

"I'M PREGNANT AND GETTING MY HIGH SCHOOL DIPLOMA": HOW *EDUCATIONAL
ATTAINMENT SCRIPTS* CONTRIBUTE TO SECONDARY EDUCATIONAL RESILIENCE
AMONG ADOLESCENT MOTHERS

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Abstract

By identifying processes that contribute to educational resilience this study adds support to research that emphasizes adaptive functioning and outcomes among adolescent mothers, and focuses on adolescent mothers' agency in influencing their educational pathways. Using a resilience framework and grounded theory qualitative methodology, this investigation sought to identify the complex interaction of individual and contextual processes that facilitate educational resilience during adolescent mothers' first pregnancy or their first year postpartum. Forty-five White adolescent mothers who experienced cumulative ecological stress were divided into three groups according to their educational trajectories: pursuing or having completed secondary education with no history of interruptions, having interrupted but then resumed secondary education, or having dropped out. The first two of these groups were considered educationally resilient. Forty-one of the mothers identified one of the following risk factors to their educational success: academic difficulties or low school engagement, ecological stressors, or a combination of these. All but one participant reported having received school-based support. The main contributor to educational resilience in this sample was the *educational attainment scripts* possessed by the young mothers. Three scripts were identified which served as frameworks for action: an *educational attainment script that accommodated pregnancy*, an *educational attainment script that was activated by pregnancy*, and an *obstacles to educational attainment script*. In this sample, pregnancy was more likely to motivate or bolster secondary educational attainment ambitions and activities, or improve school focus and performance, than it was to deter educational attainment. Pregnancy did not motivate pursuit of educational attainment when young mothers did not possess a strong

educational attainment script that was flexible to potential threats to educational success. Critical differences between the young women in this study who were educationally resilient and those who were educationally vulnerable were perceptions of ecological stressors as obstacles to the pursuit of educational attainment, and the use of personal functioning strategies to respond to such obstacles, as guided by *educational attainment scripts*. Programs that offered an alternative to the standard route to a secondary degree, and programs that targeted academic-, stress-, or pregnancy-related needs were also important for this population's educational success.

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Chapter 1: Introduction

In this dissertation I investigated the secondary educational pathways of adolescent mothers who are participants in the Massachusetts Healthy Families Evaluation (MHFE). The present study contributes to a growing body of research that highlights the strengths and adaptive capabilities of adolescent mothers, and explores adolescent mothers' agency in influencing their secondary educational pathways.

Researchers across social science disciplines have been interested for decades in young people who have experienced notable adversity yet manage to do well despite reasonable expectations to the contrary (Werner, 1995). These surprisingly well-adjusted youth stand out among their peers who have faced very similar threats to healthy development and have not fared well. Resilience researchers are interested in identifying the mechanisms and processes that lead to broad variation in responses to similar circumstances so that prevention and intervention efforts can target these mechanisms and processes, and routes to maladaptation can be interrupted (Luthar & Cicchetti, 2000; Masten, 2001; Rutter, 2006).

Lower levels of educational attainment and dropping out of high school have been linked to negative quality of life indicators such as poor health, limited employment opportunities or unemployment, economic instability, and delinquency (Balfanz, Fox, Bridgeland, & McNaught, 2009; Perper, Peterson, & Manlove, 2010; Scott-Jones & Turner, 1990). Adolescent mothers are often vulnerable to these outcomes, some of which are associated with ecological circumstances that exist prior to their entry into young motherhood (Easterbrooks, Chaudhuri, Bartlett, & Copeman, 2011; Kennedy, 2005; Schellenbach, Strader, Pernice-Duca, & Key-Carniak, 2005; SmithBattle, 2007).

Identifying the mechanisms and processes that facilitate adolescent mothers' educational attainment can help schools improve the high school graduation rates and corresponding quality of life achievements of young women in this population. Using resilience theory and research as its foundation, this investigation sought to identify processes and mechanisms that contribute to the "educational resilience" of teenage mothers in MHFE—that is, teenage mothers' continued pursuit or achievement of a high school diploma or general equivalency degree (GED) during their first pregnancy or during their first year postpartum. The temporal scope of this study focused on early adaptation patterns of pregnant adolescents or nascent adolescent mothers in the educational domain. As Linares, Leadbeater, Kato, and Jaffe (1991) point out, "Continued changes in school outcome are expected after the first year postpartum. However, identification of early predictors of school outcome is essential to prevention efforts" (p. 381).

Adolescent Mothers and Educational Attainment

Whereas some research has found that teenage childbearing has a negative effect on secondary school completion (Hofferth, Reid, & Mott, 2001; Jones, Astone, Keyl, Kim, & Alexander, 1999; McElroy, 1996; Mott & Marsiglio, 1985; Scott-Jones & Turner, 1990), other researchers have shown that the majority of teenage mothers do complete a secondary degree either according to the temporal expectations of U.S. society (Upchurch & McCarthy, 1990) or at a later point (Ahn, 1994; Hofferth et al., 2001; Horwitz, Klerman, Kuo, & Jekel, 1991; Rich & Kim, 1999).

Teenage pregnancy is not the sole cause of low educational attainment and is not always a detractor from secondary educational success; however, in conjunction with demographic and ecological factors it can create an additional obstacle or

exacerbate existing obstacles to secondary educational attainment (Ahn, 1994; Jones et al., 1999; Klepinger, Lundberg, & Plotnick, 1995; Perper et al., 2010; Upchurch, 1993; Upchurch & McCarthy, 1990). School engagement and academic performance in school appear to play important roles in teenagers' educational pathways and in the likelihood of teenage pregnancy (Barnet, Arroyo, Devoe, & Duggan, 2004; Manlove, 1998; Moore, Manlove, Gleib, and Morrison, 1998; SmithBattle, 2007; Zachry, 2005). In addition, these factors may intervene in the effectiveness of formal supports for pregnant and parenting teenagers (DeBolt, Pasley, & Kreutzer, 1990). Taken together, these findings suggest that within this population, there are multiple circumstances that may combine with the circumstances of teenage pregnancy and parenting to threaten disruption of secondary educational activities, and that school engagement and academic performance likely factor in the educational pathways of teenagers who have already become pregnant or begun parenting. Findings from extant research beg further exploration of the complex interplay of ecological circumstances, school engagement and performance, and supports in adolescent mothers' secondary school pathways and educational resilience.

Using a Resilience Framework to Examine Secondary Education among Adolescent Mothers

Although resilience is sometimes conceptualized as an outcome, a more common and favored approach conceptualizes resilience as a process (Fergus & Zimmerman, 2005; Luthar, Cicchetti, & Becker, 2000; Masten, 2007; Rutter, 2006). Due to the importance of individual and contextual characteristics as well as the person-context interaction, resilience is often not found to be evident across all intrinsic and extrinsic domains of functioning (Fergus & Zimmerman, 2005; Riley & Masten, 2005;

Wright & Masten, 2005), and as research in the field has progressed it has become more sensitive to the dynamic quality and contextual specificity of resilience (Wright & Masten, 2005). With this in mind, Luthar et al. (2000) are in favor of further improving upon the clarity and specificity used by resilience scholars, arguing:

In describing their findings, investigators must specify the particular spheres to which their data apply and must clarify that success in these domains by no means implies positive adaptation across all important areas. Encouragingly, researchers are increasingly using circumscribed terms such as “educational resilience,” “emotional resilience,” and “behavioral resilience,” thereby bringing greater precision in terminology commonly used in the literature. (p. 548)

As pointed out by Masten et al. (1999), “To study resilience, investigators must specify the threat to development, the criteria by which adaptation is judged to be successful, and the features of the individual or the environment that may help to explain resilient outcomes” (p. 144). Adaptation criteria are contextually informed (Masten & Obradovic, 2006; Riley & Masten, 2005); they are based on expected developmental achievements judged to be average or desirable for youth in a given society or culture, taking into account their age and gender (Buckner, Mezzacappa, & Beardslee, 2003; Masten, 2001; Riley & Masten, 2005; Wright & Masten, 2005). Many studies have looked at educational attainment outcomes of the adolescent childbearing population because secondary school completion is regarded as such an important and normative developmental achievement, and therefore an indicator of adaptation (Carey, Ratliff, & Lyle, 1998; East, Khoo, & Reyes, 2006; Kennedy, 2005; Leadbeater & Way, 2001; Romo & Segura, 2010; Scott-Jones, 1991; Weed, Keogh, & Borkowski, 2000; Werner & Smith, 2001). Weed et al. (2000) cast adolescent parenthood as a context of

sufficient adversity, fraught with economic, psychosocial, and developmental challenges for the adolescent, within which adolescent's age-salient achievements such as educational attainment are in themselves evidence of resilient functioning.

The Present Study

As it is situated in a resilience framework, this study focused on identifying the complex patterns that lead to educational resilience among pregnant and parenting adolescent mothers during their first pregnancy or within the first year postpartum. It was expected that participants would demonstrate maladaptation in other domains of their lives at the same time as they demonstrated educational resilience, and that they may have demonstrated maladaptive functioning in the past. It was also expected that both individual and contextual characteristics, and the dynamic interplay among these, would vary among participants who demonstrated educational resilience and among those who did not.

The Intersection of Pregnancy and Secondary Schooling among MHFE Participants

Underscoring the emphasis in the literature on resilience as a process, Wright and Masten (2005) assert that "...the most complex models of resilience focus on healthy versus maladaptive *pathways* of development in the lives of children exposed to adversity over time" (p. 28). Consistent with this approach, it would be overly simplistic to consider only the educational outcomes of adolescent mothers. Rather, this study sought to explore adolescent mothers' educational experiences as fluid pathways which are influenced by ongoing person-context interactions.

Preliminary analysis of qualitative interview data from a subsample of MHFE participants revealed variance in their secondary *educational trajectories*. Participants have followed varying pathways through school, as defined by the timing of the

participant's pregnancy in relationship to her secondary schooling, her school enrollment status at the time of the interview, and continuity or interruption during her secondary school years.

The identification of these subgroups leads to questions about factors that influence the various educational trajectories of teenage mothers. Specifically, how do person-context interactions shape these trajectories, influencing whether adolescent mothers discontinue secondary schooling, interrupt and then resume secondary schooling, or pursue secondary schooling without interruption? Since the primary objective of this investigation was to identify the complex processes that influence the secondary educational pathways of pregnant adolescents and nascent adolescent mothers, those participants who completed their secondary education prior to becoming pregnant were excluded.

Defining Educational Resilience

Since secondary educational attainment represents a salient developmental task according to U.S. cultural standards, participants' final educational status—in school or completed, or dropped—at the time of the time one research interview has been used to group participants.

Participants whose pathways resulted in either completion of secondary schooling, continuous pursuit of secondary schooling without interruption, or interruption followed by return to secondary school during their first pregnancy or the first year postpartum were considered educationally resilient at the time of the study. The person-context interactions evident in their interviews were analyzed for information about the dynamic interplay of mechanisms and processes that supported these outcomes for these participants. In order to identify variations in these dynamic

interactions, I also analyzed interviews of participants whose pathways resulted in discontinuation of secondary schooling as of the time of their interviews.

Processes and Mechanisms Potentially Related to Educational Resilience

The central constructs studied in resilience research are *risk factors* and *protective factors*. Risk factors are implicated in the adverse conditions which pose a threat to normative development, and protective factors work to minimize the level of threat, or are activated in response to the threat and work to minimize its impact and assist in adaptation processes (Olsson, Bond, Burns, Vella-Brodrick, & Sawyer, 2003). Risk and protective factors can be situated in the individual, family, and community domains (Garmezy, 1985) and in the interactions between these domains (Bronfenbrenner, 1977, 1979; Bronfenbrenner & Evans, 2000). The guiding assumption of this study was that a combination of protective factors, including personal functioning strategies, school engagement, academic success in school, and education-related support interact in a complex and dynamic way with one another and with challenging circumstances in the lives of adolescent mothers to influence their educational pathways. Some participants exhibited educational resilience through these pathways. Figure 1 outlines the hypothesized model of the dynamic interplay of possible protective factors related to educational resilience in the context of ecological stressors.

Personal functioning strategies. The construct *personal functioning strategies* was inductively derived from a sub-sample of qualitative interviews from the MHFE study. Personal functioning strategies describe techniques participants have been observed to use, generally in the context of challenging circumstances. Although a child's potential for either healthy or maladaptive development is strongly influenced by the actions of other people and systems in their ecological context (Wright & Masten,

2005), Masten (2004) asserts, "...the organism is an active agent in development. Individuals recruit, elicit responses, and in other ways choose and influence the contexts that in turn contribute to their development" (p. 312). The dynamic interplay between an individual and her environment results in a multitude of pathways to resilience and vulnerability, and necessitates careful consideration of the relevance of both individual and contextual characteristics and changes influencing developmental trajectories (Liebenberg & Ungar, 2009; Scarr & McCartney, 1983). Studies exploring teenage mothers' educational outcomes largely seek to identify combinations of individual and/or contextual protective or risk factors that correlate with or predict educational achievement or failure in this population (e.g., Ahn, 1994; Astone & Upchurch, 1994; Klepinger et al., 1995; Linares et al., 1991; Perper et al., 2010; Upchurch, 1993; Upchurch & McCarthy, 1990). Most studies do not unpack the complex intersection of individual and contextual variables described in resilience literature, or on adolescent mothers' agency in influencing their educational pathways.

Preliminary analysis of interviews with MHFE participants revealed a range of responses to challenging circumstances or events in their lives, suggesting reciprocal person-context interactions that likely factor in their adaptive pathways. I refer to these responses as personal functioning strategies, and believe them to be distinct from two similar constructs in the literature: coping; and the selection, optimization, and compensation model (SOC).

Literature on coping is broad and complex, and reflects variation of definition, classification, and measurement according to developmental, stylistic, situational, and outcome considerations (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001; Vashchenko, Lambidoni, & Brody, 2007). Compas et al. (2001) classify coping as

one type of self-regulation and define it as "conscious volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or circumstances" (p. 89). However, other researchers argue that coping techniques may also be unconscious (Compas et al., 2001; Vashchenko et al., 2007). Compas et al. (2001) discuss the distinction between coping and competence: "...coping refers to processes of adaptation, competence refers to the characteristics and resources that are needed for successful adaptation.... Coping can be viewed as efforts to enact or mobilize competence or personal resources.... However, not all coping efforts represent the enactment of competence" (p. 89).

Based on the description of coping as a process of adaptation, I have proposed that the construct of personal functioning strategies is distinct in that it represents only one potential component of adaptive processes, rather than each strategy representing a multi-stage process. Regarding Compas et al.'s definition of competence, although some personal functioning strategies, such as positive emotionality and motivation, may indeed reflect characteristics of adolescent mothers, most do not, and this study did not set out to assess whether these strategies are situation specific or represent qualities of the individual that endure over time and circumstance. Personal functioning strategies also cannot be described as resources; rather, personal functioning strategies may assist adolescent mothers in drawing upon resources. In the model of educational resilience I have proposed, young women's use of personal functioning strategies can be described as enacting competence or personal resources; however, this study was not designed to assess coping strategies, and it was not possible to determine whether personal functioning strategies used by participants were volitional.

Gestsdottir and Lerner (2007) examined the SOC model (Baltes & Baltes, 1990) as a means of describing intentional self-regulatory processes in early adolescents. The three-part model illustrates stages an individual may enact in responding to life experiences:

Selection refers to how a person identifies goals, *optimization* refers to the person's attempts at maximizing the chances of recruiting the resources necessary for goal attainment, and *compensation* refers to the person's ability at modifying behaviors in the face of the blocking of or loss of goal-directed actions. (Gestsdottir & Lerner, 2007, p. 509)

The authors discuss this model as involving self-assessment of one's abilities, as well as complex processes such as creation of a hierarchy of goals (Gestsdottir & Lerner, 2007). Although elements of the SOC model may indeed have been used by MHFE participants in this study as they navigated secondary school as pregnant or parenting adolescents, no data were collected that would enable evaluation of goal-directed behaviors. In addition, Gestsdottir & Lerner (2007) describe SOC processes as very active, whereas many of the examples of personal functioning strategies observed in this study were described by participants in a way that lacked evidence of reflective or analytic thinking. Thus, I did not attempt to analyze participants' use of personal functioning strategies using the SOC model.

Several studies (Carey et al., 1998; Hines, Merdinger, & Wyatt, 2005; Leadbeater & Way, 2001; Werner & Smith, 2001) identify individual-level factors which appear to have a protective benefit for adolescent mothers and other youth who have experienced significant adversity and who demonstrate competence in the educational domain. Many of these factors align with the personal functioning strategies used by

participants in the MHFE study. This alignment further reinforces the validity of exploring the role of personal functioning strategies (which collectively represent a potential individual level protective factor) in the secondary educational trajectories of adolescent mothers in the MHFE study.

I had proposed that personal functioning strategies used by the young mothers in this study might act as individual level protective factors that served them in a number of ways. The strategies might buffer the effects of stressors (Masten et al., 1999; Masten & Powell, 2003; Riley & Masten, 2005), making them less of an obstacle in their educational pursuits. When faced with stressors, personal functioning strategies might decrease young women's vulnerability to attributing the stressors to their own inabilities to succeed in school, developing negative feelings about school (i. e. becoming unengaged), or concluding that the challenges were too great to overcome. Instead, personal functioning strategies might encourage the development of school engagement and the desire and effort to perform well academically by influencing the way participants react to challenges.

The use of personal functioning strategies might represent a core protective factor, enabling other protective factors to be activated. The concept of cascade effects is that protective factors or processes can initiate other protective factors or processes (Eriksson, Cater, Andershed, & Andershed, 2010; Luthar, Sawyer, & Brown, 2006; Wright & Masten, 2005). An example provided by Eriksson et al. (2010) is, "...if a youth has a positive relationship with a teacher, this may contribute to a positive school attitude and the establishment of relationships with prosocial peers" (p. 480). In response to school stressors, personal functioning strategies might assist young women in forming good relationships with school staff which serve to support their school engagement

and link them with services needed to address their particular challenges. Once enrolled in educational supports, adolescent mothers' use of personal functioning strategies might enable them to use these programs and services more effectively and therefore gain greater benefit from them.

A lack or ineffective use of personal functioning strategies in young mothers could result in a cycle of interference with the activation of education related protective factors. When experiencing stressors, these young mothers might be more vulnerable to developing negative feelings about school (i.e. becoming unengaged), attributing the stressors to their own abilities to succeed in school, or concluding that the challenges were too great to overcome. The development of these attitudes may result in decreased school attendance, which can interfere with academic performance as well as the development of relationships with school staff members and the willingness of these staff members to invest in helping these youth succeed. In addition, if these young mothers enroll in services and programs they may lack the skills to use them effectively and benefit from them. The resulting negative experiences with school staff members, services and programs might reinforce negative attitudes about school.

Although there are variables that are typically protective for youth, an important realization that has emerged from a contextually-driven research approach is that protective factors are not necessarily universal. Protective effects can be subdued or impeded due to the combination of other variables affecting a youth and her context (Wright & Masten, 2005), including the presence of cumulative risk situated across ecological domains (Gerard & Buehler, 2004; Masten, 2001; Rolf, 1999; Sameroff et al., 2003). Thus, it cannot be concluded that participants who were withdrawn from school with no plans to return at the time of their interviews are not resilient. Rather, it is

possible that they used personal functioning strategies less frequently or less effectively than participants who demonstrated educational resilience, or that their use of personal functioning strategies was incongruent with or overpowered by other contextual circumstances. It is also possible that these participants were demonstrating resilience in other domains not examined in this study.

In sum, personal functioning strategies were explored as a possible core mediator of participants' adaptation in the educational domain. The effective use of personal functioning strategies may make certain youth more susceptible to attaining and benefiting from the other protective factors explored in this study. These strategies could influence young women's appraisals of challenging circumstances; facilitate their navigation of challenging circumstances; influence the situations, relationships, and resources selected by young women who experience adversity; or activate other protective factors.

Methods

This was a qualitative comparative study using grounded theory methodology. This methodological framework involves multiple stages of coding qualitative data, and identification of a central phenomenon and various constructs that influence it.

The sample was drawn from a large-scale randomized controlled trial experimental evaluation of a home visiting program for adolescent mothers, Healthy Families Massachusetts, which has a total sample size of 689. Using a theoretical, or purposive, sampling technique in which cases are chosen based on their significance to the phenomenon of interest (Creswell, 2007; Mason, 2002), 45 pregnant or parenting adolescents were selected according to the criteria of race, exposure to cumulative stress, and educational trajectory.

To advance resilience research, Luthar et al., (2006) advocate for increasing use of within-group analyses that allow for the identification of the specific processes that create vulnerability for some youth and protection for others who face the same risks, and more specifically, allow researchers to decipher which of a number of factors seem to be most critical. This is consistent with a person-based approach to resilience research (Buckner et al., 2003; Masten et al., 1999), which was the approach of this study. As is discussed in the review of literature, race has been identified as a moderator of educational outcomes for adolescent mothers. Race has been used as a sample selection criterion in order to minimize possible types of variation in the sample that may influence participants' educational pathways. All participants self-identified as White. The second criterion, exposure to cumulative stress, was also selected to minimize diversity in the sample. Since an objective of this research was to examine the dynamic interplay of various personal and contextual factors, combinations of which may influence the educational trajectories of adolescent mothers, it was important to select the cases for analysis on the basis of similar levels of risk exposure. Further, exposure to adversity is a required component in assessments of resilience. Specifically, participants were selected for inclusion in the study if they indicated having experienced at least one stressor in two to five ecological domains; these domains included individual stressors, peer stressors, and three subdomains of family stressors: caregiver characteristics, relationship between the participant and her caregivers, and factors related to the family as a unit. Participants may have also experienced stressors in the school and community domains, but these were not included in the selection criteria. In the language of grounded theory, exposure to stressors were explored as possible contextual conditions in this study.

Finally, participants were selected from each of the three educational trajectory groups, a core construct in this study, in order to provide a basis for comparison of processes leading to educational resilience or lack thereof.

Luthar et al. (2006) also promote a fine-grained examination of what aspects of protective processes are effective, or through what avenue they confer benefits. An in-depth qualitative analysis was conducted for each case that enabled mapping of the dynamic interplay of risk and protective factors influencing her educational pathway. The role of education related protective factors, including support, engagement, and academic performance were examined as possible intervening conditions with a particular emphasis on understanding the role of personal functioning strategies, the core process in focus in the study, in this web of potential protective factors.

Research Questions

1. How do adolescent mothers use personal functioning strategies in the process of pursuing their secondary education during their first pregnancy or their first year postpartum?
 - 1a. What is the range of stress exposure experienced in the sample, and how does stress exposure influence participants' educational trajectories?
 - 1b. What are the relevant variations in the education-related supports, school engagement, and academic performance among participants?
 - 1c. What are the types of personal functioning strategies used by participants who demonstrate educational resilience and those who demonstrate educational vulnerability?
 - 1d. How do participants in the sample exhibit educational resilience and educational vulnerability?

2. How do stress exposure, school engagement, academic performance, and education-related supports intersect with personal functioning strategies to facilitate educational resilience or vulnerability in this sample of adolescent mothers?

Chapter 2: Review of the Literature

The focus of this study was educational resilience among adolescent mothers. Though the body of literature dealing with adolescent parenthood is quite large, very little research on this population has presented a strengths-based perspective, and fewer studies still have focused on resilience processes (Kennedy, 2005; Leadbeater & Way, 2001; Scott-Jones, 1991). I begin this chapter by reviewing the literature on patterns of secondary educational attainment among adolescent mothers in order to present the scope and complexity of the problem. As the present study was aimed at identifying processes contributing to resilience among adolescent mothers, it was rooted in a resilience framework. Thus, I provide an overview of the theory of resilience and theoretical frameworks that underlie resilience and guide its research; criteria for defining, operationalizing, and researching resilience and its component constructs; and themes that have emerged as central to the theory and its study. Finally, I provide a targeted review of empirical findings related to resilience in adolescents and adolescent mothers.

Patterns of Secondary Educational Attainment among Adolescent Mothers

Whether or not adolescent pregnancy leads to reduced educational attainment has been a matter of debate in the literature, which has been complicated by variation in how secondary educational attainment is defined (as a high school diploma or as either a diploma or GED¹) and by what age it is measured. Some research has found that teenage childbearing has a negative effect on completion of a secondary school degree

¹ GED stands for General Equivalency Degree or General Educational Development, or similar variants. It offers a high school credential that is an alternative to a high school diploma. Earning a GED requires passing five tests to demonstrate skill in the areas of language arts, social studies, science, and mathematics. GED preparation programs are available but are not required to take the test (<http://www.doe.mass.edu/ged/>).

according to the typical timeline (Hofferth et al., 2001) or by the age of 25 (Ahn, 1994; Klepinger et al., 1995; McElroy, 1996; Mott & Marsiglio, 1985; Perper et al., 2010; Scott-Jones & Turner, 1990), or is positively associated with early school withdrawal (Astone & Upchurch, 1994²). Analyses of the National Education Longitudinal Study of 1998 show that nearly 60% of adolescent mothers withdrew from school between the eighth and twelfth grades. These data also reveal that a significantly higher proportion of White and Hispanic adolescents who became pregnant dropped out of school in comparison to their peers who did not become pregnant (Manlove, 1998). According to findings from the National Longitudinal Survey of Youth (NLSY) —1997 Cohort³ as cited in Perper et al. (2010), approximately one-third of teenage girls who had a child before the age of 19 did not earn a high school diploma or GED before the age of 22, which constitutes a substantial distinction from their peers who did not become teenage parents, among whom 6% did not earn a high school diploma or GED before the same age. Fifteen percent of the teenage mothers in the sample, compared with 5% of their non-parenting counterparts, earned a GED rather than a high school diploma (Perper et al., 2010).

Moderators of Secondary Educational Attainment among Adolescent Mothers

It is clear that adolescent childbearing alone does not account for lower levels of educational attainment among young women who give birth as adolescents. Upchurch and McCarthy (1990) emphasize that high school graduation is more common than dropout among teenage mothers, and encourage a more complex analysis of the relationship between early childbearing and secondary educational attainment.

² Data were not available on later school returns.

³ Youth were between the ages of 12 and 17 when first interviewed in 1997, and have been interviewed yearly since. The data analyzed in this report are from the 2007 round of data collection (Perper et al., 2010).

Demographic factors have been explored as moderators of the relationship between teenage pregnancy and high school completion. Various individual, family, and community level factors have been demonstrated to effect educational outcomes in this population of youth (Ahn, 1994; Jones et al., 1999; McElroy, 1996; Upchurch 1993; Upchurch & McCarthy, 1990).

Several researchers have argued that it is not school-age pregnancy that is the real risk factor for dropout among girls, but rather other factors such as early sexual debut and early substance abuse, parental level of educational attainment, factors associated with socioeconomic status such as availability of reading materials in the home, and attending a school that does not have a college preparatory curriculum (Upchurch 1993; Upchurch & McCarthy, 1990). Ahn (1994) shows that it is a combination of early childbearing, family background differences, and individual heterogeneity that influenced decreased likelihood of high school completion among one sample of adolescent mothers.

Age at first birth and race have both been identified as moderators of likelihood of secondary educational attainment and type of secondary degree completed (Klepinger et al., 1995; McElroy, 1996; Perper et al., 2010; Upchurch, 1993). Notable differences have been observed in secondary educational attainment between teenage mothers who had their first child before age 18 and those who had their first child between the ages of 18 and 19. On the whole, the younger cohort of teenage mothers was less likely to earn either a diploma or a GED by the age of 22. Diploma attainment was significantly lower among the younger cohort, and GED attainment was slightly more common (Perper et al., 2010). Other analyses based on NLSY data also indicate a relation between age at adolescent childbearing and secondary school attainment by

age 25, however outcomes vary by race. Among young women who gave birth before the age of 18, Black mothers were most likely to complete high school (50%) followed by White mothers (29%) and Hispanic mothers (22%). Young women who first gave birth between the ages of 18 and 20 years old were substantially more likely to have graduated from high school (72% for Black mothers, 60% for White mothers, and 55% for Hispanic mothers). High school completion rates were the highest for mothers who gave birth when they were older than 20 years (90% for Black mothers, 92% for White mothers, and 76% for Hispanic mothers) (Klepinger et al., 1995). Upchurch's (1993) findings corroborate that Hispanic adolescent young women who became mothers before the age of 18 were least likely to graduate compared with African-American and White young mothers.

The finding that adolescent pregnancy is least likely to affect high school completion rates for Black adolescent mothers is corroborated across many studies, which found that Black teenage mothers are more likely than White teenage mothers to complete a regular high school diploma (McElroy, 1996), and White teenage mothers are significantly more likely to drop out than Black teenage mothers regardless of background characteristics (Jones et al., 1999; Upchurch & McCarthy, 1990). Ahn's (1994) analysis concurs with the finding that Black adolescent mothers have a higher incidence of secondary school graduation by age 25 than their White peers, but also a higher incidence of teenage childbearing.

Since race has been established as a moderator of educational outcomes among young mothers, this study selected participants from a single racial group in order to ensure that any observed variability in participant outcomes cannot be attributed to race. Conducting a study in which race was held as a stable characteristic permitted

observation of other characteristics, such as those at the individual, family, and community levels, that vary between participants who have different educational trajectories. However, despite race acting as a moderator in various research outcomes, a racial group does not symbolize homogeneity. It is important to keep in mind the many types of diversity represented within racial groups, such as socioeconomic status, cultural variations due to ethnicity, geographic and community contexts, and individual ecological contexts, when considering the meaning of research results, as well as their generalizability to other populations.

The Co-occurrence of Early Childbearing and Secondary School Withdrawal

Also explored in literature is whether high school dropout results from early pregnancy and parenting, or teenage pregnancy is more likely to result when adolescent girls drop out of high school. A longitudinal study on education trends indicates that of 822 adolescents who became pregnant 28% of them withdrew from school prior to pregnancy, and 30% after becoming pregnant (Manlove, 1998).

School performance and engagement variables are predictors in this relationship. School-age pregnancy is less likely among adolescents who did well academically and demonstrated engagement in their school and learning (Manlove, 1998; Moore et al., 1998). According to data analyzed by Beutel (2000), adolescents with high educational goals were more likely to have a later sexual debut, to use contraception, and to terminate an adolescent pregnancy, whereas adolescents with low expectations about their education had a higher likelihood of nonmarital early childbearing. Manlove (1998) found that school-aged adolescents who had good academic performance spent more time doing homework, were more involved in school activities, and had plans to pursue postsecondary education were less likely to become

pregnant as teenagers. Drawing on the same data, these findings are corroborated by Moore et al. (1998) who also found that likelihood of school-aged pregnancy was significant among eighth-grade girls who were older than is typical for that grade level.

Certain school and community context variables have also been observed to influence likelihood of school-aged pregnancy. Manlove (1998) found that attendance at a school characterized by a majority high SES students or a low proportion of minority students reduced the risk of adolescent pregnancy for White students only. Perception by either students or teachers that their school had low crime rates decreased likelihood of adolescent childbearing for White and Black students (Moore et al., 1998).

Upchurch (1993) considered the significance of variation in the order of early childbearing and school withdrawal when the two co-occurred—that is, which occurred first—combined with individual and family level factors. Her analysis indicates that these factors influence the sequencing. For example, adolescent mothers who completed their secondary education by either graduating high school or attaining a GED were more likely to have parents with a higher level of education, to come from a smaller family, and to have had more reading materials in their homes. Age at sexual debut varied significantly among participants with different school-early childbearing trajectories: 40% of participants who had a baby prior to discontinuing secondary school, or within eight months of discontinuing, were under 15 years of age when they first had intercourse compared with 20% of adolescent mothers who either did not dropout, or had a baby more than eight months after dropping out (Upchurch, 1993).

A race-specific association between teenage pregnancy and birth and dropping out has been identified by several scholars. Manlove (1998) found that Hispanic and White adolescents were less likely to become pregnant before 20 years of age when

they did not drop out of school. Further, the chances of a teenage pregnancy for Hispanic and White adolescents decreased according to the length of time they were enrolled in school. Hispanics who dropped out were much more likely to become pregnant (48%) than Whites (8%) (Manlove, 1998). Mahler (1999) found that the likelihood of dropping out of school increases the likelihood of teenage birth, but only for White and Hispanic adolescents.

Once adolescent girls drop out of school, their likelihood of returning may decrease. Upchurch and McCarthy (1990) and Upchurch, McCarthy, and Ferguson (1993) found that dropping out of school, regardless of parenting status, significantly impedes young women's probability of returning to and completing high school. Leadbeater (1996) found a low rate of return among teenage mothers who had dropped out, though young women who had dropped out after becoming pregnant were somewhat more likely to return than were those who had dropped out prior to their first pregnancy. Upchurch and colleagues' (1993) study corroborated this latter finding. Similarly, Linares et al. (1991) found that compared with pre-pregnancy dropouts, adolescent mothers who had had no interruption in their schooling since becoming pregnant had better academic success one year after giving birth.

Using educational trajectories rather than solely educational outcomes among adolescent mothers as a grouping variable in this study provided the opportunity to observe patterns related to school engagement and performance, and the sequencing of school withdrawal and pregnancy. Decreased likelihood of return to school following withdrawal underscores the importance of identifying the processes that keep some adolescent mothers in school during their pregnancy or their first year postpartum, as

well as processes that encourage some adolescent mothers to return to school following withdrawal.

Long-Term Educational Attainment among Adolescent Mothers

Several studies have examined long-term patterns of educational attainment among teenage childbearers. Though a number of studies suggest that compared with women who delay childbearing teenage childbearers are less likely to complete secondary school, the majority of them ultimately do so (Hofferth et al., 2001; Horwitz et al., 1991). Ahn (1994) found that by age 25 60% of women who are adolescent mothers had completed high school, a figure that is still significantly incongruous with the trend among non-parenting adolescents, 90% of whom had completed high school by that age. Rich and Kim (1999) report that whereas only 25% of adolescent mothers in their study had earned their diploma or GED at the time of their first birth, 60% had done so by the seventh year after the birth of their children. They too found a race-specific pattern; even though White teenage mothers had the highest levels of schooling at the time of their birth, Black teenage mothers were more likely to earn a high school diploma or GED than White and Hispanic mothers between the first and the fifteenth year following birth.

Factors contributing to long-term educational attainment. Werner and Smith (2001) report that the adolescent mothers in the longitudinal Kauai study who had higher levels of educational attainment in their mid-twenties had been more active in their school's extracurricular activities during their teenage years. Longitudinal data collected by Leadbeater and Way (2001) reveal that the adolescent mothers in their sample who had graduated from high school reported having some similar ecological experiences, including receiving emotional support from at least some family members

and friends, having at least some relatives and friends who were educational or career role models or sources of encouragement, and having the ability to access postsecondary education.

A 20-year follow-up study of Black adolescent mothers who had been enrolled in an intervention for teenage mothers when they were pregnant found that 71% had attained a secondary educational degree. Intervening factors contributing to the educational success of these women included having advanced further in their secondary schooling—into the final two years of high school—prior to their pregnancy, a higher degree of involvement in the adolescent parenting intervention, and not coming from families characterized by socioeconomic disadvantage (Horwitz et al., 1991).

* * *

Clearly, the relation between adolescent pregnancy and secondary schooling is complex. There is room for further exploration of the matter, particularly regarding what factors influence whether a girl who becomes pregnant during the traditional period of high school attendance and completion does or does not continue pursuit of secondary education and attain her diploma or high school equivalency degree.

Adolescent Mothers' School Experiences and Engagement

School engagement is considered a hopeful avenue to improving student school experiences and outcomes (Fredricks, Blumenfeld, & Paris, 2004). Two types of school engagement, behavioral and emotional, were considered as intervening conditions in the present study. *Behavioral engagement* encompasses avoidance of negative behaviors, adherence to school rules, academic effort and participation, and involvement in extracurricular activities, and *emotional engagement* describes students' feelings about teachers, peers, school work, and the school environment. A student's

level of emotional engagement facilitates or hinders her level of connection to school, and therefore influences behavioral engagement. Engagement is flexible and characterized by a person-context interaction; therefore it is not necessarily stable across time or school environments (Fredricks et al., 2004; Fredricks, Blumenfeld, Friedel, & Paris, 2005).

There is ample evidence that students who have a sense of connection and belonging to their schools have better educational outcomes (Fredricks et al., 2005; Libbey, 2004), and that school personnel contribute to adolescents' feelings about school, behaviors in school, school success (Fredricks et al., 2004; Kalil, 2002), and student achievement motivation (Kalil & Ziol-Guest, 2008). Further, teachers respond more positively to students who are engaged and do well in school, and as suggested by Fredricks et al. (2004), "this preference is likely to lead teachers to provide different opportunities to behaviorally engaged and disengaged students" (p. 75).

There is some evidence that low levels of behavioral and emotional engagement, and negative feelings about school, contribute to students' decisions to drop out of school (Fredricks et al., 2004). Finn and Rock (1997) categorized African-American and Hispanic high school students from lower SES families as either dropouts, non-resilient completers (students who completed high school but did not perform well academically), or resilient completers (students who completed high school and had good academic performance). They show that school engagement behaviors such as attendance, effort in completing schoolwork, participation in learning activities, and appropriate behavior in school were highest among resilient completers, but also significantly higher among non-resilient completers compared with dropouts. These

effects were significant independent of family background and psychological characteristics.

School Experiences of Young Mothers

The possible role of schools and school engagement in whether young mothers achieve secondary school success has been examined by some scholars. Adolescent mothers have to juggle multiple roles and responsibilities, including homework, jobs, household chores and family responsibilities, in addition to parenting (SmithBattle, 2007). Once giving birth, the attendance rates of teenage mothers often decline substantially compared with the attendance rates of the same students prior to their births (Casserly, Carpenter, & Halcon, 2001). Some have suggested that the response of schools to teenage childbearing, namely a lack of accommodations provided by schools to address the special needs of teenage mothers, is a major factor in the decision of adolescent parents to drop out (NWLC & MALDEF, 2009). Some adolescent mothers who want to attend school encounter a number of hindrances, such as a lack of child care options. School policies regarding enrollment, attendance, transferring, and home tutoring options were shown in one study to present additional obstacles and sometimes proved to deter school attendance for those who wanted to go to school (SmithBattle, 2007).

Although there has been very little examination of the particular experiences of adolescent mothers in schools, and the relationship of these experiences to school success and educational attainment, one compelling study of mostly White or Black low-income teenage mothers found that young mothers in the study overall reported feelings of school belonging and availability of support within the school. However, although only 25% of young mothers surveyed reported experiencing differential

treatment by educators based on their parenting status, this differential treatment significantly predicted decreased expectations about future level of educational attainment. Differential treatment was defined as the perception that "teachers thought they were less smart than they really are," or "teachers discourage them from taking certain classes due to their being mothers" (Kalil, 2002, p. 560).

School experiences prior to pregnancy. Some studies have found that prior to pregnancy, young mothers' school experiences are less than optimal. Prior to pregnancy experiences of young mothers have been documented to include exposure to negative peer influences, and perceptions of low quality schools and staff who were not invested in students (Zachry, 2005), as well as poor academic performance and apparent lack of engagement (Barnet et al., 2004; SmithBattle, 2007).

Young mothers' likelihood of dropping out or staying in school is predicted in part by engagement and success in school prior to their pregnancies (Barnet et al., 2004). In a study considering the influence of participation in school-based programs for pregnant and parenting teenagers, academic success prior to pregnancy seemed to override the benefits of the intervention in predicting school completion or dropout. Compared with those who attained a secondary degree, those who dropped out were more likely to be enrolled in special education classes, to have experienced academic failure in the seventh or eighth grade, and have a lower cumulative GPA. Also, a much smaller percentage of those who dropped out improved their grades once participating in the intervention compared with those who successfully completed a secondary degree (DeBolt et al., 1990).

Link between pre-and post-pregnancy school experiences. In an ethnographic study of Puerto Rican young mothers, Diez and Mistry (2010) found that participants'

school success after their pregnancies was aligned with their academic performance and educational goals prior to their pregnancies. Casserly et al. (2001) also found a strong correlation between academic achievement prior to and after birth for young mothers enrolled in school. For half of the mothers in the study academic achievement remained consistent between the pre- and post-birth periods (Casserly et al., 2001). Linares et al. (1991) found that adolescent mothers who withdrew from school before becoming pregnant and did not return within a year of giving birth had already been lagging in school progress (in terms of their grade placement) when they gave birth. These findings again raise questions about the sequencing of teenage childbearing and school dropout (Scott-Jones, 1991).

There is also some evidence that pregnancy and motherhood had the effect of inspiring adolescent girls to do better in school and attain a secondary degree, even in cases where they were not engaged in school prior to their pregnancies (SmithBattle, 2007; Zachry, 2005). In the Casserly et al. (2001) study, 30% of the sample showed improvement in academic achievement following the birth, and academic achievement declined for less than 10% of the sample (Casserly et al., 2001). Pregnancy may ignite interest in school completion for teenage mothers who have dropped out or are at risk for doing so, as well as for teenage mothers who are not considering dropping out but who are not academically engaged in school. Participants in SmithBattle's (2007) study expressed feelings of recommitment to earning a diploma or GED in order to strengthen their financial ability to support themselves and their children, as well as a general reassessing of priorities and realization that the choices they make and things they do are more serious than they used to think.

This study aimed to describe the dynamic nature of the relationship among participants' use of personal functioning strategies and education-related supports, and their school success and engagement. Focusing on participants' educational trajectories allowed for the observance of changes in the nature of this relationship over time and in response to contextual circumstances. The theory of resilience provided a fitting framework, with its emphasis on identifying processes of adaptation and the interaction of risk and protective factors, in which to situate this investigation.

The Theory of Resilience

The study of resilience provides an alternative to deficit-focused approaches to studying youth in adverse contexts by bringing strengths-based responses into the spotlight (Fergus & Zimmerman, 2005). By doing so, pathways of positive adaptation are uncovered which hold the potential to inform interventions and policies aimed at these youth (Masten, 2001; Wright & Masten, 2005). This theory provided a framework for exploring adaptational processes contributing to the success of adolescent mothers in the educational arena.

Defining Resilience

Although there is some variation in the definition of resilience used by researchers (Luthar et al., 2000; Olsson et al., 2003), the thrust of all the definitions is that resilience is evident when an individual has been exposed to significant risk or vulnerability and is able to demonstrate effective functioning, or adaptation, nonetheless (Compas, 2004; Donnon & Hammond, 2007; Fergus & Zimmerman, 2005; Hjemdal, Aune, Reinfjell, & Stiles, 2007; Luthar et al., 2000; Masten, 2001; Rolf, 1999; Rutter, 2006; Sameroff & Rosenblum, 2006; Yates, Egeland, & Sroufe, 2003). Put another way, "resilience is the positive end of the developmental continuum that occurs

for children” who are exposed to significant stressors (Liebenberg & Ungar, 2009, p. 3), whereas the other end of the spectrum would be maladjustment.

Importantly, a distinction is made by researchers between competent youth, who effectively perform developmentally appropriate tasks in the context of ordinary challenges, and resilient youth, who do so in the context of extraordinary challenges (Buckner et al., 2003; Masten et al., 1999; Sameroff & Rosenblum, 2006). Accordingly, the study of resilience has two basic premises, each requiring inference on the part of researchers to determine if both conditions are met. The first premise is that the individual being studied has faced or currently faces adversity or stress that constitutes a threat to healthy development. The second premise is that the same individual has managed to evade the potentially detrimental effects of the threat and exhibits average or better functioning in particular developmental areas (Luthar et al., 2000; Masten, 2001; Riley & Masten, 2005), or that the individual has returned to a state of competence after a lapse (Masten, 2007; Riley & Masten, 2005).

Clearly, a set of criteria is required in order to make an assessment that resilience is evident within an individual—that is, that the risk or risks were sufficient to act as an obstacle to normal development, and that the individual’s functioning is adequate or better than adequate (Masten et al., 1999; Masten, 2001; Masten, 2007). A review of studies reveals a variety of interpretations of both adversity and adaptation, with some scholars considering one single adverse event or competence in a single developmental domain, and others multiple adverse events and competence in multiple domains, as sufficient evidence of risk or adjustment (Luthar et al., 2000).

Scholarship has now shown that resilience is not an innate quality of an individual, present or not (Lerner, 2006; Luthar et al., 2000; Rutter, 2006), but rather the

expression by an individual of the capacity to adapt despite nonoptimal circumstances at a particular moment in time (Lerner, 2006). A process oriented resilience approach takes into account the avoidance by a youth of pathways associated with vulnerability to risk factors (Fergus & Zimmerman, 2005), the developmental processes involved in facilitating successful adaptation (Olsson et al., 2003), and the mechanisms that increase a youth's chances of emerging from adversity with good outcomes (Hjemdal et al., 2007; Olsson et al., 2003).

It is clear from the literature that adolescent mothers experience adversity in multiple domains both prior to and during pregnancy and parenting (Borkowski, Whitman, & Farris, 2007; Easterbrooks, et al., 2011; Kennedy, 2005 ; Pittman & Chase-Lansdale, 2001; Schellenbach et al., 2005). Yet, research findings show that many demonstrate adaptation despite difficult circumstances that both preceded and result from adolescent motherhood (Borkowski et al., 2007; Easterbrooks et al., 2011; Leadbeater & Way, 2001; Oxford et al., 2005), and this adaptation can sometimes be seen in the domain of educational achievement. The strengths-based framework of resilience research offers the opportunity to focus on what allows adolescent mothers to achieve secondary educational success. By concentrating on young mothers' educational trajectories rather than solely on their educational outcomes, the findings from this study uncover the dynamic processes that lead to educational resilience in this population.

Resilience Frameworks

Although there has not been complete concurrence in the theoretical frameworks used by researchers in conceptual and empirical examinations of resilience, three major themes underlie those that have dominated the field of inquiry as it has

matured. These are: the centrality of contextual factors to resilience phenomena; development being characterized by multilevel, reciprocal interactions; and the constancy of adaptation across developmental domains and the lifespan (Luthar et al., 2000). This study operates within an integrated perspective of resilience represented in the multiple contexts and systems perspectives described here. These perspectives are complementary, as both emphasize the role of a number of inter-connected systems in adaptational processes (Masten, 2007; Riley & Masten, 2005).

Multiple contexts perspectives. A primary theoretical framework that has guided resilience research was outlined by Garmezy, who identified three primary categories or domains of protective factors, including personal attributes, family characteristics, and community-level systems (Garmezy, 1985; Luthar et al., 2000; Masten & Garmezy, 1985; Riley & Masten, 2005). Personal attributes include a broad range of individual-level characteristics such as personality dispositions, genetic, cognitive, or psychological characteristics. Family characteristics encompass factors that describe relationships among family members, number of parents in the home, parenting style, and other parent qualities such as education level. Community features refer to the availability of support systems beyond the family, relationships with people who live in the community, good school systems, safe neighborhood context, and healthy peer relationships (Garmezy, 1985; Gerard & Buehler, 2004).

Bronfenbrenner's bioecological model (Bronfenbrenner & Evans, 2000; Bronfenbrenner & Morris, 2006), known in its earlier incarnation as ecological systems theory (Bronfenbrenner, 1977, 1979), is also drawn upon by resilience researchers in their work of understanding the "how" of resilience (Luthar et al., 2000; Riley & Masten, 2005). The model conceptualizes an individual's developmental experiences and

outcomes as an interaction of the unique characteristics of an individual, including biological and personality characteristics, and multiple spheres of influence containing all of the people and environments a child directly and indirectly comes into contact with (Gardiner & Kosmitzki, 2005). The bioecological model outlines five interrelated systems, including the microsystem, mesosystem, exosystem, macrosystem, and chronosystem. The child is embedded at the center of these concentric spheres (Berk, 2006). A combination of activities occurring within each of the systems influences the child throughout her life. However, Bronfenbrenner did not view the child as a passive receiver of these combined influences, but rather as having a reciprocal role in shaping them. This is what Bronfenbrenner referred to as bidirectional influence between the child and the systems that surround her. The interactions between systems can also be understood as bidirectional (Gardiner & Kosmitzki, 2005).

Garmezy's and Bronfenbrenner's perspectives both highlight multiple domains of factors influencing an individual's developmental trajectory. Bronfenbrenner's model emphasizes the essential component of the interaction among multiple systems and between the individual and these systems. Both perspectives have made significant contributions to shaping resilience theory and understanding resilience processes, and have formed a keystone of the foundation upon which theoretical and empirical scholarship in the field has been built. Bringing contextual factors to the forefront in the study of resilience helps to protect against an inappropriate emphasis on resilience as a trait, or the absence of resilience as a shortcoming of an individual child. Ungar (2006) argues that resilience should be thought of both in terms of a child's ability to access resources to aid in his or her healthy development, and the surrounding family's and community's ability to provide the appropriate resources needed.

Systems perspectives. Masten (2001) has referred to resilience processes as “ordinary magic,” explaining: “Resilience appears to be a common phenomenon that results in most cases from the operation of basic human adaptational systems” (p. 227). A focus on adaptational systems in resilience theory and research (Masten, 2001; Masten & Obradovic, 2006; Masten & Powell, 2003) assumes that every individual is equipped with competencies, organized within systems that aid one in carrying out adaptive processes. These systems exist on both the individual and contextual levels (Masten, 2004). From this perspective, everyone has the potential to demonstrate a resilient trajectory, and risk factors are viewed as things that threaten the robustness and efficacy of these systems.

The core systems believed to be at work in resilient functioning are viewed as flexible; they are capable of responding to diverse challenges, and are also seen as evolving due to environmental and developmental forces. These basic systems have been identified as critical to resilience trajectories in children (Masten & Powell, 2003), and when compromised, as critical culprits in vulnerability and abnormal developmental trajectories. Examples of these core systems include the self-regulation system, which is responsible for emotion regulation and executive functioning; the learning systems of the brain, which control problem-solving and information processing; the stress response systems; and the family and peer systems (Masten & Obradovic, 2006). Riley and Masten (2005) stress the interdependence of various aspects of human and social systems; no one system or element of these systems alone can be responsible for or expected to produce healthy outcomes. Rather, all systems contribute to providing support and protection to the developing organism, and the dynamic interactions of these efforts often lead to positive adaptation (Riley & Masten, 2005).

Both the contextual and adaptational systems paradigms are in harmony with a developmental systems perspective, which emphasizes continuous reciprocal exchanges between individuals and their settings, and a view of development as a system in which biological, cultural and historical characteristics are integrated (Lerner, 2006). Interactions among various elements across sectors of the ecological context can support resilience processes (Riley & Masten, 2005).

Taken together, contextual and systems perspectives on adjustment in development, and particularly the idea that there are ongoing exchanges between various systems within and outside of the individual, help to explain the tendency for continuity in either adjustment or maladjustment over time. Disruptions in the normal progression of development in one or more domains can lead to a ripple effect of disruption across other domains within the individual and her ecological context. In contrast, competence in a particular domain is generally characterized by the development of skills, which the individual can then draw on when experiencing both normative and extraordinary challenges (Masten & Obradovic, 2006). In short, “development is cumulative” (Riley & Masten, 2005, p. 19).

The concepts encompassed in these theoretical perspectives underscore risk and resilience processes as contextual phenomena (Fergus & Zimmerman, 2005; Grossman et al., 1992). Considering risk and protective factors in isolation would lead to underestimation of the dynamic nature of human development, wherein developmental processes and outcomes are the result of reciprocal interactions between systems within an individual, and between the individual and systems in her environment (Lerner, 2006; Masten, 2007; Riley & Masten, 2005).

An integrated framework for examining educational resilience. The model of educational resilience I had proposed (Figure 1) reflects the principles outlined in the multi-contextual and systems perspectives, and the assumption that individual developmental trajectories are shaped by the dynamic interaction among individual and environmental systems. Although this study is not able to empirically account for the many complex interactions within the bioecological model or the development of adaptational systems over time, it documents specific individual and contextual processes which interact to facilitate adaptation in the educational domain.

In Garmezy's model, personal functioning strategies, academic performance, and school engagement would likely be viewed as personal attributes, and supports would be considered a community level system. As suggested by Bronfenbrenner's model and the systems perspectives, however, personal functioning strategies, academic performance and school engagement likely developed over time and represent cumulative manifestations of the interaction between personal attributes and community features. This view emphasizes the active role of the individual in shaping her development, while also recognizing that she is influenced by multiple systems that both support and limit her adaptive pathways.

Studying Resilience: Operationalizing Risk and Adaptation

A central aim of resilience research is to identify processes or qualities of individuals and their contexts that enable them to experience adverse events as nonthreatening, whereas their peers facing the same events experience them as noxious (Luthar et al., 2000). There have been charged discussions among scholars about how risk and adaptation are defined and measured (Luthar et al., 2000; Masten, 2001; Shannon, Beauchaine, Brenner, Neuhaus, & Gatzke-Kopp, 2007). Consistent with

a process oriented resilience approach, it is most useful to think about the central component constructs of resilience theory—risk and protective factors—as dynamic processes as opposed to qualities of either individuals or their environments that lead to either good or bad outcomes (Rutter, 2006). As would be suggested by the range of definitions of resilience and theoretical paradigms reviewed thus far, researchers have explored a variety of avenues when endeavoring to empirically investigate resilience processes.

Risk factors. A risk factor is a variable that mediates the likelihood of a negative outcome for an individual exposed to it, or more specifically, leads to a higher probability of a negative outcome in a particular outcome domain (Carbonell et al., 2002; Compas, 2004; Compas, Hinden, & Gerhardt, 1995; Riley & Masten, 2005; Sameroff & Rosenblum, 2006; Wright & Masten, 2005). Risks are measurable, and describe internal or external characteristics present in a person's life (Riley & Masten, 2005).

It is important to emphasize that risk factors do not inevitably lead to a negative outcome for youth exposed to them, rather they signal greater potential for a negative outcome (Carbonell, Reinherz, & Giaconia, 1998). *Vulnerability* refers to the potential for an individual to suffer negative outcomes in response to exposure to risk factors (Compas, 2004; Masten & Garmezy, 1985; Wright & Masten, 2005). Individuals may be exposed to the same risk factors and demonstrate either vulnerability or resilience in response (Masten, 2004).

A common approach to studying risk, which allows for a contextually-rooted analysis, is to categorize individuals according to average/good, or below average performance on certain developmentally normative tasks, considering the amount of

cumulative stress or risk they have experienced (e.g., Masten et al., 1999). Still, diversity can be seen across studies in terms of what scholars believe constitutes a high versus a low level of risk. Researchers often create cut-off points: for example, exposure to two or more adverse events in the year prior to the study being conducted might define a high level of risk (Tiet, et al., 1998).

Protective factors. The variables or processes that intervene in vulnerability trajectories and contribute to more positive or less negative outcomes for some individuals despite exposure to risk factors are referred to as protective factors (Compas, 2004; Gerard & Buehler, 2004; Grossman et al., 1992; Olsson et al., 2003;). Like risk factors, protective factors can be located within an individual or her ecological context (Wright & Masten, 2005). They intervene in the individual's experience of a stressor, enabling potentially negative consequences to be allayed (Luthar et al., 2006; Werner, 1995). "They operate in ways that may decrease the risk itself, attenuate the effects of the risk factor, or enhance coping capacity" (Carbonell et al., 2002, p. 395). Whether or not a protective factor is valuable to an individual depends on multiple factors, including the individual's vulnerability to risk factors, the nature of the risk factors, and other contextual features (Carbonell et al., 2002).

Indicators of adaptive functioning are referred to as "salient developmental tasks, competence criteria, or cultural age expectations" (Masten, 2001, p. 229) or similar variants of these terms, and traverse physical, intellectual, psychological, and social domains of development. Such achievements are considered to be signposts that an individual is functioning competently in a particular domain, or that current or future problems are possible (Masten et al., 1999). Within a scenario distinguished by notable adversity, resilience can be judged on the basis of the achievement or presence of a

particular trait, developmental expectation, or outcome, such as academic achievement, or the absence of one that might be expected based on the existence of risk in an individual's life, such as school dropout (Masten, 2001; Shannon et al., 2007; Wright & Masten, 2005).

Some scholars have suggested that protective factors can be divided into *assets* and *resources*, where assets are qualities residing within the individual,⁴ and resources are external to the individual (Fergus & Zimmerman, 2005). The demonstrated ability to effectively utilize assets and resources to manage challenges associated with a particular stage of development is referred to as competence (Yates et al., 2003).

Findings from the Study of Risk, Vulnerability, Protective Factors, and Resilience

Despite the use of various methodologies and some lack of agreement about how the core constructs of resilience theory should be operationalized, themes have emerged repeatedly across studies revealing the nature of risk, vulnerability, protective factors, and resilience. In this section I explore findings about how risk and protective factors behave to influence patterns of adaptation and outcomes in individual youth.

Risk factors and risk processes. Sameroff et al. (2003) caution that risks should be thought of as “probabilistic” rather than “deterministic” (p. 365); the presence of risk does not necessarily predict negative outcomes. There are many children and youth who are exposed to significant levels of risk and yet overcome them and go on to demonstrate competence (Zimmerman & Brenner, 2010). The principles of equifinality (varying pathways leading to the same endpoint), and multifinality (common pathways leading to diverse endpoints), are relevant to the discussion of risk and vulnerability; not

⁴ This conceptualization of “assets” is distinct from that offered by Benson and the Search Institute (2003). They define *developmental assets* as “a theoretical construct identifying a set of environmental and intrapersonal strengths known to enhance educational and health outcomes for children and adolescents” (p. 19), thus not limiting the term to individual-level factors.

all youth exposed to the same risk factor will experience the same negative outcome, or any negative outcome at all. The outcomes of youth exposed to the same risk factor depend on the confluence of risk and protective factors in their individual ecological systems (Masten, 2004).

Cumulative risk. Quantity matters when understanding risk. It is rare that exposure to a single risk factor predicts high vulnerability and negative outcomes for youth. Rather, the number of risk factors an individual is facing has been found to be a critical determinant in predicting vulnerability to risk. The more risk factors one faces, the more likely they are to have negative outcomes, and the worse those outcomes become. In other words, risk factors have been shown to have cumulative effects in people (Masten, 2001; Rolf, 1999; Sameroff et al., 2003). Analyses conducted from longitudinal study data have revealed that quantity is the most relevant aspect of risk determining poor outcomes, not the specific nature of the risks (Sameroff et al., 2003). Multiple risks situated across ecological domains, such as within the family, peer, and social domains, seems to decrease the power of protective attributes in the environment, and may interfere with the formation of personal competencies (Gerard & Buehler, 2004; Sameroff et al., 2003; Sameroff & Rosenblum, 2006).

How do risk factors work to influence individual functioning? In order to fully understand risk and resilience, and possibilities for intervention, resilience research must go beyond identifying correlates and predictors of vulnerability and negative outcomes to examining the processes through which risk is conveyed to individuals.

The scientific study of environmental risk factors has illuminated processes peripheral to the individual child and suggests that that even a high level of age-salient competence is not generally able to overpower high-risk circumstances—such youth still

fare poorer than youth with lower levels of competence whose contexts are not fraught by high-risk circumstances (Sameroff et al., 2003). The compromise in the establishment of healthy core adaptational systems due to disproportionate environmental stress can interfere with the development of competence-promoting skills such as problem-solving abilities which can act to moderate risk (Masten & Powell, 2003; Wright & Masten, 2005).

Protective factors and protective processes. All three of Garmezy's domains, and all levels of Bronfenbrenner's ecological model, are possible loci for the expression of protective processes that support healthy adaptation (Riley & Masten, 2005), as well as vulnerability processes that hinder healthy adaptation. Certain factors that serve to protect individuals across socioeconomic, ethnic, and geographic groups have been identified repeatedly across studies (Werner, 1995). Variables that correlate with and predict resilient functioning across domains include individual attributes such as cognitive skills, positive self-perceptions, the ability to regulate one's emotions and behaviors, and positive emotionality (or an optimistic outlook on life) (Masten, 2001; Masten, 2004; Wright & Masten, 2005); familial characteristics such as close relationships with family members, especially parents; and community characteristics such as socioeconomic advantage, high quality schools, availability of community resources, friendships with prosocial peers, and caring relationships with one or more healthy adults in the community (Luthar et al., 2000; Luthar et al., 2006; Masten, 2004).

Adaptational systems. Masten (2001) and Masten and Powell (2003) emphasize a view of protective factors as being rooted in "human adaptational systems" that promote healthy development. Suggesting the "ordinary magic" to which Masten (2001) has referred, research has revealed that the normal operations of these systems enable

people to accomplish typical developmental tasks, or in other words, to demonstrate competence, in both normal circumstances as well as circumstances that might pose threats to their accomplishment. On the contrary, in the context of adversity, there is a higher risk of maladaptation when these operations are interfered with or unsupported (Masten, 2001), and long-term problems in development can be linked to weaknesses in, or the insufficient honing of, these systems (Masten et al., 1999).

How do protective factors work to influence individual functioning? Though plentiful data exist on what factors or forces play a protective role for youth exposed to adversity, much work remains to be done in determining *how* such factors and processes work to protect youth (Eriksson et al., 2010; Luthar et al. 2006; Masten & Obradovic, 2006). In more recent years, the major methodological strategies used in the study of resilience processes have begun to identify mechanisms or processes of protection, providing some insight into the pathways through which protective factors can work to counteract or deflect risk. Analyses have exposed moderators, or variables that alter the relationship between predictor and outcome variables. Protective factors such as good parenting, for example, can provide a counterbalance to high levels of environmental stressors, enhancing youth competence, or they can act as a buffer by preventing the introduction of or reducing the level of exposure to risk factors (Masten et al., 1999; Masten & Powell, 2003; Riley & Masten, 2005).

Consistent with the view that resilience is a phenomenon that can only be understood contextually, protective factors are embedded within one another at various levels of the ecological model. They are located within systems that bolster one another when they are working optimally. For example, broader community level

factors such as socioeconomic advantage facilitates school effectiveness, which can have a number of advantages for youth (Riley & Masten, 2005).

Although the abundance of adaptive systems and elements within the individual and her ecological context means that the opportunities for protective processes to intervene in adverse circumstances are plentiful, certain adversities and risk factors may not be easily offset, and may sometimes lead to enduring problems in development that cannot be completely overcome by the introduction of protective elements. This may be particularly true of risk factors occurring early in development, those occurring repeatedly or constantly over time, those that assault central or multiple adaptational systems, or those occurring at the macrosystem level that affect many other systems in the ecological context (Riley & Masten, 2005; Rutter, 2006).

The centrality of context to the phenomenon of resilience. The emphasis on context in resilience research includes attention to the person-context interaction. Lerner (2006) explains, "...mutually influential person-context relations occur when the strength of individuals are aligned with those resources present in the ecology of human development that maximize the probability that individual strengths are instantiated as positive functioning or healthy developmental outcomes" (p. 43). In the widely cited Kauai study, it was noted that the individual dispositions of those who successfully emerged from high risk circumstances aided them in selecting or constructing environments that supported their strengths. This person-environment interaction served them well over time (Werner, 1995). Thus, protective factors must be considered not only in interaction with risks, but also in interaction with features of the individual and her context, rather than as isolated variables that work independently to avert harmful outcomes.

Stability of resilience across time and domains of functioning. Vulnerability or resilience in the face of risk factors is not necessarily generalizable to an individual across the life span (Wright & Masten, 2005). Reflecting the dynamic quality of person-context exchanges, and of elements of ecological contexts, resilient processes can be expressed at a particular point in time or across time (Lerner, 2006). Assessment of resilient patterns in an individual may show variation across developmental periods or contextual spheres, with adaptive functioning evident in response to certain risk factors and not others (Fergus & Zimmerman, 2005). In other words, resilience may be “content- and context-specific” (Fergus & Zimmerman, 2005, p. 405). Youth may demonstrate adaptation only in particular domains of functioning or in particular environmental contexts. Correspondingly, care should be taken to be explicit about locating both risk factors and vulnerabilities within specific domains of functioning.

Luthar et al. (2000) argue that it is appropriate to expect that youth will exhibit consistent adaptation within developmental domains, but not necessarily across them, since increasingly, there is evidence that effective functioning in one domain and ineffective functioning in another often co-occur. Further, Luthar et al. (2000) point out that across the lifespan there are ongoing gains and losses in strengths and vulnerabilities that correspond with fluctuating circumstances. There has been some promising evidence, however, of a reasonable amount of stability in adaptive trajectories across the lifespan (Luthar et al., 2000).

Research on Resilience in Adolescents and Adolescent Mothers

As a time of life riddled with developmental changes, biopsychosocial transitions, and inevitably, a significant degree of stress (Grossman et al., 1992), it is no surprise that adolescence features prominently in the study of resilience. Adolescents’

changing bodies and psychological development co-occur with changes in their social environments as well as expectations that they will conform to traditional social roles (Compas et al., 1995; Seiffge-Krenke & Stemmler, 2002). As a subpopulation of adolescents, teenage mothers experience not only the typical developmental changes associated with this stage of life, but also many that are usually experienced in adulthood, and they do so in the context of a stigmatized role. Still, as adolescents, teenage mothers are expected to demonstrate competence on age-salient tasks such as academic achievement; school and community involvement; appropriate (i.e. rule-abiding) behavioral conduct; and healthy psychological functioning (Arrington & Wilson, 2000; Buckner et al., 2003; Masten et al., 1999; Masten & Powell, 2003).

Due to the cumulative nature of development, risk and resilience during adolescence has potential bearing on health and behavioral outcomes in adulthood (Zimmerman & Brenner, 2010). Adolescent mothers' navigation of risks and cultural age expectations prior to their pregnancies and during their transition into the parenting role will not only influence their own life trajectories but also those of their children. Problematic parenting practices and stressful ecological contexts can lead to negative outcomes in the cognitive, behavioral, and psychological domains for the offspring of teenage mothers (Borkowski, Whitman, & Farris, 2007; Easterbrooks et al., 2011, 2011; Hess, Papas, & Black, 2002).

Although there is some research suggesting that early parenting can lead in positive directions for young women (Borkowski et al., 2007; Leadbeater & Way, 2001; Oxford et al., 2005), the extant research on adolescent mothers is unequivocal that there are multiple potential negative consequences of teenage motherhood. The small body of extant literature dealing with resilience in the adolescent mother population

can be characterized as concentrating on two broad concerns: risk factors associated with the occurrence of teenage pregnancy, and evidence of positive adjustment once the teenager is parenting.

Risks Associated with Teenage Motherhood

Because motherhood is not considered a traditional social role for adolescents in the United States in the 21st century, and because it is associated with negative outcomes for both mother and child, risk factors associated with the occurrence of teenage pregnancy have been examined by a number of scholars. Risk factors that have been observed to contribute to the likelihood of teenage parenthood include low educational expectations as well as lack of engagement or motivation to succeed in school; these feelings may lead to early sexual debut and thus higher likelihood of pregnancy (Scott-Jones, 1991). In their birth through adulthood study on the island of Kauai, Werner and Smith (2001) noted that the young women who became adolescent mothers developed problems in their adolescence that were not present in their childhood, including difficulty in school and risky behaviors such as substance abuse and truancy. As opposed to their non-childbearing peers, this group also seemed to struggle with low self-esteem and a deficient belief in their self-efficacy (Werner & Smith, 2001). A number of family characteristics have also been observed to influence the likely occurrence of adolescent pregnancy (East et al., 2006; Pittman & Chase-Lansdale, 2001; Werner & Smith, 2001).

Risk and Maladjustment among Adolescent Mothers

The negative sequelae associated with teenage motherhood, including higher incidence of single motherhood, low educational attainment and employment opportunities, and poor socioeconomic outcomes (Borkowski et al., 2007; Schellenbach

et al., 2005), are attributed to becoming a mother at a nontraditional time in the life course, as well as to challenging ecological circumstances that were present prior to motherhood that may have contributed to the incidence of teenage pregnancy and childbearing (Easterbrooks et al., 2011). Examples of ecological stressors typical in this population include family crises; lack of support (Schellenbach et al., 2005); socioeconomic disadvantage and a resulting dearth of resources (Easterbrooks et al., 2011); and inter-partner, family, and community violence (Kennedy, 2005). These circumstances may persist during adolescent pregnancy and parenthood. Individual-level risk factors are also common in this population. Teenage mothers sometimes suffer in terms of their individual positive adjustment, experiencing depressive symptomatology (Borkowski et al., 2007; Easterbrooks et al., 2011; Pittman & Chase-Lansdale, 2001; Schellenbach et al., 2005). Other individual-level risk factors sometimes exhibited by teenage mothers include substance abuse, low self-esteem, and difficulty coping (Schellenbach et al., 2005).

Resilience among Adolescent Mothers

A number of scholars have contributed to a reframing of the discussion on the life trajectories of adolescent mothers. Scott-Jones (1991), for instance, argues that because adolescent pregnancy is viewed as undesirable socially, the emphasis of most past research has been on justifying this position. She suggests posing research questions such as “When adolescent pregnancy and childbearing occur, what leads to optimal developmental outcomes for adolescents and their children?” (p. 56). Other researchers have posed similarly resilience-oriented questions, and there is resulting research suggesting that teenage mothers are not a homogeneous group; there is diversity in their personal outcomes, and their futures are certainly not always dismal.

Many show an ability to adapt to the trying circumstances they face and experience success in several domains of their lives (Borkowski et al., 2007; Easterbrooks et al., 2011; Leadbeater & Way, 2001; Oxford et al., 2005).

There is some evidence, for example, that as young mothers get older their life accomplishments often accumulate. Between the first pregnancy and early adulthood, attainments in the educational and employment domains often improve, and psychosocial improvements have been observed such as decreases in depression and anxiety, and increased self-confidence, responsibility, independence, and self-efficacy (Noria, Weed, & Keogh, 2007; Werner & Smith, 2001). In another study of adolescent mothers, which had an African American majority, indicators of resilient functioning were situated in two domains, both reflecting the adaptive functioning of the adolescent as a teenager and mother: achievement of normative developmental tasks such as educational and job pursuit or attainment, and positive psychosocial functioning such as low depressive symptomatology and adequate self-esteem. Compensatory factors, evaluated prenatally, included psychosocial traits such as social competence and behavioral adjustment; cognitive traits such as intelligence; and contextual factors such as familiar and community social support. Five years following the birth of their first child, young mothers identified as resilient in this study scored well on psychosocial measures of self-esteem, anxiety, and depression and reported receiving support from friends and siblings. In addition, most had graduated from high school, many were pursuing educational endeavors beyond high school, and most showed evidence of employment history or were currently working (Weed et al., 2000).

Resilience research on this population can offer clues as to processes that are operating either at the time of pregnancy or soon after childbirth that contribute to

adaptation. Drawing from research on resilience among adolescent childbearing and non-childbearing populations, protective factors and evidence of adaptation in the individual, family, and community realms will be reviewed.

Family and Community Level Protective Factors

Family influences and support. Werner and Smith's (2001) findings from the Kauai study reveal two subgroups of adolescent mothers, those the authors characterize as either more or less successful. The more successful young mothers had higher educational achievements, experienced more stability in their careers and romantic relationships, and fewer stressful life events. The Kauai study identified features of the lives of the portion of the adolescent mothers in their study who showed adaptive functioning in their mid-twenties that may have acted as protective factors. Among these factors was more secure relationships with their caregivers in their own infancy which seemed to continue in their family relationships during adolescence; sources of childcare for their children other than their own parents; and fewer stressful life events than their less successful peers. The group of adolescent mothers whom Werner and Smith (2001) classify as more successful also had parents with notably higher levels of educational attainment compared with the parents of their less successful peers, and the adolescents were more active in their school's extracurricular activities in their teenage years.

In their six year longitudinal study, Leadbeater and Way (2001) identified four domains—educational attainment, employment, mental health, and physical health—in which to assess resilience processes in the primarily African American and Puerto Rican teenage mothers living in low income communities. Despite sometimes oppressive circumstances in their past and present lives such as violence, maltreatment, strained

family relationships, and substance abuse by family members, certain factors evidently contributed to these young mothers' overall positive adaptation. These factors included childhood in a highly-structured home environment; emotional support from at least some family members and friends; at least some relatives and friends who were educational or career role models or sources of encouragement; and the ability to access postsecondary education. In qualitative interviews, some of the mothers also discussed childcare support they received from family members and romantic partners, as well as various types of support for themselves. Several of the mothers described relationships with a close family member whose material or instrumental support was dependent on the adolescent mother taking steps she needed in order to achieve success in a particular area, such as schooling (Leadbeater & Way, 2001).

Healthy relationships. As is suggested by the Leadbeater and Way (2001) and Werner and Smith (2001) findings, relationships with caring, stable adults are repeatedly found to be an important protective factor for youth, and constitute one of the core adaptive systems (Masten, 2001; Masten & Obradovic, 2006; Riley & Masten, 2005). Support from extended family members, for example, can moderate stressors within the immediate family realm, enabling better social adjustment outcomes in young adolescents (McCabe, Clark, & Barnett, 1999).

When the presence of healthy, reliable adults are lacking within the family, youth often find these relationships beyond the family sphere. In a study of previously incarcerated youth, such relationships were part of what enabled them to create alternative paths to reoffending. These relationships were generally with juvenile justice system staff members rather than the youth's parents, and were characterized by clear and consistent expectations, communication about the youth's behaviors, a sense of

genuine caring and a personal connection, modeling of good behaviors and advice-giving (Todis, Bullis, Waintrup, Schultz, & D'Ambrosio, 2001). Similarly, former foster youth described key supportive relationships with school staff and a positive attitude toward school in general as a positive experience in their often difficult lives (Hines et al., 2005). Youth who were interviewed about their challenging life circumstances related to having grown up in poverty often attributed their ability to overcome significant obstacles to the individuals—parents, siblings, and teachers—who provided them with guidance, support, acceptance, and encouragement. These individuals provided the youth with guidance specific to their challenges, demonstrated confidence in the youth's competence, and helped to motivate the youth to succeed (Smokowski, Reynolds, & Bezruczko, 1999).

Resilient individuals also seek out and rely on friends for help in overcoming challenges (Hauser, 1999; Smokowski et al., 1999). Youth who face serious adversity and do not fare as well are less connected with friends and family members on whom they can rely for support and protection (Hauser, 1999).

Individual Level Protective Factors

Educational variables. Academic achievement has been identified as a compensatory factor during adolescence. One study found that higher educational aspirations were associated with positive overall and psychological adjustment in youth, and had a protective influence independent of academic achievement (Tiet et al., 1998). Scholastic achievement interfered with the development of conduct problems for youth in another study, but this association was moderated by race; African American youth did not experience the same level of protection against conduct problems from scholastic achievement as did White youth (Gerard & Buehler, 2004). This latter finding

confirms the significance of contextual variables which mediate the likelihood that attributes of the individual or the environment will play a protective role.

A study conducted by Weed et al. (2000) yielded compelling findings on the education-related characteristics of a sample of adolescents at the time of their pregnancy. Mothers judged to exhibit resilience were much less likely than vulnerable mothers to have ever repeated a grade in school, and therefore, for the majority of these mothers there was appropriate correspondence between their age and grade level. Also, compared with vulnerable mothers, mothers in the resilient group had completed more years of schooling when they had their first child, which translated to higher chances of having attained a secondary degree five years after giving birth (Weed et al., 2000). The factors contributing to school success among adolescent mothers in this study may be suggestive of their school performance and engagement.

Personal attributes. Particular individual attributes, namely good intellectual functioning and high self-esteem, are commonly reported correlates of resilient functioning in youth (Buckner et al., 2003; Carbonell et al., 2002; Masten et al., 1999; Olsson et al., 2003; Steinhausen & Metzke, 2001).

In searching for protective factors located in the individual domain, empirical studies have also uncovered other personal attributes that seem to promote positive youth adjustment. For instance, in narrating the important events in their lives, well-adjusted African American inner city youth who could be classified as high-risk based on family-level factors described hopefulness about the future that seems to have enabled them to continue working hard toward their goals despite persistent obstacles (Smokowski et al., 1999). Although it was not measured in this study, the characteristic “hopefulness” may be similar to positive emotionality, which was noted by Masten et al.

(1999) to be present in higher levels in girls who had experienced trauma and stress but who were classified as resilient because they did not demonstrate significant emotional problems. In another study, among children and adolescents living in poverty, those who evidenced resilience as judged by general adaptive functioning and the absence of mental illness, demonstrated self-regulation skills (Buckner et al., 2003), an adaptational system that includes emotional and behavioral regulation and impulse control (Masten & Powell, 2003). These skills contributed to their ability to solve problems, cope effectively with stressful circumstances to which youth living in poverty are regularly exposed, and manage their emotions effectively, thus warding off the development of internalizing or externalizing disorders (Buckner et al., 2003).

Qualitative interviews with youth who were in the foster care system as children and adolescents and went on to attend college, thus demonstrating resilience in the realm of academic achievement, uncovered a number of personal attributes possessed by the youth that apparently aided them throughout their lives, both prior to and during their foster care involvement and in their educational journeys (Hines et al., 2005). Self-advocacy, assertiveness, resourcefulness, self-sufficiency, and determination were qualities that assisted the youth in surviving difficult life circumstances, getting their basic needs met, looking forward to the future, proving their own self-worth, forming relationships with others, and achieving their goals. The authors also describe these youth as goal-oriented, and specifically as having goals related to school and academic achievement. In addition, removal from an environment with adults or circumstances that were negatively influential was described by these resilient youth as providing them new opportunities, such as to disengage from antisocial influences, form positive

and healthy relationships, and change the direction of their life paths (Hines et al., 2005).

Educational Resilience among Adolescent Mothers

Studies that have aimed to identify factors contributing to resilient functioning in adolescent mothers offer an important lens through which to view obstacles to and potential for educational attainment in these youth. Several studies highlight individual-level factors which may have a protective benefit for adolescent mothers who demonstrate secondary educational success.

Carey et al.'s (1998) ethnographic study of six teenage mothers who took part in their school district's parenting program and were considered to exhibit resilience because they graduated high school either according to the average schedule or with a relatively minor delay, asked mothers to share their own perspectives about why they were able to complete high school. The authors organize the participants' experiences into qualities of the individual or their relationships that are apparent strengths that may have aided them in graduating (Carey et al., 1998). These qualities can be understood as potential protective factors. One quality that was noted in almost all of the participants' interviews and seems particularly relevant to their school success is what the authors term "initiative." This quality describes behaviors such as being proactive and resourceful, and having "take-charge attitudes" (p. 353). Driven by various factors, including spirituality, desire to be a good provider to their children or make them proud, and defying societal expectations of teenage moms, these young women demonstrated initiative by acting resourceful (seeking out social service programs), showing motivation to succeed by continuing to attend school despite what some would

view as obstacles, and maintaining engagement in school through volunteer activities (Carey et al., 1998).

Leadbeater and Way (2001) also report on some personal characteristics of the resilient mothers in their study that are similar to those observed by Carey et al. (1998); these are: “having an optimistic attitude or a confidence that obstacles could be surmounted,” and “having a strong desire, a will, “a want,” or a passion to succeed” (p. 30). Several mothers also described developing a determination to succeed based on the doubt their family members had in their ability to do so (Leadbeater & Way, 2001).

Kennedy (2005) examined the high incidence for ten Mexican American or African American adolescent mothers of exposure to violence in partner and family relationships and within their community contexts. The study used qualitative interviewing to look for resilient functioning in the context of these violent experiences, in the form of their ways of coping with the violence and still pursuing their education. The author contends that the apparent factors that served to protect these young women “center on intraindividual capabilities that each of them possess” (p. 1503). Although access to, and the benefits one receives from, sources of support in one’s family network is commonly cited as a protective factor in resilience studies, Kennedy argues that what served as a protective factor for some of the participants in her study was an ability to identify and enlist sources of extrafamilial support. Another individual capability was effective problem-solving, part of the brain’s learning system (Masten & Obradovic, 2006), which the young women activated in response to situations that threatened to compromise the well-being of themselves and their children. This skill sometimes involved future orientation, or what Kennedy refers to as planfulness, and the strategies the mothers used to confront challenging circumstances protected

themselves and their children from further harm and also allowed them to attend school, thus increasing their access to opportunities that could improve their lot long-term. The young women also exhibited motivation to succeed and “goal orientation,” setting their sights on something they wanted to achieve, such as secondary school completion, and showing continuous drive to achieve it despite significant obstacles (p. 1506). In fact, in some cases those obstacles seemed to fuel their motivation. In their responses to the stressful situations confronting them, the young women often had to act independently because it was the individuals closest to them that presented the obstacles (Kennedy, 2005).

In discussing the educational achievements of young mothers from the Kauai study, Werner and Smith echo the findings of Carey et al. (1998) and Leadbeater and Way (2001), arguing that although the community context offered effective educational supports in the form of programs and affordable accommodations that seemed to suit the lifestyles of the population, the young women for whom these programs made a difference possessed the motivation and determination necessary to take advantage of these opportunities (Werner & Smith, 2001).

The emphasis in resilience literature on the person-context interaction resonates in the findings of these researchers about the connection between youth’s personal characteristics and their life experiences, and gives credence to the idea that youth have the ability to influence their experiences by, among other things, enlisting the support and caring of others and identifying and utilizing resources that would be critical to their success (Hines et al., 2005; Masten, 2004). Taken together, these studies suggest that protective factors within young people and within their ecological contexts,

and the dynamic interactions among these factors, may contribute to their ability to demonstrate educational resilience.

Conclusions

In combination with various types of ecological adversity, adolescent pregnancy and parenting can increase young women's vulnerability for failure to attain a secondary degree. How do some adolescent mothers manage to demonstrate success in this area of their lives? The compelling appeal of resilience theory is its potential to uncover characteristics of youth, their environments, and person-context interactions that enable some youth to thrive, as well as identify those that interfere with the ability of other youth to thrive.

Assessments of resilience are located within a particular set of cultural values, and a particular developmental time frame (Masten & Obradovic, 2006). Reinforcing the conceptualization of resilience as a process rather than a fixed trait of an individual (Fergus & Zimmerman, 2005; Luthar et al., 2000; Masten, 2007; Rutter, 2006), resilience is not necessarily static over time or adverse circumstances. Individuals may face various adversities throughout their lives, and at times will be more or less vulnerable, and more or less able to demonstrate competence in their wake (Fergus & Zimmerman, 2005; Luthar et al., 2000; Masten & Obradovic, 2006; Riley & Masten, 2005; Rutter, 2006). A developmental and context-specific view is necessary in the pursuit of knowledge about resilience.

Chapter 3: Methods

In the present study I sought to understand the function of specific adaptive processes in the secondary educational trajectories of adolescent mothers, in a national context in which secondary school completion is highly valued. By conducting a qualitative assessment of educational resilience, the nuanced variations in processes that influenced each young mother's pathway became evident. Assessments made about educational resilience or the absence thereof were located during the participants' first pregnancy or within the first year postpartum, recognizing that the young women may at any point in time have demonstrated adaptive processes or outcomes distinct from those observed within the scope of the study.

As researchers continue to discover new information about adaptation that can serve to benefit vulnerable youth, Luthar et al. (2006) argue for future research that: acknowledges the risk factors that are specific to a given population and that therefore has the potential to impact a large proportion of that population; seeks predictors and correlates of resilience that are subject to influence through interventions; emphasizes risk and protective factors that are prone to having lasting effects in children's lives; and focuses on protective factors that "are generative of other assets; those that set into motion "cascades" wherein they catalyze other protective processes" (p. 111). The focus on the construct of personal functioning strategies as a possible core protective factor for young mothers in the educational domain has the potential to respond to the final three of Luthar et al.'s (2006) charges. Personal functioning strategies can be viewed as a set of skills that can be honed for effective use in a variety of challenging situations, and may catalyze other protective processes related to educational success.

Design

The data used in the present study were collected as part of the Massachusetts Healthy Families Evaluation, Cohort 2 (MHFE) at Tufts University. This six-year longitudinal, mixed methods, randomized controlled trial experimental evaluation intends to assess the effectiveness of home visiting services for adolescent mothers. More specifically, the evaluation will compare outcomes of the program and control groups according to the goals of Healthy Families Massachusetts (HFM)⁵, and consider maternal and family characteristics, program utilization patterns, and program quality and community contexts as possible explanatory factors or mediators of goal achievement. The evaluation design includes two major sub-studies: the quantitative methods impact study, with its primary aim of identifying the existence of differences in outcomes between the program and control groups, and the mixed methods integrative study, with its goal of understanding the reasons behind any observed differences (Goldberg et al., 2009). For the proposed present study I used qualitative data from the integrative study, from the first year of data collection.

Methodological Framework for the Present Study

The methodological framework I used for this study had three critical features: a person-focused sampling approach rooted in a resilience framework, a qualitative methodological approach, and a grounded theory analytic approach.

A person-focused approach was well-suited to the primary aim of this study—to identify processes and mechanisms that vary among subgroups of adolescent mothers,

⁵ Healthy Families Massachusetts, which is based on the Healthy Families America model, is a voluntary home visiting program for first time parents aged 20 and younger. The goals of HFM include preventing child abuse and neglect, achieving optimal developmental outcomes in infancy and early childhood, promoting parental educational attainment, job, and life skills, preventing repeat pregnancies during the teen years, and promoting parental health and well-being (<http://ase.tufts.edu/mhfe/about/>).

leading some to demonstrate educational resilience. The aim of person-focused studies is to uncover the factors or processes that separate individuals with strong adaptive skills from those lacking in those skills in order to reveal patterns often observed among individuals with certain internal and external characteristics (Wright & Masten, 2005). Variable-based approaches, which do not group individuals according to adaptive or maladaptive functioning, often fall short of capturing person-environment dynamics that support adaptive functioning (Masten, 2001). By grouping individuals according to such characteristics, relatively definitive conclusions can be drawn about processes that may contribute to successful adaptation in some participants (Buckner et al., 2003; Masten et al., 1999). Participants with high levels of risk but varying adaptive outcomes is a common design of person-focused studies (Masten & Obradovic, 2006). In this study, participants who experienced similar quantities of stressors were divided into three groups according to their educational trajectories—pursuing secondary school or having completed secondary school with no history of interruptions, having interrupted but then resumed their secondary school education, or being withdrawn from secondary school—at the time of their year one research interview. The first two of these groups were considered educationally resilient. The study examined variations in the dynamic interplay among personal functioning strategies and other potential education-related protective factors in participants who demonstrate educational resilience compared with those who do not.

Qualitative data is the best medium for documenting and examining complex relationships among individual, family, peer, and community-level features, and especially for understanding the role of individual attributes in shaping processes involved in developmental trajectories. Resilience studies have used predominantly

quantitative methodologies, but these approaches have revealed shortcomings. Quantitative approaches may limit researchers' abilities to unpack the contextual influences contributing to individual adaptive trajectories. Studies that utilize qualitative interviewing offer the opportunity to capture a more nuanced understanding of the role of context in risk and resilience processes (Este, Sitter, & MacLaurin, 2009). The interplay between stressors experienced by the participants and various potential protective factors, in the context of the pursuit of educational attainment, was one analytic focus of this study. Another shortcoming of quantitative studies of resilience is described by Luthar and Brown (2007): "Developmental science typically involves tests of discrete hypotheses, but this presupposes that we know what to test" (p. 939). Qualitative studies can access youth's own insights into factors that enabled or enhanced their ability to successfully navigate stressors that threatened their well-being (e.g., Hauser, 1999; Smokowski et al., 1999; Tiet et al., 1998; Todis et al., 2001). The research interview data I analyzed offered a phenomenological perspective on participants' responses to pregnancy, school experiences and stressful events, and the interplay among these. The qualitative analytic approach of this study allowed for an examination of processes and contextual features that vary between individuals experiencing similar levels of risk but expressing different levels or types of adaptation.

Grounded theory methodology was the analytic approach used as a means to understanding individual attributes as a central adaptive process that contributes to educational resilience. Although individual attributes have been observed in a group of qualitative studies to contribute to adolescents' educational successes, these studies have either not elaborated on the role of these attributes in facilitating other adaptive processes, or have not examined the dynamic interplay between these attributes and

other contextual features. Grounded theory methodology (introduced by Glaser & Strauss, 1967) allows for the construction of new, elaborated, or refined knowledge of phenomena that have not previously been described or explored, or about which sufficient extant theory does not exist. The theory is developed to describe and provide interpretive insight into phenomena experienced by a group of individuals as observed through qualitative research (Creswell, 2007; Strauss & Corbin, 1999). In order to delineate the ways personal functioning strategies facilitate other protective factors and influence participants' educational trajectories, grounded theory methods guided a case-by-case analysis, followed by cross-case analysis to allow the identification of patterns within and across the three participant groups.

Participants and Recruitment

The total sample size for the impact and integrative studies for the MHFE evaluation was 689. Four hundred seventy-seven adolescent mothers participated in the research interview during the first year of data collection. Participants in the present study were 45 White pregnant adolescents or new adolescent mothers, ranging in age from 16-20, who participated in the evaluation. The study participants resided in census block groups that had an average income of \$43,568, with a range of \$15,313 – \$102,920. Participants were selected for inclusion in the proposed study based on three criteria: race, educational trajectory, and exposure to cumulative risk.

In order to eliminate race as a possible contributing factor in participants' educational trajectories, participants in this study were from the same racial group. As the literature review has highlighted, across studies comparing secondary educational attainment among adolescent mothers, data consistently show that African American adolescent mothers are most likely to earn a regular high school diploma and least likely

to drop out (despite a higher incidence of adolescent childbearing in this population). Similarly, Hispanic adolescent mothers are consistently the least likely to complete high school, compared to their African-American and White peers, regardless of their age at first childbirth (Ahn, 1994; Jones et al., 1999; Klepinger et al., 1995; McElroy, 1996; Upchurch, 1993; Upchurch & McCarthy, 1990). In the non-adolescent childbearing population as well, Latinos have substantially lower rates of high school completion and higher rates of high school dropout (Velez & Saenz, 2001). A multitude of factors contributing to this disparity has been explored, yielding findings about influences across the individual, family, community, and school contexts (Ream & Stanton-Salazar, 2007; Velez & Saenz, 2001). Because this disparity in educational attainment is not limited to the adolescent mother population, and because such a broad range of factors have been linked to these outcomes in the Latino population, attributing variations in educational resilience to personal functioning strategies and the dynamic interplay of variables being examined in the present study would be very difficult. In other words, these contextual factors would confound the study, and make it difficult to isolate personal functioning strategies as the core process influencing educational pathways. Thus, White adolescent mothers were the group of participants best suited to the present analysis.

All participants in the MHFE evaluation completed a telephone interview during which they were asked to self-identify their race and ethnicity. Participants who make up the sample for this study identified as non-Hispanic and White.

Participants' educational trajectories were used as a grouping variable in order to identify variations contributing to educational resilience. The sample was divided into three groups, with 15 participants in each group representing the three educational

trajectories being analyzed: *Continuous Attenders*, *Returns*, and *Non-Returns*. Both Continuous Attenders and Returns were considered educationally resilient at the time of the study. Participants were drawn from both the program and control groups; since few program participants had begun meeting with their home visitors when they had their time one interview, the home visiting intervention should not have had any influence over the use of personal functioning strategies during the time data were collected. In addition, many instances of personal functioning strategies discussed by participants during the research interview were used prior to their pregnancies, and therefore prior to their involvement with Healthy Families.

Exposure to adversity is a required component of the definition of resilience (Compas, 2004; Donnon & Hammond, 2007; Fergus & Zimmerman, 2005; Hjemdal et al., 2007; Luthar et al., 2000; Masten, 2001; Rolf, 1999; Rutter, 2006; Sameroff & Rosenblum, 2006; Yates et al., 2003). Cumulative risk has been identified as a key factor in youth vulnerability to negative outcomes (Masten, 2001; Rolf, 1999; Sameroff et al., 2003), and can compromise existing protective factors especially when risk factors are present across multiple domains (Gerard & Buehler, 2004). Thus, participants were selected for inclusion in the study if they had been exposed to at least two types of stressors across the individual, family, and peer domains. Using cumulative stress as a selection criterion was also intended to minimize sample diversity and increase the ability to isolate the construct of personal functioning strategies as a core protective factor in this population.

Procedures for Data Collection

All participants in the integrative study were asked to complete an in-person research interview at a location of their choice (usually the participant's home). During

the interview, participants completed a battery of measures, and graduate students conducted semi-structured interviews, with questions covering participants' experiences from birth through adolescence. Themes of the interviews included living arrangements, significant relationships, exposure to child maltreatment, sources of support, secondary school experiences, exposure to early childbearing, circumstances surrounding the participant's pregnancy, and ideas about parenting. The range of themes covered during the interviews resulted in a life history of each participant, and many participants discussed challenging events in their lives throughout the course of the interview.

Some examples of questions regarding participants' secondary school experiences were: "What was school like for you before/during your pregnancy?" "Did you do well in school?" "Did you like being in school?" "Were there specific programs or people in school that helped you?" "Was there anything that made school difficult?" "Is there anything that would have helped you not to drop out of school?"

Analytic Procedure: Components of Grounded Theory Methodology

Using grounded theory methodology, researchers follow a set of procedures leading to theory development, including open coding (categorizing the data according to the research questions and the themes observed, which results in identification of a core category or central phenomenon of the theory being developed), axial coding (further differentiating the data to uncover factors that relate to and influence the central phenomenon) and integrative analysis, also called selective coding (hypothesizing linkages between the categories developed in the previous two stages of coding). Through this process, a theory is built by identifying all contextual and

intervening conditions that shape the phenomenon being studied, as well as associated consequences, or outcomes (Creswell, 2007).

This study examined the construct of personal functioning strategies as a possible core process, or central phenomenon, involved in educational resilience trajectories. Cumulative stress exposure was considered a contextual condition, and school engagement, academic performance, and education-related supports were examined as possible intervening conditions. Educational resilience or vulnerability were explored as the consequences of the dynamic interplay of these variables.

Validity. For this analysis, validity was assessed by applying Maxwell's (2005) criteria. First, the data used in the present study can be described as "rich" data; the qualitative interviews with participants covered an extensive range of themes about the participants' lives and with the help of interviewer probing, participants addressed these themes in depth. Thus, the analysis of the categories of interest in this study was considered contextually as a result of both data collection procedures and analytic design. Second, this was a comparative study of three groups of participants with similar characteristics but different educational outcomes as of the time of the study, allowing for exploration of sources of variation leading to these divergent outcomes. Finally, the analytic procedure I used involved extensive charting in order to test hypotheses. Discrepant evidence was considered and is reported in the results of the study. Hypotheses that did not find support in the data were rejected (Maxwell, 2005).

Open coding. The open coding process for this study occurred throughout the first year of data collection. Interview transcripts were coded using a qualitative data software package, Atlas.ti, which provides tools to assist with theory building (Weitzman, 2003). Within the software platform, segments of interview transcripts were

selected and tagged with categorical codes (Stewart & Shamdasani, 1990). The unit of analysis associated with this procedure is a thematic unit (Ryan & Bernard, 2003). Using features of the software quantitative frequency displays can be created for analysis of patterns across the sample. I used this feature for sample selection by identifying patterns of stressors across participants.

This process resulted in the identification of various educational trajectories, two types of personal functioning strategies—those directed at the self and those directed at the environment—as the central phenomenon of interest, as well as the categorizing of stressors, levels of school engagement and academic performance, and types, forms, and sources of education-related support. Properties and dimensions—or subcategories—of these codes were identified, as is called for in the open coding stage, and these coding categories were "saturated."

Core construct: Educational trajectory. Participants' educational trajectories represent the outcome of interest in this study: educational resilience or vulnerability. The educational trajectory construct was derived from preliminary analysis of the MHFE qualitative interviews. See Table 1 for definitions of the codes used to categorize participants' educational trajectories. Six educational trajectories⁶ were identified by considering the timing of the participant's pregnancy in relationship to her secondary schooling, her school enrollment status at the time of the interview, and continuity or interruption during her secondary school years. These trajectories were: 1) participants who completed secondary school prior to becoming pregnant; 2) participants who

⁶ Although these six subgroups were delineated after preliminary analysis of interview data, in other studies considering a possible causal relationship between teenage pregnancy and secondary school completion, researchers have grouped teenage mothers according to similar variables and patterns, especially focusing on the timing of the pregnancy in relationship to secondary school completion or dropout (Astone & Upchurch, 1994; Linares et al., 1991; Upchurch, 1993; Upchurch & McCarthy, 1990).

became pregnant during high school and either completed their secondary education or were on track to attain their degree; 3) participants who became pregnant during high school, had an interruption in their educational pursuits but then resumed them; 4) participants who became pregnant during high school, dropped out and did not resume; 5) participants who dropped out of high school, became pregnant, and then resumed their secondary education; and 6) participants who dropped out of high school, became pregnant, and did not resume their secondary education. Participants in the first trajectory were excluded from this study because I focused on pursuing or completing school despite the challenges associated with pregnancy or motherhood.

The remaining five groups were collapsed into three educational trajectories representing the intersection of their adolescent pregnancies or births with their schooling and the status of their secondary educational activities at the time of their interviews. Educational trajectory one ("Continuous Attenders") was comprised of participants who completed their education or had no interruptions in their secondary school activities; educational trajectory two was comprised of participants who withdrew from school for a period of time but returned ("Returners"); and educational trajectory three was comprised of participants who withdrew from school and did not return ("Non-Returners")⁷. Within trajectory two, some participants withdrew from school prior to becoming pregnant and returned to school during or after their pregnancy, and some participants withdrew from school after becoming pregnant and

⁷ These group labels are adapted from Linares et al., (1991), who identify four subgroups of adolescent mothers based on their secondary school activities during their pregnancy and within the first year postpartum. Their subgroups include adolescent mothers who: "dropped out of school prior to the pregnancy and had not returned by 12 months postpartum (before-pregnancy dropouts); dropped out during the pregnancy or first year postpartum and did not return (after-pregnancy dropouts); dropped out before or during the pregnancy or early postpartum period but returned to school during the first year postpartum (Returners); and remained in school throughout the pregnancy and first year postpartum (consistent attenders)" (p. 381).

then returned. Likewise, within trajectory three some participants withdrew from school prior to becoming pregnant, and some withdrew after becoming pregnant.

Participants were considered educationally resilient if, at the time of the study, they were pursuing or had already completed their secondary education without interruption, or if they had an interruption but were again pursuing their secondary education. Completing a secondary school degree is a salient developmental task for adolescents that proves challenging for many adolescent mothers. Failure to accomplish this task may put adolescents at a disadvantage for achieving other developmental tasks, or make them vulnerable to other risk factors.

Core construct: Personal functioning strategies. I explored the construct of personal functioning strategies for its potential to have a protective role for adolescent mothers by serving as a core catalyst, or central phenomenon, for other protective factors in the educational domain, thus facilitating persistence in pursuing secondary educational attainment.

I was both an interviewer and a qualitative coder for the time one research interviews. In both of these roles, I observed that study participants had experienced significant adversity throughout their lives and in describing these adversities many participants also described their approaches to responding to them. I developed the coding domain personal functioning strategies to explore the range of ways participants respond to challenging situations in their lives, in order to understand whether these responses contribute to adaptive functioning. The discovery of this construct speaks to Luthar and Brown's (2007) suggestion that qualitative data can uncover new knowledge about processes that may be involved in resilient functioning.

The personal functioning strategies used by MHFE participants include strategies directed at the self and those directed at the environment. Personal functioning strategies directed at the self were defined as responses to challenging circumstances that emphasize a thinking or attitude approach, or a change in one's behaviors. These responses are focused on the individual being affected by the challenging circumstances; they are directed "within." Personal functioning strategies directed at the environment were defined as responses to challenging circumstances that emphasize interactions with others or acting upon the environment, and have the potential to immediately or eventually benefit the individual; they are directed "outward." Personal functioning strategies directed at the self include acceptance and positive emotionality, motivation, confidence or pride, independence, and spirituality. Personal functioning strategies directed at the environment include avoidance of antisocial people and activities, resourcefulness, motivation, and initiative.

Both types of personal functioning strategies may have been discussed by the participant as having been enacted in the past, as currently being enacted, or as planned for a future time. The strategies were observed to be used by participants in response to a broad range of stressful circumstances, not only those related to educational experiences.

I was interested in examining how the proposed protective processes, when present, interacted with stressors to influence participants' educational pathways, as well as whether certain protective factors facilitated the development of, or bolstered, other protective factors. Some of the personal functioning strategies used by the young women participants may involve the self-regulation system, the learning systems, and the stress response systems of the brain. The use of these strategies may reflect that the

opportunity for the formation of healthy core adaptational systems present in some participants' developmental pathways. In addition, I sought to examine whether these resilience processes were supported within their contextual circumstances, and whether participants had a role in shaping or selecting these circumstances. Further, I hypothesized that patterns may emerge indicating that the particular interplay of personal functioning strategies and risk factors were not optimal for some participants, and therefore did not enable educational trajectories characterized by resilience during the time period being studied.

Though the personal functioning strategies in focus in this study were developed independently of literature on personal attributes of adolescent mothers identified by researchers such as Carey et al. (1998), Kennedy (2005), Leadbeater and Way (2001), and Werner & Smith (2001), there is remarkable overlap in the personal functioning strategies I identified in coding interviews in the present study and those identified by these authors.

Definitions of each personal functioning code are included in a coding manual in Table 3.

Contextual condition: Cumulative stress. Cumulative stress is a construct comprised of various ecological factors which may influence participants' educational trajectories either directly, or indirectly through interaction with other processes. The coding scheme applied to the research interview included the domain "potential stressors." These stressors were derived from literature on risk factors as well as inductively derived from the interviews. The coding domain included five categories, or properties, of stressors: individual, family, peer, school, and community.

In order to identify participants in each educational trajectory group with comparable exposure to stressors, the overall pattern of stress exposure among participants was reviewed. The process of identifying the range of a construct in a group of participants is known in grounded theory analysis as dimensionalizing (Creswell, 2007). Very few participants had been coded as having had exposure to community level stressors, so this category of stressor was eliminated as a sample selection criterion, but was included in the overall analysis in order to allow that it might be a contextual condition. The category of school stressors was also excluded from the sample selection criteria and was also considered as a possible contextual condition. School stressors were somewhat more common than community level stressors, and are potentially more directly related to the processes contributing to educational resilience. The three remaining categories of stressors were individual, family, and peer. The family category represented a broad range of types of stressors, and was thus divided into three thematic categories: stressors dealing with caregiver characteristics (mental illness, physical illness, or risky behavior); stressors dealing with the relationship between the participant and her caregivers (death of a parent, poor relationship between the participant and her caregivers, or separation between the participant in her caregivers); and stressors relating to the family as a unit (family dysfunction, economic hardship, immigration, and conflict between parents). A total of five categories of stressors were used to select the sample: individual stressors (mental illness, physical illness, risky behavior), the three types of family stressors, and peer stressors (risky behavior, relationship conflict, deviant behavior of peers). Reliability was calculated for coding of potential stressors on 10% of the full sample ($Kappa = 0.679$, $p =$

.000)⁸. However, during analysis for this study I read through each of the transcripts and made the necessary changes and additions to stressors categorizations. Therefore, some cases had greater or fewer, or different types of, stress exposure than initially expected, but all participants in this study had experienced cumulative stress according to the above definition.

Although they were not included in the sample selection criteria, other types of stressors were also considered as contextual conditions during analysis, including child maltreatment, family involvement with state agencies such as child protective services, interpartner violence, and residential mobility.

Definitions of each stressor code are included in a coding manual in Table 2.

In order to ensure stress exposure is comparable across participants, stress exposure is defined in this study as exposure to at least one stressor across two, three, four, or five categories of stressors described above between the participants' birth and their pregnancy or early parenting. Within each category, participants may have reported exposure to one or more than one stressor.

Intervening condition: Academic performance. The academic performance codes describe participants' self-assessments of the grades they received in high school. Some participants specified the letter grades they received, and some participants characterized their academic performance more generally by describing it as good, average, or poor. Definitions of academic performance codes are included in a coding manual in Table 4.

Intervening condition: School engagement. The school engagement codes describe whether or not the participant was academically and/or socially engaged in

⁸ This constitutes substantial agreement.

school. During the process of coding, academic and social engagement were not coded separately; rather, the engaged or not engaged codes were used when either academic or social engagement was discussed by the participant. Participants were considered engaged in school if they presented evidence of attending school regularly, demonstrating interest in the academic curriculum, having positive relationships with school teachers and staff, liking going to school or wanting to go to school, being engaged in extracurricular activities, and enjoying the social aspects of school such as their relationships with their peers. Lack of engagement was coded when participants presented evidence of the opposite of any of the above. Definitions of school engagement codes are included in a coding manual in Table 5.

Intervening condition: Education-related supports. The coding domain of supports was divided into three categories: source of the support, type of support provided, and domain of the participant's life at which the support was being directed. Education-related supports include any type of support provided by any individual in the domain of education, as well as any type of support provided by school personnel directed at any domain of the participant's life. In addition, a code ("special programs") was created to categorize special types of assistance participants may have received or programs in which they might have been involved. These formal supports include services or programs: that provide the participant with academic assistance such as special education classes or tutoring, that offer an alternative to a college preparatory curriculum such as a vocational school or GED program; directed at the participant and/or her family such as having a social worker or counselor; intended to provide another dimension to the educational experience such as extracurricular activities; and that serve adolescent mothers such as a teenage parenting program. Definitions of

education-related support codes and special programs codes are included in a coding manual in Table 6 and Table 7 respectively.

Axial coding. I conducted axial coding in order to illuminate the relationship among the central phenomenon of personal functioning strategies, and the hypothesized contextual and intervening conditions and consequences (Creswell, 2007). To aid in this step, I used Miles and Huberman's (1994) single-case matrix analysis as a tool for data reduction. These tables summarized each participant's case according to the proposed core category and contextual and intervening conditions, thus providing a display to help explore relationships among the variables. Then, maintaining a case-oriented approach, I conducted cross-case pattern analysis of these matrices, comparing cases with one another as entities so that the case was the unit of analysis. The patterns within each case were the focal point and the basis for comparison across cases (Miles & Huberman, 1994). In grounded theory methodology, this final stage of analysis is referred to as integrative analysis, which involves generating propositions that reflect the emerging patterns and results in the construction of a narrative about the relationship among the core category and the conditions influencing it (Creswell, 2007).

The axial coding and integrative analysis phases are discussed in detail in the next chapter.

Chapter 4: Results

Grounded Theory Methodology Analytic Procedure

Axial Coding

I began the axial coding phase of grounded theory methodology (Creswell, 2007) for this study by reading through the coded transcript from the research interview for each case in the sample. As I read, I completed a single-case matrix analysis (Miles & Huberman, 1994) table on each case, summarizing and copying relevant quotes from the transcripts using the constructs from the open coding phase described in the methods chapter. The constructs represented what I had proposed to be the core constructs and contextual and intervening conditions that would influence the educational resilience of adolescent mothers, and included the five categories of stressors used to select participants for inclusion in the study, personal functioning strategies, school performance and engagement, and education-related support.

As the literature has shown, pregnancy can sometimes detract from or present an additional obstacle to secondary school completion for young women (Ahn, 1994; Jones et al., 1999; Klepinger, Lundberg, & Plotnick, 1995; Perper et al., 2010; Upchurch, 1993; Upchurch & McCarthy, 1990). The intent of the present study was to determine what enables some adolescent mothers to attain a secondary degree and prevents others from doing so. Therefore, assuming that some of the constructs of interest would likely be organized around or affected by the event of pregnancy and changes would be evident prior to and after the pregnancy, in order to identify what circumstances varied among participants related to the intersection of pregnancy and schooling, I determined the categories that would structure the story, or profile, of each case. These profiles would become the basis for comparison among participants. The profile categories

included: relationships with school staff prior to pregnancy; relationships with school staff after pregnancy; school accommodations related to pregnancy; education-related support; pattern of engagement and performance pre-and post-pregnancy; personal functioning strategies; and stressors. Another student independently created profiles for 15% of the case matrices for reliability (Kappa = 0.943, $p = .000$).

An example of a single-case matrix completed for this study is included in Table 8.

Integrative Analysis

Once the profiles were created for all cases, I began integrative analysis (Creswell, 2007), in order to identify case-level patterns in the relationship between the core construct and the contextual and intervening conditions. In the first stage of integrative analysis I created a cross-case matrix (Miles and Huberman, 1994) and entered each category of information from the case profiles into tabular format, and then summarized the key features of each case. I then further reduced the data, this time categorically, into another table in order to be able to compare cases with one another. I included 10 constructs in this table: staff relationship pattern; personal functioning strategies pattern; whether a participant had academic difficulties before pregnancy; whether the participant was engaged before pregnancy; whether pregnancy was a turning point in the participant's educational trajectory; whether pregnancy accommodations were provided to the participant; whether peer stressors contributed to school problems; whether other types of stressors contributed to school problems; whether the participant identified school stressors; and whether the participant was enrolled in or received any special programs or services. For example, I noted the pattern of participants' relationships with school staff members prior to and after their

pregnancies (“mixed relationships pre-pregnancy, very good relationships post-pregnancy”; or “no relationships pre-pregnancy, not in school post-pregnancy”).

Since I had hypothesized that personal functioning strategies would be the core construct involved in educational resilience, I began looking for patterns in whether personal functioning strategies were evidenced in participants' interviews. A primary function of this table was data reduction. In the single-case matrices I had rich descriptions of the types of personal functioning strategies participants demonstrated and toward what domains of their lives the strategies were directed. In the categorical table I had reduced these data to a categorical description of whether any type of personal functioning strategy was used, in any domain, and when. In addition, I noted if the examples were few in number. I then ranked the strategies as either very good (demonstrated before and after pregnancy), good (demonstrated either before or after pregnancy), or not good (very few strategies demonstrated, demonstrated either before or after pregnancy or both). I then ranked each category of data in this table in a similar manner, as either very good, good, or not good.

An interesting finding from the categorical table was that the majority of participants in each trajectory had “good” or “very good” rankings in the staff relationship pattern and the personal functioning strategies pattern. This was a surprising finding, as I had expected that overall the personal functioning strategies of educationally resilient participants would be stronger and more likely to occur before and after pregnancy.

In an attempt to identify group level differences that contributed to educational resilience or vulnerability, I tallied the number of apparent protective factors in the realm of education for each participant. Nine of the categories in the table were

counted as protective factors (I excluded whether pregnancy was a turning point for participants) if they had been ranked as “good” or “very good”. The lowest numbers of protective factors were found for participants who were Non-Returners, and the highest numbers for participants who were Continuous Attenders. Table 9 displays the distribution of educational protective factors by trajectory group.

Thus, whereas Continuous Attenders had more education-related protective factors, Non-Returners have more education-related risk factors. This led me to realize that it was the risk factors, those factors that interfered with participants' secondary educational success and completion, that might be an appropriate analytic starting point for identifying a case-level pattern in the sample. I proceeded to classify factors that could be identified in participants' interviews as obstacles in their secondary educational pathways.

I then looked for variation in personal functioning strategies, the proposed core construct, and school-based supports, a proposed intervening condition. I defined school-based supports as positive relationships with school staff members, and either: informal academic supports (such as a teacher staying after school with a participant), informal emotional support, mental health support from a school staff member (formal or informal), or participants' characterization of their schools as being supportive overall. Pregnancy-related support was excluded because 12 of 15 Non-Returners dropped out prior to becoming pregnant and therefore did not have the opportunity to receive pregnancy-related supports in school.

In participants' narratives about what influenced their educational trajectories, some participants attributed their improvement in and recommitment or return to school to their pregnancies, while others attributed a decline in their school

engagement or performance or their decisions to drop out of school to their pregnancies. Others had interruptions or improvements in their trajectories prior to their pregnancies, or after their pregnancies but prompted by circumstances other than the pregnancy. In other words, for some participants pregnancy was an event that catalyzed education-related change, and for some participants it was not.

I summarized each case in the sample according to obstacles in participants' educational pathways, and factors that might counteract them—personal functioning strategies and school-based supports. I also noted if pregnancy was a risk factor or a protective factor for each participant.

I had begun this stage of analysis with the Returners, who had clearly faced threats to their educational success but demonstrated educational resilience, and I identified six patterns in this group. I then continued the analysis with the other trajectory groups, and found that the same patterns repeated, and discovered four additional patterns.

I first report the aggregate findings from the tables, and then I discuss the case-level patterns in detail.

Integrative Analysis Findings

Aggregate Findings

Possible risk factors. Table 10 shows the number of participants in each trajectory group who reported having academic difficulties in school, and not being engaged in school (socially, academically, or both), prior to their pregnancies. Included in the total counts in these categories are participants who reported academic difficulties or lack of engagement as a result of stressors, and those who reported sometimes having academic difficulties or sometimes experiencing lack of engagement,

depending on the school they were attending or other ecological factors. Participants were not included in this table if they did not address academic difficulties or engagement during their research interviews. A surprising finding was that almost equal numbers of Continuous Attenders, Returners, and Non-Returners reported having academic difficulties and not being engaged in school prior to pregnancy.

Table 11 displays the number of participants in each trajectory group who reported that peer stressors or other types of stressors had a negative effect on their school experiences or trajectories. The types of peer stressors that participants reported negatively impacting their school experiences included social isolation, relational and physical peer conflict or bullying, and associating with peers who engaged in deviant behaviors. Other types of stressors included those in the individual and family domains that hindered their school experiences or trajectories. When one of these types of stressors affected participants, the influences could be observed in their school engagement, academic performance, attendance, and engagement in risky behaviors. Three Continuous Attenders, five Returners, and five Non-Returners reported that both categories of stressors—those in the peer domain and those in the individual or family domain or both—impacted them in the educational domain.

Two Continuous Attenders, 10 Returners, and nine Non-Returners reported one of two types of school stressors: school transience, or attending a poor quality school; one participant reported a third category of school stressors: conflict with a school staff member.

Possible protective factors. Table 12 shows the range of types of special programs adolescent mothers in this study reported participating in. The special programs reported in this table include those provided within and outside of

educational settings. Each type of special program in this table is regarded as a potential protective factor although enrollment in some of these programs indicates the presence of risk factors (e.g., agency involvement, mental health supports). For example, receiving mental health support was considered a potential protective factor for participants who had mental health problems; some participants who did not receive mental health support did have mental health problems and may have benefited from such support.

It is interesting that a majority of participants in each trajectory group participated in or received some type of alternative program or service targeted at academic or special needs support (11 Continuous Attenders, 12 Returners, and 12 Non-Returners). It is also notable that whereas several Returners and Non-Returners had pursued a GED as an alternative pathway to secondary educational attainment, some of them having earned it, some pursuing it during the time of the study, and some having attempted it but then withdrawing before completion, there were no Continuous Attenders who had pursued a GED program as an alternative pathway to secondary educational attainment as of the time of the study.

Pregnancy-related supports are displayed separately in Table 13. The finding that there were no Non-Returners who received pregnancy accommodations in school is a condition of their educational trajectories and is addressed in the integrative analysis. Examples of school-based formal pregnancy accommodations received by Continuous Attenders and Returners included attending a school for pregnant or parenting adolescents, receiving maternity leave and/or home tutoring, or receiving services from a nurse in school who was designated for pregnant and parenting students and provided services such as scheduling prenatal appointments and pregnancy education. Two

participants indicated that on-site childcare was provided by their schools. It is likely that access to on-site childcare was not mentioned frequently by participants that would either prevent or enable their school continuation because the majority of participants were pregnant at the time of the study, and thus, were more focused on pregnancy-related than parenting-related needs. Examples of informal pregnancy accommodations, or those acts by individual staff members in school that were not part of a formal school policy or program, include staff members giving pregnant or parenting students extra time to complete assignments or allowing them to complete assignments early so as not to interfere with their anticipated due dates, sharing knowledge or advice about pregnancy and parenting, generally being emotionally supportive, and giving students gifts such as baby clothing.

Case-Level Patterns: Risk and Protective Factors Influencing the Educational Trajectories of Adolescent Mothers

The observed case-level patterns can be described as a combination of risk and protective factors leading to educational resilience or vulnerability for all participants, and have three components. Education-related risk factors, or factors that interfered with participants' educational success or trajectories, were one of three factors: stressors (individual, family, peer or school level), “educational challenges”—academic difficulties and/or lack of engagement in school (independent of or as a result of stressors)⁹; or a combination of stressors and educational challenges. Common

⁹ Stress-induced educational challenges (academic difficulties or lack of engagement) were included because for some participants stressors do not influence academic performance or engagement in school, and because educational challenges, no matter what the cause, are in themselves an obstacle that can potentially influence participants' likelihood of educational success and resilience. Also, some of the school-based supports participants received may have been for educational challenges.

education-related protective factors for all participants¹⁰ were school-based supports in school or an educational program, and having exhibited at least some personal functioning strategies in any ecological domain. There was variation in whether school-based supports and personal functioning strategies were present for participants before pregnancy, after pregnancy, or both, as well as in the focus of the supports and whether the supports received were formal or informal, but these variations did not form a pattern. Finally, for each participant pregnancy acted as either a protective factor or a risk factor, or apparently did not influence participants' educational trajectories positively or negatively.

Table 14 displays the observed patterns and the number of participants in each of the three trajectory groups who could be characterized within each pattern.

Educational risk factors. Three participants in the sample, all of them Continuous Attenders, experienced no apparent obstacles in their educational trajectories, and also experienced pregnancy as a neutral event. One Returner only experienced pregnancy, and no other risk factors, as a minor educational obstacle. The remaining 41 participants all experienced potential risk factors to their educational success.

There was not wide variation in the number of participants in each trajectory who experienced educational challenges as an educational obstacle (10 Continuous Attenders, 14 Returners, and 11 Non-Returners). Continuous Attenders were least likely to experience multiple obstacles—both educational challenges and stressors—($n = 6$) compared with Returners ($n = 12$) and Non-Returners ($n = 10$). Stressors were found to interfere with a total of 34 participants' educational pathways, and educational

¹⁰ There were four participants in the sample who did not report any school-based supports. All of these participants demonstrated personal functioning strategies in various domains.

challenges were observed to be a byproduct of stressors for 15 participants in the sample. Continuous Attenders were less likely to report stressors as an obstacle ($n = 8$) compared with Returners ($n = 12$) and Non-Returners ($n = 14$).

Although less exposure to stress might seem the likely explanation for Continuous Attenders' uninterrupted secondary school attendance, it is important to remember that cumulative stress exposure was a sampling criterion; all participants in the sample experienced stressors in two to five categories of ecological stress. It seems, then, that cumulative stress exposure is less likely to become an obstacle in the educational trajectories of Continuous Attenders compared with the other two groups. In other words, cumulative stress exposure seems to affect participants differently.

The valence of pregnancy in adolescent mothers' educational trajectories.

Whereas pregnancy did not influence the educational trajectories of about half ($n = 21$) of the participants in the sample, for the remainder of participants pregnancy acted as either a positive ($n = 17$) or negative ($n = 7$) turning point in their educational trajectories. See Table 15 for the number of participants for whom pregnancy had a positive, negative, and neutral valence in each trajectory.

Pregnancy as a positive catalyst. When either stress or academic difficulties, or the combination of both, acted as an interference for Continuous Attenders and Returners, pregnancy often catalyzed a positive change in their educational pathways or experiences. Seven Continuous Attenders and 10 Returners experienced pregnancy as a positive turning point in their educational trajectories. For these participants, pregnancy was a trigger of improved academic focus and performance, increased school engagement, or motivation to return to school or to complete school. In general participants seemed to be internally motivated to make these education-related

changes. One participant, CA3 improved with the help of encouragement to do so from the father of the baby, but allowed herself to be influenced in this way and did the necessary work to complete school.

Reasons reported for the positive shift in these participants' trajectories included being able to graduate, earning a secondary degree in order to advance to post-secondary education and obtain a well-paying job to provide for their children, and generally wanting to “do better” now that they would be mothers or being able to serve as a good role model for their children. There were six Continuous Attenders and Returners who also described engaging in risky behaviors such as drinking, drug use, and staying out late with peers prior to their pregnancies, and ceasing these behaviors once they became pregnant. For example, one Continuous Attender explained that prior to pregnancy:

I still cared about stuff, I still cared about school and work and everything. But definitely ever since I got pregnant I couldn't [party] anymore, it's just basically school has improved so much more. I'm a straight A student now. Before I had B's and C's, which is all right but obviously I could do better now that I don't [party]. I think being pregnant is kind of a good thing, cause...I'm so focused on school, I have straight A's now, I never would have had that if I was still partying and everything with all my other friends. (CA1, 179)

For many of these participants, these risk behaviors were a manifestation of the stressors they were experiencing in various realms of their lives, and as was the case for CA1, contributed to their difficulties in school.¹¹

¹¹ A number of other participants engaged in risky behaviors prior to their pregnancies as well, and the behaviors also interfered with their educational success, but another event or circumstance other than pregnancy led them to stop engaging in risky behaviors, and this was

Pregnancy acted as a protective factor for several Returners in that it prompted a switch to a different school or educational program such as a school for pregnant teenagers and the new school was a better fit for the participant or removed the participant from stressful or distracting circumstances in the school she previously attended. For a number of Continuous Attenders and Returners, their pregnancies prompted new accommodations and supports provided by their schools for pregnant students which participants found to be helpful in managing school while pregnant.¹² One participant (CA5) attributed her ability to remain in school throughout her pregnancy to the encouragement and support of school-based pregnancy nurses.

In striking contrast with Continuous Attenders and Returners, pregnancy was not a positive turning point for any Non-Returners. Twelve Non-Returners became pregnant after dropping out, and once pregnant none of these young women returned to pursue educational attainment during the time of the study, though many of them expressed hopes or goals for doing so during the interview. For these participants, experiencing pregnancy as an education-related protective factor would mean returning to school, sometimes after an extended absence. Unfortunately, because twelve Non-Returners were not in school at all after their pregnancies they did not have the opportunity to benefit from pregnancy-related accommodations or supports, which may include features such as individualized attention or advocacy from staff members, a

sometimes the critical turning point in their educational trajectories. For example, R9, a Returner, cut off ties with former peers with whom she had been engaging in risky behavior in order to improve her school behavior and performance. Stopping engagement in risky behaviors, however, did not always lead to educational turning point for participants. Participant NR12, a Non-Returner, stopped drinking and using drugs when she found out she was pregnant, but this did not lead to improvement in her educational trajectory.

¹² It is noteworthy that in several cases in which pregnancy did not positively or negatively influence participants' trajectories, the participant's pregnancy prompted increased school-based support, such as from teachers with whom participants had good relationships prior to the pregnancy and who encouraged participants to stay on track.

sense of community with other adolescent mothers, special privileges, or modifications of academic requirements. It is possible that this type of support may have positively influenced the educational trajectories of at least some Non-Returners had they been in school during their pregnancies.

For the Continuous Attenders and Returners for whom stress or educational challenges previously acted as potential obstacles to educational success and pregnancy served as a positive turning point, pregnancy apparently triggered interest, effort, or new supports that facilitated improved school success. For these participants, their pregnancies may have shifted their perspectives about stressors or educational challenges and the degree to which they would act as obstacles to educational success, may have shifted their perspectives about the importance of educational attainment in their lives, or a combination of both.

Pregnancy as a negative catalyst. Two Continuous Attenders experienced pregnancy as a negative event. For both of these participants, their pregnancies interfered with their ability to focus, one because she was self-conscious about what her peers would think of her being pregnant,¹³ and led to declined academic performance. Pregnancy was also a negative catalyst for two Returners. One of these young mothers experienced a decline in focus and also academic performance when she became pregnant, having good attendance and receiving honors for her academic performance prior to her pregnancy, and having poorer attendance and receiving average grades since her pregnancy as a result of competing demands associated with pregnancy and motherhood. The other young mother was failing most of her classes as a result of individual-level stressors when she became pregnant in the middle of the school year

¹³ The other Continuous Attender for whom pregnancy was a negative catalyst did not specify the reason for her difficulty concentrating when she was pregnant.

and, anticipating that her pregnancy would only make it more difficult to improve her school performance, and because she did not want high school to compete with her being a mother, decided to drop out of high school and pursue her GED instead.

Pregnancy was a negative turning point for all three Non-Returners who became pregnant prior to dropping out of school. Two Non-Returners were in school for at least two trimesters of their pregnancies, and one was in school for one month after becoming pregnant. For each of these young women pregnancy acted as a deterrent to school continuation.

Pregnancy as a neutral event. In terms of educational attainment, pregnancy was a neutral event—not having the effect of creating either positive or negative change in the participants' educational trajectories—for seven Continuous Attenders, three Returners, and 12 Non-Returners. Describing pregnancy as a neutral event in participants' educational trajectories has a different meaning for each of the three groups.

Continuous Attenders had no interruptions in their schooling prior to their pregnancies; if they experienced pregnancy as a neutral event, it means that their pregnancies did not alter their educational trajectories and did not improve nor hamper their educational success, including their level of school engagement and academic performance, just as the stressors or educational challenges they had previously experienced did not cause an interruption in their schooling.

All of the Non-Returners for whom pregnancy was a neutral event had become pregnant after dropping out of school or a GED program, and as previously discussed pregnancy did not motivate any concrete actions toward a return to school, though some participants in this group indicated wanting to do so since becoming pregnant or

becoming a mother. Thus, these mothers had already constructed school continuation as an endeavor that was not working for them at the time they dropped out, and their pregnancies did not change their thinking about school continuation as of the time of the interview. There were seven Returners who became pregnant after an interruption in their educational pathways, making them similar to the 12 Non-Returners for whom pregnancy was a neutral event in their trajectories; five of these Returners experienced pregnancy as a positive educational turning point, prompting their return to school.

For the three Returners whose pregnancy had a neutral influence on their educational trajectories, it was an event other than pregnancy that influenced both disruptions and improvements in their educational pathways.

Influences on the valence of pregnancy in teenage mothers' educational trajectories. This pattern of risk and protective factors influencing the educational trajectories of adolescent mothers shows that in the context of cumulative exposure to stress, when participants face threats to their educational success in the form of stressors, academic difficulties or low school engagement, or a combination of these, having school-based supports and the general use of personal functioning strategies in various ecological domains as potential protective factors do not on their own determine whether or not adolescent mothers demonstrate educational resilience.

The fact that pregnancy had either a positive or a neutral valence for 13 Continuous Attenders and did not cause an interruption in schooling for the remaining two Continuous Attenders, and that this group of participants had no interruptions in their schooling at any point prior to their interviews, may indicate that there is something unique about how this group of participants constructs major events and circumstances in their lives, including stressors, pregnancy, and schooling that made

them more likely to be educationally resilient. Likewise, pregnancy had either a positive or neutral valence for 13 Returners and did not cause a discontinuation in schooling for the remaining two Returners. This group of participants may be comparable in some ways to Continuous Attenders in the way they think about these major events; however, this group of participants did experience an interruption in their schooling prior to their pregnancies, so one would expect variation between Continuous Attenders and Returners. Since 12 Non-Returners dropped out of school prior to their pregnancies and pregnancy did not catalyze a return to school for any of these participants, and the remaining three Non-Returners dropped out once becoming pregnant, these participants' perception of the major events and circumstances in their lives may have informed their educational vulnerability.

Participants' Scripts about Educational Attainment

My next analytical step, then, was to explore the hypothesis that the way participants think about school, pregnancy, stress, and the interactions among these elements of their lives may influence whether they are educationally resilient or vulnerable. To do this, I reviewed the statements made by participants about the intersection of schooling and pregnancy, in the context of the actions taken by participants in their educational pathways. I noticed several themes representing scripts¹⁴ for how participants position themselves vis-à-vis educational attainment. The majority of participants either expressed an *educational attainment script that accommodated pregnancy and motherhood*, an *educational attainment script that was activated by pregnancy*, or an *obstacles to educational attainment script*. As I will demonstrate, these scripts were more aligned with participants' educational trajectories

¹⁴ The term "script" is used to refer to participants' attitudes, thoughts, perspectives, or self-concepts regarding, or relationship to, educational attainment.

than with the valence of pregnancy in participants' educational pathways. See Table 16 for a breakdown of participants in each trajectory group by type of *educational attainment script*.

Five Returners did not fit into the *obstacles to educational attainment script* group, but could not be classified with certainty into the educational attainment accommodates pregnancy script group or the educational attainment activated by pregnancy script group because there were not enough details provided in their interviews to determine whether their *educational attainment scripts* accommodated their pregnancies or were activated by them. However, based on the potential obstacles to educational success cited by each of these five participants, they could have easily chosen to discontinue their schooling but instead chose to continue it.

An *educational attainment script that accommodated pregnancy*. Thirteen Continuous Attenders and three Returners voiced a similar sentiment during their interviews—having a strong commitment to educational attainment, and the attitude that pregnancy and motherhood must fit into that *educational attainment script*. What is unique about these 15 participants is that in framing the intersection of their educational pathways and their pregnancies, they positioned educational attainment as an unyielding priority, and found a way to make pregnancy and motherhood compatible with that priority. In the interest of completing school, they were able to make their role as students flexible enough to accommodate their new roles as pregnant women or mothers. This type of *educational attainment script* was not expressed by any Non-Returners.

Interestingly, this *educational attainment script* was demonstrated by participants without respect to the valence of pregnancy in their educational pathways.

In other words, some participants who exhibited this script experienced pregnancy as positive, some experienced it as negative, and some experienced it as a neutral event, in their educational pathways. This suggests that this script would most likely be flexible to accommodating other major events—such as stressors and educational challenges—that could threaten educational success, and indeed, the educational pathways of participants who exhibited this script confirmed that this is true.

Education as a primary consideration upon learning about pregnancy. Five Continuous Attenders and one Returner indicated that school was one of their foremost concerns when they learned about their pregnancies, a major event that had the potential to disrupt their educational pathways. In making her decision to keep the baby, one Continuous Attender recalled, “My biggest thing was, how am I going to finish school, because I'm going to have the baby right in the middle of [senior year]” (CA5, 364). When she learned she was pregnant at the end of eleventh grade, she was behind in the credits she needed to accrue in order to be on schedule to graduate,

...and I was saying to my mom, how am I going to finish, I have to graduate, and she was like you know, ‘I'll help you financially, if you want to go out I'll watch him,’ so then you know, that helped. (CA5, 364)

Another Continuous Attender who would have her baby as she was entering her twelfth grade year describes what she thought about when deciding to keep the baby: “My main concern was being able to get child care for her while I go to school next year, so I can graduate” (CA12, 186). When a researcher asked another Continuous Attender if she planned to continue with the twelfth grade, she replied, “Yeah, absolutely. My boyfriend's going to be back anyway, so he's just going to watch the baby while I go to school cause I'm definitely graduating” (CA1,391). Each of these participants expressed

concern that their education would continue to be prioritized in their lives, and used analytic thinking and resourcefulness to consider what supports and logistics would be necessary to enable them to continue attending school while assuming the new role of mother.

The Returner in this subgroup described her thinking about the intersection of schooling and pregnancy in this way:

I knew I had to go to school and finish school for sure and try to be there as much as I could because I didn't want to be like a stereotype of a teenage mom, just stay home and not finish school, and not even thinking about getting a GED and I didn't want to be that. That's the first thing I thought I didn't want to be. That's the first thing I told my mom and she said 'it's going to be hard, but you can do it.' And I did, I actually flew by this year and I passed. I actually did better than most people did that were there all year. (R15, 217)

This quote illustrates how this young woman constructed the relationship of the educational attainment and young mother scripts. Although pregnancy was a negative event for this participant because the competing demands of pregnancy interfered somewhat with her level of school involvement and her academic performance, she was able to incorporate her new role of mother into her role of student and continue to pursue educational attainment.

Several Continuous Attenders did not doubt that graduating high school was achievable, but were concerned about how pregnancy would affect their post-secondary school goals. CA2 recalled,

When I found out I was pregnant I was devastated because that throws everything down the tube. I want to go to college right after high school, I can't

go to college right after high school, it's too much stress on the baby and everything. (CA2, 195)

Of course, going to college is dependent on graduating high school, and CA2 took that accomplishment as a given.

Steadfast determination represented in the educational attainment script.

When each of these participants became pregnant, rather than sidelining their educational goals, they seem to have maintained or determined that the *educational attainment script* was central in their lives, and figured out how it would accommodate the new script of mother. Two participants, one Continuous Attender and one Returner, expressed embarrassment about being pregnant during their graduation, suggesting a tension between their views of themselves as students finishing high school and their new status as expecting mothers. When asked how it felt to graduate, participant CA3, a Continuous Attender, replied, "Embarrassing. I was pregnant. It wasn't where I wanted to be, but I was at it, so thank the Lord that I did. I graduated and I was pregnant" (CA3, 488). The Returner, whose *educational attainment script* was strengthened when she became pregnant—as demonstrated by her improved academic performance—talked about how she used positive emotionality and analytic thinking to manage the judgments of her peers in school who teased her: "I didn't really care because I'm sure they've had sex. I mean just because I'm the one that wanted to keep the baby, whatever, it could happen to them" (R8, 353).

Although educational attainment was clearly a priority for participants who expressed the *educational attainment script*, many of them still had rocky school experiences in the past and benefited from pregnancy as a protective factor. For example, participant CA12, the Continuous Attender who thought about securing

childcare so that she could finish her senior year of high school, demonstrated this *educational attainment script*, but had neutral feelings about school and described the school year before her pregnancy as stressful because she felt, "I'm not too good in school" (CA12, 47). Pregnancy was a positive turning point for this participant, who worked to bring up her grades when she became pregnant, saying "I felt like I needed to do better than what I was doing" (CA12, 323), and that graduating would help her to "provide the baby with a good life" (CA12, 61). Becoming a mother seemed to solidify this participant's *educational attainment script*, and gave her reason to strengthen it. In addition, when she became pregnant she used resourcefulness to draw on the close relationships she had previously formed with school staff members, whom she felt comfortable approaching about her pregnancy, and who provided informal pregnancy-related support and formal educational pregnancy-related accommodations.

The following quote from a Continuous Attender clearly illustrates an *educational attainment script* that was robust enough to accommodate a major event such as pregnancy, as well as other potentially threatening events:

I think it's been school that has always kept me in the right frame of mind. I gotta graduate school and I gotta go to college and it has always kept me motivated to keep my life in order and on the way, I've had good teachers to help me through it, who understood what I was going through and who tried to help me as much as they could. I think that's probably what got me here. (CA4, 351)

Participant CA4 is one of the three Continuous Attenders who experienced no education-related risk factors, yet, she was exposed to multiple stressors across five ecological categories, including extremely tumultuous relationships with her parents

and a stepparent, all from whom she has been intermittently estranged, economic hardship in her family which resulted in poor living conditions and residential mobility, and diagnoses of depression, bipolar disorder, and a seizure disorder. She was also physically abused by her father. The participant did not escape vulnerability in the context of this cumulative stress exposure; in her early teens she was drinking alcohol and dating an 18-year-old drug dealer, and when she was 15 or 16 she was self-cutting, but she also demonstrated personal functioning strategies such as resourcefulness, identifying supports outside of her family in order to keep herself safe and create positive experiences for herself. High school was a domain in her life in which she did well and received support. Her educational success and her overall school experience was one of the only positive things in her life, and she chose to make it a priority: "The one thing I said growing up was, 'I need to graduate and I need to go to college'" (CA4, 351). Pregnancy was a neutral event for CA4, who was on track to complete school in spite of all of the challenges that would seem to set her up for school failure. Although she attended a small charter school which likely offered opportunities that many other students do not have, she also used personal functioning strategies such as motivation, initiative, resourcefulness, and positive emotionality to help these opportunities work to her advantage. Developing a strong student identity was very adaptive for this participant; she has been awarded a scholarship to attend a state community college at no cost for four years based on her academic achievements.

Balancing internal determination with others' doubts. All of these participants clearly had their sights fixed on completing high school. This determination is captured by the simple yet powerful statement made by CA8, a Continuous Attender: "...I'm staying in school. It's going to be wicked hard, but I'm going to stay. I am a smart girl, I'm

not letting it go to waste" (CA8, 53). Some of these young women learned, however, that others viewed their pregnancies as a threat to their educational attainment. Participant CA4 was told that she was "wasting her intelligence" by deciding to keep the baby, but she explained, "I'm still going to college; I'm not letting a baby hinder my life" (CA4, 427). Participant CA11 also experienced tension between her internal confidence in her ability to graduate high school, and the doubts and assumptions of others:

The thing that was really hard was that everyone asked, 'are you going to keep going to school? Are you going to graduate?' That's something that I wanted but just everyone asking me, it's like they didn't think that I could do it. But I guess you've got to just prove it. (CA11, 402)

Although she often felt tired as a result of her pregnancy and wished she could stay home from school, she was ultimately motivated by how important school was to her, asking, "...where would I go with my life if I don't finish school?" (CA11, 465).

For participants who possessed an *educational attainment script that accommodated pregnancy*, rather than viewing schooling and pregnancy as inherently contentious or incompatible, they were able to envision the two as coherent and pursued a way to make them coexist so that they did not have to abandon their goals of educational attainment. Although it was not possible to confirm, it seems likely that this *educational attainment script* preceded pregnancy for this group of young mothers, even though pregnancy further reinforced the script for some.

An educational attainment script activated by pregnancy. For two Continuous Attenders and seven Returners pregnancy activated an *educational attainment script*. For these participants, educational attainment became a priority because they were going to have a baby, and this event seems to have caused a shift in their views about

the importance or relevance of educational attainment. For all nine Continuous Attenders and Returners whose *educational attainment script* was activated by pregnancy, pregnancy acted as a positive turning point in their educational trajectories.

Six of these participants (five Returners and one Continuous Attender) framed this newfound motivation to complete secondary school as being for the benefit of their future children. Several Returners were motivated to finish high school so that they could either get a job immediately or move on to post-secondary education in order to be able to get a job, so that they could adequately provide for their children and ensure they would have a good life. One participant dropped out of high school several years before becoming pregnant, and then began pursuing her GED during her pregnancy. She says she resumed her education “for my daughter, not for me” (496).

Before I should have just done it for me. But I didn't have that mentality at that time. Now it's all about my daughter. I have to provide for her. I'm going to be the most important person in her life so I have to make sure my [stuff] is together before I can take that on. (R3, 498)

Similarly, another Returner explained, "Once I realized I was going to be a mom, something happened to my head and I just switched into responsible mode" (306). "...I was like I have to go back to school, I have to graduate. It's not just me now. I have a baby to raise. I have someone else that's going to rely on me." (R5, 312).

A Continuous Attender who became motivated to finish high school when she became pregnant offered a different rationale for doing so. When she returned to school pregnant during her senior year, she said,

...[things] actually changed a lot. I was more focused. Because I was going to have a baby and I felt that I needed to do the best that I could do so that when

she got older I could tell her, 'you know, I did good,' and I couldn't do any sports, but my grades weren't lower than an A and I did a 360 basically. (CA15, 327)

CA15 wanted to be able to feel proud when she told her daughter about her school accomplishments, and perhaps to motivate her daughter to do well in school herself.

Although it was their children that motivated them to earn a secondary degree, several participants also realized the benefits for themselves in doing so. One Returner credits her pregnancy with motivating her to "do the right thing" (R10, 331) by returning to get her GED and get a job. Another Returner compared her life before her pregnancy, when she was "hanging out with the wrong crowd," to her life with her daughter which was filled with adult responsibilities such as working, pursuing her GED, and looking for a place to live and concluded, "I'm just completely just so happy that I had her because she changed my life" (R6, 87).

Participants who had experienced difficulties in school prior to their pregnancies, and for whom pregnancy activated an *educational attainment script*, still had to contend with the risk factors that interfered with their school success before their pregnancies, and demonstrated personal functioning strategies such as motivation, initiative, and resourcefulness in response. As was the case with a number of participants who had the *educational attainment script* that accommodated their pregnancies, four Returners whose *educational attainment scripts* were activated by their pregnancies reported improved academic performance when they resumed their educational activities. For example, school was not an effortless endeavor for participant CA7, a Continuous Attender who had to move in with her grandparents and switch schools as a result of her mother kicking her out of her home. She had trouble

adjusting to her new school, and the year before her pregnancy displayed lack of social and academic engagement, failed two classes, and was suspended for truancy. When she found out she was pregnant she became concerned that she would not be able to finish all of her school requirements in order to graduate. She demonstrated positive emotionality in response to the judgmental stares of her peers when she returned to school for her senior year visibly pregnant, and improved her behavior and academic performance.

It is noteworthy that three Non-Returners expressed sentiments about wanting to return to school with the goal of getting a job or pursuing post-secondary educational activities in order to provide a good life for their children. However, as previously discussed, pregnancy did not have a positive valence for any of these participants. Since they did not take any action to return to school in the timeframe of the study, they were not included in the educational attainment activated by pregnancy script group.

The finding that the *educational attainment script* and the valence of pregnancy in participants' educational trajectories are not directly aligned suggests an interaction between the *educational attainment script* and the event of pregnancy, which may be facilitated by the way participants construct the major events in their lives including stressors, educational endeavors, and pregnancy, as well as the dynamic interplay among the many risk and protective factors explored in this study which influence educational trajectories.

The numbers of Continuous Attenders and Returners who had the *educational attainment script that accommodated pregnancy* compared with the *educational attainment script activated by pregnancy* suggests that there are more Continuous Attenders who possessed this script prior to their pregnancies, and that having this

script was an important indicator of why they had no interruptions in their schooling and can be characterized as educationally resilient. In addition, the fact that there were no Non-Returners who demonstrated *educational attainment scripts* that either accommodated or were activated by pregnancy suggests that lacking this script is an important indicator of why these participants displayed educational vulnerability.

A script about obstacles to educational attainment. In contrast to the robust *educational attainment script* that was able to accommodate pregnancy held by 15 Continuous Attenders and Returners, and the *educational attainment script that was activated by pregnancy* for nine Continuous Attenders and Returners, all 15 Non-Returners expressed an *obstacles to educational attainment script* that was not influenced by pregnancy in a concrete way as of the time of their interviews. Each of these participants provided explanations for why they dropped out of school, which I explore in this section.

Not liking school as obstacle to educational attainment. Five Non-Returners expressed sentiments about not liking school or believing that school was just not for them. Participant NR8, for example, said "I just hated school and didn't want to go no more. Then I was just going to get my GED but that never happened" (293). Although she had good relationships with two of her teachers who she said made class fun, and felt that they liked her and wanted to help her, she says that she did not like the teachers, the principal, or the rules. Describing herself as "a bad kid," when she did go to school she would sleep on her desk or roam the halls. She indicated that she would reach out for help, but her perception was that the teachers would become frustrated with her because it took her a long time to learn the concepts, so she would give up and "just go to sleep" (287).

Participant NR7, felt school was "way too hard." She explained that she would start each course with good grades but was unable to keep up with the work so her grades declined. She demonstrated motivation and initiative to attain a secondary degree by switching to night school, thinking that it would be more manageable, but continued to struggle academically in night school as well and dropped out of the program after three months. NR7 is one of the participants who did not report any school-based support, and other than her efforts to try a different kind of educational program she does not describe any personal functioning strategies directed at obtaining assistance to improve her performance in high school or night school. When asked what would have prevented her from dropping out she responded,

nothing really to tell you the truth because I hated school my whole life and I told my mom once I get to a certain age I wanted to drop out and get my GED because it would be quicker and that was it. (201- 203)

She indicated hoping Healthy Families would help her return to school.

Features of school as obstacles to educational attainment. In presenting reasons why they felt they had to discontinue school, many participants in this script group focused on features of their schools which they perceived to be obstacles to their continued attendance.

Participant NR6 stopped attending high school only a couple weeks into the start of her ninth grade year because she did not like the school. She said she was interested in working but the classroom environment was so disruptive because the students were misbehaved and the teachers were not in control of them. She also described the teachers as rude and ignorant. She would go to school and leave after the first two classes (340). About five months after leaving the ninth grade, she began

pursuing her GED. Although she really liked the GED program—having gotten along with the staff and feeling that the teaching style was effective for her—she

went to the classes for a year, paid for the test, went and took the test, and I failed. And then they wanted me to pay an extra \$75 to retake it and that's not happening, so. I left and I don't have my GED.

After demonstrating motivation and initiative to obtain her GED and getting so close to achieving it, she seemed to accept that it did not work out.

Similarly, participant NR14 stopped attending high school four credits shy of completing her requirements, which she attributes to aspects of the school environment that she did not like. She did not enjoy going to school, had a hard time academically and often did not do her homework, and despite attending supplementary classes in the evenings offered by her high school in order to pass the classes she was failing, and overall feeling that her school and some of her teachers were supportive:

I just stopped because it was my second year of the twelfth grade and I just couldn't deal with the kids. Because the classes I was in, I was in with some freshmen, sophomores, it was mixed up. The kids were so immature and I just couldn't—like acting up and all this—and I was never able to get help. I would raise my hand and then the bell would ring, and I would never get that help.

That is why I was failing. I was failing all of my classes. I walked out in the middle of the class because kids were just screaming and throwing things. So I just got up and walked out. Left the school and never went back. (255)

After a significant amount of time and effort in trying to get through high school, this participant also seemed to give up on graduating, at least from that school during that time of her life. About a year after dropping out she became pregnant, at which point

she says she started thinking about making changes in her life including getting a high school diploma, but she had not yet taken any action to do so at the time of her interview.

Pregnancy exacerbated existing obstacles. Five Non-Returners presented a number of obstacles which interfered with their school success, and when they became pregnant, pregnancy seemed to make the existing obstacles seem even more overwhelming, or became a priority that hindered a possible return to school. Participant NR11 identified a number of factors which she felt prevented her from being engaged in and doing well in school and eventually led her to drop out. She says she didn't like going to school and primarily went for the social aspects which interfered with her focus on learning. She further elucidated:

I only went for friends, really. I didn't care to learn, and I didn't understand how important it was. I didn't have someone pushing me. If I didn't go, I didn't go.

My father would yell and that would be the end of it. It wouldn't be like, 'we're gonna sit down and figure out what we're gonna do.' There was no punishment,

I could still go out, so there was nothing making me stay in school. (NR11, 233)

After dropping out in the tenth grade, prior to her pregnancy, she returned to the high school she had left to inquire about returning and says that they advised her to pursue an adult education program instead. She began attending a GED program where she had a positive experience, but was unable to complete the program due to her pregnancy. She indicates having ambitions to earn her GED so that she can become a nurse.

Participant NR10 described an unpleasant ninth-grade year during which her grades were average but she kept to herself, not making any friends and not connecting with her teachers or other school staff members. She took responsibility for her lack of

engagement with staff and peers, saying that although she could have made an effort to connect, she chose to isolate herself (383). She became pregnant during the first month of her 10th grade year and explained:

I would go to school and I was really emotional because it was when I had found out I was pregnant. I knew that I couldn't get through the year being pregnant and having no friends anyway. Knowing that my baby is due in April, I would have to drop out anyway because of taking care of my baby and I was planning to breastfeed so I would have to be with my baby and I could not finish school, so I would fail anyway. That's why I decided to drop out. (355)

This participant indicated wanting to get her GED in case she decides she would like to go to college, but was hoping that the father of the baby would be able to provide for her and the baby so that she did not have to go to college. For NR10 pregnancy seemed to provide justification for not staying in school, a place that she was not comfortable being.

Stressors as primary obstacle to educational attainment. Some Non-Returners exhibited an *educational attainment script*, yet the stressors in their lives seemed to overpower it, and despite the use of personal functioning strategies school continuation seemed insurmountable. Non-Returner NR4, for example, had struggled with some academic subjects in school before her pregnancy, and felt that family-level stressors negatively affected her academic performance. Other than having a physical fight with another student in tenth grade, she did not seem to have any social difficulties until the beginning of her junior year when an intense relational conflict with her stepfather's daughter (with whom she previously had a close relationship) developed, and the participant became the subject of rumors as well as relational aggression behaviors by

her former friends and other peers. At the height of the drama, in an attempt to quell the conflict, the participant went away for a week, hoping that the conflict would blow over—pressing a “refresh button,” (131), as she described it. However, when she returned the bullying behaviors resumed. She felt that her school was not addressing the situation sufficiently, and in the context of family-and individual-level stressors, this peer conflict was too much for her to bear. She decided to leave school as an adaptive decision in the interest of avoiding this antisocial influence and protecting herself: “I was almost boiling over, I was like, ‘I can’t take it anymore, it’s so stressful, I can’t even pay attention in school’” (131). She explained her frustration about the situation and its end result:

They let them get away with everything.... So I just feel like they, if they would have done something more, I would've stayed. Because it bugs me that I quit school, I feel like, I just feel like crap that I quit school. ...but I do want to get my GED, I still have plans for all of that. (238)

This participant’s persistent motivation and interest in pursuing her education strongly suggests that she had an *educational attainment script* that did not flourish as a result of the multiple stressors in her life.

Among the multiple stressors in her life, the one which most directly affected participant NR9’s educational pathway was her mother’s crack addiction which began when the participant was 15 years old. Her mother’s addiction resulted in residential mobility and therefore school transience for the participant; she made five transitions between three high schools as she shuttled among the homes of various family members until she eventually began living on her own and supporting herself when she was 17 years old. The participant’s experience at the first high school she attended had

a lot of strengths, including very positive and supportive relationships with school staff and peer relationships that the participant was very satisfied with. The participant says that she went through a phase at the beginning of high school when she was not doing her work, but then "...realized school's school, and it's what I needed," prompting her to become a good student, describing herself as organized, always having her books and her homework completed, and getting B's (253). She stopped attending another high school after deciding she did not want to be in school anymore, but then returned to school because she thought, "this isn't my idea of life. I want to go further in life" (241).

Three months before she was scheduled to complete her final year of high school, due to a conflict with the uncle she had been living with at the time, NR9 left his home and therefore lost her right to continue attending that school. At that point, she explains:

I just thought school wasn't for me. I was fighting with everybody. I had so much anger behind me because of me finding out about my mom having the addiction, being bounced around from home to home, I just had anger behind me and I was just like, school's not for me. So screw it. I dropped out. (245)

This participant pursued educational attainment through significant adversity, but this quote suggests that eventually she believed that due to the stressors in her life school it was simply not going to work for her. However, demonstrating impressive motivation, initiative, and resourcefulness, she then pursued a GED. She passed all but one of the tests, which she never made up because she says she was not able to get a day off of work. The participant indicated she still would like to get her GED when her baby turned six months old, and then continue on to postsecondary education. Since one and a half

years had passed since she took the tests, she would have to take all of the tests again to earn her GED.

Participants' construction of obstacles to educational attainment. As the primary pattern of risk and protective factors I identified through integrative analysis reveals, all but four¹⁵ participants in the study experienced educational risk factors which represented potential barriers to educational achievement. Like Non-Returners, most Continuous Attenders and all Returners identified elements of their educational experiences, namely educational challenges, stressors, or a combination of both, that led to difficulties or interruptions in their educational pathways. However, some participants also noted obstacles to their educational success other than these risk factors and pregnancy, such as those discussed above. Non-Returners were the most likely to identify features of their schools as an element of their educational experiences that caused difficulty or led them to drop out; nine Non-Returners and six Returners identified school characteristics such as teachers not being helpful or not caring about students, school staff or administrators not offering appropriate or adequate supports to aid in individual problems they were having, or other students being disruptive, when identifying what made their school experiences difficult. In contrast, only one Continuous Attender identified school characteristics as an obstacle.

One possible explanation for this discrepancy is that Returners and Non-Returners attended poorer quality schools than did Continuous Attenders. As noted in the aggregate findings, Continuous Attenders were much less likely to report school stressors; two Continuous Attenders, eight Returners and seven Non-Returners reported that they attended "bad" schools. However, because this was based on self-

¹⁵ Three of these participants experienced pregnancy as a neutral event, and one as a negative event.

report I was not able to verify if the schools reported as “bad” by participants were actually of poor quality based on an objective measure. A second possibility is that Returners and Non-Returners were more likely to construct features of their schools as obstacles to their achievement, perhaps because they were less confident in their ability to do well in school, because they did not have a strong *educational attainment script*, or because they were less likely to use personal functioning strategies or used them less effectively, in the realm of education compared with participants in the other trajectory groups. A third possible explanation is that Returners and Non-Returners were less likely to receive or participate in formal education-related supports. This does not seem to be the case: seven Continuous Attenders, five Returners and 10 Non-Returners were enrolled in an alternative school—either a vocational school, an alternative or behavioral school, a night school, a GED program, or a charter school—prior to their pregnancies. Further four Continuous Attenders, seven Returners and six Non-Returners reported receiving academic or special needs support in school prior to their pregnancies.

Since Returners and Non-Returners were similarly likely to cite school characteristics as a barrier to educational attainment, what is the difference between these two groups of participants?

Resolutions to educational risk factors noted by Returners. Although more than one third of Returners identified school characteristics as a potential obstacle to educational success, all participants in this group were educationally resilient. This seems to be due to a combination of the *educational attainment scripts* they held, the valence of pregnancy in their educational trajectories, and how they responded to the educational risk factors they reported using personal functioning strategies.

Seven Returners had their *educational attainment scripts* activated by their pregnancies and of these seven, five attended an alternative educational program—either a GED or a school for pregnant and parenting teenagers—when they resumed their educational activities. The other two returned to the high schools they were previously attending which offered them pregnancy-related accommodations—maternity leave with home tutoring for one participant, and an on-site daycare for the other. Again, pregnancy apparently shifted or enhanced these participants' perspectives about the importance of completing school, and since their initial attempts were unsuccessful they found an alternative pathway to doing so.

Three Returners had an *educational attainment script that accommodated pregnancy*. One of these participants had switched to another school prior to pregnancy in response to individual and peer stressors and academic difficulties.

The remaining five Returners could not be classified in any of the *educational attainment scripts*. During their pregnancies, four of the participants who could not be classified attended an alternative educational program due to either their education-related, pregnancy-related, or stress-related needs, and these programs offered a resolution to the obstacles which had previously interfered with their educational success.

Resolutions to educational risk factors noted by Continuous Attenders.

Personal functioning strategies were observed to be used in the service of educational attainment goals prior to pregnancy for a number of Continuous Attenders. Like the Returners discussed above, a number of Continuous Attenders took advantage of alternative educational programs. When she was in the seventh grade CA1 decided she would go to the vocational school starting in ninth grade because she knew she wanted

to pursue a culinary career (362). CA11, chose to attend a vocational school because she did not think the public school in her district would be a good environment for her: "I wouldn't work to my best ability or even go far [there]" (201). Two others switched to an alternative program prior to their pregnancies because they were performing poorly at the schools they had been attending, and were able to do well in the new environments. CA14, for example, was in an advanced academic program in her high school which started in eleventh grade, and explained:

... and I just wasn't ready for that. So I was getting bad grades and everything even though I spent hours every night working on everything, I would still get a bad grade on it. So, it kind of just frustrated me. I decided to switch to [school name] because I thought the amount of work I did, I would see a higher reward for it. (97)

Others used formal and informal supports available within their schools to manage their challenges. CA8 had academic difficulties because, as she described it, she was "disorganized." She chose to participate in a voluntary program offered by her school that assisted students who had difficulties getting their schoolwork done by offering a structured environment in which to complete it after school. After getting the academic benefits she needed from the program, she remained enrolled in it:

It's helped me a lot. At first it got my grades up because I had to do my work, but it gets you into a habit of getting your stuff done. I don't really need to be in it anymore, I just am because I like it. (221)

CA6 was an average student until family, individual, and peer stressors contributed to her academic decline prior to her pregnancy. Experiencing feelings of social isolation, she felt uncomfortable being in the cafeteria during lunchtime because she did not want

to sit alone; she would often go to talk with her guidance counselor during that time, but also discuss her family troubles with this counselor. This measure was not enough to help CA6 overcome her discomfort and school, so she switched to a night school program. After making this change she became pregnant and graduated from the night school.

Educational resilience demonstrated by Continuous Attenders and Returners.

Although there are some participants in all three trajectory groups who expressed sentiments to the general effect that being a student did not come naturally to them or that they did not enjoy it, unlike Non-Returners, Continuous Attenders and Returners who expressed this sentiment found an alternative route to continuing their education when school did not work for them, or were offered an alternative route by school staff and chose to pursue it. For young women who took these alternative pathways to educational attainment both before and after becoming pregnant, it seems that despite the specific circumstances that threatened their educational success, their *educational attainment scripts* were sturdy enough to withstand the challenge. For young mothers who took these alternative pathways once they became pregnant, it seems that the event of pregnancy caused them to perceive obstacles to educational attainment as less oppressive than they had seemed before. When faced with potential impediments to educational success, these participants exhibited motivation, initiative, and resourcefulness, as well as confidence that they could resolve the challenges they were having.

Educational vulnerability of Non-Returners. Exploring the obstacles to educational attainment perceived by Non-Returners further clarifies why all but three of these participants dropped out of school prior to pregnancy, and why pregnancy was a

neutral or negative event for all of the participants in this trajectory group. These young women had identified reasons why school attainment was unlikely to be achievable, not important, or not a top priority prior to their pregnancies, leading twelve of them to drop out before becoming pregnant. Although several Non-Returners expressed the desire to return to secondary school or the perspective that it would be a good idea for them to do so when they became pregnant, none of them had taken concrete actions at the time of their interviews to resume their education. For young women who already had an *obstacles to educational attainment script*, an event like pregnancy would probably be more likely to reinforce participants' previous views about educational attainment being insurmountable than to make it seem more approachable. Unlike Continuous Attenders and Returners, it seems that most of these young mothers were not able to envision a realistic, concrete plan for school continuation within the context of stressors they were experiencing, in part because of their negative school experiences or difficulty successfully integrating life challenges and educational activities before they dropped out. Finally, and perhaps most importantly, for at least some of these young women, it seems that educational attainment was not viewed as an integral part of their lives or self-concepts as it was for the other two groups of participants, and therefore, when they became pregnant, an *educational attainment script* did not overpower their previous reasoning for dropping out of school.

Educational attainment scripts facilitated the use of personal functioning strategies. I had proposed that personal functioning strategies would be a core construct in this study which would facilitate educational resilience in Continuous Attenders and Returners via individual-level characteristics such as motivation, initiative, and resourcefulness. I had expected that Continuous Attenders and Returners

would be more likely to enact these types of strategies in the realm of education in order to effectively deal with education-related challenges and other potential obstacles to achievement in school. Instead, I found that the primary distinction between educationally resilient and educationally vulnerable participants in this study was the *educational attainment scripts* they exhibited. Twenty five out of 30 Continuous Attenders and Returners exhibited an *educational attainment script* that either accommodated or was activated by pregnancy, and all 15 Non-Returners exhibited an *obstacles to educational attainment script* that pregnancy did not alter. The *educational attainment scripts*, whether they accommodated or were activated by pregnancy, were a critical protective factor for Continuous Attenders and Returners.

For Continuous Attenders and Returners the scripts that accommodated or were activated by pregnancy seemed to provide participants with a framework for action that could not be compromised or sacrificed, and within this framework, participants used personal functioning strategies such as motivation, initiative, resourcefulness, positive emotionality, and avoiding antisocial influences, to support them in fulfilling or working toward fulfilling the script such as by thinking about obstacles to educational attainment in a way that minimizes their threat potential, garnering the supports they needed to manage the obstacles, or improving their academic performance.

An example of an *educational attainment script that accommodated pregnancy* serving as a framework for action is represented by CA10. As a result of her mother's drug addiction and the risk behaviors of her mother's partners which included inter-partner violence and alcoholism, this participant had experienced residential mobility and instability, sometimes living in hotels and a domestic violence shelter. During her

middle childhood, she was largely responsible for taking care of her younger siblings while her mother was treating her addiction. In school, she exhibited low engagement and had academic difficulties prior to her pregnancy, but also periods of doing well. In her interview she did not specify any positive relationships with school staff members prior to her pregnancy, but she had received academic support prior to her pregnancy due to her poor academic performance. When she became pregnant mid-way through her senior year, school was one of the first things she thought about. Due to her poor academic performance the previous year, she was not able to graduate with her class and had to go to a summer program for pregnant and parenting teens in order to graduate. However, she was not satisfied with the type of diploma she had earned:

So I went to my school and I asked them, 'what can I do to get a full high school diploma?' So they told me I have to do 25 hours of community service, bring it in, and then I get my diploma. And I did it, and I got it, and I was happy. (463)

Guided by her script, the participant utilized the personal functioning strategies of motivation, initiative, and resourcefulness to achieve her goal of educational attainment in exactly the way she had envisioned it.

Although many Non-Returners were also observed to use personal functioning strategies when faced with educational difficulties, such as pursuing relationships with school staff members or trying alternative education programs, lacking a solid *educational attainment script* that provided a clear direction, they seemed more likely to magnify the threat potential of obstacles. As a result, the potential benefits from these supports may have been stifled or overshadowed by the obstacles and therefore were not realized. Thus, these young mothers were not able to use such strategies toward the same end as the other two groups of participants.

Theoretical Propositions

In the tradition of grounded theory analysis (Creswell, 2007), based on the patterns I have identified in these data, I propose the following theoretical propositions about the dynamic interplay of circumstances that result in educational resilience or vulnerability in White adolescent mothers.

In the context of cumulative stress exposure in the individual, family, peer, and school domains, when young mothers demonstrate personal functioning strategies in various domains of their lives and have school-based supports, but educational challenges and/or ecological stressors interfere with educational success:

1. Pregnancy will have a positive or neutral influence on the pursuit of educational attainment—and will not derail educational attainment—when young mothers possess an *educational attainment script* that is robust enough to accommodate pregnancy as well as other potential obstacles to educational success.

See Figure 2.

2. Pregnancy will have a positive or a neutral influence on the pursuit of educational attainment—and will not derail educational attainment—when young mothers possess an *educational attainment script* that becomes activated by pregnancy.

See Figure 3.

3. Pregnancy will not motivate pursuit of educational attainment, or will have a negative influence on the pursuit of educational attainment, when young mothers do not possess a strong *educational attainment script* that is flexible to potential threats.

See Figure 4.

4. When young mothers believe that educational attainment is important in their lives, as expressed through an *educational attainment script* that accommodates

or is activated by pregnancy, they are more likely to find or to be open to alternative pathways to educational attainment.

5. Having a strong *educational attainment script* is a critical protective factor contributing to educational resilience among adolescent mothers. By providing a framework for action, an *educational attainment script* will assist first time adolescent mothers in using personal functioning strategies to navigate the many obstacles in the realm of school and in other ecological domains which may threaten to interfere with educational attainment before and during their pregnancies and after they give birth.

Conclusions

The empirical findings from this study about how participants in each educational trajectory group were distributed in terms of the valence of pregnancy in their educational pathways, and the *educational attainment scripts* they communicated through their words and actions, suggest that Continuous Attenders and Returners generally perceived educational attainment to have importance in their lives, and this may have enabled them to perceive potential obstacles, including stressors, educational challenges, and pregnancy, as less of a threat, or that they establish a framework in which they are better able to imagine how they can be flexible in response to these potential obstacles in the educational domain.

Although Continuous Attenders had no interruptions in their educational pathways prior to their pregnancies, as a group these young women were similar to Returners and Non-Returners in having histories of low school engagement or academic performance and life circumstances that competed with school. Thus, based on their uninterrupted educational histories, these data have also revealed that Continuous Attenders were more likely than Returners to possess and enact *educational attainment*

scripts that were flexible to potential threats independent of their pregnancies.

However, both Continuous Attenders and Returners expressed low vulnerability to their educational trajectories being derailed by potential obstacles. In contrast, the data suggest that Non-Returners seemed to lack a robust *educational attainment script* and as such, may have been more comfortable with abandoning the idea of getting a secondary degree than other participants. The fact that most Non-Returners dropped out of school not because of their pregnancies but before their pregnancies supports this theory. Thus, they demonstrated a greater vulnerability to their educational trajectories being derailed by stressors or other life events, and a lower likelihood of pregnancy motivating a return to school.

This study sheds light on early indicators of school continuation and dropout among adolescents who become mothers during their high school years. The dynamic interaction of the obstacles to educational success, the school-based supports received, the influence of the event of pregnancy, the personal functioning strategies used, the way participants construct educational attainment, schooling and pregnancy, and contextual conditions such as stress exposure in each participant's life, seem to contribute to the outcomes of educational resilience or vulnerability in adolescent mothers. Participants' educational scripts, which facilitated personal functioning strategies and influenced the ways participants constructed the interaction of stressors, pregnancy, and schooling, were observed to be a core construct in this dynamic interaction.

There are also some factors that likely contributed to these young mothers' educational scripts and trajectories that could not be accounted for in this study, such as family-level values and supports regarding educational attainment. This underscores

that the constructs identified in this study interacted dynamically with a multitude of factors in participants' ecological contexts to shape their decisions, perspectives, and pathways. However, the overall alignment of *educational attainment scripts* with participants' educational trajectories is a compelling argument for the powerful role played by these scripts in determining participants' educational resilience. Participants' personal strengths, in combination with strengths in their environments, helped two thirds of participants in this study do well despite their exposure to cumulative stress which would predict their educational vulnerability.

Chapter 5: Discussion

Secondary educational attainment is highly valued as an age salient developmental achievement in U.S. society for good reason. Low levels of educational achievement and school dropout correspond to important quality of life indicators that adolescent mothers, as a group, are considered to be more vulnerable to regardless of their educational attainment status. Discovering the confluence of factors that contributes to educational resilience and vulnerability in adolescent mothers is of critical importance for both the young women and their children. This study has made several important contributions to two bodies of literature: that on educational attainment trends among adolescent mothers, much of which is dated, and that on resilience among adolescent mothers, much of which is risk- rather than strengths-oriented. Using a qualitative analytic approach enabled a contextualized examination of processes that lead to educational resilience, and the discovery of previously unidentified constructs that play a role in its development.

Contributions to Literature about Adolescent Mothers and Educational Attainment

The results of this study contribute to the extant body of literature on educational attainment among adolescent mothers in several ways. First, ongoing research is needed to validate, counter, or enhance knowledge about common educational trajectories of adolescent mothers, as well as possible contributions to these trajectories. Second, this study found that adolescent pregnancy and secondary educational attainment are not necessarily at odds, but that adolescent pregnancy can strengthen or motivate the pursuit of educational attainment. Finally, this study used qualitative data to illuminate the personal functioning strategies and thinking about educational attainment that promote educational resilience during a challenging time in

the lives of adolescent mothers. As Kennedy (2005) has written, “Although a great deal of research has focused on adolescent mothers, very few studies have used a qualitative approach and focused on positive adaptation and strengths rather than deficits” (Kennedy, 2005, p. 1491).

Support for the Construct of *Educational Attainment Scripts*

To my knowledge, the construct of *educational attainment scripts* as a critical component of educational resilience, and as interacting with pregnancy in the ways I have identified, are unique contributions of this study. However, the findings of several studies provide supporting evidence for the existence of *educational attainment scripts*. Barnett et al. (2004), Casserly et al. (2001), and Diez and Mistry (2010), report a correspondence between the school performance, school engagement, and/or educational goals of adolescent mothers prior to and after their pregnancies. The present study did not find consistent correspondence between academic performance and school engagement and *educational attainment scripts*; for example, many young mothers with an *educational attainment script that accommodated pregnancy* did not do well in school or enjoy school. This finding strongly implies that the construct of *scripts* is distinct from academic performance and school engagement. However, the alignment between pre- and post-pregnancy school success reported by these authors may indicate that young mothers possess attitudes, beliefs, or self-concepts about education that guide their commitment to staying in school, and their ability to be flexible to potential obstacles to educational success. It may also provide support for the hypothesis that educational attainment scripts precede pregnancy. Further research is needed to elucidate the components of *educational attainment scripts*, and determine the relationship between the scripts and performance and engagement.

The Influence of Adolescent Pregnancy on Educational Attainment

Extant research has found that adolescent pregnancy and motherhood can have a negative effect on secondary school completion (Ahn, 1994; Hofferth et al., 2001; Klepinger et al., 1995; McElroy, 1996; Mott & Marsiglio, 1985; Perper et al., 2010; Scott-Jones & Turner, 1990), but that more teenage mothers graduate high school than drop out (Upchurch & McCarthy, 1990). Although the present study did not measure secondary school completion, it has shown that on its own and in conjunction with cumulative ecological stress, adolescent pregnancy is not a deterrent to the pursuit of secondary educational attainment. Rather, in this sample of White adolescent mothers, pregnancy was more likely to motivate educational attainment, bolster secondary educational attainment ambitions, or improve school focus and performance on the pathway to educational attainment than it was to deter it.

As has been suggested by other researchers, this study confirmed that pregnancy can act as an additional impediment to educational attainment in combination with demographic and ecological factors (Ahn, 1994; Jones et al., 1999; Klepinger, Lundberg, & Plotnick, 1995; Perper et al., 2010; Upchurch, 1993; Upchurch & McCarthy, 1990). A unique finding of this study was the mechanism by which it can do so: by exacerbating low levels of commitment to educational attainment as symbolized by a script about obstacles to educational attainment that preexisted pregnancy.

Although this study did not follow participants through secondary school completion, literature also indicates that teenage mothers who stay in school once becoming pregnant are more educationally successful one year after giving birth (Linares et al., 1991). Further, there have been past research findings about a correspondence between pre-and post-pregnancy educational goals and academic

achievement (Casserly et al., 2001; Diez & Mistry, 2010). In conjunction with the finding that the majority of mothers in the Continuous Attenders group had *educational attainment scripts* that accommodated their pregnancies during the time of the study, and that because of their histories of having no educational interruptions these scripts are likely to have preceded their pregnancies, there is reason to believe that the Continuous Attenders in this study have a very good chance of attaining a secondary degree. Similarly, although more Returners expressed an *educational attainment script* that was activated by pregnancy than a script that accommodated pregnancy, like the Continuous Attenders the majority of the young women in this educational trajectory group exhibited tenacity in response to educational challenges that took place prior to the study, which suggests that they too may have considered educational attainment a goal prior to their pregnancies, and that they were less vulnerable than Non-Returners to pregnancy and motherhood precluding school completion. Five Continuous Attenders and four Returners had completed a secondary degree at the time of their interviews, and another two Continuous Attenders and two Returners were near completion.

There were seven Returners in this study who had stopped attending school, become pregnant, and then returned to continue pursuing secondary educational attainment. In light of research findings of a low likelihood of resuming school after dropping out among young women and teenage mothers in general, and specifically among young mothers who dropped out before their first pregnancies (Leadbeater, 1996; Upchurch & McCarthy, 1990; Upchurch, McCarthy, & Ferguson, 1993), these seven adolescent mothers' recommencement of educational activity is especially impressive. This too suggests that the *educational attainment scripts* of these mothers were in place before their pregnancies.

Causes of School Discontinuation among Adolescent Mothers

On the other hand, this study found confirmation of the improbability of school return in the 12 Non-Returners who stopped attending school prior to their pregnancies and the three Non-Returners who stopped attending after their pregnancies and had not returned at the time of their interviews. In these young mothers' explanations of why they dropped out of school there is evidence to suggest that for some young mothers pregnancy represents an additional impediment to further complicate the possibility of school attendance and success. An even more compelling discovery, however, is that all 15 Non-Returners expressed an *obstacles to educational attainment script* that suggests that they viewed school completion to be too difficult to achieve, not very important, or a low priority. This script preceded pregnancy for the 12 Non-Returners who dropped out before becoming pregnant. Further, the existence of this script prior to their pregnancies sets them apart from young women in the other two trajectory groups potentially because they were more likely to view school as a stressor, stressors as obstacles to educational attainment, and obstacles to educational attainment as insurmountable. Another possible explanation that was not explored in this study but warrants consideration is that motherhood offers the potential for the successful fulfillment of an important role in life for young women who felt they had not been able to achieve that previously within the school domain or other ecological domains.

Pregnancy as a Catalyst for School Success

There is also support in past research (Casserly et al., 2001; SmithBattle, 2007; Zachry, 2005) for the finding that pregnancy activated an *educational attainment script*, for a total of nine participants, and that pregnancy improved academic performance,

engagement, or school prioritization, for a total of 17 participants. The sentiments of the young mothers in this study who were moved to focus on school success and completion due to their pregnancies echoed those reported by SmithBattle (2007); adolescent mothers in both samples were concerned about their abilities to support themselves and their children financially, and indicated that their pregnancies caused them to think differently about their behaviors.

The role of supports. In the present study, pregnancy also presented many participants with new choices for where to attend school, and new accommodations that assisted them with school, pregnancy, and stress, and thus, ameliorated pre-existing obstacles. This finding, as well as evidence that the majority of Continuous Attenders ($N = 12$) and Returners ($N = 9$) benefited from pregnancy-related accommodations offered by their schools, is inconsistent with some literature which highlights insufficient school supports for adolescent mothers' special needs as a deterrent to school attendance and completion (NWLC & MALDEF, 2007; SmithBattle, 2007). As previously discussed, 12 Non-Returners were not in school during their pregnancies so they did not benefit from such accommodations, but 12 Non-Returners did receive other types of special services or participate in special programs ranging from academic support to mental health support to vocational or alternative schools prior to their pregnancies. In this way Non-Returners were similar to the other two groups of participants, suggesting that at least some Non-Returners would have had access to pregnancy-related accommodations had they attended school during their pregnancies or after giving birth.

Research has shown that school engagement is associated with better educational outcomes (Fredricks et al., 2005; Libbey, 2004), and that many teenage

mothers have negative school experiences (Zachry, 2005) and low engagement and academic performance before their pregnancies (Barnet et al., 2004; SmithBattle, 2007). As would be expected, Non-Returners were least likely to report academic and/or social engagement in school prior to their pregnancies, but it was surprising to find that fewer than half of both Continuous Attenders and Returners reported school engagement prior to pregnancy. This finding supports the proposition that having a strong *educational attainment script* is a critical component of educational resilience in this population; the ability of young women and young mothers to persevere through challenges that interfere with their educational success, including but not limited to lack of school engagement, may be partially dependent on having this script. Further, although school personnel are believed to affect students' school engagement (Fredricks et al., 2004; Kalil, 2002), and to give more positive attention to students who exhibit school engagement (Fredricks et al., 2004), this study found that of the twelve Non-Returners who were not engaged in school and thirteen who had academic difficulties, only two of these participants reported having no positive relationships with school staff members. In addition, school-based supports were observed, in conjunction with personal functioning strategies, to be inadequate for protecting against school disengagement and dropout; possessing a strong *educational attainment script* apparently enabled the effectiveness of such supports.

Contributions to Research on Adolescent Mothers and Resilience

This study adds support to a growing body of research that emphasizes the potential for adaptive functioning and outcomes among adolescent mothers (Borkowski et al., 2007; Easterbrooks et al., 2011; Leadbeater & Way, 2001; Oxford et al., 2005; Scott-Jones, 1991) by identifying processes that contributed to educational resilience,

and finding that for some young women adolescent pregnancy can act as a protective factor in the domain of education by enhancing pre-existing commitments or triggering new commitments to attaining a secondary degree.

This study also confirms that adolescent mothers' lives are often characterized by cumulative adversity (Borkowski, Whitman, & Farris, 2007; Easterbrooks, et al., 2011; Kennedy, 2005 ; Pittman & Chase-Lansdale, 2001; Schellenbach et al., 2005). All of the young women in this study experienced cumulative stress exposure across multiple ecological domains and could be considered to have faced extraordinary challenges (Buckner et al., 2003; Masten et al., 1999; Sameroff & Rosenblum, 2006). Thus, the Continuous Attenders and Returners who pursued secondary educational attainment before, during, and after their pregnancies, thereby pursuing or having already completed a salient developmental task, exhibited educational resilience (Masten, 2001; Shannon et al., 2007; Wright & Masten, 2005).

Cumulative stress distributed across ecological domains has been noted to threaten the potential for resilience by disrupting the development of core adaptational systems and competencies, and reducing the strength of individual and environmental attributes (Gerard & Buehler, 2004; Masten & Powell, 2003; Sameroff et al., 2003; Sameroff & Rosenblum, 2006; Wright & Masten, 2005). In the context of cumulative stress exposure, these are the processes by which Non-Returners may have become vulnerable to dropping out of school and not developing a robust *educational attainment script*. Also, while all participants experienced cumulative stress exposure, and participants across all three trajectory groups had been exposed to similar types of stressors, the particular combinations of stressors and protective factors that may have balanced those stressors, and other factors such as the adaptational and ecological

systems they affected, were not explored in this study but may have contributed to the educational vulnerability of Non-Returners (Masten, 2004; Riley & Masten, 2005; Rutter, 2006).

Specificity of Findings to the Educational Domain

Although the Non-Returners in this study exhibited educational vulnerability, like participants in the other two trajectory groups they also utilized an impressive range of personal functioning strategies, namely positive emotionality, resourcefulness, motivation, initiative, confidence, and avoidance of antisocial influences, in response to many other stressors in their lives, and sometimes in response to educational stressors as well. Due to the contextual specificity of resilience (Fergus & Zimmerman, 2005; Wright & Masten, 2005), the characterization of these participants as educationally vulnerable does not preclude their demonstration of resilience in other domains that were not examined in this study. Likewise, the 30 participants who were characterized as educationally resilient in this study may indeed exhibit maladaptive functioning in other domains of their lives, and although a secondary degree is certainly a potential asset, because of the cumulative stress the majority of them continued to experience at the time of the study, both the young women and their children are still vulnerable to nonoptimal pathways and outcomes.

Individual Attributes Contributing to Educational Resilience

Like other studies which identified individual-level attributes in adolescent mothers who demonstrate secondary educational success, the present study observed adolescent mothers to demonstrate individual attributes—referred to as personal functioning strategies—throughout their lives, including during and after their pregnancies. Strategies used by the educationally resilient young women in this study

which overlapped with those observed by other researchers included demonstrating motivation to succeed by continuing to pursue school despite impediments, problem-solving skills and resourcefulness by seeking out people and programs that could help them, and a strong desire and determination to succeed and overcome barriers despite the doubts of others (Carey et al., 1998; Leadbeater & Way, 2001; Kennedy, 2005; Werner & Smith, 2001). These strategies were demonstrated by those mothers who possessed an *educational attainment script* that accommodated or was activated by pregnancy, and the strategies seemed to be used in the service of fulfilling these scripts. A key feature of the *educational attainment scripts*, particularly the script that accommodated pregnancy, identified in this study was what Kennedy (2005) described as “goal orientation,” or unremitting drive to achieve a goal the young women had set (p. 1506).

Educational Attainment Scripts as Protective Factors Promoting Educational Resilience

When adolescent mothers in this study possessed an *educational attainment script* that accommodated or was activated by pregnancy, the script acted as an individual level protective factor and served them in several ways that I had predicted personal functioning strategies would. The scripts seemed to act as a buffer to the potential threats of stressors (Masten et al., 1999; Masten & Powell, 2003; Riley & Masten, 2005) by preventing participants from viewing stressors—including pregnancy—as obstacles to the pursuit of educational attainment that were too great to overcome or attributing difficulties in school to their own inability to complete school. Although a number of Continuous Attenders and Returners had low academic performance and school engagement which sometimes resulted from ecological stressors, the *educational attainment scripts* appeared to aid participants in surpassing

these challenges and identifying alternative pathways, supports, or other mechanisms which allowed them to continue to pursue school completion. In addition, many participants in these groups for whom pregnancy had a positive valence were able to overcome their lack of engagement and academic difficulties in the interest of completing school once they had become pregnant.

On the contrary, without a robust *educational attainment script* to guide them, many Non-Returners seemed to conclude that the challenges interfering with their educational success were too great to overcome, and these views traveled with the young women in this group who participated in alternative educational programs or educational support services, apparently reinforcing the obstacles script.

Person-Context Interactions Facilitating Educational Resilience and Vulnerability

School-based supports and alternative educational programs were intervening conditions that contributed to participants' educational resilience. Although the presence of at least some positive relationships with school staff members was observed to be a potential protective factor for participants, variations in the nature of participants' relationships with school staff members or other adults such as state agency social workers, mental health counselors, and home visitors were not examined in depth. Such relationships have been observed in other studies to be beneficial to youth, especially youth who lack caring and reliable adults within the family, when the relationships have certain characteristics (Hines et al., 2005; Smokowski et al., 1999; Todis et al., 2001).

However, illustrating the dynamic interaction among individual and environmental systems (Lerner, 2006; Masten, 2007; Riley & Masten, 2005; Ungar, 2006), although school-based supports were almost universally available to participants,

it appears that some participants were better able to leverage the benefits of these relationships and programs. Again, the educational scripts that accommodated and were activated by pregnancy seemed to be a critical protective factor for Continuous Attenders and Returners; in the case of informal and formal educational supports Continuous Attenders and Returners may have viewed these supports as second chances or as opportunities to ameliorate or eliminate potential threats to their educational success. Whether prior to or after becoming pregnant, by either seeking out or being offered such services and programs and participating in them, many Continuous Attenders and Returners replaced educational hardship or failure with success. Further, as a result of their drive to stay in school or to return to school once becoming pregnant, many Continuous Attenders and Returners received additional supports that not only assisted them in their educational pathways but also provided pregnancy and parenting education that is likely to benefit them and thereby their children.

Participants' use of *educational attainment scripts* in this way underscores individuals' agency in influencing their developmental pathways (Masten, 2004) including through the selection of environments that were conducive to their needs and strengths (Werner, 1995). At the same time, the availability of staff members with whom to build relationships, and programs and services to meet their special needs, is a reminder of the potential for contextual variables to enhance or limit opportunities for adaptation. In the same vein, it is important to remember other contextual conditions, such as school quality, kith and kin supports, and cumulative stress that may have limited the development of an *educational attainment script* in Non-Returners over time.

Limitations

In order to eliminate race as a moderator of educational resilience, this study was conducted with a White sample. Replicating this study with Black and Latina adolescent mothers would reveal whether the *educational attainment scripts*, personal functioning strategies, education and pregnancy-related supports observed in this sample are generalizable to other populations of adolescent mothers, as well as whether there are additional ecological factors that vary among racial and ethnic groups to influence educational resilience and vulnerability among adolescent mothers. In addition, conducting the same study with Black adolescent mothers would help to elucidate why this population tends to have higher educational attainment rates and lower dropout rates than its White and Latina counterparts.

In addition, it would be interesting to conduct this study with young women with similar ecological stress exposure who are not adolescent mothers in order to determine if a robust *educational attainment script* exists in other populations.

There were a number of factors that were not accounted for in this study that may contribute to educational resilience or to the development of an *educational attainment script* that is flexible enough to withstand potential obstacles to educational success. First, as reported in the results, Returners and Non-Returners were more likely than Continuous Attenders to report qualities of their schools with which they were dissatisfied or that they considered to reflect poor quality. Because these data were based on self-reports, I was not able to verify whether this discrepancy resulted from different perceptions of school quality that were connected to the *educational attainment scripts* held by participants, or whether schools attended by Returners and Non-Returners were actually of poorer quality. Future studies would benefit from taking

into account objective measures of school context in order to determine how these affect participants' educational scripts and propensity for educational resilience or vulnerability.

Second, supports in participants' kith and kin networks were not accounted for in this study. Variations in sources and types of supports, and domains toward which supports are directed would be an interesting area of exploration as it could provide insight into whether educationally resilient participants receive more education-related support from kith and kin, for example, or supports in other domains which allow educationally resilient young mothers to focus more on educational pursuits. In addition, discovering the processes that help certain young women not view stressors as obstacles to educational success would provide opportunities for intervention. Another dimension of kith and kin networks that begs exploration is whether there are external expectations regarding educational attainment originating within or outside the families, or even possibly from teachers, of Continuous Attenders and Returners and absent from Non-Returners' contexts.

Finally, variations in the particular combinations of stressors experienced by participants were not examined. Resilience literature has demonstrated that cumulative risk can interfere with the development of protective factors under a number of conditions, such as when risks are present early in life, repeat over time, or disrupt multiple adaptational or ecological systems (Riley & Masten, 2005; Rutter, 2006). A more in-depth analysis of the configurations and nature of stressors that affected participants is another avenue of inquiry worth pursuing.

Directions for Future Research

This study identified *educational attainment scripts* that either preceded or were activated by pregnancy as a critical protective factor that facilitates educational resilience in adolescent mothers. It was beyond the scope of this study to uncover the sources of these scripts; this is an important next step, and a prospective longitudinal study would be the optimal design for this research inquiry. Past studies have identified shared contextual characteristics among educationally resilient adolescent mothers such as parents with higher levels of educational attainment, secure attachment relationships with their caregivers in infancy (Werner & Smith, 2001), having relatives and friends who were educational or career role models or sources of encouragement, and receiving material or instrumental support from a family member (Leadbeater & Way, 2001). A study of educationally successful former foster youth found that having a positive attitude toward school was in itself a potential protective factor in the context of their high stress lives (Hines et al., 2005). Findings from the present study suggest that school characteristics should be examined as well. Many of the young women across trajectory groups discussed aspects of their school environments, including teaching style, class size, special program offerings, and peer culture which they felt were well or poorly matched to their learning needs and styles. Examining these components of young women's school experiences, and the role they played in educational resilience or vulnerability, was beyond the scope of this study but would certainly yield fascinating and valuable information for schools.

In the context of substantial literature about the actual and potential adversities associated with teenage pregnancy, it was surprising but encouraging to find that pregnancy served as an educational protective factor for many young women who were

at risk of dropping out of school. Through the identification of scripts, the role of the valence of pregnancy in educational pathways, young women's use of personal functioning strategies in the pursuit of educational attainment, and the role of educational and pregnancy-related supports and programs, this study has made several important contributions to understanding how to improve graduation rates in the population of teenage mothers. Although it is certainly good news that adolescent pregnancy does not prevent educational achievement, in light of the real risks facing both adolescent mothers and their children, it is important to figure out how to build these scripts in youth so that pregnancy does not have to be a determining factor motivating educational attainment.

Given research findings about low rates of return after making the decision to drop out, it is particularly important to identify ways to keep young women in general and young mothers specifically in school and to enable them to return if they do make the decision to drop out. This study points to the importance of alternative programs such as vocational high schools and GED programs which can help young women continue pursuit of educational attainment when traditional high schools are not a good match for their needs, and of high schools or formal accommodations for pregnant and parenting students which provide flexible and individualized educational arrangements, parenting education, day care, and an accepting environment and thereby encourage pregnant adolescents and adolescent mothers to stay in school.

Consistent with a systems perspective on the development of resilience, attitudes about school and educational attainment, the perception of stressors as obstacles to educational attainment, and personal functioning strategies develop over time through the interaction of individual and ecological attributes (Lerner, 2006;

Masten & Obradovic, 2006; Riley & Masten, 2005). Identifying the attributes and processes that lead to the development of robust *educational attainment scripts* could inform interventions in family, school, and community contexts to promote the development of such scripts in all youth in order to reduce the potential for school dropout.

Directions for intervention. The data from this study point to various potential mechanisms for interventions in an educational context with populations of adolescent mothers who have experienced cumulative stress. First, incorporating development of *educational attainment scripts* into educational programs beginning in early childhood and continuing through adolescence has great promise. While this study could not identify the processes involved in development of these scripts, one hypothesized approach for building these scripts is by imparting the relevance of educational attainment to youth who are experiencing adverse circumstances that demand a great deal of their attention.

Second, and related to developing educational attainment scripts, is teaching the use of personal functioning strategies for effective application in education-related pursuits. As discussed, many of the Non-Returners in this study were observed to use, or attempt to use, personal functioning strategies in the domain of education. One participant, for example, talked about raising her hand in class but never receiving the help she needed. Some participants in this study seemed to have motivation related to academic improvement, but after trying simple strategies such as raising their hands in class were unable to imagine other possible routes to obtaining the help they needed. Having goals related to educational success and attainment might be meaningless if young women lack the skills needed to realize them.

Third, young women who have cumulative stress exposure need help alleviating ecological stressors so that they do not become insurmountable obstacles to educational pursuits. This relates to the first suggestion of making educational attainment relevant for youth experiencing adversity; tempering the effects of stressors is an important component of this. Providing supports and alternative education programs related to educational challenges, ecological stressors, and pregnancy and parenting that enable secondary school continuation and completion is very important for this population. The majority of participants in this study, across trajectory groups, received services or participated in special programs that targeted stress- or academic-related needs (see Table 12). An assessment of the features and value of these services and programs was beyond the scope of this study, but the school interruptions of Returners, and the school withdrawal of Non-Returners, indicates that the services and programs were not effective at preventing dropout. Some of the features of the pregnancy and parenting accommodations received by Continuous Attenders and Returners may have value if applied in services and programs intended to address stressors or provide academic support. Such features include: community with peers in similar circumstances, individualized attention from and relationship-building with school staff members, modifications of academic requirements and structures (e.g., flexible hours, at-home tutoring), and administrative staff who advocate on behalf of youth by communicating with teachers about their special needs and coordinating appropriate adaptations.

These suggested approaches can also inform interventions targeted at non-childbearing populations of young women who have experienced cumulative stress, and

may have potential for delaying or preventing adolescent pregnancy in vulnerable populations.

Figure 1

Dynamic Interplay of Protective Factors Hypothesized to Contribute to Educational Resilience

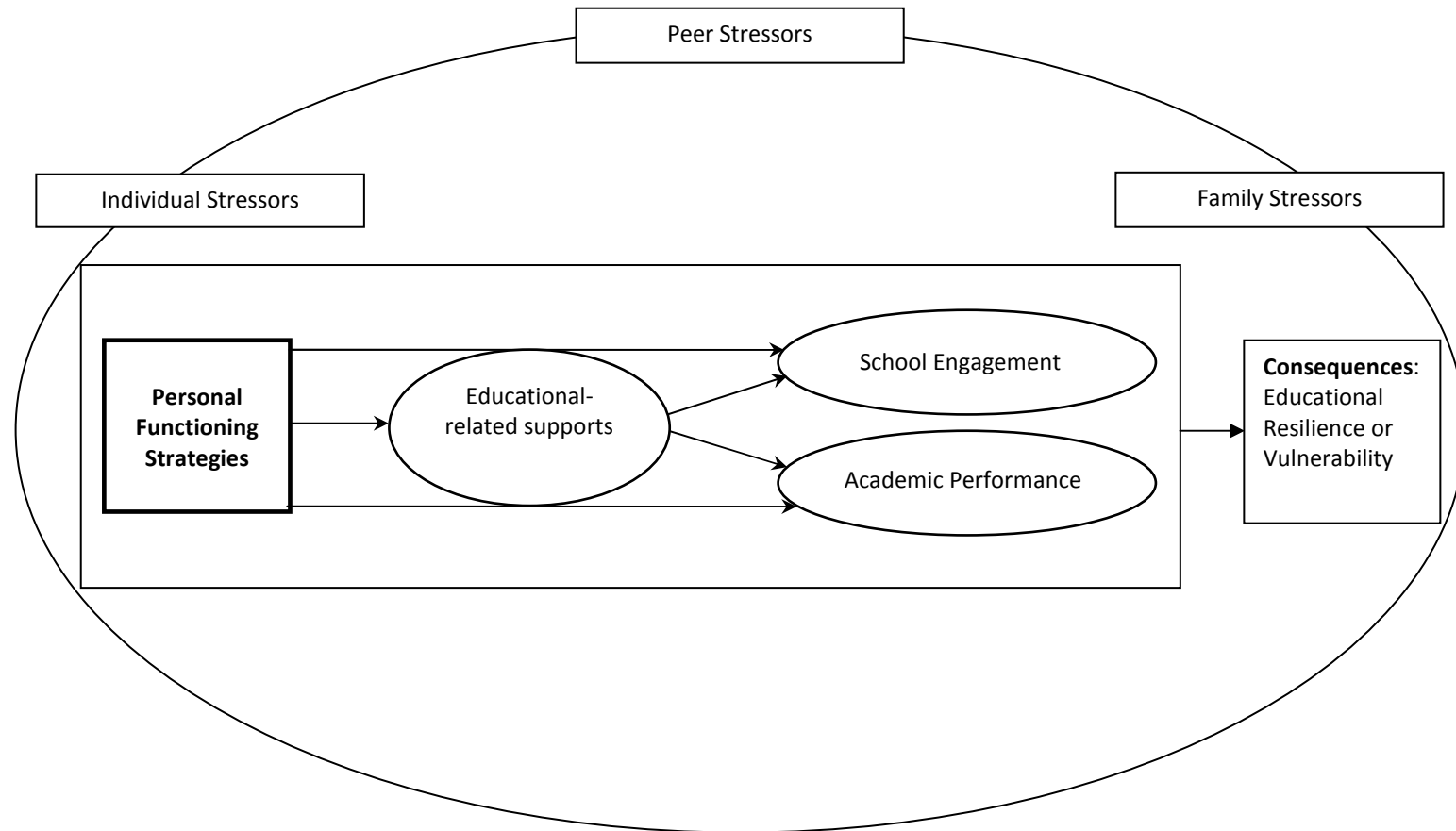


Table 1

Definitions of Codes Used To Categorize Participants' Educational Trajectories

CODE	DEFINITION	GUIDELINES/NOTES	EXAMPLES
PARTICIPANT'S EDUCATIONAL STATUS OR ATTAINMENT			
Status: Dropped	P has dropped out of high school and did not return or get her GED	<p>NOTE: If the participant is on an official or unofficial maternity leave from school, and plans to return after a specified number of weeks, or is receiving home tutoring from her school during her pregnancy or after she gives birth, this participant's status should be In HS/GED, NOT Dropped. Alternatively, if the participant had taken a so-called maternity leave but never returned, her status would be Dropped. If the participant has taken any concrete action toward resuming or continuing her education, including taking a GED placement test, calling a GED or other program or her school to inquire about continuing, studying for the GED at home even if she is not enrolled in a program, or being enrolled but not yet beginning to attend, her status should be In School. Her Ed path would be either On Track or Resumed, depending on the other circumstances of her case (i.e. On Track if she had no other interruptions in her schooling). If the participant has taken no action at all, and only indicates that she "plans" to resume her education she will be considered Dropped/Discontinued.</p>	
Status: In HS/GED	P is currently in high school or attending a GED program	<p>NOTE: If the participant is on an official or unofficial maternity leave from school, and</p>	If the participant is taking a "maternity

		<p>plans to return after a specified number of weeks, or is receiving home tutoring during her pregnancy or after she gives birth, this participant's status should be In HS/GED, NOT Dropped.</p> <p>If the participant has taken any concrete action toward resuming or continuing her education, including taking a GED placement test, calling a GED or other program or her school to inquire about continuing, studying for the GED at home even if she is not enrolled in a program, or being enrolled but not yet beginning to attend, her status should be In School. Her Ed path would be either On Track or Resumed, depending on the other circumstances of her case (i.e. On Track if she had no other interruptions in her schooling). If the participant has taken no action at all, and only indicates that she "plans" to resume her education she will be considered Dropped/Discontinued.</p>	<p>leave" from school because of her pregnancy, she might say something like, "I'm taking a couple months off because I just had the baby;" or "My school said I had to stop coming when I was 8 months pregnant so I'm going back once the baby is born."</p>
Status: Completed HS/GED	P has graduated from high school or earned her GED		
Status: In post HS/College	P is currently pursuing post HS training, including a special career degree (e.g., CNA), college, or another advance degree		
Status: Completed Post HS/College	P has completed a post-high school or post-GED training program or advanced degree		

EDUCATIONAL PATHWAY (<i>How the participant's pregnancy affected her educational path</i>)			
EH: Ed Path: On Track	<p>P has not had any interruptions in high school/GED education.</p> <p>An interruption would include (but is not necessarily limited to): dropping out; not attending school for a period of time; having to repeat a grade (including because of missing too much school); or getting expelled or kicked out of school.</p>	<p>Ed Pathway codes are applied to high school or GED programs only.</p> <p>NOTE: If the participant is receiving home tutoring during her pregnancy or after she gives birth, her Ed Path should be On Track. If the participant has taken any concrete action toward resuming or continuing her education, including taking a GED placement test, calling a GED or other program or her school to inquire about continuing, studying for the GED at home even if she is not enrolled in a program, or being enrolled but not yet beginning to attend, her status should be In School. Her Ed path would be either On Track or Resumed, depending on the other circumstances of her case (i.e. On Track if she had no other interruptions in her schooling). If the participant has taken no action at all, and only indicates that she "plans" to resume her education she will be considered Dropped/Discontinued. If the participant graduated high school when she was 18, and DOES NOT SPECIFY that she ever had any interruptions in her schooling, you can assume that her Ed Path is On Track. In these cases, please create a memo indicating that there is no evidence to the contrary.</p>	
Ed Path: Interrupted-Resumed	<p>There has been some interruption in high school/GED education history, but P has resumed</p>	<p>Ed Pathway codes are applied to high school or GED programs only.</p> <p>NOTE: If the participant is on an official or</p>	<p>If the participant is taking a "maternity leave" from school</p>

	<p>educational activities toward pursuit of a secondary degree.</p> <p>An interruption would include (but is not necessarily limited to): dropping out; having to repeat a grade (including because of missing too much school); or getting expelled or kicked out of school.</p>	<p>unofficial maternity leave from school, and plans to return after a specified number of weeks, or did take a maternity leave in the past and has returned to school, her Ed Path should be Interr-Res.</p> <p>If the participant has taken any concrete action toward resuming or continuing her education, including taking a GED placement test, calling a GED or other program or her school to inquire about continuing, studying for the GED at home even if she is not enrolled in a program, or being enrolled but not yet beginning to attend, her status should be In School. Her Ed path would be either On Track or Resumed, depending on the other circumstances of her case (i.e. On Track if she had no other interruptions in her schooling). If the participant has taken no action at all, and only indicates that she "plans" to resume her education she will be considered Dropped/Discontinued. Failure to complete all requirements in the 12th grade or to pass the MCAS will be treated as an interruption, similar to repeating a grade.</p>	<p>because of her pregnancy, she might say something like, "I'm taking a couple months off because I just had the baby;" or "My school said I had to stop coming when I was 8 months pregnant so I'm going back once the baby is born."</p>
<p>Ed Path: Interrupted- Discontinued</p>	<p>There has been interruption in high school/GED education, and P discontinued schooling</p>	<p>Ed Pathway codes are applied to high school or GED programs only.</p> <p>If the participant has taken any concrete action toward resuming or continuing her education, including taking a GED placement test, calling a GED or other program or her school to inquire about continuing, studying for the GED at home</p>	

		<p>even if she is not enrolled in a program, or being enrolled but not yet beginning to attend, her status should be In School. Her Ed path would be either On Track or Resumed, depending on the other circumstances of her case (i.e. On Track if she had no other interruptions in her schooling). If the participant has taken no action at all, and only indicates that she "plans" to resume her education she will be considered Dropped/Discontinued. Failure to complete all requirements in the 12th grade or to pass the MCAS will be treated as an interruption, similar to repeating a grade.</p>	
INTERSECTION OF PREGNANCY AND EDUCATIONAL HISTORY			
Timing: Before HS	P became pregnant before high school		
Timing: During HS/GED	P became pregnant during high school or a GED program		
Timing: After HS/GED	P became pregnant after completing high school or earning her GED		
Timing: After Dropped HS/GED	P became pregnant after dropping out of high school or a GED program		
Timing: Before Dropped HS/GED	P became pregnant before dropping out of high school or a GED program	May co-occur with other codes in Timing category	

Table 2

Stress Code Definitions

POTENTIAL STRESSORS			
INDIVIDUAL POTENTIAL STRESS FACTORS (<i>factors relating to the MHFE participant</i>)			
CODE	DEFINITION	GUIDELINES/NOTES	EXAMPLES
Stress: Individual: Health	Includes any illness or physical ailment, e.g., chronic or acquired illnesses, STD, physical disability that requires medical attention, life threatening or otherwise serious injury. Code should still be used if the individual recovered from the illness or ailment.	Included in this code is pregnancy-related sickness that led to absence from work or school (e.g., excessive vomiting).	
Stress: Individual: Adjustment: Mental	Includes any disorder that would be classified as a mental disorder in the DSM-IV-TR, e.g. depression, anxiety, bipolar disorder, suicidal ideation, ADHD, ADD, learning disability, developmental disability.		
Stress: Individual: Adjustment: Risky	Includes alcohol and drug use; acting out; self-harming behavior (cutting, self-mutilation); running away from home, juvenile detention, criminal or DYS involvement, hospitalizations, group home placement, gang involvement, participation in community violence, violent behavior.		
FAMILY POTENTIAL STRESSORS			
Stress: Family: Death Parent	Death of one parental figure (any adult who is the primary caregiver, e.g. biological parents, adoptive parents, grandparents raising their grandchildren, foster parents).		

Stress: Family: Parent Conflict	Includes parental conflict, divorce, separation, infidelity, fighting	Includes conflict, divorce, separation, infidelity, fighting between one biological parent and a partner who is not the P's biological parent.	
Stress: Family: Poor Relationships	<p>Apply this code if at least one of the following is true:</p> <ul style="list-style-type: none"> Participant describes having a very or intensely poor relationship (conflict, tension, lack of warmth and affection, or unfair treatment) with member(s) of nuclear or extended family (parental figures, siblings, grandparents, etc.). Participant <u>does not mention a single family member</u> with whom she had a positive relationship as a child. By positive relationship we mean a warm and loving relationship, in which the participant felt cared for, could count for support, and/ or could confide in that person. Does not apply to interviews where the questions about family were not asked and no information about family relationships was volunteered by the participant, or when you can't affirm that the participant was given an opportunity to talk about her family relationships. 	FOB's family is treated as extended family, even if the P and FOB are not married	"So the 10 th grade year my mother stopped talking to me, stopped associating, she stopped doing what I asked her to do, and all this other stuff."
Stress: Family: Separation	Apply this code if at least one of the following is true:	If one of the parents leaves the household due to parental conflict, code	

	<ul style="list-style-type: none"> Participant describes that she never met one or both of her <u>biological</u> parents or has a distant relationship with him/her/them Participant describes finding out about her adoptive status Participant describes being raised by a single parental figure (biological or not) Participant describes a parental figure who was absent for extended periods (but also present for some). 	<p>in combination with Stress: Fam: Par Confl. This code is the only instance where biological parents and not any other parental figures are described.</p>	
<p>Stress: Family: Dysfunction</p>	<p>Apply this code if at least one of the following is true for any member of the family <u>except</u> parental figures (it's a separate category), e.g. siblings, members of extended family:</p> <ul style="list-style-type: none"> Substance abuse Criminal/antisocial behavior Incarceration Gang involvement, participation in community violence, violent behavior Mental health issues (e.g. depression, attempted suicide, any other DSM diagnosis). Life threatening or otherwise serious illness or injury, physical or developmental disability that requires medical attention 	<p>Exclude: characteristics of parental figures (it's a separate category). Members of the FOB's family, even if the P and FOB are not married, are considered extended, so would be included here.</p>	
<p>Stress: Family: Agency involvement</p>	<p>Apply this code if at least one of the following is true:</p> <ul style="list-style-type: none"> Child welfare placement of the 		

	<p>participant</p> <ul style="list-style-type: none"> • Informal placement of the participant into a “safer” environment • Suspected or substantiated case of abuse or neglect of the participant • Application to child welfare court against participant’s caregiver • Charges against participant’s caregiver • Participant received ongoing or past DSS/DCF services • Participant’s child received DSS/DCF services 		
Stress: Family: Caregiver Risk	<p>Apply this code if at least one parental figure (caregiver) can be characterized by the following:</p> <ul style="list-style-type: none"> • Substance abuse • Criminal/antisocial behavior • Incarceration • Gang involvement, participation in community violence, violent behavior 		
Stress: Family: Caregiver Mental	<p>Apply this code if at least one parental figure (caregiver) is depressed, or has another mental illness, or attempted suicide</p>		
Stress: Family: Caregiver Phys	<p>Apply this code if at least one parental figure (caregiver) experienced a life threatening or otherwise serious illness or injury, or has a physical disability that requires medical attention</p>		
Stress: Family:	<p>Apply this code if at least one of the</p>		

Economic	following is true: <ul style="list-style-type: none"> • Participant's family lived in a shelter • At least one caregiver had lost employment • Participant's family had inadequate health care, housing, food and transportation resources • Participant's family experienced poor housing quality; crowding • Participant's family experienced loss of home due to fire, flood, foreclosure, eviction. 		
Stress: Family: Immigration	Immigration stories involving the participants or her family members should be coded regardless of whether stress or family separation was experienced by the participant.	Exclude: spending summers in other countries.	
PEER RELATIONSHIP POTENTIAL STRESSORS			
Stress: Peers: Relationships	Participant describes conflict with peers (verbal or physical fights), peer rejection, being ostracized or bullied by peers, teasing, violence, or conflict in romantic relationships.	Exclude: the participant describes herself as having no friends by choice. FOB or participant's boyfriend goes in this category.	
Stress: Peers: Deviant	Participant describes being in an environment where she observed her peers engaged in one of the following: <ul style="list-style-type: none"> • Substance abuse • Criminal/antisocial behavior • Incarceration • Gang involvement, participation in community 	If the participant is also engaged in these behaviors, apply this code in combination with Risk: Ind: Adjust: Risky. FOB or participant's boyfriend goes in this category	

	violence, violent behavior		
Stress: Peers: Death	One or more friends or acquaintances of the participant died (homicide, suicide, accident or death due to illness).	FOB or participant's boyfriend goes in this category	
SCHOOL POTENTIAL STRESSORS			
Stress: School: Conflict Personnel	Participant describes perceived unfair treatment by school personnel, hostile treatment by authority figures.	Use in combination with EH: engage code if appropriate	
Stress: School: Bad School	Participant describes poor quality of her school, teacher attrition, lack of stimulating environment, school violence, peer culture characterized by truancy or antisocial behaviors including drug use.	Applies to high school experiences.	
Stress: School: Transience	Participant changed high schools at least twice.	Any program pursued by the participant for the purpose of attaining a high school diploma or GED should be included in this category and counted as a transition.	
COMMUNITY POTENTIAL STRESSORS			
Stress: Community: Violence	Participant describes shootings, muggings, assaults, or high crime rates, including against participant or her family members, in her community.	Use for assault by a stranger or acquaintance. If the assaulter is a peer, double code with Stress: Peers: Rel. If assault was by a partner, use Fam viol: other code.	
Stress: Community: Racism	Participant describes being a victim of racism or witnessing racist treatment of her family or friends.		
Stress: Community: Trauma	Participant describes living in a place where war, famine, or mass killings of people occurred.		

Table 3

Personal Functioning Code Definitions

PERSONAL FUNCTIONING STRATEGIES DIRECTED AT THE SELF: Responses to challenging circumstances emphasize a thinking or attitude approach, or a change in one’s behaviors. These responses are focused on the individual being affected by the challenging circumstances; they are directed “within.” Responses might be discussed as planned for a future time, may be currently in process, or may already have been “completed.”			
CODE	DEFINITION	GUIDELINES/NOTES	EXAMPLES
Personal functioning: Self: Acceptance/Positive Emotionality	Acceptance and positive emotionality: The participant describes having approached or currently approaching a situation or challenge by accepting it, rather than resisting it, and/or with a positive attitude or positive thinking	Will often, but not always, occur during adverse circumstances.	-P describes past situation where she learned to “make the best of” a situation she didn’t like because she believed it would have better outcomes for her -P exhibits a positive attitude about what she can still achieve in her life even though she will have a baby
Personal functioning: Self: Motivation	Participant describes having approached or currently approaching a situation or challenge in a way that exemplifies motivation, such as to complete something or pursue something, most likely a change in herself, or a mindset. This motivation is directed inward.	Will often, but not always, occur during adverse circumstances.	-P discusses the challenges of balancing parenthood and life with school, but says she does not want to quit school after having come this far.
Personal functioning: Self: Confidence/pride	Self-confidence and pride: Participant expresses self-confidence in her abilities, her skills, her potential, etc., and/or describes herself as feeling proud of her actions, her life or lifestyle, her parenting style, etc.	Will often, but not always, occur during adverse circumstances.	-P feels she has achieved a lot for her age; is responsible -P describes feeling good about changes she’s made in her life (she feels like she’s a better person now)—she’s back in honors classes in school, avoids drugs and

			fighting.
Personal functioning: Self: Independence	Independence: Participant seems to approach situations or live her life in an independent way, that is, to mostly rely on herself	Will often, but not always, occur during adverse circumstances.	-P. describes frustration at woman who is aggressive in giving her advice about how to care for baby. She says that she prefers to stick to her own beliefs (and advice she gets from her doctor) about how to care for her child. -P says she's always worked because she likes having her own money.
Personal functioning: Self: Spirituality	Participant uses spiritual beliefs or practices to approach situations or challenges, and uses these beliefs to affect her thinking, feelings, or some other internal process.	Will often, but not always, occur during adverse circumstances.	-P. mentions that she is born-again Christian and that she is utilizing spirituality to work to forgive her father for pain he has caused her.
PERSONAL FUNCTIONING STRATEGIES DIRECTED AT THE ENVIRONMENT: <i>Responses to challenging circumstances emphasize interactions with others or acting upon the environment, apparently with the intention of immediately or eventually benefiting the individual; they are directed "outward." Responses might be discussed as planned for a future time, may be currently in process, or may already have been "completed."</i>			
Personal functioning: Environment: Avoid antisocial influences	Avoidance of antisocial people and activities: Participant has or is currently separating herself from people, activities, or situations that involve risky behaviors such as substance abuse, fighting, or criminal activity, or in other behaviors that she feels are not good for her, such as manipulation or pessimism.	Will often, but not always, occur during adverse circumstances.	-P. ended her relationship with FOB when he became involved in criminal activities. -P. consciously distanced self from friends that she felt would have a bad influence on her (either because of drug use or controlling behavior).
Personal	P. describes resourceful thinking,	Will often, but not always, occur during adverse	-P talks about reading a lot

<p>functioning: Environment: Resourceful</p>	<p>behaviors, or approaches to situations. She seems to seek assistance by utilizing resources, such as individuals she has relationships with, public or private organizations, or material resources such as books or the internet.</p>	<p>circumstances.</p>	<p>during her pregnancy and reports now feeling confident in raising her child. -P. asked father for assistance with financial planning when finding out she was pregnant and being afraid about how she would manage.</p>
<p>Personal functioning: Environment: Motivation</p>	<p>Participant describes having approached or currently approaching a situation or challenge in a way that exemplifies motivation, such as to complete something or pursue something. This motivation is directed toward the environment, so involves other individuals, organizations, etc. When motivation is illustrated in a P's story, she is generally pursuing something that will eventually benefit her or her baby.</p>	<p>Will often, but not always, occur during adverse circumstances.</p>	<p>-P stopped attending school when she was pregnant and then decided she wanted to get her diploma. The school made it very difficult for her to re-enroll but she continued to pursue it until she was successful. She had experienced depression and financial hardship during this period. -Worked hard to continue going to school—felt it would otherwise be a waste of many years of education.</p>
<p>Personal functioning: Environment: Initiative</p>	<p>P takes initiative or behaves proactively to get something done. (It is not necessary for another party to be resistant to her efforts for the P's actions to be considered proactive.)</p>	<p>Will often, but not always, occur during adverse circumstances.</p>	<p>-P describes working to figure out what she would like to pursue professionally. Despite the school staff not being very helpful she pushes them to get what she needs (information).</p>

Table 4
Academic Performance Code Definitions

PERFORMANCE HISTORY			
CODE	DEFINITION	GUIDELINES/NOTES	EXAMPLES
Performance: Good	P describes herself as having done or doing well academically during high school	It is not necessary to have knowledge of the grades the participant received to determine her performance. Use her self-assessment of how she did in school. However, if the participant shares that info, incorporate it into your decision about which code to use (e.g. C is average, A & B is good, D and F is not good).	
Performance: Not good	P describes herself as having done or doing poorly academically during high school	It is not necessary to have knowledge of the grades the participant received to determine her performance. Use her self-assessment of how she did in school. However, if the participant shares that info, incorporate it into your decision about which code to use (e.g. C is average, A & B is good, D and F is not good).	
Performance: Average	P describes herself as having been or being an average high school student in terms of her academic performance	It is not necessary to have knowledge of the grades the participant received to determine her performance. Use her self-assessment of how she did in school. However, if the participant shares that info, incorporate it into your decision about which code to use (e.g. C is average, A & B is good, D and F is not good).	
Performance: Difficulties	P says that she had or has academic difficulties in high school		
Performance: Changed with	P's academic performance in high school <i>improved</i> when she		

pregnancy	became/was pregnant or when she had her child, and she attributes the improvement to her pregnancy/birth of her child		
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Table 5

School Engagement Code Definitions

EDUCATIONAL ENGAGEMENT HISTORY			
CODE	DEFINITION	GUIDELINES/NOTES	EXAMPLES
Engagement: Engaged	Participant indicates having been in the past, or currently being, engaged in high school (i.e. liking school, being interested in her educational experience, etc.). Include both social and academic aspects of engagement (e.g., if she says she liked school socially, had a lot of friends in school, liked going to school, etc.).	Good performance is not <i>necessarily</i> an indication of the participant being engaged in school. It is okay to code BOTH Engage and Not engage if she likes one aspect of school and not another. EH: Engage codes are applied to high school or GED programs only.	
Engagement: Not engaged	Participant indicates not being or not having been engaged in school (i.e. not liking school, not being interested in her educational experience, etc.)	It is okay to code BOTH Engage and Not engage if she likes one aspect of school and not the other. EH: Engage codes are applied to high school or GED programs only.	
Engagement: Attendance issues	Participant currently does not or did not in the past regularly attend school; she reports skipping school a lot for any reason, including mental or physical health	If for mental or physical health, also code Stress: Indiv: Adjust: Mental or Stress: Indiv: Health EH: Engage codes are applied to high school or GED programs only.	
Engagement: Changed with pregnancy	The participant indicates that her level of engagement <i>improved</i> when she became pregnant. For	EH: Engage codes are applied to high school or GED programs only.	

	<p>example, she may have become more motivated to complete school and/or perform better.</p>		
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Table 6

Education-Related Supports Code Definitions

SUPPORT (<i>Support given to the participant by various individuals, in various forms, for various needs</i>).			
SUPPORT FROM WHOM			
CODE	DEFINITION	GUIDELINES/NOTES	EXAMPLES
Support: School	Source of support is an individual or more than one individual from a participant's school, including a program offered by the school	Support codes should be applied either when the participant describes an organization or individual who was <i>intending</i> to be helpful, or when she found the support of an organization or individual helpful. It is certainly okay to code for support when both of these conditions are present, but it is NOT necessary that the participant found the support efforts helpful to apply support codes.	
TYPES OF SUPPORT			
Support: Instrumental	Help with daily living, such as giving rides, accompanying to appointments or services, providing material or financial resources, or providing hands-on assistance or guidance	Support codes should be applied either when the participant describes an organization or individual who was <i>intending</i> to be helpful, or when she found the support of an organization or individual helpful. It is certainly okay to code for support when both of these conditions are present, but it is NOT necessary that the participant found the support efforts helpful to apply support codes.	
Support: Emotional	Emotional support, such as talking, being a source of comfort, "being there" when the participant was experiencing emotional distress	Support codes should be applied either when the participant describes an organization or individual who was <i>intending</i> to be helpful, or when she found the support of an organization or individual helpful. It is certainly okay to code for support when both of these conditions are present, but it is NOT necessary that the participant found the support efforts helpful to apply support codes.	

<p>Support: Informational</p>	<p>Providing support in the form of information, delivered in oral or written form (e.g., telling participant about the availability of a service, informing them how something works)</p>	<p>Support codes should be applied either when the participant describes an organization or individual who was <i>intending</i> to be helpful, or when she found the support of an organization or individual helpful. It is certainly okay to code for support when both of these conditions are present, but it is NOT necessary that the participant found the support efforts helpful to apply support codes.</p>	
DOMAIN OF SUPPORT			
<p>Support: Education</p>	<p>Help in the area of education, such as help with homework or academic difficulties, advocacy on behalf of the student, recommendations about alternative educational programs or services, flexibility provided in response to student's special circumstances, advising regarding future education goals or course, etc.</p>		

Table 7

Special Programs Code Definitions

SPECIAL PROGRAMS			
CODE	DEFINITION	GUIDELINES/NOTES	EXAMPLES
Special Program: Vocational/Technical	P attended/attends a Vocational/Technical HS, a school for students interested in a specialization, was/is part of a program or track in school for youth interested in a specialization, was/is part of a “co-op” program or work-study program in which students spend part of the day in school and part of the day working at a job (usually not located on school grounds), participated/participates in YouthBuild/Just-A-Start, ROTC, took/takes some vocational classes in her school, or attended/attends a magnet school. Include JobCorps and MyTurn participants here ONLY IF they were/are still attending high school while participating in the program.	Participant may also refer to a “co-op” program as a “work release program.” The EH: Spec prog codes should only be used to refer to programs the participant is involved in while pursuing her secondary education (i.e. high school or GED).	In addition to examples of programs in the definitions column, other examples include Magnet school, Arts High School, Carpentry or Mechanics, etc.
Special Program: Special needs support	P received/receives supports for a special need (such as a learning disability), including an IEP, IEP tutor, or classroom aide, or was in special education classes or a “resource room” in school.	The EH: Spec prog codes should only be used to refer to programs the participant is involved in while pursuing her secondary education (i.e. high school or GED).	
Special Program: Academic support	P was/is provided with special academic assistance such as tutoring, an after-school academic assistance program, or summer school.	The EH: Spec prog codes should only be used to refer to programs the participant is involved in while pursuing her secondary education (i.e. high school or GED).	
Special Program: Mental health	P saw/sees a counselor or therapist, including an “adjustment counselor.”	When using this code, apply a memo indicating whether the counselor or therapist was or was	

support	Include participation in an ART ONLY IF the participant specifies that it is related to mental health.	not affiliated with the participant's school, or if there is not enough information in the transcript to determine that. The EH: Spec prog codes should only be used to refer to programs the participant is involved in while pursuing her secondary education (i.e. high school or GED).	
Special Program: GED	P went to a GED program in the past, is enrolled in a GED program, is currently attending a GED program, or has earned her GED. Include JobCorps and MyTurn program participants here ONLY IF they had/have dropped out of high school and were/are working toward their GED while participating in the program.	Do not use if P says that she would <i>like to</i> pursue her GED but has no actual, concrete plan to do so. The EH: Spec prog codes should only be used to refer to programs the participant is involved in while pursuing her secondary education (i.e. high school or GED).	
Special Program: Night school	Participant attended/attends high school or GED classes in the evenings.	The EH: Spec prog codes should only be used to refer to programs the participant is involved in while pursuing her secondary education (i.e. high school or GED).	
Special Program: Alternative/Behavioral school	P attended/attends an alternative high school or school for you with behavioral problems. Also use if the participant was in a program in a public high school for youth with behavioral problems.	The EH: Spec prog codes should only be used to refer to programs the participant is involved in while pursuing her secondary education (i.e. high school or GED).	
Special Program: Pregnancy/Parent program	P describes a program or type of assistance offered to her as a result of her being pregnant or being a teen mother. May include: school for teen moms, at-home tutoring for teen moms/pregnant teens, accelerated high school degree program for teen moms, maternity leave from school, childcare provided in school, childrearing classes in school, nurse in school for pregnant/	Exclude: Healthy Families The EH: Spec prog codes should only be used to refer to programs the participant is involved in while pursuing her secondary education (i.e. high school or GED).	

	parenting moms, School Age Mothers school (i.e. SAMS), or other programs for teen parents. Also include out-of-school pregnancy/parenting programs such as: YPP (Young Parent's Program), VNA (Visiting Nurse Association), and Better Beginnings.		
Special Program: Agency involvement	P received/receives services from, or had/has a social worker from, one of the following agencies: Juvenile Justice System/DYS, probation, DSS/DCF/foster care, Dept. of Mental Health, Early intervention, welfare/TANF/DTA, WIC, CHINS, Food stamps. Include CRC (Community Re-entry Center) involvement.	If the participant was arrested once but was not assigned a juvenile justice social worker or did not spend time in detention or a juvenile justice program, do not use code. The EH: Spec prog codes should only be used to refer to programs the participant is involved in while pursuing her secondary education (i.e. high school or GED).	
Special Program: Risky behavior program	P received/receives services or was/is enrolled in a program for substance abuse (including a rehabilitation or detox program). Include participation in an ART ONLY IF the participant specifies that it is related to substance abuse.	The EH: Spec prog codes should only be used to refer to programs the participant is involved in while pursuing her secondary education (i.e. high school or GED).	
Special Program: Extracurricular	P participated/participates in an extracurricular program in or out of school. The program might be focused on youth development, athletics, arts, academic achievement, leadership, mentoring, or other types of skills.		Drill team or other sports team, Girls Inc., YM/WCA, Internship program, Big Sisters, ROTC, etc.
Special Program: Other	If a program is mentioned by the participant but the interview does not contain information about what type of program it is, use the code EH: Spec prog: [enter actual name of program].	**When using this code, please "google" the name of the program and if you are able to find it and a description of the program, please include that information, including the web address, in a memo.	

Table 8

Example of Single-Case Matrix

Participant ID: CA8

Trajectory: Continuous Attender

Construct	Coding Categories	Codes	Summary
<i>Stress</i>	Individual (Health, Mental, Risky)		
	Family: Dealing w/ Caregiver Characteristics (Careg: Mental, Phys, Risk)	Caregiver risk	-When participant was in fifth grade DSS required her to move out because her father had a drinking problem. She moved in with her grandmother and since then her father has lived a couple streets away and she sees him every day (150). She says he does not really have an alcohol problem anymore (175).
	Family: Dealing w/ the rel'p. btwn. the P. and the parent (Fam: Death Par, Poor rel, Separ)	Separation	She is in touch with her mother; they talk, and see each other every 4-5 years; P visited her over the past summer.
	Family: Affecting family as a unit (Fam: Dysf, Econ, Immig, Par Confl)	Parent Conflict	-P only lived with her mom for about 3 months; she and P's dad were having problems and separated when she was a baby.
	Peer (Rel, Deviant, Death)		
	Other stressors (any additional stressors not listed above)	Agency involvement	-When she was in fifth grade participant was not allowed to live with her father anymore, by order of DSS, because of his drinking problems; she was required to go live with her grandmother.
<i>Personal Functioning Strategies</i>	Directed at the Self (A/PE, Motivation, Confidence/Pride, Independence, Spirituality)	Confidence/Pride, Motivation	-“...I’m staying n school. It’s going to be wicked hard, but I’m going to stay. I’m a smart girl, I’m not letting it go to waste” (53). -More reactions to

			<p>pregnancy/what she considered: "my future. I really really want to go to college. I'm a really smart girl, I'm not going to let anything happen to that" (132).</p>
	<p>Directed at the Environment (Avoid antisocial, Resourceful, Motivation, Proactive, Spirituality)</p>	<p>Motivation, resourceful</p>	<p>-Although participant does not really need to be in the resiliency program for the academic help any longer she remains in it because she likes it (221). "It's helped me a lot. At first it got my grades up because I had to do my work, but it gets you into a habit of getting your stuff done. I don't really need to be in it anymore, I just am because I like it" (221).</p>
	<p>Reflective/analytic thinking</p>		<p>-Interviewer asks why she was not doing well in school before 10th grade: "I have this thing where I'll either get it done but forget to hand it in or lose it. I'm disorganized, so I have to work on that" (67). -Reactions to pregnancy: "I was just really scared, trying to think about what I had to do, how everything is going to change, but it's better now" (114). "Worried about financially how I'm going to do this. That's pretty much it. I was just trying to figure that out" (118). -More reactions to pregnancy: "if my situation here, would it be okay, financially, and with my grandmother and my dad, because obviously I'm going to need their help and I'm not going to throw them into this without them</p>

			<p>being okay with it. And responsibility. It's just a lot of responsibility" (134).</p> <p>-If she had given her child up for adoption she would have worried about the baby everyday (136).</p> <p>-Since she has been pregnant she cannot be in a room of smokers; it makes her nauseous and she is conscious about taking care of herself (279).</p>
<i>School performance</i>	Good, not good, average, difficulties, changed with pregnancy	Difficulties, good	<p>-Prior to the 10th grade participant had a hard time in school – she wasn't doing her work. She explains that the reason she had done poorly in school previously was because she is disorganized.</p> <p>-In the 10th grade participant was doing well (had a 3.0 by the end of the year) (65).</p>
<i>School Engagement</i>	Engaged, not engaged, attendance issues, changed with pregnancy	Engaged	-Expresses pride in her performance in school and has no problem socially.
<i>Education-related support</i>	Source of support: Supp: Self, kith and kin, school, HV, other	School personnel	-Participant and the teen pregnancy nurse at school had participant's grandmother come in and sit down with the two of them about her pregnancy (124).
	Domain of support: Supp: Edu	Emotional, instrumental, education	<p>-Participant says she has become very close to the staff in the resiliency after school program she is in: "especially the program I mentioned earlier, resiliency. The staff – you get really close to them, I can rely on them for anything (211). The staff members are in their 20s.</p>

			<p>She is especially close with one of the staff members in the program (231).</p> <p>-Participant feels the school has been very supportive of her pregnancy, especially the pregnancy nurse: "they just help you at first to find ways to tell your parents, and they try to connect to with resources like Healthy Families. They do whatever they can" (225).</p>
	<p>Special programs (all EH: Spec Prog codes)</p>	<p>Academic support</p> <p>Pregnant/parenting</p>	<p>-Her school placed her in a voluntary program called resiliency: "... When you don't have your work done or turn it in, your teachers let them know, and you have to stay after until it's done. But we go on trips and stuff so it's not bad" (69).</p> <p>-there is a nurse for pregnant parenting moms at school (124). "Once a week or once every couple weeks you go down and talk to the nurses, and they help you set up appointments and figure out what you're supposed to be doing. They help you stay on track..." (237).</p>

Educational trajectory: Completed 10th grade; now summer after 10th. Participant became pregnant during the 10th grade, in April. She plans on continuing with school and graduating and would like to go to college.

Other: 16; met FOB (who is 18 now) when she was 13, starting dating when she was 15; not with FOB now. They dated a couple months before she got pregnant. Pregnancy was unplanned. P has lived with her grandmother all her life and grandmother is like her mother (19). She has been very supportive of participant's pregnancy (124). Participant is very close with her father (always has been) and her grandmother (144). Her father is very emotionally supportive and helps whenever he can even though he can't really help financially (269). Participant's father is accepting the pregnancy but feels the participant is making a mistake (124). Her sister was very supportive in helping the participant find a way to tell her grandmother she was pregnant (122). Her grandmother and her sister helped her somewhat with the decision to keep and raise the baby, "but mainly it was

just me" (138). There is a friend of the family who participant considers to be like a second mom (158).

Profile for CA8:

Relationships with school staff prior to pregnancy: participant had and continues to have a close relationship with the staff in the resiliency program.

Relationships with school staff after pregnancy: sounds like she has a good relationship with the pregnancy nurse. The nurse helped her tell her grandmother about the pregnancy.

School accommodations related to pregnancy: nurse for pregnant students and moms

Special programs: Pregnancy/parenting: pregnancy nurse – told her about Healthy Families, help her set up appointments and stay on track in terms of parenting preparation. Academic support: she was placed in a voluntary program called resiliency – students stay after school until their work is completed and they go on trips. The staff is very supportive.

Engagement and performance pattern: Prior to the 10th grade she was having difficulty in school but the resiliency program she participates and seems to have helped her with her organizational skills and her work, and therefore her GPA which she seems proud of. She has no problems in school socially, so she has a network of friends, and is very close to the staff in the resiliency program.

Personal functioning strategies: motivation, resourceful: although she does not need to remain in the resiliency program for the academic support she continues to stay in it and benefit from the close relationship she has with the staff, and although she does not say it, it may continue to help her stay on track with school as well.

Confidence/pride: participant feels that she is very smart and is unwilling to compromise her education; when she became pregnant she knew she would stay in school and is very determined. Reflective/analytic thinking: her reactions to pregnancy included the knowledge that she would need the support of her father and grandmother, and she thought about how she would manage financially. She also explains that the reason she had done poorly in school previously was because she is disorganized.

Table 9

Cumulative Educational Protective Factors Identified for Adolescent Mothers by Educational Trajectory

Number of Educational Protective Factors	Continuous Attenders	Returns	Non-Returns
1	0	0	1
2	0	1	3
3	1	2	2
4	4	8	5
5	2	2	4
6	3	1	0
7	2	0	0
8	3	1	0

Table 10*Academic Difficulties and Lack of Engagement Prior to Pregnancy*

Educational challenges	Continuous Attenders	Returners	Non-Returners	Totals
Academic difficulties	12	12	13	37
Lack of engagement	10	12	12	34

Table 11

Types of Educational Risk Factors Interfering with Educational Success in Adolescent Mothers

Educational risk factors	Continuous Attenders	Returners	Non-Returners	Totals
Stressors only	2	0	4	6
Educational challenges only	4	2	1	7
Stressors and educational challenges	6	12	10	28
None	3	0	0	3
Total number of participants who experienced stressors as a risk factor	8	12	14	34
Total number of participants who experienced educational challenges as a risk factor	10	14	11	35

Table 12*Types of Special Educational Programs Participated in by Adolescent Mothers*

Type of special program	Continuous Attenders	Returners	Non-Returners	Totals
Academic support	4	6	3	13
Special needs support	2	2	4	8
Mental health support	6	7	6	19
Agency involvement	3	6	3	12
Vocational high school	6	6	4	16
Alternative/behavioral school or program	1	1	1	3
GED	0	4	5	9
Night school	1	1	1	3
Other type of small school	1	1	0	2
Risky behavior program	1	0	0	1
Extracurricular involvement	2	0	3	5
None	0	0	1	1

Table 13

Informal and Formal Pregnancy-Related Accommodations Received by Participants in School

Type of accommodations	Continuous Attenders	Returners	Non-Returners
Informal pregnancy accommodations	2	0	0
Formal pregnancy accommodations	6	5	0
Formal and Informal pregnancy accommodations	4	3	
Totals	12	9	0

Table 14*Pattern of Educational Risk and Protective Factors Contributing to Educational Resilience or Vulnerability in Adolescent Mothers*

Components of pattern of educational risk and protective factors			Participant trajectory groups		
Educational Risk Factors	Educational Protective Factors	Valence of Pregnancy	Continuous Attenders	Returns	Non-Returns
Stressors	School-based supports and general personal functioning strategies	Positive	1	0	0
Stressors	School-based supports and general personal functioning strategies	Negative	1	0	0
Stressors	School-based supports and general personal functioning strategies	Neutral	0	0	4
Educational challenges	School-based supports and general personal functioning strategies	Positive	1	2	0
Educational challenges	School-based supports and general personal functioning strategies	Negative	1	0	1
Educational challenges	School-based supports and general personal functioning strategies	Neutral	2	0	0
Stressors and educational challenges	School-based supports and general personal functioning strategies	Positive	5	8	0
Stressors and educational challenges	School-based supports and general personal functioning strategies	Negative	0	1	2
Stressors and educational challenges	School-based supports and general personal functioning strategies	Neutral	1	3	8
None	School-based supports and general personal functioning strategies	Neutral	3	0	0
None	School-based supports and general personal functioning strategies	Negative	0	1	0

Table 15*Valence of Pregnancy in Adolescent Mothers' Educational Trajectories*

Valence of pregnancy	Continuous Attenders	Returners	Non-Returners	Totals
Positive	7	10	0	17
Negative	2	2	3	7
Neutral	6	3	12	21

Table 16*Educational Attainment Scripts Demonstrated by Adolescent Mothers*

Script	Continuous Attenders	Returners	Non-Returners	Totals
<i>Educational attainment script that accommodated pregnancy</i>	13	3	0	16
<i>Educational attainment script activated by pregnancy</i>	2	7	0	9
<i>Obstacles to educational attainment script</i>	0	0	15	15
Could not be classified, but did not demonstrate an <i>obstacles</i> script	0	5	0	5

Figure 2

Depiction of Complex Interaction of Conditions Contributing to Educational Resilience in Adolescent Mothers who Possess an Educational Attainment Script That Accommodated Pregnancy

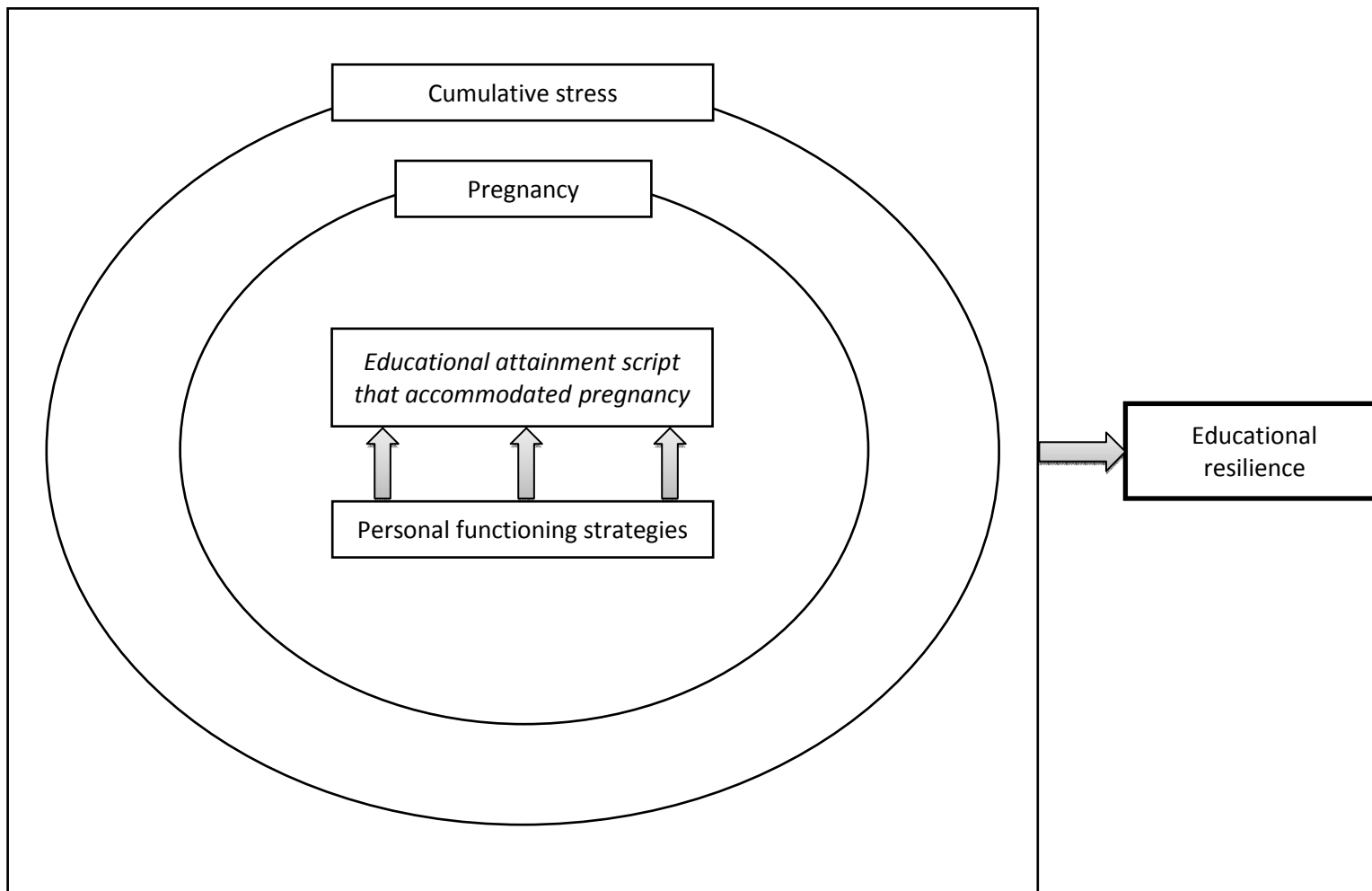


Figure 3

Depiction of Complex Interaction of Conditions Contributing to Educational Resilience in Adolescent Mothers who Possess an Educational Attainment Script That Was Activated By Pregnancy

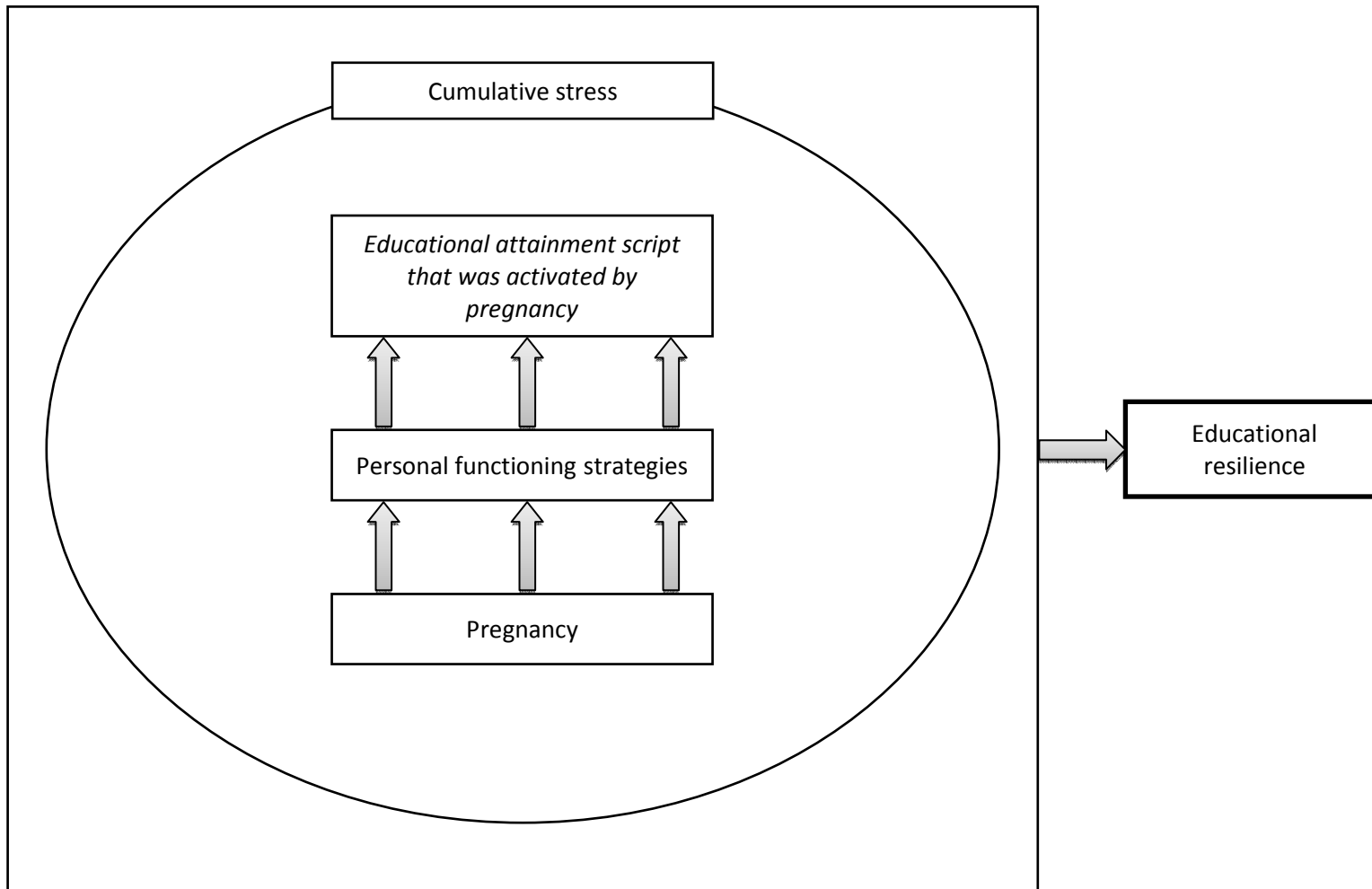
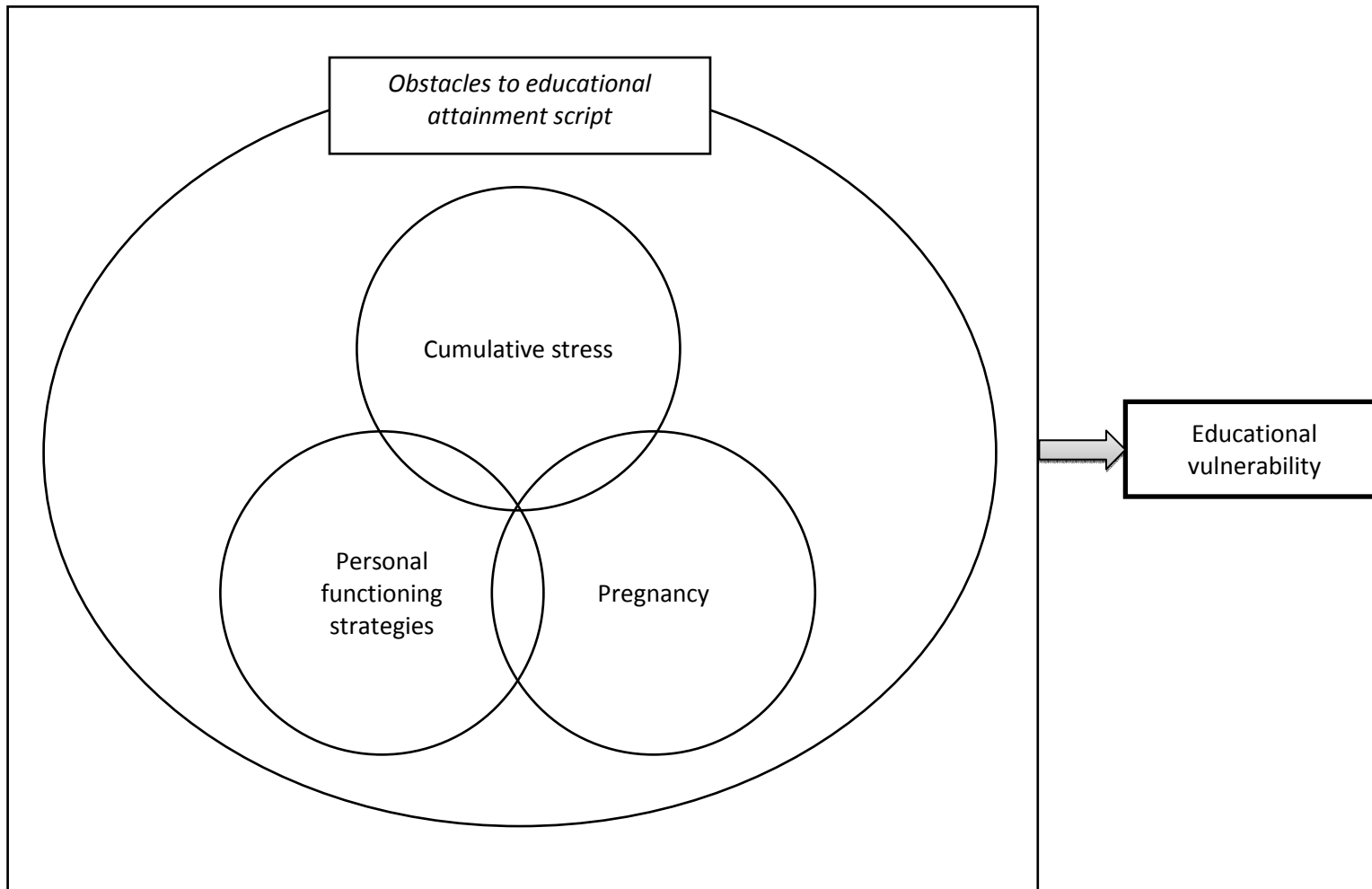


Figure 4

Depiction of Complex Interaction of Conditions Contributing to Educational Vulnerability in Adolescent Mothers who Possess an Obstacles To Educational Attainment Script



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