

**Relationships Among Indicators of Child and Family Resilience and
Adjustment Following the September 11, 2001 Tragedy**

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From personal trauma such as breaking a leg to community trauma, such as terrorism, the lives of men, women, and children have always been and sadly will always be affected by societal events. Few older Americans will forget where they were the moment President John F. Kennedy was shot; many younger Americans will forever remember the Challenger explosion; the sight of the collapsing Twin Towers will be engrained vividly in the minds of most everyone living in 2001. Although seeking to avoid and prevent traumatic societal events and family conflicts are important endeavors, it is clear that understanding coping mechanisms, resilience factors, and family relationships in response to these events can be even more important. Indeed, the concept of the resilient child, in both the family and societal realms, has become increasingly important in psychology.

As researchers began to move beyond exploring primarily what causes maladjustment and psychopathology, their interest grew in investigating and studying resiliency (Egeland, Carlson, & Sroufe, 1993). We appear now to be at the point where researchers, educators, and parents focus increasingly on positive and hope psychology, protective and preventive factors, optimism and confidence, and most of all, adjustment and resiliency (Cicchetti, Rogosh, Lynch, & Holt, 1993; Luthar, Cicchetti, & Becker, 2000; Sethi & Seligman, 1993). Researchers studying resilient children and the resilient family emphasize protective factors and characteristics in children that will ultimately make adjustment easier. The present research examined the relationships between knowledge of family history and resiliency in children and families following the

September 11th tragedy. Sad as it may seem, the events of September 11th could be considered serendipitous in overcoming some of the limitations of previous studies in that the same stressor affected all children at the same time and all families had to cope with the aftermath. All family members were faced with the challenge of showing resiliency.

As part of an ongoing project at the Emory Center for Myth and Ritual in American Life (MARIAL), a body of data on 32 families was already compiled prior to the September 11th event. These data included positive and negative narratives from the families and measures concerning family coping styles, interpersonal interactions, child behavior, and life events encountered. Thus, in an unintended prospective approach, it was possible to study resiliency in families before and after a common and severe traumatic event. Furthermore, it is believed that the present study can serve as a starting point for an examination of short and long-term effects of stressors and can ultimately lead to the development of an intervention program designed to foster resiliency.

In the discussion to follow, I will begin with a definition of resiliency and discuss the controversy surrounding the definition of this construct. An overview of past research on resiliency in children and families will then be provided. Additionally, I will address protective factors contributing to resiliency and coping strategies employed by resilient individuals. Beyond individuals, family resiliency will be explored in the context of household structure and adaptive mechanisms. The methodology and purpose of the current study will then be described, followed by explanations of the results and conclusions of the research.

Definition of Resiliency

“Resilience refers to a dynamic process encompassing positive adaptations within the context of significant adversity” (Luthar, et al., 2000, p. 543). According to Joseph (1994), “...resilience refers to the individual’s ability to adjust and adapt to the changes, demands, and disappointments that come up in the course of life” (p. xi). Milgram and Palti (1993) stated, “Resilient children are defined as children who cope well considering the environmental stressors and deprivations to which they were exposed during their formative years” (p. 207). Hawley and DeHaan (1996) assert that resilience arises through hardship. They believe that the manner and method with which difficulties are approached and overcome play a crucial role. While all of the definitions seem to clarify resiliency, there remains significant disagreement across the literature. In fact, the definitions provided above are only a few of the numerous ways researchers have operationalized this construct. The basic core of resiliency, however, appears to be wellness and the ability to bounce back from adversity.

Sidestepping the definitional problem, other researchers replace the term “resilient” with alternative terms, such as invulnerability (Garmezy, 1985), “hardiness, adaptation, adjustment, mastery, plasticity, person-environment fit, or social buffering” (Losel, Bliesener, & Koeferl, 1989, p.187). Although these constructs appear to be synonymous, variability does exist among them. This often causes researchers to question the application and validity of the term resilience. Hardiness appears to be one construct that is the most satisfactory functional equivalent (Glantz & Johnson, 1999; Wiebe, 1991). Hardy individuals, like resilient individuals, are more likely to engage in adaptive coping strategies and less likely to utilize maladaptive strategies.

To summarize, resiliency is a complex concept with many definitions. Given this complexity, researchers seem to define resiliency differentially in the context of their specific studies and theoretical orientations. Even though the specific definitions may differ, the importance of resiliency seems to be acknowledged by researchers in the field. For present purposes, resilience will be defined as the ability to overcome obstacles and stressors by using adaptive coping strategies in order to maintain an effective level of adjustment and functioning.

Historical Roots and Past Research

Werner and Smith's (1982) seminal work on resilient children born and raised in Hawaii was at the forefront of the study of resiliency. With nearly three decades of data on these children, who now are adults, their longitudinal study is widely recognized and cited in subsequent research regarding resilient youngsters. Beginning in 1955, 698 children born in Kauai, Hawaii were monitored throughout their development. From birth, 201 of these children were labeled at-risk and described as having perinatal stress, disordered care-taking environments, impoverished homes, physical handicaps, and parental alcoholism. Through follow-up studies, the researchers were able to document mental health problems, antisocial behavior, interactions with caretakers, and numerous other areas affecting the at-risk children. Similarly, they focused on biological, social, and psychological factors hindering adaptive coping strategies. Ultimately, Werner and Smith (1982) found that approximately one-third of the children considered to be vulnerable remained "invincible" and developed into autonomous adults; they were considered resilient children.

Having begun as unexplored territory, resiliency is now considered one of the most important concepts in child development. Research on resiliency now includes responses to adverse conditions, such as maternal psychopathology (Tiet, et al., 2001), violent neighborhoods (Richters & Martenez, 1993), societal traumatic events (Schuster, et al., 2001), inner city communities (Luthar, 1991), childhood abuse and neglect (Farber & Egeland, 1987), divorce (Wallerstein, 1983), and chronic illness (Patterson & Garwick, 1994).

To study the breadth of situations in which resiliency has been examined, researchers have devised several methodologies. The most common methodology is the *retrospective, single sample, or cross sectional study* which is used by life events researchers to determine the relationship between negative life events and adaptation. Zirmin (1986) used this methodology to identify resilient attributes in abused children. By contrast, *retrospective, cross sectional, multivariate studies* tend to include intervening variables and use more sophisticated statistics. An example of this method is Radke-Yarrow and Brown's (1993) study focusing on children living in disordered and stressed households. Another methodology is the *short-term, transactional, longitudinal study* which is considered more powerful due to the opportunity to assess resiliency over a few months to a few years (e.g. Luthar, Doernberger, & Zigler, 1993). Very long-term studies, such as Werner and Smith's (1982) research, called *long-term prospective developmental studies*, allow researchers to look at a specific group over many years and conduct numerous follow-up assessments. Finally, *prospective, multiple sample studies* are used to developmental researchers and compare the general population to a high-risk population over time (Glantz & Johnson, 1999). Wyman, Cowen, Work, and Kerley

(1993) studied resiliency using this methodology in an attempt to show that positive expectations are characteristic of resilient children.

According to Wolff (1995), the independent variables termed “traumatic life events” and “chronic adversities” test resiliency in children. Traumatic life events research utilizes self-report questionnaires to evaluate the number of stressful life events encountered by the participant. In the typical study, children and adolescents are given a list of events that are judged to occur in the general population, and subjects are asked to indicate events they have experienced in the past (Coddington, 1972; Johnson, 1986). Chronic adversities consist of distal and proximal risks. Distal adversities encompass such things as a family history of psychopathology or socio-economic disadvantage and do not directly impinge on the children. Luthar (1993) suggested that the risks associated with distal variables are mediated by proximal adversities, such as ineffective parenting, inadequate nutrition or family conflict.

In addition to studying traumatic life events and chronic adversities, small events or “hassles” are also studied in the context of resiliency. This line of research concerns minor stresses that occur everyday (Luthar & Zigler, 1991). Lazarus (1980) and Lazarus and Cohen (1977) have provided a wealth of data on resiliency using this approach. They contend that the life events approach has numerous limitations. Furthermore, they suggest that small events can be manipulated easier and are better for assessing causal relationships between stress and adjustment.

The etiology of resiliency has been examined from two major perspectives - the genetic and the organizational. The genetic perspective assumes that children raised in at-risk families will differ in their resiliency – some will develop psychopathology, while

some will not. This diathesis-stress model explains why children in the same family have different outcomes given the same history. According to this model, both a genetic predisposition and environmental stressors are necessary to trigger psychopathology. Rende and Plomin (1993) examined the relationship between genetics and unaffected resilient children. They concluded that genetics often times protects individuals from developing psychopathology and increases resiliency. In addition, there is evidence that the effects on children often raised by depressed parents may not be purely environmental – outcomes in children may be mediated by genetics (Rutter, 1990).

By contrast, some researchers explore resiliency through a transactional process within an organizational framework (Egeland, et al., 1993). Outcomes are explained by means of interpreting genetic, biological, psychological, and sociological factors. For example, Egeland et al. assume that resiliency in children develops over time. As children develop and interact with the environment, resiliency forms and enables children to handle future situations. Along with environmental interactions, they assert that a supportive family will further strengthen resiliency. Egeland et al. (1993) began their high-risk longitudinal study in 1975 with women who were in the last trimester of pregnancy and fell below the poverty line. Over an 18-year period, the researchers collected data on child adaptation at various times. They emphasized and identified meaningful patterns of behavior and have thus far suggested that resiliency and adaptation are products of both present circumstances and developmental history. Specifically, the researchers conclude that the formation of an effective attachment relationship, autonomous functioning, the ability to organize and coordinate resources, strong peer connections, and emotional self-regulation aid in the strengthening of

resiliency and act as protective factors against psychopathology.

It appears that the most thorough explanation of resiliency arises from examining the concept from a combined genetic and environmental approach. Genetic and environmental at-risk children seem to differ in their level of adaptive behavior. For example, using a longitudinal approach, Radke-Yarrow and Brown (1993) studied children of affectively ill parents living in a disordered and stressed household. Over a 10-year period, they sought to assess the functioning of 44 children as they developed. They evaluated personality characteristics and methods of problem solving. By evaluating their self-regulation, relationships within and outside the family, masteries, cognitive functioning self-perceptions, and physical growth and health, the researchers determined resiliency levels in the children. While it was found that the children used a wide variety of coping strategies depending on support they received from parents, the researchers concluded that resilient children had more positive self-perceptions and generally positive reactions from teachers.

Within the literature on resiliency, much attention has been given to abused, maltreated, and neglected children. Abused children are often characterized as having psychological, emotional, and behavioral problems. They are often believed to be more likely to grow up and become abusers themselves, to have adjustment problems, and to live unproductive lives. Although this is often believed to be true, Zirmin (1986) focused on the opposite effects. As part of Zirmin's longitudinal study, 28 children under age five were observed over a 14-year period. Initially, these children were brought to medical attention due to parental abuse. The purpose of the study was to assess behavioral patterns, personality attributes, intelligence, achievement, and situational variables at

ages 5 and 19. At the time of the final assessment, adjustment was rated on scholastic achievements, work or school related adjustments as reported by teacher or employer, presence or absence of emotional difficulties, and a sense of fulfillment or constructive plans for the future. Results indicate that fatalism, self-destructiveness, aggression, difficulty expressing emotions and forming personal relationships and cognitive difficulties were higher in children who were classified as non-survivors. On the other hand, self-esteem and hope towards the future were characteristic of abused children considered to be survivors.

In addition to specific hope towards the future, Wyman, Cowen, Work, and Kerley (1993) have shown that positive expectations, in general, are characteristics of resilient children and that early positive future expectations influence later adjustment. Cicchetti, Rogosch, Lynch, and Holt (1993) suggested that ego-resiliency, ego-control, and self-esteem contribute to resiliency in maltreated children, as does alertness, autonomous behavior, initiative taking, self-confidence, and relaxation (Milgrim and Palti, 1993).

Some researchers have contended that adolescents described as resilient on one dimension may still be vulnerable on another. For instance, Luthar (1991) examined emotional distress among inner-city adolescents thought to be resilient. In this study, resilient children were described as having both high levels of stress and high levels of social competence. Interestingly, he found resilient youths to be more depressed than children who were highly competent but from low stress backgrounds. In addition, both groups had comparable levels of internalizing symptoms, such as anxiety and depression.

The idea that resiliency may not mean resiliency in all areas was also supported

by Luthar, et al. (1993). In an attempt to build on already established cross-sectional data, these researchers performed a six-month prospective study on resiliency among 164 ninth-grade socio-economically disadvantaged high school students. To assess resiliency factors, students were given a checklist of uncontrollable negative life events and asked to indicate events that occurred in their lives. Teachers were asked to provide school grades and complete the Teacher-Child Rating Scale (T-CRS), the Revised Class Play (RCP), the Children's Depression Inventory, and the Youth Self-Report Child Behavior Checklist. Results indicated, "resilience is not a unidimensional construct" (Luthar, et al., 1993, p.703). Echoing Luthar (1991), these results suggest that even though some high-risk students met societal expectations and were considered competent, many of these same students had difficulty in other areas. This is yet another example of the controversy that attends the concept of resiliency.

In summary, the concept of resiliency has been the subject of a number of studies over the last few decades. Researchers have focused on children of violent communities, as well as families in crises. In an attempt to provide additional and more conclusive findings, more thorough methodologies are being developed, new approaches are being adopted, and more longitudinal studies are being performed. Yet, there remain problems difficult to overcome, such as the equating the nature and timing of the stressors across participants. As indicated earlier, the common September 11th tragedy addresses this limitation. There is now an unforeseen methodology available – studying resiliency both retrospectively and prospectively in the face of the same stressor experienced at the same time. This approach corresponds to none of the previously mentioned methodologies and therefore may advance the study of resiliency.

Protective Factors Contributing to Resilience

Resilience appears to be manifested through protective factors that serve to moderate the effects of stress. However, given the disagreement concerning definitions of resiliency, it should come as no surprise that researchers have differing opinions as to what protective factors are necessary for resiliency to develop. For example, Mrazek and Mrazek (1987) proposed a cognitive appraisal theory of resiliency based on the premise that resilient people cope with stress better due to a set of 12 particular skills and abilities they employ during stressful events; these include rapid responsiveness to danger, precocious maturity, disassociation of affect, formation and utilization of relationships for survival, positive projective anticipation, decisive risk-taking, the conviction of being loved, idealization of aggressor's competence, cognitive restructuring of painful events, altruism and optimism and hope.

In contrast to Mrazek and Mrazek's (1987) focus on skills, Cohen and Lazarus (1979) identified five common "tasks" in the coping process: 1) establish the meaning and understand the personal significance of the situation; 2) confront reality and respond to the requirements of the external situation; 3) sustain relationships with family members and friends as well as other individuals who may be helpful in resolving the crisis and its aftermath; 4) maintain a reasonable emotional balance by managing upsetting feelings aroused by the situation; and 5) preserve a satisfactory self-image and maintain a sense of competence.

Other researchers have focused on still other characteristics they believe to be associated with resiliency in children. Werner (1989) indicated that resilient children have higher levels of autonomy, independence, empathy, task orientation, problem

solving abilities and positive peer relationships. Wolin and Wolin (1993) acknowledged the influence of insight, independence, relationships, initiative, humor, creativity, and morality. Garmezy (1984) identified three protective factors - the company of an interested caretaker, an easy temperament, and a strong social network.

As can be seen, there is as yet no definitive “set” of protective factors that characterize resilient children. In addition to coping strategies, researchers have examined and identified several other protective factors and the role they play in childhood resiliency. According to Dyer and McGuinness (1996), “Protective factors are specific competencies that are necessary for the process of resilience to occur (p.276). They further define competencies as “...healthy skills and abilities that the individual can access and may occur within the individual or the interpersonal or family environment (Dyer & McGuinness, 1996, p. 276). These researchers identified critical attributes that are crucial to resiliency. They include malleability and rebounding, a sense of self and one’s unique path, determination and perseverance, and easy temperaments and prosocial attitudes.

While researchers disagree on many things, the most consistent protective factor – one that is primarily focused on the family – appears to have been adult caring prior, during, and after a stressful incident. Garmezy and Rutter (1985) suggested that adaptation of children exposed to disasters and war is increased with parental adaptation to stressful events. In fact, children of severe parental conflict and traumatic events appear protected if the child has a good relationship with even one of the parents (Rutter, 1990). Further, past studies have indicated that children raised in a family with alcoholism, chronic conditions, or AIDS fair far better when

one or both parents provide an encouraging and positive atmosphere (Austin & McDermott, 1988; Levine, 1990).

While the most consistent protective factor appears to be the quality of caregiving children receive, the literature has pointed out other characteristics that appear to protect children and improve resiliency. These include know-how, intellectual skills, and social cognitive abilities (Garmezy, 1985); internal locus of control (Nowicki & Strickland, 1973); higher sense of self-worth (Werner, 1990); interpersonal awareness and empathy (Cowen, Wyman, Work, & Parker, 1990); a sense of humor (Masten, 1986); temperament and disposition of the child (Garmezy, 1990); and choosing resilient sources of support (Murphy & Moriarty, 1976).

Several questions concerning protective factors still remain unanswered. These include: What protective factors are central to resiliency and what factors are peripheral? How does level of parental adaptation and care-giving affect children in times of crises? Can family narratives help researchers address resiliency and family functioning? Future research may help to answer these questions.

To summarize, protective factors and coping strategies are extensively addressed as moderators in the literature on resilient children. Positive coping strategies, autonomy, independence, support from family and outside social networks, along with individual temperament and attitude have been identified as among the most important protective factors in the resilient child. It is the aim of the present study to add to current knowledge of resiliency and pinpoint some of the essential family-bound components encompassing this construct.

Family resiliency

Although resilient children seem to have grown up in households that promote resiliency, an important question still remains. Are entire families resilient or just individual members? McCubbin and McCubbin (1988) define family resilience as “...characteristics, dimensions, and properties of families which help families be resistant to disruption in the face of change and adaptive in the face of crisis situations” (p. 247). Models have been developed suggesting that numerous factors predict a family’s level of resiliency and adaptation, e.g. vulnerability level, family type, resources, stressor appraisal, problem-solving and coping skills, and overall outlook on life (McCubbin & McCubbin, 1988). Similarly, the National Network for Family Resiliency (1996) contends that family resiliency and strengths occur at the individual, family, and community level and include factors, such as commitment, communication, cohesion, adaptability, spirituality, connectedness, time together, and efficacy. Walsh (1996) posited that family resilience is a process developing over time and suggested that the methods families implement to overcome stress and promote resiliency may be different. He noted further that not only is it difficult to identify one method of coping for all families, but that the study of coping methods is hampered by the fact that it is difficult to equate stressors as to intensity and timing. In a similar vein, Hawley (2000) addressed the clinical implications of family schemas and a family’s sense of cohesion. He urged professionals working with families to consider family resiliency because the strength of the family unit is a crucial factor in treatment planning and prognosis.

Family resiliency is important clinically because it appears to function as an adaptive mechanism. Richters and Martinez (1993) focused on the relationships among a

violent community, family home characteristics, and adaptational success or failure. Participants in this study included 72 African American children in grades one and two attending school in a low-income, moderately violent, Washington, D.C. neighborhood. Each child, along with his or her parents, completed measures to assess the children's violence exposure and distress symptoms. The child's teacher also completed a questionnaire regarding overall academic standing as well as stability and violence in the child's home. While it is difficult to assess the amount of community violence at a given period in time, the researchers, nonetheless, were able to estimate violence levels by means of police statistics and independent reports from parents. Results indicated that a child's chance of adaptational success or failure was positively related to the stability and safety of his or her home.

To review, the family structure can either hinder or promote resiliency in children, but most research on this concept focuses on the salutary impact of resiliency. Resilient households provide a positive environment and promote resilience in children. As a result, focusing on the family unit has become more common. However, many of the studies on resiliency assess the child and family only retrospectively. In the present study, this limitation is overcome to some degree in that MARIAL had data on families prior to the event on September 11th.

Fostering Resiliency

The importance of fostering resiliency in children has led to the development of prevention and intervention programs in many communities. Some programs focus on improving the parent-child relationship (Egeland & Erikson, 1990; McCubbin, Thompson, Thompson, & Futrell, 1999) some aim to increase coping skills of minority

children (US Department of Education, 2002), others emphasize life and social skills training (Hansen, 1992). An example of one such program is The Rochester Child Resilience Project (Cowen, Wyman, Work, & Parker, 1990), which was designed to increase resiliency in coping with negative events among students and their parents. This project focused on resiliency in highly stressed-exposed urban children and resulted in a preventive intervention program. Families of elementary school children who had experienced severe life stress were interviewed and asked to fill out a Life Events and Circumstances Checklist (LEC) and a Parent Adjustment Rating (PAR) form. Positive variables, such as communication and good parent-child relationships, were identified in an attempt to advance wellness and adjustment in the children and families.

Similarly, Egeland and Erickson (1990) reported on a preventive and intervention program for high-risk parents of young children, which sought to promote positive relationships between parents and infants from birth, in order to improve competency in the children as they developed. Pregnant women were educated in positive parenting skills prior to the birth of their first child. After giving birth, it was assumed that these women would adopt the learned skills when interacting with the baby. As indicated by follow-up assessments, results suggested that the parent-child relationships were more positive and the children were more resilient.

While programs such as Egeland and Erickson's (1990) have been successful in fostering resilient children, such approaches can be expensive, often unwieldy, and, in many ways, unnatural. However, the fact is without any specific programs, some children have grown to be resilient and others have not. Therefore, it would be safe to assume that there are likely to be in normally functioning families identifiable factors that

provide some sort of natural immunity to stress and high-risk life experiences.

Recently, researchers, educators, and clinicians seem to have identified one such factor that has the benefit of being less time-consuming, yet beneficial to children and the family as a whole. It is an approach that is many times overlooked due to its simplicity – the use of family narratives (Fiese, et al., 1999; Taylor, Aspinwall, Giuliano, & Dakof, 1993). Family narratives are commonplace – parents tell stories to new babies, children tell stories to parents and friends, siblings tell stories to each other. Families also use narratives to construct a sense of their history and existence. Not only is the importance of this activity in a family under-studied in general, the importance of narratives in coping with stress and traumatic events may be equally under-appreciated.

Family narratives can be examined from two different perspectives – as process and as content. Process refers to how the narrative is constructed and includes things such as participation of members, parental control during the conversation, affirming and disaffirming comments, affect and tone, and interpersonal functioning. On the other hand, content refers to the information disclosed during the narrative. While there exists a distinction between narrative process and content, evidence seems to suggest that both may be involved in resiliency.

Taylor et al. (1993) have proposed that resilient attitudes, thoughts, and beliefs can be instilled in children through the content of stories. The benefit of stories is that they can both educate and entertain at the same time. Themes of resilience often emerge during a story told by a parent to a child. As the child develops, he or she may be more likely to remember, adopt, and incorporate the resilient theme in his or her daily life. In addition to individual members, stories may also be beneficial in entire families coping

with a traumatic event. Coping and healing processes are enhanced when children, adolescents, and adults hear stories about other people who faced similar issues. For example, Taylor et al. (1993) examined the effectiveness of positive and negative stories on coping in participants with cancer and college students facing midterms. The researchers suggested that knowing that others have both faced and overcome the problem is helpful and reassuring – positive stories can be considered as a way of instilling hope, encouragement, and resilience.

In the work of Fiese and colleagues (Fiese et al., 1999), narratives also have been used as a paradigm to explore family processes. Narratives have been used to assess family functioning, interpersonal interactions, and communication patterns. Fiese et al. assert that narratives are indicators of family functioning. “Family narratives move beyond the individual and deal with how the family makes sense of its world, expresses rules of interaction, and creates beliefs about relationships” (p. 3). The telling of stories in and of itself, as well as the content of the stories told, affect children as parental values and beliefs are instilled in them. Thus, it appears that resiliency may be enhanced through family narratives.

Statement of Purpose

Prior to September 11th and as part of the MARIAL project, we gathered data on family functioning, hardiness, locus of control, and child behaviors. Positive and negative family narratives were also obtained. Serendipitously, it became possible to examine the coping experiences and resiliency of these 32 families and their children within a naturally occurring study in which all participants experienced the same stressor at the same time. Responses to measures collected before September 11th were compared

to those after the event. While analyses examining the family narratives were beyond the scope of the present research, by collecting questionnaires from before and after Sept. 11, it was possible to compare and examine coping styles of both resilient and less resilient children and families.

Hypotheses

Hypothesis one: Based on Taylor et al. (1993) and Fiese and colleagues (1999), family narratives appear to be a pathway for producing and strengthening resilient beliefs and attitudes in children. The current study extends this by hypothesizing that knowledge of family history enhances adjustment and coping strategies in children following major life stressors (e.g. September 11, 2001). There should be a positive correlation between children's knowledge of their family history and family functioning, coping strategies, and hardiness.

Hypothesis two: According to Garmezy and Rutter (1985), adaptation of children exposed to disasters is increased with parental adaptation of stressful events. Based on these findings, it is posited that positive parental and extended family adaptation and encouragement are transmitted to children through stories. It is hypothesized that higher functioning families use more adaptive coping methods and adjust easier after major life stressors than families who use less adaptive coping strategies. This hypothesis is based on the premise that in-depth family narrative content should yield high scores on the measure tapping this construct.

Hypothesis three: Based on findings from Walsh (1996) and McCubbin and McCubbin (1988), it is hypothesized that knowledge of family history as told through stories will be a significant predictor of locus of control, self-esteem, family functioning, family hardiness, and coping strategies. Children with more familial knowledge are predicted to have higher resiliency levels.

Method

Participants

Flyers announcing the MARIAL project were created and handed out at various after school programs and ads were placed in newspapers. Families interested in participating were informed of the purposes and procedures of the study. Following acceptance, a first home visit was arranged. Thirty-two families participated in the study prior to September 11, 2001 (Time 1). All families consisted of a “target” child between the ages of 9 and 12. The family ethnicities at Time 1 consisted of 23 (72%) White families, four (12%) Black families, four (12%) mixed families (i.e., the parents were of different ethnicities), and one (3%) Asian family. Twenty-two (69%) were traditional nuclear families, 9 (28%) were blended families, and one (3%) household contained extended family members. The mean age of the target children at Time 1 was 10.13 years ($SD=1.01$). A total of 32 children participated at Time 1 with an equal number of boys ($N=16$) and girls ($N=16$). Families were paid \$25.00 for their participation.

At Time 2, 20 of these original families agreed to participate in the current follow-up study. Interested families were informed of the procedures and the second home visit was scheduled. All families were contacted approximately two years after Time 1. Twenty-one of the original 32 families participated after September 11, 2001

(Time 2). Ethnicities of the families at Time 2 consisted of 16 (80%) White, two (9%) Black families, three (14%) mixed families. At Time 2, 17 (81%) were of a traditional nuclear structure, three (14%) were blended, and one was extended. The mean age of the target children at Time 2 was 12.25 years ($SD=.84$). Twenty children participated at Time 2 with an equal number of boys and girls. Families were compensated \$50.00 for their participation, and the child was given two free movie passes.

Materials

The materials consisted of seven measures: 1) The Rosenberg Self-Esteem Scale (RSE); 2) The Family Life Inventory of Life Events (FILE); 3) The Family Hardiness Index (FHI); 4) The Family Functioning Scale (FFS); 5) The Child Behavior Checklist (CBCL); 6) The Do You Know...? questionnaire; 7) The Nowicki-Strickland Locus of Control Scales (ANSIE/CNSIE); The Youth Coping Index (YCI); the Family Coping Index (FCOPES); and the Revised Manifest Anxiety Scale (RCMAS). In addition, all families were asked to discuss a positive and negative past event. These conversations were tape-recorded.

Each measure will be described in turn:

The Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965). While originally designed as a Guttman scale, the RSE is now commonly scored as a Likert scale. The scale is designed to measure feelings of self-worth, and the 10 items are answered on a four-point scale (strongly agree, agree, disagree, strongly disagree). Items include “I feel that I’m a person of worth” and “On the whole, I am satisfied with myself.” The scale generally has high reliability: test-retest correlations are typically in the range of .82 to

.88 and Cronbach's alpha for various samples are in the range of .77 to .88. The RSE is associated with many self-esteem related constructs, such as confidence and popularity. Furthermore, considerable discriminant validity has also been demonstrated for the RSE.

Family Inventory of Life Events and Changes (FILE; McCubbin, Thompson, & McCubbin, 1991). The Family Inventory of Life Events and Changes (FILE) is a 71-item, yes/no, pencil and paper instrument that assess chronic and recent life stress. The FILE measures family stress in nine areas: intra-family strains, marital strains, pregnancy and childbearing strains, finance and business strains, work-family transitions and strains, illness and family care strains, losses, transition in and out, and family legal violations. Family members indicate whether particular stressful events have occurred in their family. Several items from this measure include "Increase conflict between husband and wife," "Went on welfare," and "A child member died." The overall Cronbach's alpha for the FILE is .72 indicating acceptable reliability. Similarly, test-rest reliability is also acceptable and ranged between .72 and .77. Internal consistency for the FILE ranges from .79 to .82. Moderately high correlations between the FILE scale, Intrafamily Strains and indices of family functioning support the construct validity of the FILE.

Family Hardiness Index (FHI; McCubbin, et al., 1996). The FHI was developed to measure the characteristics of hardiness as a stress resistance and adaptation resource in families and to adapt the concept of individual hardiness to the family unit. This 20-item questionnaire consists of three subscales measuring commitment, challenge, and control. Families respond to items on a 4-point scale ranging from 0 (False) to 3 (True). "We have a sense of being strong even when we face

big problems” and “We work together to solve problems” are items from this measure. The overall internal reliability for this scale is .82. The internal reliabilities for the three subscales (Commitment, Challenge, and Control) are .81, .80, and .65, respectively. The test-retest reliability for the Family Hardiness Index is .86. To establish validity, the relationship between the FHI and Family Flexibility, Family Time and Routines, Family Satisfaction, Marital Satisfaction, and Community Satisfaction have been examined; results indicate significant positive correlations.

Family Functioning Scale (FFS; Tavitian et al., 1987). The Family Functioning Scale (FFS) is a 40-item questionnaire measuring family functioning. Each statement is rated on a Likert scale, ranging from 1 (Never) to 7 (Always). The FFS contains statements assessing family affect, family communication, family conflicts, family worries, and family rituals/supports (Tavitian, Lubiner, Green, Grebstein, & Velicer, 1987). The internal consistency for the FFS is fair, with coefficient alphas that range from .90 for the positive family affect subscale to .74 for the conflicts subscale. There is also good concurrent and discriminant validity with other measures that assess these domains.

The Child Behavior Checklist (CBCL/4-18; Achenbach, 1991). The Child Behavior Checklist is designed to record children’s competencies and problems as reported by their parents or teachers. The 20 competence items provide parents’ reports of the amount and quantity of their child’s participation in sports, hobbies, games activities, jobs and chores, and friendships; how well the child gets along with others and plays and works alone; and school functioning. Each of the 118 specific problem items and two open-ended problem items are scored on a 3-step response scale. This measure

consists of several scales assessing somatic concerns, anxiety/depression, attention, social problems, thought problems, delinquent behavior and aggressive behavior. Intraclass correlation coefficient for the 20 competency items is .93 and .96 for the 118 specific problem items. For the 20 competency scales, test-retest reliability is .96 and .95 for the specific problem items. Construct validity is supported by numerous correlates of CBCL scales, and nearly all CBCL items discriminate significantly between demographically matched children.

Do You Know...?: The Do You Know...? measure is a 20-item yes/no questionnaire that assesses an individual's knowledge concerning his/her parents; and family's. This particular measure was generated for this study. As such, reliability and validity estimates will be calculated and provided in follow-up studies. See Appendix A for a copy of the questionnaire.

Adult Nowicki-Strickland Internal-External Locus of Control (ANSIE; Duke & Nowicki, 1973; Nowicki & Duke, 1974). This scale was designed to assess locus of control of reinforcement. Locus of control is defined as the perception of a connection between one's action and its consequences. This is a 40-item, yes/no, paper-and-pencil questionnaire where higher lower score indicate a more internal locus of control. Extensive research indicate acceptable reliability and validity statistics for this measure.

Children's Nowicki-Strickland Internal-External Locus of Control (CNSIE; Duke & Nowicki, 1973; Nowicki and Duke, 1974). This scale is similar to the ANSIE, but is used with children between the ages of 9 and 18. There is extensive research on

reliability and validity for the CNSIE. The scale includes items such as “Are some kids just born lucky,” “Do you believe that wishing can make good things happen,” and “Do you feel that when someone doesn’t like you there is little you can do about it.”

Youth Coping Index (YCI; McCubbin, et al., 1996). The Youth Coping Index (YCI) is a 31-item questionnaire with a 5-point Likert scale designed to assess the degree to which children and adolescents use specified coping behaviors and strategies to adjust to stressors. Overall internal reliability (Cronbach’s alpha) for the YCI is .86; test-retest reliability is .43. Correlating this measure with outcomes from a residential treatment center and conducting discriminant analyses have established predictive validity for the YCI. Validity indices ranged from .69 to .90

Family Crisis Oriented Personal Evaluation Scales (FCOPES; McCubbin, et al., 1996). The Family Crisis Oriented Personal Evaluation Scales (FCOPES) is a measure designed to assess family coping strategies and adjustment to life stressors. Items are rated on a five-point Likert scale, and responses indicate the extent to which the individual agree or disagree with the statement. Higher scores are indicative of families with more adaptive coping mechanisms. Items on this measure include, “Seeking encouragement and support friends,” “Believing we can handle our own problems,” and “Facing the problems head-on and trying to get solutions right away.” The overall Cronbach’s alpha ranges from .71 to .86. Test-retest reliability for the FCOPES ranges from .61 to .95

Revised Children’s Manifest Anxiety (RCMAS; Reynolds & Richmond, 1985). The Revised Children’s Manifest Anxiety Scale (RCMAS) is a 37-item, yes/no pencil

and paper questionnaire designed to assess the level and nature of anxiety in children and adolescents from 6 years to 19 years old. An endorsement of an item indicates that the item is descriptive of the child's feelings or actions. The RCMAS produces a Total Anxiety Score and is made up of anxiety in three areas: Physiological Anxiety, Worry/Oversensitivity, and Social Concerns/Concentration. Items include "I worry a lot of the time," "I am nervous," and "I wake up scared some of the time." This measure also contains a Lie Scale. The overall Cronbach's alpha ranges from .79 to .83, indicating high reliability for Total Anxiety. Test-retest reliability ranges from .85 to .95, providing reasonable evidence of stability of general trait anxiety.

Design and Procedures

This study was part of the MARIAL project in which several graduate students were involved in the data collection procedure. During the first home visit, the study was explained, and each family signed the consent form. All family members were then asked to remember and discuss a negative and positive past event. These discussions were tape-recorded. After both narratives were recorded, the parents were asked to complete the Family Inventory of Life Events (FILE), the Nowicki-Strickland Locus of Control Scale (ANSIE), the Family Hardiness Index (FHI), the Family Functioning Scale (FFS), and the Child Behavior Checklist (CBCL). The elicited narratives and questionnaires were counterbalanced for each family. The target child was asked to complete the Rosenberg Self Esteem Scale (RSE), the Nowicki-Strickland Locus of Control Scale (CNSIE), the Family Hardiness Index (FHI), the Family Functioning Scale (FFS) and the Do You Know...? questionnaire. The family was then asked to tape record two dinner conversations using the recorder and tape provided. Families were free to

erase any part of the conversation and were told that their identity would be kept confidential. Each family also was informed of their right to withdraw at any point. Compensation was provided regardless of withdrawal. A second home visit was arranged after a follow-up phone call from the families. At this time, the tape-recorded conversations were collected, and \$25.00 was given.

Families that participated prior to September 11th were contacted again for a follow-up home visit. A description of the current study and procedures was provided. A home visit was arranged with families interested in participating. Informed consent from the parents and child was obtained at the home visit. Families were asked to provide a tape-recorded conversation regarding the September 11th tragedy and a family story of their choosing. The child was also asked to provide two additional stories, one positive and one negative; child narratives were counterbalanced for each family. Following this, the parents and the child were asked to complete the appropriate packet of questionnaires. Parents were asked to complete a follow-up FHI, FILE, and CBCL, as well as the FCOPEs; children were asked to complete a follow-up CNSIE and FHI, as well as the RSE, YCI, and RCMAS. At the end of the visit, each family was compensated \$50.00 and two free movie tickets for their participation. Figure 1 depicts a flow-chart including measures administered at Time 1 and Time 2.

 Insert Figure 1 about here

Results

Hypothesis Testing:

Hypothesis one, which posited that knowledge of family history enhances

adjustment and coping strategies in children following major life stressors, e.g., September 11, 2001 was partially supported.

Pearson product moment correlations (r) and independent samples t -tests were conducted to examine the relationships among knowledge of family history and indicators of hardiness and resilience. Correlational analyses were done for the total sample of children and separately for boys and girls for exploratory purposes. As seen in Tables 2 and 3, there were significant positive correlations between the DYK scale and the RSE, $r(32) = .51, p < .01$, and the FFS, $r(32) = .45, p < .01$ for the entire sample of children. These findings suggest that children who have greater knowledge of their family history have higher self-esteem and received higher scores on the FFS, indicating greater family functioning. There was a significant negative correlation between DYK and the CNSIE scale, $r(32) = -.45, p < .01$, indicating that children who know more about their family are more internally controlled.

Similarly, exploratory analyses revealed significant negative correlation between the CNSIE and the FFS, $r(32) = -.45, p < .05$, suggesting children who rated their family as functioning better were more internal. The family functioning scale was also positively associated with self-esteem and the family hardiness index. Furthermore, findings revealed significant correlations between the CNSIE and several Time 2 measures, including the follow-up RSE, $r(21) = -.56, p < .01$, the RCMAS, $r(21) = .44, p < .05$, and the follow-up FHI, $r(21) = -.56, p < .01$. There was a trend for significance between the DYK scale and several Time 2 measures, including RSE, $r(21) = .36, p > .05$, RCMAS, $r(21) = .35, p > .05$, and follow-up FHI, $r(21) = -.24, p > .05$. Several more associations were found using $p < .1$ as the alpha level. There was a significant negative

relationship between CNSIE and YCI, $r(21) = -.35, p < .01$. This suggests that children who received higher scores on the YCI were more internally controlled. The YCI is an index of how children and adolescents cope with negative life events and stressors. The FFS was negatively related to the RCMAS, indicating that children who rated their family has better functioning were experiencing less anxiety than those who rated their family as functioning less well. There was also a significant negative relationship between the RSE and follow-up CNSIE, suggesting that at Time 2 children with higher self-esteem scores received lower scores on the CNSIE, indicative of internality.

For exploratory purposes, separate correlational analyses for the girls indicated significant positive relationships between the DYK scale and the FFS, $r(16) = .70, p < .01$, the RSE, $r(16) = .61, p < .05$ and follow-up FHI, $r(11) = .60, p < .05$, indicating that more familial knowledge is associated with increased family functioning, self-esteem, and family hardiness. Correlations between the DYK scale and CNSIE, $r(32) = -.60, p < .01$, and the RCMAS, $r(11) = -.66, p < .05$ were significant in the negative direction, indicating that more knowledge of family history is related to lower anxiety and more internal beliefs in girls. Similarly, the RCMAS is negatively correlated with RSE, $r(11) = -.72, p < .05$, and the FHI, $r(11) = -.64, p < .05$. This suggests that girls who rated themselves as less anxious received higher scores on self-esteem and family hardiness. Correlational analyses for the boys indicated significant negative relationships between the CNSIE and the follow-up RSE, $r(11) = -.75, p < .05$ and the follow-up FHI, $r(11) = -.72, p < .05$, indicating that more internal boys received higher scores on self-esteem and family hardiness at Time 2. Findings revealed significant positive relationships between the FFS and the FHI, $r(32) = .62, p < .01$. This finding indicates that boys who rated their

families as functioning better also rated their families as more hardy. Table 2 and 3 present correlation matrices for total children ($N=32$) and boys and girls separately ($N=16$).

A median split was performed on the DYK variable in order to examine any additional differences between children who received low scores on this scale and those who received higher scores. Scores in the lower half ranged from four to 11 ($N=12$, $\mu = 7.77$; $SD = 2.65$) and scores in the upper half ranged from 12 to 18 ($N=19$, $\mu = 14$; $SD = 1.91$). Higher scores indicate more knowledge of family history. Table 4 presents the means and standard deviations of the research variables and the results of the independent t -tests between the two groups, Low DYK and High DYK at Time 1 and Time 2. Children with higher DYK scores were found to have a higher self-esteem and rated their families as better functioning than children with lower DYK scores. Additionally, children with higher DYK scores appear to be more internally controlled than children with lower scores. There were trends for significant differences between high and low DYK scores at Time 2. Levene's test for equality of variance was found nonsignificant, $p > .05$, meaning homogeneity of variance between the groups.

Exploratory paired samples t -tests were conducted to compare differences between the children from Time 1 to Time 2. Although not significant, there was a trend in the negative direction for the locus of control measure, $t(20)=1.94$, $p=.06$. Results revealed significant differences on the CNSIE at Time 1 (Mean = 13.10; $SD = 6.14$) and Time 2 (Mean = 10.40; $SD = 4.33$) for boys only, $t(9)=2.357$, $p<.05$, indicating that boys became significantly more internal by the follow-up assessment. This finding suggests a

gender difference in locus of control with boys becoming more internal over time. There were no other significant differences between Time 1 and Time 2 for either gender.

Table 5 presents the means and standard deviations and the results of the *t*-tests between Time 1 and Time 2.

Investigational analyses were also conducted to examine locus of control scores between child and parent. Results indicate nonsignificant differences between child and opposite sex parent for girls, $r(16) = .21, p > .05$, and for boys, $r(16) = .24, p > .05$. There was a significant positive relationship between girls' scores on the CNSIE at Time 2 and mothers' scores on the ANSIE, $r(11) = .65, p < .05$. There was no relationship between fathers' and daughters' locus of control scores.

Independent *t*-tests were conducted to examine differences between boys and girls across the variables of interest at Time 1 and Time 2. No gender differences existed. Table 6 presents the means, standard deviations, and the results of the *t*-tests between boys and girls.

Analyses were conducted to examine potential differences between families that did not participate in the follow-up assessment. Table 7 presents means and standard deviations for Time 1 measures for families present at Time 2 and families who did not participate.

To examine differences between families at follow-up and those not present, independent *t*-tests were examined. As can be seen in Table 8, there were no significant differences on any of the child measures. This indicates that children who did not participate at Time 2 were similar to those who were present. However, there were significant differences between FILE scores for families who did not participate at Time

2. According to the bottom portion of Table 8, families who were not present at Time 2 received significantly higher scores on the number of life event experiences, $t(30)=2.66$, $p < .01$. This suggests that families who participated at Time 2 encountered a significantly lower number of stressful events than those who were not present. No other differences between mothers and fathers existed.

In summary, Hypothesis one was partially supported and results suggest that familial knowledge is associated with family functioning and enhances adjustment in children following September 11, 2001. Results indicate that more knowledge of family history is associated with higher self-esteem and a more internal locus of control than children who have less knowledge. Differences existed between children who received higher and lower scores on the DYK on other variables of interest. Children with higher DYK received higher self-esteem ratings and rated their families as functioning significantly better than children who have less familial knowledge. Additionally, children with higher DYK scores were more internally controlled. There were no gender differences across the variables of interest at Time 1 or Time 2. However, results indicate that boys appear to become more internal over time and approach equal levels with the girls. Finally, there were no significant differences between families that participated at Time 2 compared with those who were not present.

Hypothesis 2

Hypothesis two, which stated that higher functioning families use more adaptive coping methods and adjust easier after major life stressors compared to families who use less adaptive coping strategies was partially supported. Correlational analyses were conducted by averaging mother and father responses in order to assess family adjustment.

Results indicated significant positive correlations between FFS and FHI at Time 1 and, $r(32)=.67, p < .01$ and between the FFS and FHI at Time 2, $r(19) = .56, p < .05$. These results suggest that parents who rated their family as higher functioning were also harder at Time 1 and Time 2 than parents who rated their family as functioning less well. There was also a significant positive correlation between the FHI at Time 1 and Time 2, $r(19)=.60, p < .01$. The positive relationship between FHI at Time 2 and the FCOPES, $r(19) = .45, p < .05$, indicates that parents who rated their family as more resilient at Time 2 also received higher rating on the FCOPES, indicating better adjustment and coping strategies.

For exploratory purposes, independent *t*-tests were analyzed to compare responses from mothers and fathers on the parent self-report questionnaires. Results indicate that mothers rated their families on the FFS as functioning significantly better as compared to fathers, $t(62)=2.28, p < .05$. No other differences were found between mother and father ratings. Paired-samples *t*-tests were also conducted to examine differences between Time 1 and Time 2 ratings by the parents on the FHI. Time 1 and Time 2 ratings by the mothers did not significantly differ from each other, $t(20) = 1.203, p > .05$. However, father ratings did significantly differ from Time 1 to Time 2, $t(18) = 2.493, p < .05$, suggesting that their family's hardiness and ability to deal with stressors decreased. Levene's test for equality of variance was found nonsignificant, $p > .05$, indicating homogeneity of variance between the groups. Table 8 presents means, standard deviations, and results of the *t*-tests for mothers and fathers.

In summary, analyses demonstrate partial support for second hypothesis and suggest that higher functioning families use more adaptive coping methods and adjust

more smoothly after life stressors. Results suggest that family hardiness is positively associated with family functioning. At Time 2, families who received higher scores on the hardiness index also received higher scores in the coping measure. Differences existed between mother and father ratings of family functioning only, with mothers rating the family as better functioning than the fathers. Similarly, mother ratings of family hardiness remained unchanged at Time 2, however, father ratings significantly decreased.

Hypothesis 3:

The final hypothesis, which explored the predictiveness of the DYK scale and posited that children's knowledge of their family's past would predict a significant amount of the variance in family functioning above and beyond a child's locus of control, anxiety, coping, and self-esteem was supported. All conclusions from these analyses are statistical in nature and do not imply anything about the future or real-world causation relationships. Hierarchical regression analyses were conducted to examine the incremental effects of locus of control and familial knowledge. Table 11 depicts three models used to explain the amount of variance in family functioning accounted for by locus of control, knowledge of family history, family hardiness, and self-esteem. Locus of control and familial knowledge combined contributed to approximately 28% of the variance on family functioning, $R^2 = .28$, $p < .05$. In Model 2, after controlling for family hardiness, self-esteem, and locus of control, familial knowledge accounted for approximately 55% of the total variance, $R^2 = .55$, $p < .05$. Locus of control did not account for additional variance in family functioning after controlling for the other variables in the Model 3.

Table 12 summarizes hierarchical regression analyses for variables predicting family functioning after controlling for gender. After accounting for the effects of gender, knowledge of family history accounted for approximately 36% of the total variance in family functioning, $R^2 = .36$, $P < .01$. Model 2 illustrates incremental effects of locus of control in family functioning. Results indicate that after controlling for gender, locus of control accounted for a significant portion of the variance in family functioning, $R^2 = .42$, $p < .01$.

For exploratory purposes, separate hierarchical analyses were conducted for boys and girls. Table 13 portrays results from these analyses. Model 1 examined the incremental effects of familial knowledge in family functioning for boys after controlling for family hardiness, self-esteem, and locus of control. DYK know did not account for additional variance in family functioning after controlling for the other variable in this model. Model 2 examined the incremental effects of girls' knowledge of family history. Results indicated that after controlling for the other variables, DYK accounted for a significant portion of the variance in family functioning, $R^2 = .60$, $p < .05$.

In conclusion, Hypothesis 3 was supported, and results indicate that familial knowledge predicts a significant amount of the variance in family functioning over and above children's locus of control, family hardiness and self-esteem. Approximately 28% of the variance in family functioning was accounted for by the combination of child's knowledge of family history and locus of control. After controlling for gender, both DYK and locus of control accounted for significant portions of family functioning. Finally, after controlling for other variables, the DYK scale accounted for a significant portion of the variance in family functioning for girls only.

Discussion

One of the primary concerns of the MARIAL Center and the Sloan Centers in general are the diverse effects of dual earning families on family functioning and adjustment. The MAIAL family narratives project was designed to examine adjustment and resilience in such families. Overall, our data suggest that resilience does vary among families and it is possible to identify factors associated with higher or lower levels of resilience.

Research suggests that resilient children possess a wide variety of internal and external-directed mechanisms that they use to overcome obstacles (Farber & Egeland, 1987; Felsman & Vaillant, 1987). These behaviors include support-seeking behaviors, support-attracting characteristics, cognitive abilities, and offering one's own support to others in need. Rutter (1979) found that children from highly stressful home environments who had a positive relationship with at least one parent were less prone to maladjustment than children who did not possess such a relationship. Cowen et al. (1990) found that stress-resilient urban children differed from less resilient children in a number of respects, including the possession of empathy, self-reliance, and seeking out social support. Many researchers have developed expensive, time-consuming programs to promote positive attitudes and attributes in children and families. Recently, psychologists have begun exploring within family rituals and traditions that foster family functioning and resiliency.

From Werner and Smith's (1982) seminal study on the island of Kauai, researchers, professionals, and educators have attempted to clarify individual and family protective factors that strengthen resiliency. Positive expectations, ego-control, self-

esteem, intelligence, social competences, emotional balance, independence and autonomy and problem solving abilities have been identified as possible positive characteristics that aid in the development of resilient attitudes (Wyman et al, 1993; Luthar, 1991; Mrazek & Mrazek, 1987; Wolin & Wolin, 1993). Previously, it was believed that these resiliency traits were innate, a gift given to a child at birth (Anthony & Cohler, 1987). The interplay of nature and nurture set the mold for the emergence of resiliency. Traditionally, most studies focused on personal characteristics of children and individuals who thrived despite a parent's mental illness or family misfortune. The possibility of the family contributing to resilient attitudes and beliefs was overlooked.

Emerging studies now focus on key influences of the family as a protective factor when facing life stressors. Furthermore, researchers have suggested the most consistent protective factor appears to be the family unit (Garmezy & Rutter, 1985). Family resilience is defined as characteristics of families that help foster adjustment and adaptation to change and crisis situations. According to Boss (2001), adversity strengthens the family unit by igniting the possibility for personal and relational transformation and growth. Stinnett and DeFrain (1985) determined that families who have overcome obstacles and external life events reported an increase in the familial unit and stronger bonds among the family members. When dealing with adversity, effective family processes that involve connectedness, family support, and family cohesion appear to foster resiliency.

Relationships among indicators of child and family resiliency and adjustment were investigated before and after the September 11, 2001 tragedy as correlates of family functioning. Additionally, children's knowledge of family history gained through stories

was examined as a predictor of family functioning, hardiness, and locus of control. The most robust patterns of results indicated that children's knowledge of family events influences and is associated with locus of control, self-esteem, anxiety, and family functioning. Findings suggest that knowing family history can be a protective factor in times of adversity and crisis. Past studies have been unable to control for the variety of traumas that are related to maladjustment, however, the current research expands this literature by controlling for the stressor – all children and families experienced Sept. 11th.

Results from this study suggest that story telling in families can affect family functioning and resilient attitudes. Children's knowledge of family traditions and past stories was associated with increased family functioning and self-esteem, lower anxiety, and more internal beliefs. Taylor et al. (1993) proposed that resilient thoughts and beliefs could be transferred through stories to children and adolescents experiencing stress and illness. Fiese and associates (1999) have implemented narratives as a paradigm to explore and understand family process and family functioning. Findings from her research group have determined that family narratives are a good indicator of family functioning. Together, these findings suggest that family narratives have important implications for resiliency.

Level of familial knowledge via family narratives appeared to differentiate self-reported locus of control, self-esteem, and family functioning. Significant differences among these constructs in relation to children's knowledge of family stories suggest that how much knowledge children have affects self-reported ratings in these domains. Having greater knowledge of familial history seems to be related to other individual and family variables, however, findings from this research suggest some gender differences.

Storytelling may be more beneficial to girls and increase their self-esteem and family functioning ratings as compared to boys. Similarly, knowing more family stories was related to decreased anxiety and more internal beliefs in girls only. There may be unique characteristics, such as more interest, in girls that make telling stories a stronger protective factor. Future research exploring the ameliorating effects of story telling in boys and girls may help clarify these gender differences.

This study exemplifies an important relationship between knowledge of family history and locus of control. The relationship between locus of control and a plethora of other constructs has led some psychologists to label locus of control as a master variable. Correlates of master variables signify existing associations between all things related to that variable. Thus, there is a relationship between family functioning, self-esteem, hardiness, and family knowledge because all are associated with locus of control. In other words, changes among these variables will moderate internal and external attitudes, ultimately affecting other variables associated with it. A wheel is an appropriate diagram to depict these relationships. Figure 2 shows the relationship among locus of control to various other constructs.

 Insert Figure 2 about here

Gender differences extended to differences in locus of control over time. Developmental normative data suggest that children and adolescents become more internal with age (Nowicki & Strickland, 1973). There also appears to be a developmental lag in boys. Compared with girls, boys are less internal and approach equal levels with girls with age. Results from the present research support previous

findings which suggest that beliefs become more internal with development.

Surprisingly, internality appears to be accelerated in children who have experienced external stressors compared with those who are developing along the normal trajectory.

Nietzsche's ancient proverb, "What doesn't kill us, makes us stronger," can describe children and families facing adversity and stressful life events. Stressful events, such as the September 11, 2001 tragedy, impact the entire family unit. Positive family processes not only enable family members to unite and respond successfully to the crisis but, more importantly, to grow and learn from adverse experiences. Resilience, defined as the ability to withstand and rebound from disruptive life challenges, involves a crucial process that overtime fosters the ability to surmount obstacles and offer us new resources (Joseph, 1994).

Higher functioning families used more adaptive coping methods and adjusted more easily after September 11th compared to families who used less adaptive coping strategies. Findings from the present study suggested a relationship between hardiness and functioning before and after a major life stressor. Furthermore, self-reported coping strategies were more productive and family focused in families who also rated their family as hardier. These coping strategies include social support, problem-solving skills, connectedness, and open emotional expression. According to Dubow and Tisack (1989), these characteristics enhanced children's and families' functioning by buffering the deleterious effects of stressful like events. Furthermore, these coping methods have been said to directly generate positive outcomes in families experiencing external stressors.

Households that make family narratives an integral and common activity appear to adapt better when faced with adversity and stress. Findings from this research suggest

that how much children know about their family's history predicts a significant amount of the variance in children's locus of control, family functioning and coping, anxiety, and self-esteem. Furthermore, familial knowledge, combined with locus of control accounted for approximately 28% of the total variance in family functioning. These results support and extend previous literature by demonstrating that it is possible to foster resilient beliefs through stories.

The present study is open to a number of methodological problems and limitations. Several researchers were involved in the recruitment and data collection phase of the study. Although all researchers were trained in the specific procedures, a portion of the control might have been lost due to inconsistencies in the protocol during the home visits. Participant refusal, mainly mother and father, to respond to select items and/or complete entire questionnaires lead to data being thrown out. The home visit, while advantageous in numerous respects, might have compromised some of the control that would have been secured in a laboratory setting. Uncontrollable events, such as a phone call, a visitor at the door, and a child crying might have decreased the standardization. The data regarding coping with September 11th were retrospective in nature and subject to erroneous beliefs given the time delay. Finally, the small sample size prevented utilization of more advanced statistics such as structural equation modeling.

Future studies must address and promote the innate abilities of families to discover new strengths during misfortune. This study adds to a short list of longitudinal investigations that seek to establish programs that foster resilient beliefs and attitudes in children. Results of resilience research suggest multiple strategies for promoting better

outcomes for at-risk children and adolescents and families facing adverse life events. Given the importance of familial knowledge, future studies should assess how much children know at various times in development; the present study examined this construct at Time 1 only. Similarly, researchers should examine pathways for helping children become more internally controlled since it appears that stress impacts externally controlled children to a larger degree. Both familial knowledge and locus of control are important, but it appears that the strength of former is through the latter. Locus of control is the most general of variables and future studies should attend to how internality and externality influence behavior.

Summary and Conclusion

In an unpredictable and volatile world, children and families are sometimes faced with obstacles and major life stressors. While helping families through times of crisis is beneficial, buffering them beforehand has become the focus of much research. People who have overcome adversity often obtain new insight and knowledge, gain confidence, and master their ability to cope with future stressors. Story telling and family narratives can provide children the necessary skills to face and overcome major life stressors. More importantly, familial knowledge can shield children from the potential devastating effects of major life events.

Research now suggests that parents can instill positive attitudes in their children through storytelling. By telling stories, it is believed that themes of resilience will emerge, and children will likely incorporate the resilient themes into daily life. Knowledge of family stories appears to be associated with increased family functioning, family hardiness, self-esteem, and locus of control. It appears that families who tell

stories can deal with and overcome tragedy to a greater degree as compared to families who communicate less. It is hopeful that these findings will illustrate the usefulness of telling stories to children. More familial knowledge, combined with a strong family unit, can buffer children and provide them the necessary qualities to grow from adverse life experiences. It appears that the field has stumbled upon a program that families can implement in their own home; it remains to be seen how family narratives and story telling can be integrated into prevention and intervention programs for children and families.

References

- Achenbach, T. M. (1991). *Manual for the Child Behavior Checklist/4-18 and 1991 Profile*. Burlington, VT: University of Vermont Department of Psychiatry.
- Anthony, E.J., & Cohler, B.J. (1987). *The invulnerable child*. New York: Guilford Press.
- Austin, J. K. & McDermott, N. (1988). Parental attitude and coping behavior in families of children with epilepsy. *Journal of Neuroscience*, 20, 174-179.
- Boss, P. (1999). *Family stress management: A contextual approach*. Newbury Park, C.A.: Sage Publications.
- Cicchetti, D., Rogosh, F. A., Lynch, M., & Holt, K. D. (1993). Resilience in maltreated children: Processes leading to adaptive outcome. *Development and Psychopathology*, 5, 629-647.
- Coddington, R. D. (1972). The significance of life events as etiological factors in the diseases of children: A study of a normal population. *Journal of Psychosomatic Research*, 16, 205-213.
- Cohen, F. & Lazarus, R. S. (1979). Coping with the stress of illness. In G. C. Stone, F. Cohen, & N. Adler (Eds.), *Health Psychology: A handbook* (pp. 217-254). San Francisco: Jossey-Bass.
- Cowen, E. L., Wyman, P. A., Work, W. C. & Parker, G. R. (1990). The Rochester Child Resilience Project: Overview and summary of the first year. *Development and Psychopathology*, 2, 193-212.
- Duke, M. P. & Nowicki, S. (1973). Personality correlates of the Nowicki-Strickland locus of control for adults. *Psychological Reports*, 33, 267-270.
- Dubow, E.F., & Tisak, J. (1989). The relation between stressful life events and

adjustment in elementary school children: The role of social support and social problem-solving skills. *Child Development*, 60, 1412-1423.

Dyer, J. G. & McGuinness, T. M. (1996). Resilience: Analysis of the concept. *Archives of Psychiatric Nursing*, 5 (10), 276-282.

Egeland, B., Carlson, E., & Sroufe, L. A. (1993). Resilience as process. *Development and Psychopathology*, 5, 517-528.

Egeland, B. & Erickson, M. F. (1990). Rising above the past: Strategies for helping new mothers break the cycle of abuse and neglect. *Zero to Three*, 11(2), 29-35.

Farber, E. A., & Egeland, B. (1987). Invulnerability among abused and neglected children. In A. E. James & B. J. Cohler (Eds.). *The invulnerable child*. (pp. 253-288). New York, NY, US: The Guilford Press.

Felsman, J.K., & Vaillant, G.E. (1987). Resilient children as adults: A 40-year study. In E.J. Anthony & B.J. Cohler (Eds.), *The invulnerable child* (pp. 289-314). New York: Guilford Press.

Fiese, B. H., Sameroff, A. J., Grotevant, H. D., Wamboldt, F. S., Dickstein, A., & Fravel, D. L. (1999). The stories that families tell: Narrative coherence, narrative interaction, and relationship beliefs. *Monographs of the Society for Research in Child Development*, 64(2), Serial No. 257.

Garnezy, N. Z. (1990). A closing note: Reflections on the future. In J. Rolf, A. S. Masten, D. Cicchetti, K. H. Nuechterlein, & A. S. Weintraub (Eds.), *Risk and protective factors in the development and psychopathology* (pp. 527-534). New York: Cambridge University Press.

Garnezy, N. (1985). Stress resistant children: The search for protective factors. In J. E.

- Stevenson (Ed.), *Recent research in developmental psychopathology*, Book Supplement No. 4, *Journal of Child Psychology and Psychiatry* (pp. 213-233). Oxford: Pergamon Press.
- Garnezy, N. (1984). Risk and protective factors in children vulnerable to major mental disorders. In L. Greenspoom (Ed.), *Psychiatry 1983* (Vol. 3, pp. 91-104, 159-161). Washington, DC: American Psychiatry Press.
- Garnezy, N. & Rutter, M. (1985) Acute reactions to stress. In M. Rutter & L. Herstov (Eds.), *Child and adolescent psychiatry: Modern approaches* (2nd ed., pp. 152-176). Oxford: Blackwell Scientific Publications.
- Glantz, M. D. & Johnson, J. L. (1999). Resilience and development: Positive life adaptations. New York: Plenum Publishers.
- Hansen, W. B. (1992). School-based substance abuse prevention: a review of the state of the art in curriculum, 1980-1990. *Health Education Research: Theory and Practice*, 7, 403-430.
- Hawley, D. R. (2000). Clinical implications of family resilience. *The American Journal of Family Therapy*, 28, 101-116.
- Hawley, D. R. & DeHaan, L. (1996). Toward a definition of family resilience: Integrating life-span and family perspectives. *Family Process*, 35, 283-298.
- Johnson, J. H. (1986). *Life events as stressors in childhood and adolescence*. Newbury Park, CA: Sage Publications.
- Joseph, J.M. (1994). *The resilient child: preparing today's youth for tomorrow's world*. New York: Plenum Books.
- Lazarus, R. S. (1980). The stress and coping paradigm. In C. Eidorfer, D. Cohen, & A.

- Kleinman (Eds.), *Conceptual models for psychopathology* (pp. 173-209). New York: Spectrum.
- Lazarus, R. S. & Cohen, J. B. (1977). Environmental stress. In I. Altman & J. F. Wohlwill (Eds.), *Human behavior and the environment: Current theory and research* (pp. 89-127). New York: Plenum Press.
- Levine, C. (1990). AIDS and the changing concepts of family. *The Milbank Quarterly*, 68, 33-58.
- Loesel, F., Bliesener, T., Koefler, P. (1989). On the concept of "invulnerability": Evaluation and first results of the Bielefeld project. In M. Brambring & F. Loesel, (Eds.), *Children at risk: Assessment, longitudinal research, and intervention. Prevention and intervention in childhood and adolescence* (pp.186-219). Berlin, Germany: Walter De Gruyter.
- Luthar, S. (1991). Vulnerability and resilience: A study of high-risk adolescents. *Child Development*, 62, 600-616.
- Luthar, S. S. (1993). Annotation: Methodological and conceptual issues in research on childhood resilience. *Journal of Child Psychology and Psychiatry*, 34(4), 441-453.
- Luthar, S. S, Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, 71(3), 543-562.
- Luthar, S. S., Doernberger, C. H., & Zigler, E. (1993). Resilience is not a unidimensional construct: Insights from a perspective study of inner-city adolescents. *Development and Psychopathology*, 5, 1993.

- Luthar, S. & Zigler, E. (1991). Vulnerability and competence: a review of research on resilience in childhood. *American Journal of Orthopsychiatry*, 61(1), 6-22.
- Masten, A. S. (1986). Humor and competence in school-aged children. *Child Development*, 57(2), 461-473.
- McCubbin, H. I. & McCubbin, M. A. (1988). Typologies of resilient families: Emerging roles of social class and ethnicity. *Family Relations*, 37, 247-254.
- McCubbin, H. I., Thompson, A. I., & McCubbin, M. A. (1996). *Family assessment: Resiliency, coping and adaptation: Inventories for research and Practice*. Madison, WI: University of Wisconsin Publishers.
- McCubbin, H. I., Thompson, E. A., Thompson, A. I., & Futrell, J. A. (1999). *The dynamics of resilient families*. Thousand Oaks, CA: Sage Publications.
- Milgrim, N. A. & Palti, G. (1993). Psychosocial characteristics of resilient children. *Journal of Research in Personality*, 27, 201-221.
- Mrazek, P. J. & Mrazek, D. A. (1987). Resilience in child maltreatment victims: A conceptual exploration. *Child Abuse & Neglect*, 11, 357-366.
- Murphy, L.B. & Moriarty, A. E. (1976). *Vulnerability, coping, and growth: From infancy to adolescence*. New Haven, CT: Yale University Press.
- National Network for Family Resiliency (1996). Understanding resiliency. [On-line]. Retrieved 10/18/03 from http://www.agnr.umd.edu/users/nnfr/pub_under.html
- Nowicki, S. & Duke, M.P. (1974). A locus of control scale for college as well as non-college adults. *Journal of Personality Assessment*, 38, 136-137.
- Nowicki, S., Jr. & Strickland, B. R. (1973). A locus of control scale for children. *Journal of Consulting and Clinical Psychology*, 40, 148-154.

- Patterson, J. M. & Garwick, A. W. (1994). The impact of chronic illness on families: A family systems perspective. *Annals of Behavioral Medicine*, 16(2), 131-142.
- Radke-Yarrow, M. & Brown, E. (1993). Resilience and vulnerability in children of multiple-risk families. *Development and Psychopathology*, 5, 581-592.
- Rende, R. & Plomin, R. (1993). Families at risk for psychopathology: Who becomes affected and why? *Development and Psychopathology*, 5, 529-540.
- Richters, J. E. & Martinez, P. E. (1993). Violent communities, family choices, and children's chances: An algorithm for improving the odds. *Development and Psychopathology*, 5, 609-627.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Rutter, M. (1990). Psychosocial resilience and protective mechanisms. In J. Rolf, A. S. Masten, D. Cicchetti, K. H. Neuchterlein, & S. Weintraub (Eds.), *Risk and protective factors in the development of psychopathology* (pp. 181-214). New York: Cambridge University Press.
- Schuster, M. A., Stein, B. D., Jaycox, L. H., Collins, R. L., Marshall, G. N., Elliot, M. N., Zhou, A. J., Kanouse, D. E., Morrison, J. L., & Berry, S. H. (2001). A national survey of stress reactions after the September 11, 2001, terrorist attacks. *New England Journal of Medicine*, 345(20), 1507-1512.
- Sethi, S., & Seligman, M.E. (1993). Optimism and fundamentalism. *Psychological Science*. 4(4), 256-259.
- Stinnett, N., & DeFrain, J. (1985). *Secrets of strong families*. Boston: Little, Brown.

- Tavitian, M. L., Lubiner, J., Green, L., Grebstein, L. C., & Velicer, W. F. (1987). Family Functioning Scale. In J. Fischer & K. Corcoran (Eds.) (1994), *Measures for clinical practice: A sourcebook*, (2nd ed, pp. 281-285). New York: The Free Press.
- Taylor, S. E., Aspinwall, L. G., Guiliano, T. A., Dakof, G. A., & Reardon, K. K. (1993). Storytelling and coping with stressful events. *Journal of Applied Social Psychology*, 23(9), 703-733.
- Tiet, Q. Q., Bird, H. R., Hoven, C. W., Wu, P., Moore, R., & Davies, M. (2001). Resilience in the face of maternal psychopathology and adverse life events. *Journal of Child and Family Studies*, 10(3), 347-365.
- US Department of Education. (2002). Promoting Excellence in education. [On-line]. Available: <http://www.ed.gov/index.jsp>
- Wallerstein, J. S. (1983). Children of divorce: Stress and developmental tasks. In N. Garnezy & M. Rutter (Eds.), *Stress, coping and development in children*. New York: McGraw-Hill.
- Walsh, F. (1996). The concept of family resilience: Crisis and challenge. *Family Process*, 35, 261-281.
- Werner, E. E. (1989). High-risk children in young adulthood: A longitudinal study from birth to 32 years. *American Journal of Orthopsychiatry*, 59, 72-89.
- Werner, E. E. (1990). Protective factors and individual resilience. In S. J. Meisels & M. Shonkoff (Eds.), *Handbook of early intervention* (pp. 97-116). New York: Cambridge University Press.

- Werner, E. E. & Smith, R. S. (1982). *Vulnerable but invincible: A study of resilient children*. New York: McGraw-Hill.
- Wiebe, D. J. (1991). Hardiness and stress moderation: A test of proposed mechanisms. *Journal of Personality & Social Psychology*, 60(1), 89-99.
- Wolff, S. (1995). The concept of resilience. *Australian and New Zealand Journal of Psychiatry*, 29, 565-574.
- Wolin, S. J. & Wolin, S. (1993). *The resilient self*. New York: Villard Books.
- Wyman, P. A., Cowen, E. L., Work, W. C., & Kerley, J. H. (1993). The role of children's future expectations in self-system functioning and adjustment to life stress: A prospective study of urban at-risk children. *Development and Psychopathology*, 5, 649-661.
- Zirmin, H. (1986). A profile of survival. *Child Abuse and Neglect*, 10, 339-349

Appendix A

Do you know...?

Please answer the following questions by circling “Y” for “yes” or “N” for “no.” Even if you know the information we are asking about, don’t write it down. We just wish to know if you know it.

1. Do you know how your parents met? Y N
2. Do you know where your mother grew up? Y N
3. Do you know where your father grew up? Y N
4. Do you know where some of your grandparents grew up? Y N
5. Do you know where some of your grandparents met? Y N
6. Do you know where your parents were married? Y N
7. Do you know what went on when you were being born? Y N
8. Do you know the source for your name? Y N
9. Do you know some things about what happened when you brothers or sisters were born? Y N
10. Do you know which person in your family you look most like? Y N
11. Do you know which person in your family you most act like? Y N
12. Do you know some of the illnesses and injuries that your parents experienced before you were born? Y N
13. Do you know some of the lessons that your parents learned from good or bad experiences? Y N
14. Do you know some things that happened to you Mom or Dad when they were at school? Y N
15. Do you know the national background of your family (such as English, German, Russian, etc.)? Y N
16. Do you know some jobs that your parents had when they were young? Y N
17. Do you know some awards that your parents had when they were young? Y N
18. Do you know the names of the schools your Mom went to? Y N
19. Do you know the names of the schools that you Dad went to? Y N
20. Do you know about a relative whose face “froze” in a grumpy position because he or she did not smile enough? Y N

