount of distress, environmental stressors, moderators and personal outcomes.

When comparing patterns for both deployed and nondeployed military family children, children with deployed parents were no more dysregulated or maladjusted than their peers whose parents had not been deployed. There are several possible explanations for these findings. Military family children with deployed parents primarily represented the parental history of deployments over the past year. After the family has been reunited, the daily hassles and other stresses surrounding having a parent going off to war might have resolved themselves for the better. In addition, the children of recently deployed parents might represent a group that is more resilient to the effects of certain stressors due to personal, familial or other environmental circumstances. Both groups might also be using similar levels of coping.

Findings regarding sex differences for the full sample and military family children are similar in some respects. In both groups, female children reported poorer emotion regulation and more support seeking coping than male children in the study. However, dissimilarly for the two groups of children, females in the full sample reported nearly twice as many internalizing behavior problems as males, but their teachers reported that the female children had only half as many externalizing behavior problems as their male counterparts. The same pattern of sex-

related differences in behavior problems in military family children was not found. Patterns for military family children showed only more overall child-reported maladjustment problems for male children.

The support seeking coping and internalizing problem patterns seen in the full sample of female children were in keeping with previous findings by Sandler and colleagues (1994), suggesting that there is a connection between these two areas for female children though an adaptive explanation has still not been determined. However, the lack of a similar connection in female military family children suggests that although these children seek as much support as their same-gender counterparts in the full sample, they might be using the coping skill more adaptively to control internalizing behavior problems. Additionally, the patterns in both samples regarding male children's higher emotion regulation but greater child- and teacher-reported maladjustment problems is difficult to explain.

General findings in the study show patterns among coping, parental support and adjustment for the entire sample. Children who used more distraction and support seeking coping strategies had more internalizing adjustment problems. However, greater maternal support was associated with more use of both active and support seeking coping. Children who had more parental support (from both parents separately) had less externalizing and general maladjustment problems. These results suggest the pivotal role that parents play in pathways to child adjustment. Although greater parental support is important to the child's approach-based attempts to cope with stressors and healthy child adjustment, the results also indicate that parental support might prompt a pathway to child maladjustment involving high maternal support and child use of support seeking coping strategies. A pathway of child internalizing problems in connection with high maternal support would be in keeping with research by Sandler

and colleagues (1994). Findings also showed that as children became better regulated emotionally, maladjustment decreased. Such findings would be in keeping with research by Eisenberg and Morris (2002).

Examination of the interactions between emotion regulation and positive coping strategies in predicting child adjustment problems showed a similar pattern among children in the entire sample and military family children. For both groups, high emotion regulation and less use of distraction coping predicted the least externalizing child adjustment problems. This finding suggests that children who are emotionally well regulated and use distraction coping strategies more sparingly to manage stress show less externalizing adjustment problems. This finding adds some evidence to the research literature regarding the effectiveness of activity-oriented coping strategies that help take the child's mind off the stressor.

An interaction between emotion regulation and support seeking coping in predicting child externalizing problems occurred for the entire sample. The least externalizing adjustment problems occurred for children who were emotionally well regulated and had high use of support seeking strategies. Less use of support seeking coping strategies was not as helpful for children who were well regulated. Perhaps this finding can be accounted for via links with parenting. Since parents assist children in varying degrees with emotion regulation depending upon the child's age, high emotion regulation and high support seeking might represent the best fit in improving child adjustment. No evidence was found that parental support was helpful in improving child adjustment when combined with each coping strategy separately or with emotion regulation. These results were unexpected and likely due to power.

There were several strengths to the current study. First, standard practices were used to collect data from all participants in the school setting. While parents and teachers completed

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measures independently, data from the children was collected using methods widely accepted to reduce discomfort with research participation when away from parents and other highly familiar adults-- small groups, with familiar peers, and within the familiar confines of the child's school. Another strength of the study was that measures of child emotion regulation, coping, parental support and adjustment have been widely used in previously similar research. The measures have repeatedly demonstrated psychometric soundness during their use.

However, the current study had some limitations. The sample was smaller than expected due to the hurricane and contained only two military family children whose parents were currently deployed (although 36 children had parents who were deployed in the past year). Using parental deployments of the previous year out of necessity may have demonstrated different relationships among coping, emotion regulation, child adjustment and parental support. This factor played a major role in the inability to confirm the hypothesis that deployed military family children were experiencing greater emotion dysregulation and behavioral maladjustment. Furthermore, it is unknown whether the discontinuation of parental separation prompted by military deployment(s) has resolved all personal, familial and potentially stressful changes originally prompted by the parental separation itself or other mitigating factors are responsible for this result. Future research should clarify these issues.

Another limitation was that teacher reports of child maladjustment were not useful for analyses. There were several concerns: maladjustment scores were generally very low, the measures demonstrated barely acceptable reliabilities, and the scores were not significantly correlated with any other variables used in the study. This necessitated use of child reports of adjustment outcomes, introducing further concerns regarding all measures for hypothesis testing

being child report. Ideally and as originally planned, multiple raters with highly correlated ratings are more desirable.

An additional concern was that not all subscale reliabilities for the measures used in the study were as strong as expected. More specifically, the low reliability of the distraction subscale of the coping measure may have accounted for its relevant findings in this study. One or two items within the subscale may also have been responsible for the associations.

In summary, findings from this study contribute to what is already known within the research community about factors that make coping with stressful situations more difficult for children. Conditions related to greater adjustment difficulties among children who experience stress include use of less approach-based (active and support seeking) coping strategies and having more distressed mothers who are less supportive. More generally, other coping strategies, like low levels of distraction coping and high levels of support seeking coping, were beneficial in reducing externalizing problems among children attempting to cope with stressful circumstances. In addition, children who were better regulated emotionally were also better adjusted. Such research confirms the important role of both external factors, such as parents, and internal ones, such as coping and emotion regulation, in understanding adjustment related responses due to stressful life events.

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