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"Why Resilience?"

A Review of Literature of Resilience and Implications for Further Educational Research

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INTRODUCTION

The influence of resilience is evident by its reach across diverse disciplines. In area of business, resilience is measured by an organization's ability to withstand the impact of any interruption and recuperate while resuming its operations to provide basic services. As evident in most fields, and seen in most typologies, the essence of resilience is described as the ability to bounce back from some form of disruption, stress, or change. In the fields of engineering and physics, resilience is described as the capacity of a material to absorb energy, resist damage, and recover quickly. The term resilience stems from Latin (*resiliens*) and was originally used to refer to the pliant or elastic quality of a substance (Joseph, 1994). Webster's New Twentieth Century Dictionary of English Language (1958) defined resilience as "the ability to bounce or spring back after being stretched or constrained or recovering strength or spirit," and the American Heritage dictionary defined resilience as "the ability to recover quickly from illness, change, or misfortune." Although resilience remains a familiar word in everyday English language, the term resilience carries different meanings across different contexts.

The literature review seeks to better understand the construct of resilience and provide a context for how it can further studied in school settings. More specifically, the literature review is organized around 7 central questions: (1) How is resilience defined; (2) Is resilience an innate quality or a dynamic process; (3) Where do the origins resilience research lie and how does this influence the ways in which it is studied; (4) How is resilience studied within the school setting, with a particular focus on urban schools; (5) How is resilience studied and what methodological challenges lie ahead for the field; (6) What are the trends resilience research and where is it heading, and lastly (7) What are the benefits and challenges for future resilience research? The following section contains an overview of how resilience is defined in the literature.

RESILIENCY DEFINED

Nearly fifty years of research in resiliency has brought forth various perspectives and voices (Dugan, T., & Coles, R., 1989; Glantz, M., & Johnson, J., 1999; Joseph, J., 1994; Taylor, R. & Wang, M., 2000; Thomsen, K., 2002; Unger, M., 2005). Despite the vast body of research on resilience, there is little agreement on a single definition of resilience among scholars. In fact, scholars define the construct of resilience in a multitude of ways (Carle & Chassin, 2004).

Richardson and his colleagues (1990) contended that resiliency is "the process of coping with disruptive, stressful, or challenging life events in a way that provides the individual with additional protective and coping skills than prior to the disruption that results from the event" (p. 34). Similarly, Higgins (1994) described resiliency as the "process of self-righting or growth" (p. 1), while Wolins (1993) defined resiliency as the "capacity to bounce back, to withstand hardship, and to repair yourself (p. 5).

Resiliency, or resilience, is commonly explained and studied in context of a two-dimensional construct concerning *the exposure of adversity* and the *positive adjustment outcomes* of that adversity (Luther & Cicchetti, 2000). While the of construct of resilience is examined across various studies and scholarly articles, there is little consensus as to how researchers define adversity, let alone what defines positive adjustment outcomes. Resiliency is also defined as a "positive adaptation…is considered in a demonstration of manifested behavior on social competence or success at meeting any particular tasks at a specific life stage" (Luthar & Cicchetti, 2000, p. 110). With respect to the school setting, scholars often use school achievement or results from state testing as a measure of positive adjustment outcomes (Jew, Green & Kroger, 1999). Masten (1994) contended that resilience refers to (1) people form high-risk groups who have had better outcomes than expected; (2) good adaptations despite stressful

(common) experiences (when resilience is extreme, resilience refers to patterns in recovery); and (3) recovery from trauma. Garmezy (1993) asserted that the study of resilience has focused on answering two major questions: 1) What are the characteristics – risk factors – of children, families, and environments that predispose children to maladjustment following exposure to adversity? 2) What are the characteristics of protective factors that shield them from such major adjustment?

In her discussion of resiliency in children, Benard (1995) argued that resilient children usually have four attributes in common:

Social Competence: Ability to elicit positive responses from others, thus establishing positive relationships with both adults and peers

Problem-solving skills: Planning that facilitates seeing oneself in control and resourcefulness in seeking help from others

Autonomy: A sense of one's own identity and an ability to act independently and exert some control over one's environment, and

A sense of purpose and future: Goals, educational aspirations, persistence, hopefulness, and a sense of a bright future.

Werner and Smith (1992) explained how resilience has come to describe a person having a good track record of positive adaptation in the face of stress or disruptive change. Their longitudinal studies found that a high percentage of children from an "at risk" background needing intervention still became healthy, competent adults (Werner & Smith, 1992). Werner and Smith (1992) purported that a resilient child is one "who loves well, works well, plays well, and expects well" (p. 192). A more thorough explanation of Werner and Smith's work will be offered in a subsequent section of the literature review.

Despite differences in terminology, Masten (1994) asserted that resilience must be understood as a process. Masten (1994) explained that resilience must be viewed as an interplay between certain characteristics of the individual and the broader environment, a balance between stress and the ability to cope, and a dynamic and developmental process that is important at life transitions. Debate as to whether or not resilience is an innate quality or dynamic process is evident in the literature. The subsequent section provides a context for how this inquiry has been approached in resiliency research.

RESILIENCE: AN INNATE QUALITY OR DYNAMIC PROCESS?

During early waves of resilience research, researchers tended to regard and label individuals who transcended their adverse circumstances as "hardy," "invulnerable," or "invincible" (Werner & Smith, 1982). Such labels implied that these individuals were in possession of a rare and remarkable set of qualities that enabled them to rebound from whatever adversity came their way – almost as if these fortunate individuals possessed a sort of magical force field that protected them form all harm. Increasingly, however, researchers have arrived at the consensus that resilience is not some remarkable, innate quality but rather a developmental process that incorporates the normative self-righting tendencies of individuals (Masten, 2001). In fact, Garmezy (1993) cautioned against the use of the term invulnerable because it implies that people are incapable of being wounded or injured. Masten (2001) referred to the resilience process as "ordinary magic," simply because a majority of individuals who undergo serious adversity "remarkably" manage to achieve normative developmental outcomes. Research in resiliency concludes that each person has an innate capacity for resiliency, *a self-righting tendency* that operates best when people have resiliency-building conditions in their lives (Benard, 1995). It is grounded in the belief that all humans possess an inborn developmental

wisdom and seeks to better contextualize how teachers can to tap this wisdom (Benard, 1995). In her book, *Fostering Resiliency in Children*, Bonnie Benard (1995) claimed:

> We are all born with an innate capacity for resilience, by which we are able to develop social competence, problem-solving skills, a critical consciousness, autonomy, and a sense of purpose (p. 17).

Researchers increasingly view resilience not as a fixed attribute but as an alterable set of processes that can be fostered and cultivated (Masten, 2001; Pardon, Waxman & Huang, 1999). Researchers emphasize the interactive processes – between the individual and environment and between risk and protective factors – as the crucial underpinnings of developing resilience. Subsequently, ecological systems theory, articulated by Brofenbrenner (1989), Garabino (1995), and Garmezy (1991), functioned as a way to examine the interplay between individuals and their environments and the resulting impact upon the individual's development.

Garmezy's (1991) triadic model of resilience provided a widely accepted ecological framework for understanding the resilience process. Multiple scholars use this framework to study resilience (Gordon & Song, 1994; Morales & Trotman, 2004; Werner & Smith, 1982). The triadic model described the dynamic interactions among risk and protective factors on three levels (individual, family, and environmental). The model also emphasized that resilience is a process that empowers individuals to shape their environment and to be shaped by it in turn. Similarly, Cicchetti and Lynch's (1993) interactive ecological-transactional model of development highlighted how certain contexts (e.g. culture, neighborhood, family) interact with each other over time to shape development and adaptation. These ecological models highlight the intersection of varying influences upon one's development and how risk and protective factors can interact to enhance or inhibit a person's resilience.

Implicit in the concept of resilience as a dynamic process is the understanding that resilience can grow or decline over time depending on the interactions taking place between an individual and their environment and between risk and protective factors in an individual's life (Borman & Rachuba, 2001; Werner & Smith, 1992). Therefore, an individual may be resilient at certain times - and not at others - depending upon the circumstances and relative strength of protective factors compared to risk factors at the given moment (Winfield, 1991). Interestingly, the term *resilience* was adopted in lieu of earlier terms because it more accurately conveyed the dynamic process (Wolin & Wolin, 1993). Masten (1994) contributed the idea that resilience is a pattern over time, characterized by good eventual adaptation despite risk, acute stressors, or chronic adversities. Pushing scholars to look beyond the individual level of resilience, Seccombe (2002) asserted that:

> the widely held view of resilience as an individual disposition, family trait, or community phenomenon is insufficient…resiliency cannot be understood or improved in significant ways by merely focusing on these individual-level factors. Instead careful attention must be paid to structural deficiencies in our society and to be social policies that families need in order to become stronger, more competent, and better functioning in adverse situations" (p. 385).

The following section traces the inception of resiliency research.

ORIGINS OF RESILIENCY RESEARCH: THREE SEMINAL STUDIES

The concept of resilience first emerged from studies conducted in the 1970's in the fields of psychopathology, traumatic stress, and poverty. While studying the effects of "risk factors" upon children's development (i.e., factors which increase the likelihood of poor or negative development), researchers discovered that a number of children who were exposed to severe

and/or chronic stressors did not experience negative developmental outcomes. These unexpected findings set the foundation for decades of further research in a variety of fields (e.g. psychology, education, public health) to examine those factors and processes that enabled children and youth to not only survive, but thrive in spite of risk (Garmezy, 1971, Rutter, 1979; Werner & Smith 1982).

Garmezy's (1971) seminal study of children of parents with schizophrenia provided a foundation for investigating resilience. He first postulated that existence of "protective factors" that could enable an individual to ameliorate the negative impact of stressors and support positive development. Garmezy found that although having a parent with schizophrenia did increase a child's risk of developing the disorder, a remarkable 90% of children in this study did not develop this illness. He explained that these children

> bear the visible indices that are the hallmarks of competence – good peer relations, academic achievement, commitment to education and purposive to life goals, [and] early and successful work histories (Garmezy, 1971, p. 114).

Impressed by these data, he used this platform to encourage the field to shift the focus away from risk factors in order to study "the forces that move such children to survival and to adaptation" (Garmezy, 1971, p. 114).

Rutter's (1979) study of children of mentally ill parents on the Isle of Wight revealed a similar phenomenon of resilience. In extensive interviews with these children, he discovered that despite growing up in adverse conditions approximately half of all children in the study experienced positive developmental outcomes and did not become mentally ill or exhibit maladaptive behaviors (Rutter, 1979). Planting the seed for educational resilience, he concluded that school environments could act as an important protective factor that buffered children

against the adverse effects of stress. In subsequent studies, Rutter (1984) identified sporting or musical achievement, holding positions of responsibility in school, developing a good relationship with a teacher or social success among classmates as protective factors contributing to students' resilience. Rutter noted that schools fostered a sense of achievement in children and contributed to their personal and social growth.

Developmental psychologist Werner's (1982) four-decade longitudinal study of children on the Hawaiian island of Kauai constitutes the third hallmark study in resilience literature. Out of 698 children studied, fully one-third had four of more risk factors present in their lives and identified as "high risk" (Werner & Smith, 1982). Significantly, however, one-third of those "high-risk" children (72 of 201) demonstrated good outcomes by adolescence. Moreover, by that time the participants had entered their early 30's, two-thirds of those who had presented problems during adolescence were leading successful adult lives (Werner & Smith, 1982). Throughout those four decades, the researchers explored the protective factors in the lives of resilient individuals that lead to good development. Werner and Smith determined that protective factors were both internal and external to the individual, and included dispositional factors, affective ties within family, and external environmental supports. More specifically, factors include family size (four or fewer children), access within household of care-givers; substantial attention given to children during infancy; consistent structure and rules during child's adolescence; family cohesion; informal and intergenerational network of kind and friends. All of the resilient high-risk children in the Kauai study could point to at least one teacher who was an important source of support (Werner & Smith, 1982). These seminal studies continue to ground the argument that many factors can help individuals thrive in the face of adversity. Additionally, findings from these studies offer hope and proof that despite traumatic

and stressful life experiences individuals can be resilient. From these three seminal studies emerged significant terms that continue to frame the complex and dynamic research conducted in the area of resilience. The next section discusses the emergence of risk factors in relation to the study of resilience.

Risk Factors

Risk factors are defined as "any influence that increase the probability of onset, digression to more serious state, or maintenance of a problem condition (Kirby & Fraser, 1997, pp. 10-11). Risk factors are those characteristics thought to present a group of people, usually children, with a higher probability of an undesirable outcome (Masten, 1994). Traditionally, scholars have approached the study of risk factors in one of two ways: 1) they have examined the specific risk factors or particular antecedent that they attempted to link to future outcomes or 2) they have studied cumulative risk, in which they have to tried to define the effects of additive risks. As mentioned earlier, ecological theory has continued to influence modern research study design (Bronfenbrenner, Moen & Garabino, 1984). Bronfrenbrenner's (1979) ecological perspective views the child developing within a complex system of relationships affected by multiple levels of the surrounding environment. The environment is defined as a series of nested structures made up of the microsystem (the child's immediate environment), the mesosystem (interactions among microsystem factors), the exosystem (factors in the wider community), and the macrosystem (consisting of values, laws, customs, etc.).

Researchers contend that proximal risk factors – those closer to the individual, such as abusive parents – are more influential and distal risk. However, there is a critique that there are shortcomings in research methodology assuming that these macro factors may actually have more influence on an individual's development (Bronfenbrenner, Moen & Garabino, 1984).

Scholars also asserted that risk must be viewed as a dynamic process and that response to risk varies among individuals and with their life contexts (Cowan, Cowan & Shulz, 1996). More specifically, people who may react positively at one point in their lives may not in another (Rutter, 1981, 1987). Additionally, the concept of risk encompasses a notion of cumulative stress (Garmezy, 1993; Masten, 1994) and stress has been differentiated from risk as an individual's subjective reaction to life events that require adaptation. In other words, life events are regarded as stressful when an individual determines the event so taxing that it poses a threat (Lazarus & Folkman, 1984).

The process of defining and examining risk factors, however, has proven to be challenge for those studying resilience. Howard and her colleagues (1999) argued that a potential problem with research is that researchers assume that all participants share the same understandings of risk and resilience. Similarly, Luthar, Cicchetti and Becker (2000) wrote, "some individuals may well see themselves as being relatively well off, even though scientists may define their life circumstances as being highly stressful" (p. 550). On the flipside of this argument, students with significant risk factors can be excluded from resilience research because they may not display difficult or antisocial behavior typically attributed to those with risk factors. In a study of victims of child abuse, researchers suggested that quiet, withdrawn children who do not display challenging behaviors could be just as much at risk as their more vocal peers (Fleming et al., 1997). Nevertheless, all of these researchers contended that while constructing risk presents its challenges resilience research is both promising and beneficial. Howard and her colleagues (1999) asserted that as scholars continue to contribute to the body of resiliency research, they must be mindful that children's accounts and understandings of risk and resilience may not align with those of adult researchers. Condly (2006) added:

An accurate description of the nature of risk crucial to the understanding how it affects people, how resilience operates, and how to develop interventions in the real world. Because risks are multifaceted in nature, it necessarily follows that resilience too is multi-faceted (p. 225).

The subsequent section of the review examines how protective factors are presented in the body of resiliency literature.

<div align="center">Protective Factors</div>

The study of protective factors involved a paradigm shift in models of inquiry that direct the researcher's attention from risk factors to the process of how people successfully negotiate risk (Jessor, 1993). A protective factor generally describes the circumstances that moderate the effects of risks and enhance adaptation (Masten, 1994). Researchers explained that protective factors – both internal and external – may buffer, intercept, or even prevent risk Werner, 1982).

Protective factors, however, continue to be a term broadly defined and the nature of the interplay of risk and protective factors continues to be debated among researchers (Kirby & Fraser, 1997). Masten (1987) has argued that risk and protective factors are polar opposites, in which competence decreases as stress increases. However, Rutter (1983) contended that risk and protective factors interact to produces an outcome – when stress is low, protective factors are of less influence. Howard et al. (1999) argued "just as risks have been identified as cumulative, protective factors seem to have the same cumulative effect in individual's lives. The more protective factors that are present in a child's life, the more likely they are to display resilience" (p. 310).

Rutter (1990) argued that a factor is protective if in deed it tempers a risk factor. He explained that protective factors can be categorized in four ways: 1) those that reduce risk impact

or reduce an individual's exposure to risk, 2) those that reduce negative chain-reactions that follow bad events or experiences, 3) those that promote self-esteem and self-efficacy, and 4) those that foster positive relationships and new opportunities that provide needed resources or direction in life. Still, researchers assert that protective factors have more value than risk factors (Knight, 2007). To illuminate the power of protective factors, a recent study by Ratrin Hestyanti (2006) found internal and external protective factors appear to have ameliorated risk factors for 11-15 year olds who survived the Aceh, Indonesia tsunami. Esquivel, Doll and & Oades-Sese (2011) highlighted the value of protective factors, more specifically within the school setting:

> Protective factors offer hope that schools can succeed in their mission of preparing students for healthy and productive adult lives, regardless of the risk that children bring into the classroom (p. 649).

The following section of the review examines resilience research within the school setting and relevant protective factors emergent in the literature.

RESILIENCE IN SCHOOLS

Schools continue to function as one of the most powerful spaces to capitalize on the resilience of students (Rutter, 1979). Research on resiliency in schools points to the fact that despite barriers to learning "at-risk" students still demonstrated levels of success (Luther & Seigel, 1991; Masten, Best & Garmezy, 1990; Padrón, Waxman, Brown & Powers, 2000). Similarly, Krovetz (1999) explained that "RT [Resiliency Theory] is based on defining protective factors within the family, school, and community that exist for the successful child or adolescent – the resilient child or adolescent – that are missing from the family, school, and community of the child or adolescent who later receives the intervention" (p. 7). In the book, *Resiliency in Schools* (1996), Henderson and Milstein voiced, "a call to action to focus on,

understand, and enhance the development of resiliency is arising not only from social scientists but also from educators who are beginning to understand the need for schools to be resiliency-fostering institutions for all who work and learn in them" (p. 2).   Arguably, the most frequently cited protective factor evident in resilience research in schools is a caring and supportive school environment.

<div align="center">Caring and Supportive Environments</div>

The influence and importance caring and supportive school environments as protective factors persists throughout the literature. Henderson and Milstein (1996) stated that, "more than any other way, schools build resiliency in students through creating an environment of caring personal relationships" (p. 17). Echoing these words, additional researchers concurred that a caring and support ethos (across a child's family, community and school) is the most critical variable throughout childhood and even adolescence (Rutter, 1984, Masten et al, 1990). The presence of caring and supportive relationships creates the proper foundation for trust. As identified by Erikson (1963), trusting relationships serve as the base for healthy future development. Specifically within the school setting, Werner and Smith's study (1988) reminded us of the role that a teacher can play in creating caring learning environments that are critical in fostering resilience. Coburn and Nelson (1989) found the positive role models in the lives of resilient children were favorite educators who took deep interest in them. Students reported that these educators went beyond the traditional roles of teachers by serving as positive role models and individuals whom they could trust and demonstrated deep care. They explained that educator-student relationships are often characterized by "trust (adults keeping promises, confidentiality), attention (listening), empathy (demonstrating understanding), availability (spending time with youth), respect (involving youth in decision making), and virtue (good role

modeling)" (Brooks, 2006, p. 71). In addition to providing a culture of care and support, an ethos of high expectations also serves as a protective factor for resilient students.

<div style="text-align:center">High Expectations</div>

Schools that create a culture of high expectations for all students experience greater rates of academic success (Barley, Apthrop & Goodwin, 2007, Levin, 1988, Rutter, 1979). As mentioned earlier in, Rutter's (1979) found that school environments could act as an important protective factor that buffer children against the adverse effects of stress. More specifically, Rutter concluded that schools focusing on academics, clear expectations and rules, and high levels of student involvement experienced higher rates of attendance and academic attainments and lower rates of delinquency and behavioral disturbances. Rutter's study revealed that behavioral disturbances decreased over time in schools possessing a culture of high expectations and increased in schools that did not foster similar learning environments. Rutter's work (1979) continues to serve as an anchor for subsequent work in the area of resiliency research in schools. In a more recent study examining over 700 high-performing, high-need schools, Barley and her colleagues (2007) concluded that academically successful schools cultivated a culture of high expectations. Researchers indentified 739 high-performing and 738 low-performing schools consisting of 50 percent or more students who receive free or reduced lunch. Survey data collected from participating teachers from these schools revealed that, "what appears to distinguish high-performing schools from low-performing ones is less the tangible aspects or technical processes of schooling, and more the intangible and sometimes elusive aspects, such as a school's mission, culture, and it's teachers' and students' attitudes and beliefs" (p. 5). High expectations in schools encourage and remind students that they are capable of achieving beyond their own belief. These messages convey the point that all students can succeed. Successful

schools that foster resilience also recognize the value of creating meaningful opportunities for students.

Meaningful Participation

Katz (1997) contended that providing bountiful and meaningful opportunities for students is essential in emboldening resilience in children. These opportunities often provide children solace from toxic or hostile environments. Perhaps more importantly, such opportunities often provide children to believe and dream in an environment that is both safe and stable. Similarly, Benard (1995) explained that, "providing youth with opportunities for meaningful involvement and responsibility with the school setting is a natural outcome for schools that have high expectations. Participation, like caring and respect, is a fundamental need." Scholars acknowledge a fundamental need to participate and remind us that students must not be viewed as empty vessels that we fill with knowledge (Freire, 1970, Henderson & Milstein, 1996). Schools are better situated to foster resilience through the use of cooperative learning strategies and opportunities to participate in school governance, service-learning projects (Brooks, 2006).

Resilience research is especially applicable to schools because they directly tackle the achievement gaps that can characterize children who grow up under conditions of poverty or social disadvantage (Condly, 2006). As indicated in the previous section, the impacts of these conditions, however, are off set by the presence of multiple protective factors. More specifically, caring and supportive relationships, an ethos of high expectations, and opportunities for high expectations serve as critical protective factors (Benard, 1995). The following section of the review focuses on research illuminating the impact of resilience in urban school settings.

Resilience in Urban Schools

Although theory suggests that resilience can be fostered through relationships, cultivating a community with high expectations, and opportunities for participation in schools, there continues to be a paucity of studies examining resiliency within the school setting. Of these existing studies, the vast majority of research examining resilience in schools has focused on comparing resilient and non-resilient students (Reyes & Jason, 1993).

In a pilot study exploring factors that distinguished academic success and failure of Latino high school students attending a low income, inner-city school, Reyes and Jason (1993) compared 24 educationally resilient 10th grade students with 24 non-educationally resilient 10th grade peers. Using ninth-grade attendance rates and academic achievement as distinguishing factors, Reyes and Jason (1993) found that educationally resilient students significantly reported more satisfaction with their school sites when compared to their peers. Additionally, interviews with these students also revealed that educationally resilient students were less likely to report that they were approached to join a gang. Lastly, researchers did not find a difference between these two groups when comparing socioeconomic status, parent-student involvement, or parent supervision.

In a subsequent study comparing 133 resilient and 81 non-resilient Mexican American high school students, Gonzalez and Padilla (1997) found that resilient students reported significantly higher perceptions of family and peer support, teacher feedback, positive connections to school, value placed on school, and peer belonging. Using academic grades as an indicator for academic resilience, researchers found that the sole significant predictor of educational resilience was a student's sense of belonging in school.

While studying a cohort of 10th grade Mexican-American students, Alva (1991) studied factors contributing to academic resilience among students with similar socioeconomic

backgrounds. Similar to previous studies cited, Alva found that academically resilient students were more likely to report a greater connection to schools via networks with teachers and peers alike. Moreover, this study demonstrated that academically resilient students generally reported a more positive view of their intellectual abilities and expressed a greater sense of responsibility for their academic future. More specifically, resilient students were more likely to "(a) feel encouraged and prepared to go to college, (b) enjoy coming to school and being involved in high school activities, (c) experience fewer conflicts and intergroup relations with other students, and (d) experience fewer family conflicts and difficulties" (Alva, 1991, p. 31). Alva deemed that students who fit these criteria were *academically invulnerable*.

In a study comparing motivational levels of 60 resilient and 60 non-resilient middle school Latino students across 5 middle schools within a culturally diverse school district, Waxman, Huang, and Padrón (1997) found that there was no significant difference when comparing whether a student spoke English prior to starting school. Utilizing a stratified research design, researchers found that 67% of non-resilient students spoke a different language than English prior to attending school, while 76% of their more resilient peers also reported speaking a language other than English prior to schooling. Results did however reveal significant differences between these groups when comparing retention rates between both groups. Researchers found that 53% of non-resilient students reported being retained in the same grade while 13% or resilient students reported being retained in the same grade. Resilient students spent significantly more time on additional reading, more time completing mathematics homework, and were less likely to report absenteeism or tardiness when compared with their counterparts. Lastly, Waxman and colleagues reported "multivariate analysis and univariate post hoc tests revealed that resilient students had significantly higher perceptions of Involvement,

Satisfaction, Academic Self-Concept, and Achievement Motivation than non resilient students" (p. 47). Addition, researchers explained that "discriminate function analysis revealed that the variables of Academic Aspirations, Involvement, and Academic Self-Concept, Expectations for High School Graduation, Not Being Held Back in School, and Satisfaction were related most highly to the overall discriminate function" (p. 47).

Padrón, Waxman, Brown, and Powers (2002) asserted that "some English language learners (ELLs) do well in school despite coming from school and home environments that present many obstacles for learning" (p. 1)." Researchers explained that research that is conducted from an educational resilience context allows researchers to focus on the predictors for academic success, rather than on academic failure, for English language learners. Furthermore, Padrón, Waxman, Brown, and Powers (2000) stated that when research focuses on the resilience of English language learners it "enables us to specifically identify those 'alterable' factors that distinguish successful from less successful students" (p. 1). The body of research that focuses on resilience in English language learners does not only ask us to challenge deficit model perspectives, but it also asserts that students can achieve academic success if educators focus on factors that are factors that they can change. Building up their research, these researchers employed one of the few experimental studies focusing on resilience in school settings. In 2002, Padrón and colleagues designed, implemented, and tested the Pedagogy for Improving Resiliency Program (PIRP), a program created to embolden resilience for English language learners. Set in an urban elementary school, results from this year long study of six forth and fifth grade classrooms revealed that students in treatment classrooms expressed more positive classroom learning environments and held significantly higher gains in reading assessments. Data also demonstrated classroom teachers who received the PIRP intervention

provided more explanations to students, allocated more time for student responses, and encouraged student success.

In one of the most recent studies of resilience in schools Kanevsky and colleagues (2012) examined the impact of museum-based intervention designed to promote the resilience of 3rd and 4th grade students at an inner-city school. Over the course of two years, researchers compared the academic resilience and personal development of students participating in the study with those who did not. School in the Park (SITP):

> reinforces and supplements school-based instruction with specialized learning opportunities uniquely available in the museums and zoos at San Diego's Balboa Park…where core curriculum is embedded in art, science, and cultural setting provided by Balboa Park. STIP is not a series of field trips but rather an extension of the students' learning environment where they actively engage in grade-appropriate curricula taught by experts (Kanevsky et al, 2012, p. 453-454).

While participation groups reported higher levels of academic resilience, both participants and nonparticipants reported similar levels of character, self-efficacy, and attitudes towards school. This was particularly interesting for researchers because academic literature and aspects of psychosocial aspects of resilience are often directly associated with one another in the body of research. The only differences evident between both groups occurred when examining students' reported academic self-concepts.

Esquivel, Doll and Oades-Sese (2011) reminded us that effective schools according to research in resilience "minimize the risk and adversity to their students to the maximum degree possible, maximize protective factors available to their students through whatever means, and take whatever means and steps necessary to intervene early and boldly when students show early

evidence of social or emotional disturbances or disorders" (p. 650). While the previously mentioned studies offer insight into how resilience can be facilitated within school settings, Doll and her colleagues (2011) claimed that "resilience perspectives should not be overgeneralized to schools…because risk and resilience wax and wane over time and daily decisions about students' needs for support must be flexible and responsive to these changes" (p. 652). The significance of resilience models for school practice, however, is due principally to the construct of protective factors. Esquivel and Doll (2011) stated:

> Schools that fail at providing high-quality educational opportunities to underprivileged youth contribute to the adversity experienced by their students. Alternatively, many schools are sites of high-quality opportunities to interact with positive adult models and supportive peers, and school routines and practices can foster essential student abilities to maintain effective relationships, establish and work towards ambitions personal goals, self-regulate personal activities and behaviors, and manage emotions (p. 650).

RESILIENCE STUDIED: METHODOLOGICAL CHALLENGES

One reason resilience research remains quite difficult is the challenge in isolating significant risk and protective factors which are studied within different populations, within different contexts, utilizing different methodologies. Many studies continue to measure resilience or protective factors by assessing an "at risk" or seemingly traumatized population on its ability to avoid the problem for which it is believed to be at risk. Recent studies include Hagen, Myers, and Mackintoch's (2005) study on the protective factors in children who were deemed at risk because of their mothers were incarcerated, Carle and Chassin's (2004) investigation of behavioral resilience of children of alcoholics, and Hines, Wyatt, and Merdinger's (2005) study on academic resilience of foster youth.

While this type of research is informative, it often lacks generalizeability. Research on specific factors and populations serve as important building blocks in resilience research, but it is neither practical nor realistic to study every risk and protective factor in relation to every difficult or traumatic experience with every population, therefore a more widely applicable way of conceptualizing and measuring resilience is needed in the field (Friborg et al., 2005). From Hoge et al.'s (2007) list of risk and corresponding resilience factors as they relate to PTSD in different populations and different studies, it is that apparent certain factors are more helpful in certain situations than others, but this may be because it is not feasible for most studies to test more than a few factors. Interestingly, internal locus of control is the only variable on Hoge et al.'s list that appears as a protective factor in multiple contexts, including women who had traumatic childbirths (Soet, Brack, & Dilorio, 2003), children who experienced war-related situations (Kuterovac-Jagodic, 2003), and firefighters with work related trauma (Regehr et al., 2000).

It is also important to note that many studies continue to use inappropriate measures. For example in the field of psychology, Hemenover's (2003) investigation of resilience and emotional disclosure measures resilient self-perception with Scales of Psychological Well-Being despite the fact well-being and resilience are different constructs. A recent follow-up of the landmark study Isle of Wight study of abused children, from which much resilience research is built upon, also defines resilience in terms of the absence of psychopathology and measures resilience with instruments that were not originally used to measure resilience (Collishaw et al., 2007; Hoge, et al., 2007). However, just as mental health is not the same as a lack of mental illness, resilience is more than a lack of PTSD or other predicted negative results of risk exposure (Almedom & Glandon, 2007; Keys, 2007).

Perhaps one of the most comprehensive and groundbreaking inquiries into resilience is Michael Ungar's (2005) mixed methods (quantitative and qualitative) study including over 1500 youth across various cultures. Spanning across 11 different countries, the research team selected youth who have been exposed three or more risk factors (namely, exposure to community violence, institutionalization, mental health problems, social dislocation, homelessness, poverty, exposure to political turmoil, and war) and deemed to have demonstrative adaptive coping skills by community members. Ungar (2006) explained that resilience is "a multidimensional construct, the definition of which is negotiated between individuals and their communities, with tendencies to display both homogeneity and homogeneity across culturally diverse research settings" (p. 219). Findings from this important study were based on:

> The development and validation of an innovative Child and Youth Resilience Measure (CYRM) across the 14 research sites;
>
> Analysis of findings from administration to the CYRM to 1451 children globally;
>
> The collection of 89 individual interviews and life histories from children in 14 research sites;
>
> Observations of youth, five focus groups and 12 interviews with adults in different communities; and
>
> Field notes of the iterative process of the study's design (p. 219).

Findings from the study revealed that the CYRM demonstrated reliability and validity across multiple research sites. Eighty-nine interviews across 14 different research sites revealed that "even when faced with similar adversities, there is great variation across cultures with how youth cope" (Unger, 2006, p. 219). Furthermore, Unger reminded us that we must continue to question how western paradigms are used to examine resilience research.

To further add to the methodological complexities and challenges of resilience research, a scarcity of quantitative studies utilizing validated measures to examine the how children and youth thrive in face of adversity persists in the literature. In 2010, von Soest, Mossiege, Stefansen, and Hjemdal developed and validated a 28-item measure name READ, the Resiliency Scale for Adolescents. READ was adapted from a validated measure used to assess resilience in adults, the Resilience Scale for Adults (RSA). Using a 5-point Likert scale (1 – strongly disagree, 5 – strongly agree) and exclusively positively phrased items, READ specifically examined personal competence, social competence, structured style, family cohesion, and social resources. Using survey data from 6,723 senior high school students between ages 18 and 20, researchers found that an adapted 23-item version of READ possessed acceptable convergent validity and proved to be a promising instrument in assessing students' level of resilience across various risk factors. While these researchers indicate that READ served as a less extensive and time consuming tool to measure resilience in adolescents, they also report significant limitations in their validation study. More specifically, von Soest and colleagues reported that continued validation studies with student towards the earlier end of adolescence is needed, as their study was restricted to adolescents aged 18-20. Additionally, researchers noted the need to obtain results using READ among different ethnic groups as, "the generalizeability of the results is limited by the fact that a Norwegian sample was used, with as such a relatively homogeneous, mainly Caucasian composition" (p. 224). Nevertheless, researchers were confident that further application of READ could serve as contributing tool in resilience research.

More recently, Liebenburg, Ungar, and Van der Vijver (2012) continued to study the psychometric properties of an instrument measuring levels of resilience. Researchers administered the Child and Youth Measure of Resilience-28 (CYMR-28) two groups of youth

receiving multiple social work services in Atlantic Canada region. The CYMR-28 was built upon the measures initial development in Ungar's (2005) mixed method study of resilience across cultures. The CYMR-28 was developed in response for "a need for a more inclusive understanding of resilience across cultures and contexts" (Liebenburg et al., 2012, p. 220). Broken down into three significant categories, the CYMR-28 assess: 1) Individual factors – personal skills, social skills, and peer support, 2) Care giving – both physical and psychological, and 3) Contextual factors contributing to an individual's sense of belonging – components related to spirituality, culture, and education. Among the first group of youth administered the CYMR-28 (n = 479), 281 (56.5%) were male, 221 (44.3%) were self-identified as minorities, and the average age of youth participating in the study was 16.85 (SD=1.868). The second group of youth (n=410) consisted of 235 (57.3%) males, 269 (66%) self-reported minorities, with an average age of 15.96 (SD = 1.785). Data from this study revealed that this instrument proves to be both reliable and valid in assessing resilience among youth from various cultural backgrounds, particularly those from Atlantic Canada. Similar to von Soest and colleagues' READ instrument, the CYMR-28 studied youth of diverse cultural groups outside of the United States. While the CYMR-28 included school aged youth, the research implications discussed by these authors focused primarily upon youth receiving multiple levels of social services, namely, child welfare, mental health, juvenile justice, special education program, and community supports.

As indicated in the previous section, the vast majority of research examining resilience in schools has focused on the comparison of both resilient and non-resilient students. More specifically, these studies have employed descriptive, causal-comparative, or correlational research designs to understand resilience within education settings. Rigorous research

investigating resilience specifically within educational settings is still needed. Masten and Coatsworth (1998) provided insight into the challenges of school-based resiliency:

> Efforts to understand resilience have made it clear that children typically have multiple risk factors and multiple resources contributing to their lives…Thus, it is unlikely that a 'magic bullet' for prevention or intervention will be found. Intervention models emerging from this realization describe cumulative protection efforts to address cumulative risk processes (p. 214).

The subsequent section of the literature review reviews the latest wave of resilience research.

<div align="center">NEW FRONTIERS OF RESILIENCE RESEARCH</div>

Richardson (2002) explained that a new wave of research has begun to integrate personal and environmental components of resilience by examining resilience more holistically and postured in an interdisciplinary manner. Accordingly, resilience is now being studied psychologically, biologically, and socially and involves an interaction of individual and environmental characteristics (Almedom & Glandon, 2007; Kim-Cohen, 2007, Smolka et al., 2007). Leckman and Mayes (2007) argued that in rats, and presumably in humans, environmental conditions and the amount of nurturing received in early life "can fundamentally alter the expression of key genes involved in stress and response and reward mechanisms that may underlie attachment and bonding" (p. 221).

More recent resilience research asserts that gene-gene interactions and gene-environment interactions also contribute to adaptation and resilience in complex ways (Hoge et al., 2007; Kim-Cohen, 2007; Smolka et al., 2007). Although the interactions between biological mechanisms and risk and protective factors in the environment are not fully understood, researchers who explore genetic aspects of resilience believe genetics alone cannot determine

how an individual will respond to adversity (Kim-Cohen; Smolk et al.). Instead, biological and genetic factors can be viewed as protective factors, much like environmental factors (Kim-Cohen).

Although it is challenging to determine exactly how biological, genetic, and environmental factors interact to determine each individual's level of resilience, there is neurological evidence to support the psychological data that show some people may be relatively high or low in resilience (Waugh, Wager, Fredrickson, Noll & Taylor, 2008). Waugh et al. found that when people with higher resilience were shown a cue signaling there was an equal chance they would see a distressing picture or neutral picture, they only exhibited neural reactions indicating an unpleasant emotional response if they actually saw the distressing picture. Resilient people also returned to baseline cardiac and neurological states sooner than those with low resilience when exposed to stressful situations (Tugade & Fredrickson, 2004; Waugh et al.). In contrast, participants with low resilience reacted to threats or even a possibility of threats sooner and for longer periods of time, as indicated by activity in the amygdala and insular areas of the brain (Waugh et al., 2008). Due to various systems involved in determining resilience, Kim-Cohen (2007) argued it is important to study resilience at levels of analysis ranging from the molecular to the behavioral to the cultural. It is difficult to study all of these contexts and their interactions simultaneously, and research on all of these levels is needed to increase educators' understanding of resilience. However, the bridge between neuroscience and education is in its emerging stages of development, therefore it is important for scholars to build upon the existing body of resilience research, especially within school settings.

CONCLUSION AND IMPLICATIONS FOR FUTHER RESEARCH

Although much progress has been made in the area of resilience research, there is still no definitive set of factors that constitute risk or protective factors (Hoge et al, 2007). These could be any variables shown to increase or decrease the likelihood of a variety of positive or negative outcomes. Risk factors are often defined as environmental factors that originate in childhood and are sometimes the opposites of protective factors (e.g. strong social skills vs. poor social skills; secure attachment vs. insecure attachment). However, Hoge et al. stressed resilience is more than the "flip side" of risk factors (p. 142).

Resilience research has identified a multitude of protective factors, with some of the most prominent being secure attachment style and a health relationship with an adult during childhood, temperament (McAdam-Crisp, 2006), internal locus of control (Hemenover, 2003; Keltner & Walker, 2003, McAdam-Crisp), sense of coherence (Hart et al., 2006; Hemenover), and biological and genetic factors (Hoge et al., 2007; Kim-Cohen, 2007; Smolka et al., 2007). However measures of resiliency had not been developed until recently, making it very difficult to generalize results or compare studies (Friborg et al., 2005).

Needless to say, some theorists have critiqued the concept of resilience, pointing to its shortcomings. More specifically, Rigsby (1994) argued the strong individualistic image of success gives the impression that anyone can get ahead, that there is equal opportunity to do so, that one can always "get it together," and that disadvantages are for the individual to overcome. He continues to argue that assumptions about success may lead to linear, simplistic predictions about risk therefore drawing the attention away from the interaction of people, context, and opportunities. As stated earlier, other theorists have found the term too vague. Gordon and Song (1994) argued that the main difficulty in defining resilience may well be that it is not a single construct. Clearly, the concept of resilience can be variously defined and continues to evolve.

Nonetheless, the basic premise of the concept of resilience is far reaching, and its promise as a human behavior and practice concept has yet to be realized.

As indicated in the literature review, continued research in resilience is dependent on time, context, and individual being studied. While resilience researchers using quantitative methods attempt to control and predict the phenomenon of resilience, much can be lost in the pursuit of quantity. Kanevsky (2012) shared, "large sample sizes will strengthen quantitative designs. However, case studies and other qualitative methods can provide deeper insights into the complex dynamics of student relationships with others and their schools and life experiences" (p. 470). In fact in his review of the qualitative contributions of resilience research, Ungar (2006) claimed that, "qualitative research addresses two specific shortcomings noted by resilience researchers: arbitrariness in the selection of outcome variables and the challenges accounting for the sociocultural context in which resilience occurs" (p. 85). Additionally, Ungar (2006) argues that qualitative methods are especially relevant to resilience research because they are:

> well suited to the discovery of unnamed processes; they study the phenomenon in very specific contexts, their trustworthiness strengthened by the thickness of the description of that context; they elicit and add power to minority 'voices' which account for unique localized definitions of positive outcomes; they promote tolerance for these localized constructions by avoiding generalization in favor of transferability; and they require the researchers to account for the bias inherent in the social location (p. 86).

As articulated in review of literature, resiliency lies in the eye of the beholder. The various layers and contexts in which resilience is studied are filtered through the lens of the researcher. The attempts to predict and control for resilience are complicated because every individual's

process is unique. The research suggests that field of resilience can be expanded if told through the voices researchers deem resilient. Ungar (2008) explained

> Avoiding bias in how resilience is understood and interventions are designed to promote it, researchers and interveners will need to be more participatory and culturally embedded to capture the nuances of culture and context. The better documented youth's own constructions of resilience, the more likely it will be that those intervening identify specific aspects of resilience most relevant to health outcomes as defined by a particular population (p. 234).

As evident in the body of resilience research there is a long standing body of research using quantitative and qualitative research methods, however, these methods are commonly implemented independent and in isolation of one another. Perhaps the use of mixed methods design can reconcile the methodological challenges when selecting either qualitative or quantitative research methods. As indicated by Creswell & Clark (2011), "the intent in using this design is to bring together the differing strengths and nonoverlapping weaknesses of quantitative (large samples, size, trends, generalization) with those of qualitative methods (small sample, details, in depth)" (p. 77). The field of resilience research, specifically within the school settings, can be furthered through the use of a mixed methods design that contextualizes students' experiences through the combination of both numbers and voices.

REFERENCES

Adelman, H. S. & Taylor, L. (2008). School-wide approaches to addressing barriers to learning and teaching. In Doll, B. & Cummings, J. (Eds.). Transforming School Mental Health Services: Population-based approaches to promoting the competency and wellness of children (p. 277-306). Thousand Oaks, CA: Corwin Press.

Almedom, A. M., & Glandon, D. (2007). Resilience is not the absence of PTSD any more than health is the absence of disease. *Journal of Trauma and Loss, 12,* 127-143.

Alva, S.A. (1991). Academic invulnerability among Mexican-American students. The importance of protective resources and appraisals. *Hispanic Journal of Behavioral Sciences, 13, 18-34.*

Barley, Z., Apthrop, H. & Goodwin, B. (2007). Creating a culture of high expectations. *Changing Schools, 55, 5.*

Bernard, B. (1995*). Fostering Resilience in Children*.   Retrieved February 23, 2008 from http://crahd.phi.org/papers/Fostering.pdf.

Borman, G.D., Rachuba, L.T. (2001). Academic success among poor and minority students: An analysis of competing models of school effects. *CRESPAR (Center for Research on the Education of Students Placed At Risk),* Report No. 52, Johns Hopkins and Howard Universities, funded by Office of Educational Research and Development.

Brooks, J. (2006). Strengthening resilience in children and youth: Maximizing opportunities through the schools. *Children and Schools, 23, 2, 69-76.*

Bronfenbrenner, U. (1989). Ecological systems theory. *Annals of Child Development, 6*, 187-249.

Bronfenbrenner, U., Moen, P., & Garabino, J. (1984). Family and community. In R. Parke (Ed.), *Review of child development research* (Vol. 7, pp. 283-328). Chicago: University of Chicago Press.

Carle, A., & Chassin, L. (2004). Resilience in a community sample of children of alcoholics: Its prevalence and relation to internalizing symptomatology and positive effect. *Applied Developmental Psychology, 25*, 577-595.

Cicchetti, D., & Lynch, M. (1993). An ecological-transactional analysis of children and contexts: The longitudinal interplay among child maltreatment, community violence, and children's symptomatology. *Development and Psychopathology, 10,* 235-257

Collinshaw, C. Pickles, A., Messer, J., Rutter, M., Shear, C., & Maughan, B. (2007). Resilience to adult psychopathology following childhood maltreatment: Evidence from a sample community. *Child Abuse and Neglect, 31*, 211-229.

Condly, S. J. (2006). *Resilience in children: A review of literature with implications for educators. Urban Education, 41*, 211-236.

Cowan, P. A., Cowan, C. P., & Shulz, M. S. (1996). Thinking about risk and resilience in families. In M. Hertherington & E. A. Blechman (Eds.), *Stress, coping, and resilience in children and families* (pp. 1-38). Mahwah, NJ: Lawrence Erlbaum.

Creswell, J. & Clark, V. (2011). *Designing and Conducting Mixed Methods Research*. Thousand Oaks, CA: Sage Publications.

Doll, B., Jones, K., Osborn, A., Dooley, K., & Turner, A. (2011). *The promise and the caution of resilience models for schools, Psychology in Schools, 48*, 652-659.

Dugan, T., & Coles, R. (1989). *The Child in Our Times*. New York, NY: Brunner Mazel Publishers.

Esquivel, G., Doll, B. & Oades-Sese, G. (2011). Introduction to the special issue: resilience in schools. Psychology in the Schools, 48, 7, 649-651.

Erikson, E. (1963). Childhood and Society. New York, NY: W.W. Norton.

Fleming, J., Mullen, P., & Bammer, G. (1997). *A study of potential risk factors for sexual abuse in childhood, Child Abuse Review, 21, 1*, 49-58.

Freire, P. (1970). *Pedagogy of the Oppressed*. New York, NY: Continuum International Publishing Inc.

Friborg, O., Barlaug, D. Martinussen, M., Rosenvinge, J. H., & Hjemdal, O. (2005). Resilience in relation to personality and intelligence. *International Journal of Methods in Psychiatric Research, 14(1)*, 29-42.

Garbarino, J. (1995). *Raising children in a socially toxic environment.* San Francisco: Jossey-Bass.

Garmezy, N. (1971). Vulnerability research and the issue of primary prevention. *American Journal of Orthopsychiatry, 41(1),* 101-116.

Garmezy, N. (1991). Resiliency and vulnerability to adverse developmental outcomes associated with poverty. *American Behavioral Scientist, 34*, 416-430.

Garmezy, N. (1993). Children in poverty: Resilience despite risk. *Psychiatry, 56*, 127-136.

Glantz, M., & Johnson, J. (1999). *Resiliency and Development*. New York, NY: Kluwer Academic.

Gonzalez, R. & Padilla, A.M. (1997). The academic resilience of Mexican American high school students. *Hispanic Journal of Behavioral Science, 19, 309-317.*

Gordon, E.W. & Song, L.D. (1994). Variations in the experience of resilience. In M.C. Wang & E.W. Gordon (Eds.), *Educational resilience in inner-city America: Challenges and prospects* (pp 27-43). Hillsdale, NJ: Lawrence Erlbaum Associates.

Hagen, K. A., Myers, B. J., & Mackintosh, V. H. (2005). Hope, social support, and behavioral problems. *American Journal of Orthopsychiatry, 75*, 211-219.

Hart, K., & Wilson, T. L., & Hittner, J. B. (2006). A psychosocial resilience model to account for medical well-being in relation to sense of coherence. *Journal of Health Psychology, 11*, 857-862.

Hemenover, S. H. (2003). The good, the bad, and the healthy: Impacts of emotional disclosure of trauma on resilient self-concept and psychological distress. *Society for Personality and Social Psychology, 29*, 1236-1244.

Henderson, N. (2007). Resiliency-building "hidden" predictors of academic success. In N. Henderson (Ed.). *Resilience in Action* (pp. 39-43). Ojai, CA: Resiliency in Action, Inc.

Henderson, N. & Milstein, M. (1996). *Resiliency in Schools.* Thousand Oaks, CA: Corwin Press Inc.

Higgins, G.O. (1994). *Resilient adults: Overcoming a cruel past.* San Francisco, CA: Jossey-Bass.

Hines, A. M., Wyatt, P., & Merdinger, J. (2005). Former foster youth attending college: Resilience and the transition to young adulthood. *American Journal of Orthopsychiatry, 75*, 381-394.

Hoge, E. A., Austin, E. D., & Pollack, M. H. (2007). Resilience. Research evidence and conceptual considerations for posttraumatic stress disorder. *Depression and Anxiety, 24*, 139-152.

Jessor, R. (1993). Successful adolescent development among youth in high-risk settings. *American Psychologist, 48*, 117-126.

Jew, C.L., Green, K.E., & Kroger, J. (1999). Development and validation of a measure of resiliency. *Measurement and Evaluation in Counseling and Development*, 32, 75-89.

Joseph, J. (1994). *The Resilient Child*. New York, NY: Insight Books.

Keltner, B., & Walker, L. (2003). Resilience for those needing health care. In E. H. Grotberg (Ed.), Resilience for today: Gaining strength from adversity (pp. 141-160). Westport, CT: Praeger Publishers.

Kim-Cohen, J. (2007). Resilience and developmental psychopathology. *Child and Adolescent Psychiatric Clinics of North America, 16,* 271-283.

Kirby, L., D., & Fraser, M. W. (1997). Risk and resilience in childhood. In M. Fraser (Ed.), *Risk and resilience in childhood* (pp. 10-33). Washington, DC: NASW Press.

Krovetz, M. (1999). *Fostering resiliency – Expecting all the students to use their minds and hearts well*. Thousand Oaks, CA: Corwin Press Inc.

Lazarus, R., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.

Leckerman, J. F., & Mayes, L. C. (2007). Nurturing resilient children. *Journal of Child Psychology and Psychiatry, 48,* 221-223.

Levin, H. (1988). Accelerated schools for disadvantaged students. *Educational Leadership, 44, 6, 19-21.*

Luthar, S. S. & Cicchetti, D. (2000). The construct of resilience: Implications for interventions and social policies. *Development and Psychopathology, 12,* 857-885.

Luther, 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.

Luther, S.S. & Ziegler, E. (1991) Vulnerability and competence: A review of research on resilience in childhood. *American Journal of Orthopsychiatry*, 6, 6-22.

Masten, A.S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist, 56,* 227-238.

Masten, A. (1994). Resilience in individual development: Successful adaptation despite risk and adversity. In M.C. Wang & E.W. Gordon (Eds.), *Educational resilience in inner-city America: Challenges and prospects* (pp. 3-25). Hillsdale, NY: Lawrence Erlbaum.

Masten, A.S. & Coatsworth, J.D. (1998). The development of competence in favorable and unfavorable environments, *American Psychologist, 53(2), 205-220.*

Masten, A.S., Best, K.J., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development and psychopathology, 2*, 425-444.

McAdam-Crisp, J. L. (2006). Factors that can enhance and limit resilience for children of war. *Childhood, 12*, 459-477.

McCubbin, H., Thompson, E., Thompson, A., Futrell. (1998). *Resiliency in Native American and Immigrant Families.* Thousand Oaks, CA: Sage Publications.

McCubbin, H., Thompson, E., Thompson, A., Futrell. (1999). *The Dynamics of Resilient Families.* Thousand Oaks, CA: Sage Publications.

Morales, E.E. & Trotman, F.K. (2004). *Promoting academic resilience in multicultural America: Factors affecting student success.* New York: Peter Lang Publishing.

Padrón, Y. N., Waxman, H. C., & Huang, S. L. (1999). Classroom behavior and learning environment differences between resilient and nonresilient elementary school students. *Journal of Education for Student Placed At Risk, 4* (1), 63-81.

Ratrin Hestyanti, H. (2006). Children survivors of the 2004 Tsunami in Aceh, India: a study of resiliency. Annals of the New York Academy of Sciences, 1094, 1, p. 303-307.

Regehr, C., Hill, J., & Glancy, G. D. (2000). Individual predictors of traumatic reactions in firefighters. *The Journal of Nervous and Mental Disease, 188*, 333-339.

Reyes, O., & Jason, L.A. (1993). Pilot study examining factors associated with academic success for Hispanic high school students. *Journal of Youth and Adolescence, 22, 57-71.*

Richardson, G.E., Neiger, B.L., Jensen, S., & Kumpfer, K.L. (1990). The resiliency model. *Health Education*, 21(6), 33-39.

Rigsby, L. (1994). The Americanization of resilience. Deconstructing research practice. In M. Wang & E. Gordon (Eds.), *Educational resilience in inner-city America* (pp. 85-94). Hillsdale, NJ: Lawrence Erlbaum.

Rutter, M. (1979). Protective factors in children's responses to stress and disadvantage. In M.W. Kent & J.E. Rolf (Eds.), *Primary prevention in psychopathology: Social competence in children, 8, 49-1 A.* Hanover, NH: University Press of New England.

Smolka, M. N., Buhler, M., Schumann, G., Klein, S., Hu, X. Z., Moayer, M., et al. (2007). Gene-gene effects on the central processing of aversive stimuli. *Molecular Psychiatry, 12*, 307-317.

Soet, J. E., Brack, G. A., & Dilorio, C. (2003). Prevalence and predictors of women's experience of psychological trauma from childbirth, *Birth, 30(1)*, 36-46.

Taylor, R. & Wang, M. (2000). *Resilience Across Contexts: Family, Work, Culture, and Community.* Mahwah, NJ: Lawrence Erlabaum Associates, Publishers.

Tugade, M. M., & Fredrickson, B. L. (2004). Resilient individuals use positive emotions to bounce back form negative emotional experiences. *Journal of Personality and Social Psychology, 86,* 320-333.

Thomsen, K. (2002). *Building Resilient Students*. Thousand Oaks, CA: Corwin Press, Inc.

Unger, M. (2005). *Handbook for Working with Children and Youth*. Thousand Oaks, CA: Sage Publications

Waugh, C. E., Wager, T. D., Fredrickson, B. L., Noll, D. C., & Taylor, S. F. (2008). The neural correlates of trait resilience when anticipating and recovering from threat. *Social Cognitive and Affective Neuroscience, 3,* 322-332.

Werner, E. E., & Smith, R. S. (1982). *Vulnerable but not invincible: A longitudinal study of resilient children and youth.* New York, NY: R. R. Donnelley and Sons, Inc.

Werner, E. E., & Smith R. S. (1992). *Overcoming the odds: high risk children from birth to adulthood*. Ithaca, NY: Cornell University Press.

Winfield, L.F. (1991). Resilience, schooling, and development in African-American youth: A conceptual framework. Education and Urban Society, 24, 5-14.

Wolin, S. J., Muller, W., Taylor, F., & Wolin, S. (1999). Three spiritual perspectives on resilience: Buddhism, Christianity, and Judaism. In F. Walsh (Ed.), *Spiritual resources in family therapy*, (pp. 121-135). New York, NY: Guilford Publications.

Wolin, S.J. & Wolin, S. (1993). *The resilient self: How survivors of troubled families arise above adversity*. New York, NY: Villard.