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Self-Esteem as a Predictor of Posttraumatic Growth and Adaptation among Maltreated
Early Adolescents

by

Hadar Simha Schwartz

A dissertation submitted to the Graduate Faculty in Clinical Psychology
in partial fulfillment of the requirements for the degree of Doctor of Philosophy,
City University of New York

2015

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This manuscript has been read and accepted by the Graduate Faculty in Psychology in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

Date

Denise Hien, Ph.D.
Chair of Examining Committee

Date

Joshua Brumberg, Ph.D.
Executive Officer, Psychology

Lissa Weinstein, Ph.D.

Adeyinka Akinsulure-Smith, Ph.D.

Ben Harris, Ph.D.

Diana Puñales, Ph.D.

THE CITY UNIVERSITY OF NEW YORK

ABSTRACT

Self-Esteem as a Predictor of Posttraumatic Growth and Adaptation among Maltreated Early Adolescents

By
Hadar Simha Schwartz

Adviser: Denise Hien, Ph.D.

Child maltreatment, including neglect and physical, sexual, and emotional abuse, affects 12% of American children each year (Wildeman, Emanuel, Leventhal, Putnam-Hornstein, Waldfogel, & Lee, 2014). Maltreatment can be devastating to an individual's development and is associated with considerable negative psychological sequelae, including high rates of depression and problem behaviors, impaired peer relationships, and low self-esteem (e.g., Bolger, Patterson, & Kupersmidt, 1998; Cicchetti & Carlson, 1989; Kim & Cicchetti, 2006; Swanston, Tebbutt, O'Toole, & Oates, 1997; Toth, Manly, & Cicchetti, 1992). However, despite a historic emphasis on the negative effects of trauma, not all children experience traumatic reactions (Cicchetti & Rogosch, 1997) and even among those who do, positive adaptation may occur simultaneously. The concept of posttraumatic growth (PTG) captures this phenomenon, describing the positive adaptation that can occur in the aftermath of tragedy. In this study, PTG was conceptualized as positive change in social competence and cognitive functioning. By weaving together the self-esteem, trauma, and adaptation literatures and examining these constructs simultaneously, this study explores the unique relationship between maltreatment and self-esteem among adolescents and considers means of facilitating and promoting adaptation and growth within this population.

Results: Results of a public use dataset, Longitudinal Pathways to Resilience in Maltreated Children, were examined through hierarchical multiple linear regression analyses to explore the presence of PTG among maltreated adolescents as compared to nonmaltreated adolescents. No

significant results were found. A factor analysis was then conducted to identify a subgroup of maltreated adolescents who had experienced PTG and to note the characteristics that differentiate the PTG group from the non-PTG group. No significant characteristics were identified. Lastly, a regression analysis was conducted to consider the role of self-esteem as a predictor of the relationship between maltreatment and posttraumatic growth. The results of this analysis were not significant. Various explanations for these non-significant results are proposed.

Keywords: maltreatment, child abuse, adolescence, posttraumatic growth, self-esteem

ACKNOWLEDGMENTS

This dissertation would not have been completed without the hard work, dedication, and commitment of so many talented and thoughtful individuals. First, I would like to thank my committee members who remained steadfastly supportive of my work throughout not just one but two dissertation proposals. Each of you went above and beyond with generosity and kindness. To Denise, who has served as an invaluable mentor throughout this dissertation process and with numerous other academic and clinical endeavors throughout my training. I am forever grateful for your willingness to provide advice, compassion, and encouragement, allowing me to explore my interests and my passions while also providing me with the structure and practical support that I needed to succeed. To Lissa, who brought both a sharp mind and a sharp wit to our every interaction. You always gave of yourself so openly and shared your expertise so readily. Thank you for sharing with me your appreciation and expertise of testing, psychoanalysis, and the dissertation process. To Yinka, who generously agreed to join this committee. You brought your thoughtfulness and expertise on international and women's issues to every discussion. Thank you for your unique insights into my dissertation work and for introducing me to seminal authors within the field of human trafficking.

I am lucky to have had two bright and talented readers on my committee who generously contributed their time and thoughtful reflection to this process. Both Ben Harris and Diana Puñales have been instrumental to my clinical training, helping provide me with clinical and supervisory experiences that have shaped the clinician, researcher, and person that I am today. To Ben, who provided compassionate supervision and mentorship throughout each step of my clinical training. Thank you for continuing to provide advice and support so willingly and generously and for remaining an important mentor who I regard so highly. To Diana, who has

seen the progression of my clinical work as well as of my written work, having also served as a reader on my Second Doctoral exam. Thank you for helping me explore the range of clinical experiences and for encouraging me to hone my skills throughout my training.

I am immensely grateful to the children and parents who participated in the original study, allowing the field of psychology to learn more about the process of trauma and of healing. Thank you also to the authors of the original study—Dante Cicchetti, Fred Rogosch, Jody Todd Manly, and Michael Lynch—for designing and conducting this research and to the National Data Archive on Child Abuse and Neglect (NDACAN) for providing an incredibly valuable service to all those working within the field of child abuse and neglect.

Thank you to the Graduate Center and to City College/the FAR Fund for the generous financial support that helped fund this work.

I would like to thank my family and friends who provided incredible support, helping me to weather the many ups and downs of this process. In particular, to my mom, who served as editor, sounding board, advisor, and friend and who provided healthy doses of perspective along the way that allowed me to remain honest and compassionate with myself and focused on the light at the end of the dissertation tunnel. In addition, to my husband, Josh, who helped with any number of dissertation-related tasks—editing, formatting, brainstorming—but who also kept our lives on line when my focus was elsewhere. Your love, patience, and devotion always help me stay calm, determined, and generous.

Lastly, to my late father and late brother whose untimely deaths traumatized me. Your love continues to give me strength and the ability to grow, and I take great comfort in knowing how proud you would be of this and every one of my accomplishments.

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CHAPTER 1: Introduction

Child maltreatment, including neglect and physical, sexual, and emotional abuse, affects 12% of American children each year (Wildeman et al., 2014). Maltreatment can be devastating to an individual's development and is associated with considerable negative psychological sequelae, including high rates of depression and problem behaviors, impaired peer relationships, and low self-esteem (e.g., Bolger et al., 1998; Cicchetti & Carlson, 1989; Kim & Cicchetti, 2006; Swanston et al., 1997; Toth et al., 1992). However, despite a historic emphasis on the negative effects of trauma, not all children experience traumatic reactions (Cicchetti & Rogosch, 1997) and even among those who do, positive adaptation may occur simultaneously.

The concept of posttraumatic growth (PTG) captures this phenomenon, describing the positive adaptation that can occur in the aftermath of tragedy. PTG does not discount or minimize the deleterious effects of trauma but proposes that growth and adaptation in certain domains of functioning can occur alongside psychological distress. It is proposed that the process of successfully coping with devastating adversity may actually stimulate growth (Tedeschi & Calhoun, 1996). In contrast to the concept of resilience, posttraumatic growth describes an improvement on, and not simply a return to, premorbid functioning (Linley & Joseph, 2004). This study aims to explore the concept of posttraumatic growth and adaptation among maltreated adolescents, focusing specifically on the role of self-esteem within this relationship.

The research on posttraumatic growth among children and adolescents is scarce (see Meyerson, Grant, Carter, & Kilmer, 2011 for a review). The limited research that has been conducted focuses on such traumatic events as terrorist attacks, death of a parent, motor vehicle accidents, and cancer (Barakat, Alderfer, & Kazak, 2006; Levine, Laufer, Hamama-Raz, Stein, &

Solomon, 2008; Milam, Ritt-Olson, Tan, Unger, & Nezami, 2005; Salter & Stallard, 2004).

However, few studies have been conducted that consider relational trauma specifically and all but one study with an incredibly small sample size ($n=2$) consider posttraumatic growth and adaptation retrospectively among adult survivors of abuse (Ickovics et al., 2006; Lev-Wiesel, Amir, & Besser, 2005; McMillen, Zuravin, & Rideout, 1995; Woodward & Joseph, 2003).

Despite the fact that maltreatment constitutes an important public health issue and a significant trauma within the lives of a considerable number of youth, the research on posttraumatic growth among maltreated youth is disgracefully lacking.

The limited research that has been conducted with children and adolescents has identified several key correlates of posttraumatic growth and adaptation. Social support and religious involvement are positively correlated with PTG in adolescents, as is parental support (Kimhi, Eshel, Zysberg, & Hantman, 2009; Milam, Ritt-Olson, & Unger, 2004; Milam et al., 2005; Meyerson et al., 2011; Prati & Pietrantonio, 2009). On the contrary, there are no consistent age effects despite speculation that the capacity for PTG increases alongside cognitive maturation (Milam et al., 2004). Similarly, there are no consistent gender effects (Meyerson et al., 2011).

One correlate of posttraumatic growth that has been considered among adults, but not among youth, is global self-esteem. Self-esteem is an oft-researched topic within psychology first discussed over a century ago. Self-esteem is an evaluation of one's sense of competence and worth (Branden, 1969) and is determined by both innate and environmental factors. Numerous studies have found that child maltreatment leads to decrements in self-esteem (e.g., Herrenkohl, Klika, Herrenkohl, Russo, & Dee, 2012; Moran & Eckenrode, 1992), but this deterioration is by no means inevitable or universal. Other research suggests that self-esteem may be unaffected by

maltreatment (Bolger et al., 1998; Cicchetti & Rogosch, 1997; Kim & Cicchetti, 2009; Toth et al., 1992).

While maltreatment might affect self-esteem, it has also been suggested that one's level of self-esteem might predict one's experience in the aftermath of trauma. Among adults, high self-esteem has been found to be a predictor of positive adaptation (Abraído-Lanza, Guier, & Colón, 1998; Engelkemeyer & Marwit, 2008), although this relationship has not been reported consistently (Siegel, Schrimshaw, & Pretter, 2005). Among adolescents, few studies have explored this relationship and no conclusive results are presented (Cicchetti & Rogosch, 1997). Given the dearth and inadequacy of research examining the question of the predictive value of self-esteem posttrauma, a consensus has yet to emerge regarding self-esteem as a predictor of growth.

This study will explore the presence of posttraumatic growth and adaptation, and the predictive value of self-esteem, among adolescents. Adolescents will be the focus of this study for several reasons. First, it has been suggested that adolescents may be at a unique disadvantage in the aftermath of trauma, less likely to experience PTG due to their cognitive immaturity and their psychological vulnerability (Cryder, Kilmer, Tedeschi, & Calhoun, 2006; Milam et al., 2004; Kessler, Berglund, Demler, Jin, & Walters, 2005; Patel, Flisher, Hetrick, & McGorry, 2007). This study aims to give credence to a growing body of evidence suggesting that PTG is indeed possible among younger populations (e.g., Barakat et al., 2006; Levine et al., 2008; Milam et al., 2005; Salter & Stallard, 2004). Second, research indicates that self-esteem declines as many youth enter adolescence but rebounds by late adolescence (Marsh, 1989; Marsh, Parker, & Barnes, 1985; Simmons, Rosenberg, & Rosenberg, 1973; Twenge & Campbell, 2001). Thus, an exploration of self-esteem among adolescents requires a sensitive accounting of the changes

that occur as a result of normal maturation, those that occur as a result of the trauma, and the intersection between the two. Lastly, changes in functioning more generally are a hallmark of adolescent development. Thus, exploring posttraumatic growth among adolescents presents a unique opportunity to isolate the process of posttraumatic growth by thoughtfully teasing out elements of normal developmental growth. For example, the notion of adolescent thriving has emerged, much like the concept of posttraumatic growth and adaptation, to describe the positive developmental trajectory of many adolescents (Scales, Benson, Leffert, & Blyth, 2000). A thorough review must consider the distinction between normal maturational thriving in response to the struggles of adolescence and growth as a result of trauma and adversity.

Statement of the Problem

Despite a growing interest within the field of trauma studies on the positive growth and adaptation that can occur posttrauma, minimal research has explored this phenomenon among youth and no empirically sound, prospective studies have explored this phenomenon among *maltreated* youth. A quantitative study exploring posttraumatic growth and adaptation among maltreated adolescents is necessary to demonstrate the presence of posttraumatic growth and adaptation among this population and, by exploring a comparison group of nonmaltreated youth, to shed light on the unique contribution of maltreatment, separate from normal adolescent thriving, on psychological growth. Furthermore, through a quantitative approach, this study will examine self-esteem as a potential correlate of the relationship between maltreatment and subsequent growth and adaptation.

Research Questions

Does posttraumatic growth and adaptation occur among maltreated adolescents?

Is posttraumatic growth and adaptation among maltreated adolescents theoretically and practically distinct from maturational thriving that can occur as a result of the stress of adolescence?

To what extent do changes in self-esteem predict growth? In particular, to what extent do normal changes in self-esteem during adolescence predict patterns of growth during the same period among maltreated youth?

To what extent is this relationship influenced by demographic characteristics, including children's gender and race?

Significance of the Study

The proposed study aims to fill significant gaps within the self-esteem and child maltreatment literature. Much of the research examining maltreatment in childhood has focused on the negative effects of maltreatment while ignoring the potential for positive growth in the aftermath of trauma. This study will add to the virtually non-existent literature on posttraumatic growth among maltreated youth and will contribute research to the debate about the occurrence of growth post-maltreatment among youth. Furthermore, by including a control group of nonmaltreated adolescents, this study will rectify a significant methodological limitation within the literature (Meyerson et al., 2011). Self-esteem, due to the fact that it undergoes age-related

changes during adolescence which may be predictive of general psychological growth, will be considered as a correlate of posttraumatic growth and adaptation. An understanding of which factors have an impact on children's posttraumatic functioning is essential to guiding intervention and prevention efforts.

This study will explore the nature of the relationship between maltreatment, self-esteem, and adaptation by examining a public use longitudinal dataset of low SES youth (Longitudinal Pathways to Resilience in Maltreated Children). In particular, this study will focus on maturational growth, self-esteem, posttraumatic growth adaptation, and potential confounding variables, including gender, race/ethnicity, and public assistance status. By weaving together the self-esteem, trauma, and growth literatures and examining these constructs simultaneously, this study will consider the unique relationship between maltreatment and self-esteem among adolescents and the possible ways to promote and facilitate adaptation and growth within this population.

Definition of Terms

The following definitions are provided to ensure uniformity of terms.

Self-Esteem (Coopersmith, 1967, p. 2) – evaluative attitudes toward the self

Posttraumatic Growth (Tedeschi & Calhoun, 2004, p. 1) - “positive psychological change experienced as a result of the struggle with highly challenging life circumstances”

The following definitions of the various maltreatment categories are based on the Maltreatment Classification System (MCS; Barnett, Manly, & Cicchetti, 1993).

Physical Abuse - the infliction of bodily injury on a child by nonaccidental means

Sexual Abuse - sexual contact or attempted sexual contact between a child and a responsible adult or caregiver for purposes of the adult's sexual gratification or financial gain

Neglect – both the failure to provide minimum care and the lack of supervision

Emotional Maltreatment - persistent and extreme thwarting of basic emotional needs

Organization

Chapter 1 provides an overview of the proposed study, including a statement of the problem, research questions, and significance of this study. Chapter 2 contains a review of relevant literature. Methods of data collection and analysis will be presented in Chapter 3. The results of the analyses and the qualitative findings will appear in Chapter 4, while Chapter 5 will contain a summary of the study and findings, along with a discussion of the conclusions drawn from this study, the limitations, and the recommended directions for further study.

CHAPTER 2: Literature Review

Child Maltreatment

Maltreatment is a pernicious societal problem that has a profound effect on children and adolescents. Sedlak et al. (2010) estimate that 1 in 58 U.S. children are maltreated yearly, with Wildeman et al. (2014) suggesting that 1 in 8 will be maltreated by the time they reach age 18. Estimates vary widely, due in large part to the fact that most cases of child maltreatment are never reported and among those that are, many are never investigated or are not substantiated. Consequently, imprecise estimates are the norm since researchers must approximate prevalence by inferring the total number from the small number of reported cases.

To complicate matters further, definitions of what constitutes maltreatment vary considerably, with diverse professional domains focusing on different aspects of the definition, including physical or psychological harm to the child, the specific acts that endangered the child, and the observable consequences (Cicchetti & Lynch, 1995). Among social scientists, maltreatment is often defined either by the measurable consequences or by the untoward actions themselves, which, depending on the preferred definitions of neglect, emotional maltreatment, physical abuse, or sexual abuse, can be defined more or less broadly (Barnett et al., 1993). Though research often presents findings according to these latter four discrete categories of maltreatment, there is a high degree of comorbidity among subtypes, and children routinely experience more than one form of maltreatment (Cicchetti & Lynch, 1995; Cicchetti & Rizley, 1981). In addition, Crittenden, Claussen, and Sugarman (1994) posit that psychological maltreatment is an element of all forms of maltreatment even as the observable consequences are largely hidden. As Cicchetti and Lynch (1995) conclude, “it may be necessary to focus on the

major subtype of maltreatment in a particular case, but the actual experience of many children is much more complicated” (p. 35).

Given the high prevalence of child maltreatment and the enduring nature of the deleterious effects, researchers have attempted to elucidate risk factors for maltreatment that can inform prevention efforts. In addition, correlates of negative outcomes posttrauma have been identified to target and improve intervention efforts. Below is a brief overview of the most common demographic and environmental risk factors for maltreatment and for negative outcomes. In addition, a review of the most common psychological sequelae of child maltreatment will be presented.

Risk Factors for Child Maltreatment & Negative Outcomes

Several factors—individual, familial, environmental, and societal—increase the vulnerability for maltreatment and the likelihood of experiencing negative outcomes. Age and gender are significant correlates. Young children, particularly those under the age of three, are the most susceptible to maltreatment; their vulnerability generally decreases with age. Younger victims also display more depressive symptoms and lower self-esteem (Bolger et al., 1998; Toth et al., 1992), though contrary findings, indicating more problematic outcomes among older victims, have been reported (e.g., Crittenden et al., 1994). Children and adolescents may experience disproportionately high rates of disturbance because trauma can interrupt the achievement of developmental milestones and impede the course of normal maturation (Cicchetti & Lynch, 1995; Nater & Skoluda, 2013). Sexual abuse is more prevalent among girls than boys (Snyder, 2000), but overall, gender differences in maltreatment are small, with girls at only slightly higher risk (USHHS, 2013).

Familial risk factors that increase vulnerability include parental stress and anger (Stith et al., 2009). In addition, parents who suffer from mental illness, who abuse drugs, or who are young and inexperienced are at higher risk for abusing and neglecting their children (Brown, Cohen, Johnson, & Salzinger, 1998; De Bellis et al., 2001). Supportive caregiving and parental warmth mitigate the negative outcomes of trauma and predict better adaptation and resilience in all children and particularly in those who experienced adversity (Masten & Coatsworth, 1998; Yates, Egeland, & Sroufe, 2003). Familial factors, like family stress, family psychiatric history, and an absence of social support, then serve to increase the likelihood that a victim of maltreatment will develop post-traumatic stress disorder (PTSD) and other psychological sequelae (Brewin, Andrews, & Valentine, 2000; Ozer, Best, Lipsey, & Weiss, 2003).

Maltreatment occurs across the socioeconomic spectrum and no child is immune. However, rates of *reported* maltreatment are disproportionately high among families of low socioeconomic status (Drake & Pandey, 1996; Pelton, 1981) potentially as a result of the high levels of stress that such enduring environmental and societal factors as poverty, racism, and the societal tolerance of violence may breed (Cicchetti & Lynch, 1995). Unfortunately, imbalances in the prevalence of maltreatment that are based on SES may serve to further reify social disparities through maltreatment's effect on intellectual and socioemotional functioning (Yates et al., 2003). On the other hand, it is possible that the difference simply represents an imbalance in the number of cases that are *reported* to child protective services (CPS) and not in the actual number of children who are maltreated; given their more frequent contact with individuals who are mandated reporters, poor families may be reported to CPS more often than wealthier families.

For those children whose risk profile manifests in subsequent abuse and neglect, maladjustment of some kind is common. Negative psychological sequelae have been noted, including high rates of depression, impaired peer relationships, and increased internalizing and externalizing symptomatology (e.g., Bolger et al., 1998; Cicchetti & Carlson, 1989; Kim & Cicchetti, 2006; Lynch & Cicchetti, 1998; Swanston et al., 1997; Toth et al., 1992). Increases in sexualized behavior, aggression, and anxiety are also typical responses, and some children suffer from the re-experiencing, avoidance, and hyperarousal of post-traumatic stress disorder (PTSD; Kendall-Tackett, Williams, & Finkelhor, 1993). The ramifications of maltreatment can lead to lifelong distress and suffering, and adults who were maltreated as children continue to report poor outcomes and behavior problems (Bagley & McDonald, 1984; Bagley & Ramsay, 1985/1986; Jonson-Reid, 1998).

The reviewed research indicates that certain familial, environment, and societal factors increase the risk of childhood maltreatment and of developing negative psychological symptoms in the aftermath of such trauma. Individual characteristics are important as well. Reactions to trauma are complex and vary from person to person (Mruk, 2006). Factors that predate the trauma, like an individual's temperament and his/her pre-trauma mental health, serve as important moderators of the psychological response (Kilmer, 2006). Thus, even among those who experience devastating trauma, not every child or adolescent experiences extreme pathological adjustment. Additionally, even if negative outcomes are noted in the immediate aftermath of a trauma, not all negative outcomes persist (Kendall-Tackett et al., 1993), and distress in one domain does not preclude only minimal or no distress in another domain of functioning. Lastly, characteristics of the abuse are important to consider, for the duration, severity, age of onset, and frequency, all influence psychological adaptation.

Despite a historical emphasis within the empirical literature on the negative effects of trauma, recent research has begun to systemically explore other potential reactions, including the phenomenon of positive growth in the aftermath of traumatic events. An examination of the theory of growth and positive adaptation in the aftermath of trauma follows.

Posttraumatic Growth and Adaptation

Positive growth and adaptation in the aftermath of trauma is conceptualized as the attainment of “a higher level of functioning than that which existed prior to the event” (Linley & Joseph, 2004, p. 11). It represents an improvement on premorbid functioning, in contradistinction to resilience, a related term, which describes a return to one’s pre-trauma level of functioning. Many terms are employed to describe this process of positive and transformational adaptation. Posttraumatic growth (PTG; Tedeschi & Calhoun, 1995) is quite prevalent in the literature as are the concepts of stress-related growth (Park, Cohen, & Murch, 1996) and benefit finding (Affleck & Tennen, 1996). While these concepts focus on slightly different aspects of growth posttrauma, they all agree that positive psychological growth can result from the struggle with adversity.

In discussing growth posttrauma, researchers and theorists remain cognizant of the deleterious effects of trauma. As discussed above, traumatic events are disturbing and upsetting and can lead to increased rates of psychological symptomatology, including post-traumatic stress disorder. Positive adaptation is thus conceptualized as a concurrent process, occurring alongside psychological distress. To illustrate this point, research studies have noted that PTSD, though not necessarily other psychological symptoms, and PTG are not mutually exclusive (Alisic, van der Schoot, van Ginkel, & Kleber, 2008). In a study of children who had experienced traffic

accidents, Salter and Stallard (2004) found that 37% of those who experienced PTSD (42% of the total sample of 158) also evidenced posttraumatic growth. The experience of successfully employing one's psychological resources and coping with what appeared to be insurmountable pain may engender feelings of self-confidence, self-efficacy, and strength and may subsequently stimulate growth (Tedeschi & Calhoun, 1996).

Despite a general consensus that positive adaptation posttrauma occurs quite frequently (Tedeschi & Calhoun, 2004), there is little agreement about what constitutes growth and adaptation. Positive adaptation is manifested through both external (e.g., academic achievement, low levels of psychological symptoms) and internal (e.g., psychological well-being) criteria, and it is generally conceptualized as the presence of either or both external and internal criteria (Masten, 2001). Tedeschi and Calhoun (2004) describe posttraumatic growth (PTG) as the natural consequence of constructive cognitive rumination aimed at integrating a new and changed reality in the aftermath of devastating physical or psychological trauma. Park et al. (1996) draw attention to the increased coping, social, and personal resources posttrauma, while Affleck and Tennen (1996) focus on one's beliefs about the potential benefits of adversity. Measurement instruments include the Psychological Thriving Scale (Abraído-Lanza et al., 1998), the PTG Inventory (PTGI; Tedeschi & Calhoun, 1996) and the PTG Inventory for Children (PTGI-C-R; Kilmer et al., 2009), the Stress-Related Growth Scale (SRGS; Park et al., 1996) and the SRGS for Adolescents (Vaughn, Roesch, & Aldridge, 2009), and the Perceived Benefits Scales (PBS; McMillen & Fisher, 1998). Despite their different emphases, each of these instruments considers positive growth and adaptation as consisting of some combination of social, psychological, and functional growth.

Correlates of Posttraumatic Growth and Adaptation

Posttraumatic growth and adaptation research with children and adolescents is scarce, and thus most of the correlates have been investigated exclusively within adult populations. The scant literature on PTG among adolescents has demonstrated that gender differences might exist, though trends are inconsistent. Some studies have found higher rates of PTG in females than in males, but the majority of studies have found no significant gender differences (see Meyerson et al., 2011 for a review). Furthermore, despite theoretical explanations for why positive adaptation might increase with age alongside the development of cognitive and coping capacities that allow the child to better understand the trauma (Milam et al., 2004), research with children has found no consistent age effects (Kilmer & Gil-Rivas, 2010; Meyerson et al., 2011). The relationship between age and PTG will be discussed in more detail below. Similarly, there is no evidence of a relationship between socioeconomic status (SES) and PTG in children or adolescents (Barakat et al., 2006; Currier, Hermes, & Phipps, 2009). Looking to the adult literature, the effect of racial/ethnic background is inconclusive due to the small number of studies that have explored this demographic variable (e.g., Giedzinska, Meyerowitz, Ganz, & Rowland; Siegel et al., 2005).

Social support and religious involvement are positively correlated with PTG in adolescents and in adults (Kimhi et al., 2009; Milam et al., 2004; Milam et al., 2005; Meyerson et al., 2011; Prati & Pietrantonio, 2009). By supporting the process of social connectedness and spiritual support, social and religious experiences facilitate growth and adaptation. Parental support is also correlated with PTG and may be instrumental in providing the child with the necessary cognitive scaffolding to make sense of the trauma (Meyerson et al., 2011). Research also suggests that several common adaptive qualities exist that support favorable outcomes in most children (e.g., secure attachment relationship), but that there are also context-specific

characteristics (e.g., number and quality of mentors) that vary in importance based on the child's environment and individual resources (see Wyman, 2003 for a review). Thus, no one characteristic promotes growth universally.

Relatively few empirical studies have examined posttraumatic growth among children and adolescents (see Meyerson et al., 2011 for a review). Most of the research that has been conducted has examined such traumas as terrorist attacks, death of a parent, motor vehicle accidents, and cancer (Barakat et al., 2006; Levine et al., 2008; Milam et al., 2005; Salter & Stallard, 2004), but research on relational trauma is particularly scarce. In addition, virtually all of the research on posttraumatic growth and adaptation among victims of childhood maltreatment has been conducted retrospectively among adult survivors of abuse (Lev-Wiesel et al., 2005; McMillen et al., 1995; Woodward & Joseph, 2003). The results are thus problematic since the self-reported impact of an experience will likely change over time and will be biased by lived experience. Ickovics et al. (2006) conducted the only study that considered adolescents who had experienced childhood sexual abuse; however, when asked to identify their most recent traumas, only two of the 328 participants identified "sexual abuse/harassment" and thus the sample is too small to draw any conclusions. Given the significant impact of maltreatment on functioning, this is a noticeable and appalling omission.

It is possible that findings from other positive adaptation studies among adolescents may adequately reflect the experience of maltreated youth as well; several studies have noted that the type of traumatic experience does not affect the degree of positive adaptation and thus that the conclusions above may be generalizable to a maltreated population. Yet, as previously mentioned, these studies did not specifically consider child maltreatment (Milam et al., 2004; Park et al., 1996), and the Ickovics et al. (2006) study that did consider sexual abuse came to a

different conclusion (i.e., that levels of posttraumatic adaptation vary by event type and that all traumas are not alike). In particular, interpersonal traumas, like child maltreatment, are less likely to predict PTG than other negative experiences. In fact, it is possible that maltreatment, and particularly maltreatment at the hands of the caregivers who are tasked with providing protection and support, is too devastating to allow for meaningful positive growth (Kilmer, 2006).

One predictor that has been proposed and investigated in the adult posttraumatic growth literature, but not in the youth literature, is self-esteem. In studies with adults who experienced significant hardship, positive self-esteem was found to confer resilience (Hauser, 1999). Higher self-esteem predicted lower PTSD symptoms (Bradley, Schwartz, & Kaslow, 2005) and a greater likelihood of positive adaptation (Abraído-Lanza et al., 1998; Engelkemeyer & Marwit, 2008) and subjective well-being (Smedema, Catalano, & Ebener, 2010). In adolescents, self-esteem also granted some degree of resilience, mediating the relationship between maltreatment and depression (Moran & Eckenrode, 1992). However, despite growing evidence about the relationship between self-esteem and growth posttrauma, not all studies have noted a significant relationship (King, Scollon, Ramsey, & Williams, 2000; Siegel et al., 2005).

There is reason to posit that self-esteem is a correlate of posttraumatic growth and adaptation among youth. Self-esteem is most often conceptualized as a sense of competence or as a sense of self-worth (Gecas, 1982) and the concept of competence has been linked to psychosocial adjustment (Smith, Dobbins, & Wallston, 1991). In both adults and children, one's sense of competence positively correlates with thriving and PTG (Abraído-Lanza et al., 1998).

Furthermore, the method of action may be related to the role of social support in promoting growth. When children believe that they can voice their needs effectively and that in

response, their needs will be sensitively addressed, they gain a sense of their own competence in achieving their aims (Yates et al., 2003). This sense of acceptance and support may then influence competency beliefs and later adjustment (Cryder et al., 2006). Thus, self-esteem, insofar as it is a measure of competence, is conceptually and empirically linked to experiences of personal growth. High self-esteem is also intuitively related to descriptions of personal growth posttrauma. Successfully coping with trauma can engender feelings of self-confidence and self-worth, feelings which may be manifestations of higher self-esteem (Siegel et al., 2005).

In order to understand the relationship between maltreatment and self-esteem among youth, the concept of self-esteem will be introduced, and the research exploring the reciprocal effects of maltreatment and self-esteem will be reviewed.

Self-Esteem and Maltreatment

Global self-esteem¹ is defined as “evaluative attitudes toward the self” (Coopersmith, 1967, p. 2) and represents a person’s subjective appraisal of his/her worth and competence. Self-esteem is determined by both innate, genetic factors (see Neiss, Sedikides, & Stevenson, 2002 for a review) and environmental influences (Trzesniewski, Donnellan, Robins, 2013) and develops alongside cognitive and emotional maturation (Harter, 2006). In particular, non-shared environmental factors, including the quality of the parent-child relationship, trauma experiences, attachment style, and the social environment, account for the majority of variance in self-esteem (Armsden & Greenberg, 1987; Harter, 1999; McGuire et al., 1999). Though no single non-shared environmental factor is overwhelmingly significant (Mruk, 2006), the deleterious effect of

¹ Global self-esteem is theoretically distinct from domain-specific self-esteem which is an assessment of specific abilities, including academic competence and athletic ability. Self-esteem is a subjective evaluation and is thus only tenuously related to any objective truth about ability or worth.

maltreatment on self-esteem functioning has been explored extensively for reasons described above.

Numerous studies have found that child maltreatment leads to decrements in self-esteem (e.g., Herrenkohl et al., 2012; Moran & Eckenrode, 1992), but the nature of the effect varies by maltreatment subtype. Emotional maltreatment in childhood may contribute to stunted self-esteem development (Kim & Cicchetti, 2006), though Bolger et al. (1998) found no such relationship. Physical abuse has similarly been found to predict deficits in self-esteem among school-age children (Okun, Parker, & Levendosky, 1994; Toth et al., 1992). Toth et al. (1992) found no significant relationship between neglect and diminished self-esteem, while Lynch and Cicchetti (1998) did when severity of neglect was considered. The most robust finding in the literature concerns the association between sexual abuse and self-esteem. Several studies have indicated that sexual abuse predicts persistently low self-esteem (Bagley & Ramsay, 1985/1986; Bolger et al., 1998; Swanston et al., 2003) and that this correlation endures even when confounding variables, like number of negative life experiences, are taken into account (Swanston et al., 1997).

The relationship between maltreatment and self-esteem is likely bidirectional, with premorbid self-esteem levels influencing future experiences. To clarify, low self-esteem cannot *cause* maltreatment but it can increase vulnerability in an unsafe environment. Egan and Perry (1998) found that, over time, low self-esteem contributes to peer victimization. Possible mechanisms of action include victims being seen as easy targets and forfeiting some measure of protection from the peer group as a result of projecting low self-esteem. Moreover, self-esteem shapes perception, and individuals with low self-esteem might detect injustice and peer rejection even when none exists (Trzesniewski et al., 2013). Even if poor self-esteem does not hasten the

initiation of abuse, it may still contribute to an individual's inability to end the abuse (Bagley & Ramsay, 1985/1986). The relationship between self-esteem and maltreatment is likely corresponsive: low self-esteem heightens initial vulnerability and then maltreatment reinforces this personality trait, causing self-esteem to fall more deeply (Caspi, Roberts, & Shiner, 2005; Roberts, Caspi, & Moffitt, 2003).

Several theoretical models have attempted to establish the causal pathway between maltreatment and declining self-esteem. Nash, Hulseley, Sexton, Harralson, and Lambert (1993) suggest that sexual abuse in particular disturbs the connection to one's body. Victims feel damaged by the abuse and oftentimes feel incompetent to stop it. Harter (1998) notes that parents who maltreat their children in some way are often psychologically abusive as well, and that the associated criticism, rejection, and degradation erode self-worth. Maltreated children may even attribute the abuse or neglect to their own badness. Opting for self-blame, these children fault themselves and damage their self-image in an effort to understand their experience and to maintain a sense of control and safety (Westen, 1993). Thus, it is suggested that all forms of maltreatment cause psychological wounds and disturb a child's sense of competence and goodness.

While declining self-esteem as a consequence of maltreatment has been researched extensively, this deterioration is by no means universal. Some studies have noted that self-esteem remains constant posttrauma (Cicchetti & Rogosch, 1997; Kim & Cicchetti, 2009) while others suggest that there is no meaningful relationship between maltreatment and self-esteem (Bolger et al., 1998; Toth et al., 1992). Other research considers the possibility that self-esteem does decline in some children but that examining individuals in the aggregate produces misleading results. For example, Kendall-Tackett et al. (1993)'s research found that while 35% of sexually abused

children in the six studies that they reviewed had low self-esteem, the other 65% did not exhibit decline. Thus, decrements in self-esteem may characterize some, but not all, victims of abuse and neglect. Such research introduces the possibility that a majority of children experience either no change or an increase in self-esteem posttrauma.

In sum, there is a subset of adolescents who experience no decline posttrauma, and group-level differences in the trajectory of self-esteem are present but are thus far underreported in the literature. Furthermore, it is possible that a subset of adolescents experience growth in self-esteem posttrauma. This study will examine self-esteem changes among adolescents with the aim of identifying and understanding possible positive change in self-esteem posttrauma.

This study will focus on adolescents, not only to determine whether a relationship that has been proposed in adults also exists in adolescents but also to consider how the distinct concerns of adolescent development contribute to the relationship between maltreatment, posttraumatic growth and adaptation, and changes in self-esteem. A description of the possible confounding role of age follows.

Adolescence as a Significant Confounder

The period between childhood and adolescence is marked by significant physical, cognitive, hormonal, and neurological changes (National Research Council and Institute of Medicine, 2006) that usher in a period of rapid social and psychological change. As individuals move from childhood to adolescence, the physical transformation is apparent, yet considerable psychological maturation occurs too, albeit less visibly. Adolescents assert their independence, create a stable identity, and become more self-aware (Levy-Warren, 1996).

Among the many psychological developments in adolescence are normative changes in self-esteem. Much research suggests that self-reported global self-esteem declines at some point between ages 11-14 years old from a height in childhood. Self-esteem then rebounds during middle adolescence, broadly defined in various studies as 14-16 years old (Marsh, 1989; Marsh et al., 1985; Robins, Trzesniewski, Tarracy, Gosling, & Potter, 2002; Simmons et al., 1973; Twenge & Campbell, 2001). Recent meta-analyses conclude that there is a corresponding small gender difference, favoring males, that emerges in late adolescence (Kling, Hyde, Showers, & Buswell, 1999), though it may be present only among white, Latino, and Asian American males and females and not among African Americans (Bachman, O'Malley, Freedman-Doan, Trzesniewski, & Donnellan, 2011; Major, Barr, Zubek, & Babey, 1999).

The hallmarks of adolescence—identity exploration and cognitive maturation—are related to changes in global self-esteem. Harter (1999) contends that normative cognitive advances, including the capacity for social comparison, reality-based self-perceptions, and social perspective-taking, prove to be liabilities for self-esteem; they usher in the typical self-esteem declines in early adolescence, for a stable sense of self is not yet established. Age-related declines in self-esteem have also been attributed to stressful academic transitions, either from elementary school to junior high school or from junior to senior high school (Mullis, Mullis, & Normandin, 1992; Simmons et al., 1973; Simmons & Blyth, 1987). Though these academic transitions may reinforce the normative changes in self-esteem, they cannot entirely explain the decline since research done internationally, in places without such academic transitions, still detect an adolescence decline (e.g., Robins et al., 2002). Pubertal changes may also lower self-esteem but once again, they cannot fully explain the pattern since declines begin for many before the onset of puberty and persist long afterward (Robins et al., 2002; Rosenberg, 1986)

Though a considerable body of research supports this pattern, there are contradictory findings. Some studies point to a similar pattern of decline and rebound that occurs at different time points. For example, the decline in self-concept has been noted to occur as early as elementary school (Marsh, Barnes, Cairns, & Tidman, 1984). Other research suggests a vastly different pattern, with an increase in self-esteem during early adolescence (Huang, 2010; O'Malley & Bachman, 1983; Savin-Williams & Demo, 1984) or a continued decline from adolescence through the college period (Robins et al., 2002). An oft-cited review of the self-esteem literature by Ruth C. Wylie (1979) claimed that there are no systematic age differences in self-esteem; Dusek and Flaherty (1981)'s three-year cross-sectional and longitudinal study of 11-18 year olds also found no significant changes in self-concept during adolescence.

The contradictory research is in part due to the liabilities of studying self-esteem in the aggregate rather than on a group or individual level. Research has found that self-esteem trajectories vary; Savin-Williams and Demo (1984) described three normative adolescent self-esteem trajectories—stable, baseline, and oscillating—but only noted instability and change among the oscillating group. Furthermore, the inconsistencies may be due to measurement errors, particularly those related to self-report, poor criterion validity of the many self-esteem instruments (Baumeister, et al., 2003; Blascovich & Tomaka, 1991), and/or variability between the study designs. The sample in each study consists of a slightly different age range and since self-esteem measures are administered at various points throughout the academic year, age and grade results may be conflated. In addition, though the most commonly used self-esteem scales have good internal reliability, it is possible that they are measuring some other change; as individuals enter adolescence, they may change the way they formulate their self-evaluation rather than change their actual view of themselves (Trzesniewski et al., 2013). Age effects

inherent to self-esteem measurement are possible in which “specific items and/or wording on these measures are differentially perceived by younger and older maltreated children and *pull* for different responses” (Vondra, Barnett, & Cicchetti, 1989, p. 249).

Studying posttraumatic growth and adaptation among adolescents also introduces significant complications. First, adolescents may be particularly vulnerable to negative adaptation posttrauma due to the considerable hormonal, physical, sexual, cognitive, and neurological changes that occur and interact with each other during adolescence (National Research Council and Institute of Medicine, 2006). Irrespective of maltreatment status, adolescents are particularly vulnerable to psychological disorders (Kessler et al., 2005; Patel et al., 2007). In addition, as described above, adolescents may lack the cognitive maturity necessary to understand the trauma and to engage in behaviors, like marshaling psychological resources and comprehending benefits alongside suffering, that are necessary for posttraumatic growth and adaptation (Cryder et al., 2006; Milam et al., 2004).

Despite these criticisms, there is evidence suggesting that PTG is indeed possible among younger populations (e.g., Barakat et al., 2006; Levine et al., 2008; Milam et al., 2005; Salter & Stallard, 2004). In fact, adolescents may be particularly well-equipped to experience growth that requires cognitive reframing (Helgeson, Reynolds, & Tomich, 2006); adolescent cognitive maturation increases the adolescent’s ability to think abstractly and logically (Albert & Steinberg, 2011; Klaczynski, 2005). Beardslee (1989) noted remarkable self-awareness among the majority of adolescents they interviewed. Individuals who continued to function well despite having a parent who suffered from a severe mood disorder exhibited considerable empathy for their parents even as they had come to the conclusion that they were not the cause of their parents’ problems and that remaining firm in this belief was integral to their ability to cope.

While increased insight differentiates the well-adjusted from the struggling adolescent, it is unclear whether this self-awareness is a consequence of the struggle with hardship or whether it is a preexisting factor that confers resilience. In sum, there are theoretical justifications, as well as some degree of empirical support, for posttraumatic growth among youth.

An additional controversy revolves around the fact that adolescence itself has traditionally been conceptualized as traumatic and even dangerous (Deutsch, 1944). Adolescence has been described as a time of *Sturm und Drang* (Storm and Stress) during which engagement in risky behavior, conflict with parents, and emotional lability are the norm (Hall, 1904). However, in recent years, the notion of adolescent thriving has emerged, much like the concept of posttraumatic growth and adaptation, to describe the positive developmental trajectory of many adolescents (Scales et al., 2000). Thriving is defined not simply as the absence of problematic behaviors but, as with posttraumatic growth, also encompasses the presence of healthy behavioral indicators, including engagement in prosocial behaviors and leadership roles (Scales & Leffert, 1999). Normal adolescent development for many individuals entails thriving in the face of some measure of adolescent anguish. Thus, in order to examine posttraumatic growth among adolescents who have experienced child maltreatment, normative adaptational growth must be controlled for and considered.

Previous studies have begun to address this potential methodological issue. Alisic et al. (2008) studied traumatized and non-traumatized children in a community sample and found significantly greater levels of PTG ($\beta = .09, p < .01$) among those who were exposed to trauma. Similarly, Taku, Kilmer, Cann, Tedeschi, and Calhoun (2012) compared children and adolescents who experienced trauma and those who had not. Greater posttraumatic growth was reported among those who had experienced traumatic adversity, and the amount of growth was

correlated with the objective severity of the experience. Thus, posttraumatic growth appears to occur independently of normal adolescent thriving. Prospective, longitudinal studies that control for maturational growth are still necessary to corroborate and strengthen these findings.

The Purpose of this Study

This study aims to consider psychological growth among maltreated and nonmaltreated adolescents to understand the unique contribution of maltreatment among individuals who may otherwise be experiencing normal maturational change. By exploring growth during two successive years, this study will contribute to the debate about the presence of posttraumatic growth independent of, or in addition to, adolescent thriving. This study will also examine the role of self-esteem as a predictor of growth and adaptation specifically among maltreated adolescents. Understanding this relationship among maltreated youth is particularly relevant since self-esteem appears to have a stronger predictive value among maltreated children than among nonmaltreated children (Cicchetti & Rogosch, 1997). It is imperative to study this relationship among adolescents not only because there is a dearth of research within this population but also because age-related changes in self-esteem must be sensitively considered alongside possible trauma-related changes to grasp the unique contribution of maltreatment. By including a control group on nonmaltreated adolescents, this study will rectify a significant methodological limitation within the literature (Meyerson et al., 2011). Lastly, a greater understanding of the experience of growth among adolescents, and of the predictors of that growth, will ideally inform intervention and prevention efforts aimed at helping adolescents thrive despite, or even as result of, the many tragedies that they may have endured. As the research community better understands the mechanisms underlying adolescent PTG, it can

provide concrete recommendations to clinicians who treat this vulnerable but resilient population.

Description of the Hypothesis #1: The first hypothesis will explore the occurrence of posttraumatic growth and adaptation among adolescents. Given that growth and maturational change is a hallmark of adolescence, this hypothesis considers the presence of posttraumatic growth and adaptation among maltreated adolescents. Covariates, including gender, race/ethnicity, poverty status, and status of public assistance, will be considered in an effort to isolate the unique contribution of maltreatment. It is proposed that, similar to past research, posttraumatic growth among adolescents is possible (e.g., Barakat et al., 2006; Levine et al., 2008; Milam et al., 2005; Salter & Stallard, 2004) and that higher rates of growth will be present among the maltreated youth (e.g., Alisic et al., 2008; Taku et al., 2012) than among the nonmaltreated youth.

Rationale for the Hypothesis #1: Given the paucity of studies that have systematically considered the phenomenon of posttraumatic growth and adaptation among youth and specifically among maltreated youth, this study will provide basic information about the occurrence of such growth among adolescents. Furthermore, this study will be the first study of its kind to examine posttraumatic growth and adaptation among maltreated adolescents with a genuine control group for comparison.

Operationalization of Hypothesis #1: Growth will be defined as improvement in intellectual and social functioning. Rather than focusing on self-reported growth and adaptation, this study will infer growth through measures that tap into domains of functional growth. Social functioning is measured by the Pupil Evaluation Inventory (Pekarik, Prinz, Liebert, and Weintraub, 1976) and through behavior ratings (Wright, 1983) and peer nominations (Coie & Dodge, 1983). Intellectual functioning is measured by the Peabody Picture Vocabulary Test-

Revised (Dunn & Dunn, 1981). A composite score of intellectual and social functioning will be created for each of the two years of the study and growth will be defined as any positive difference in functioning between years three and four of the study. To determine the extent of growth that truly can be characterized as posttraumatic, growth between the maltreated and the nonmaltreated adolescents will also be compared. Only such functional improvement among the maltreated adolescents that is above and beyond the growth among the nonmaltreated adolescents will be considered uniquely “posttraumatic.”

Rationale for operationalization for Hypothesis #1: Despite the fact that posttraumatic growth and adaptation is frequently measured through self-report exclusively, actual PTG does not correlate well with perceived growth—people are not very accurate at estimating their own degree of personal growth (Gunty et al., 2011)—and thus this study will examine growth through more indirect means. The measures described above were selected by the authors of the Longitudinal Pathways to Resilience in Maltreated Children study.

Description of Hypothesis #2: The second hypothesis proposes that self-esteem is predictive of posttraumatic growth among maltreated adolescents. This study presumes that self-esteem changes occur as part of normal maturational processes during adolescence, though this assumption will be tested. Based on this assumption, it is proposed that self-esteem changes that occur in the aftermath of trauma among maltreated adolescents will be predictive of posttraumatic growth. In particular, it is proposed that individuals who experience no change or an increase in self-esteem posttrauma will also experience greater growth and positive adaptation posttrauma.

Changes in self-esteem among nonmaltreated and maltreated adolescents will be explored, both to determine if any difference in self-esteem is noted between these two

populations and to explore the unique relationship between self-esteem and growth among maltreated adolescents. Once again, confounding variables that may affect the relationship will be included in the analysis as covariates.

Rationale for Hypothesis #2: Self-esteem will be examined as a predictor of posttraumatic growth and adaptation among adolescents given the fact that high self-esteem has been found to predict positive adaptation among adults (Abraído-Lanza et al., 1998; Engelkemeyer & Marwit, 2008). Considering this hypothesis among adolescents introduces particular complications, most notably that normative declines in self-esteem among early adolescents are common (Marsh, 1989; Marsh, Parker, & Barnes, 1985; Robins, Trzesniewski, Tracy, Gosling, & Potter, 2002; Simmons, Rosenberg, & Rosenberg, 1973; Twenge & Campbell, 2001) and must be taken into account.

There are many reasons to believe that relatively high self-esteem might predict positive growth posttrauma. Supportive individuals in the life of a child may help facilitate healthy coping which, when employed, may reinforce a child's sense of competence in his/her ability to cope and adapt in the future. A positive coping experience can strengthen one's sense of self-efficacy, competence, and self-esteem (Aldwin & Sutton, 1998).

Operationalization of Hypothesis #2: Self-esteem is measured by the Coopersmith Self-Esteem Inventory (Coopersmith, 1981). Coopersmith (1981) defines global self-esteem as the evaluative attitudes toward the self. Change in self-esteem over time is defined as the difference in self-esteem between years three and four of the study. Changes in self-esteem will be examined in relation to levels of psychological growth established in Hypothesis 1.

Rationale for Operationalization of Hypothesis #2: The Coopersmith SEI (Coopersmith, 1981) is a widely used measure of self-esteem that was devised for use with

children. Given that the SEI School Form is validated for children ages 8-15, it is particularly appropriate for measuring self-esteem among youth in this study. The reliability and construct validity have been deemed satisfactory when the SEI is used with adolescents (Zhang, 1997).

CHAPTER 3: Methodology

The secondary data used in this study were made available with permission by the National Data Archive on Child Abuse and Neglect (NDACAN; Dataset #110). The study, entitled Longitudinal Pathways to Resilience in Maltreated Children, was conducted by Dante Cicchetti, Fred Rogosch, Jody Todd Manly, and Michael Lynch (2005). Funding was provided by the National Center on Child Abuse and Neglect, U.S. Department of Health and Human Services (Award Number: 90CA1635). The researchers and funders are not responsible for or involved in the analyses and results presented here.

Participants and Procedures

The total sample consisted of 300 youth (56% maltreated; $n = 168$) from low-income, disadvantaged families who resided in urban areas throughout New York State. Children in the original study were assessed annually for four consecutive years. The secondary analysis conducted for the current study examined a subsample of 132 youth (48% maltreated; $n = 64$) who were selected because of their age. All 132 participants in the current study were ten years of age or older during the years under examination which correspond with years three and four of the original study. All of the children in this study had experienced substantial psychosocial disadvantage, including family unemployment, persistent poverty, and low maternal education, and any of these in conjunction with single parenting.

Recruitment and Consent

Children were recruited from two sources. Maltreated children were recruited

through referrals by the New York Department of Social Services (DSS). Families for the comparison group were identified through their participation in the Aid to Families with Dependent Children (AFDC) program.² Within this study's subsample, the experimental and comparison groups were demographically comparable on such measures as child race and age, total family income, and poverty level. All data presented were imputed (see Chapter 4 for a description of the imputation process).

Both child race, $\chi^2(1, N = 132) = 0.58, p = 0.45$, and child gender, $\chi^2(1, N = 132) = 0.62, p = 0.43$, were not significantly different. Among the maltreated group, average total yearly income was not significantly different between the nonmaltreated ($M = 20,683, SE = 11.31$) and the maltreated ($M = 23,427, SE = 11.41$) children, $t(128) = 1.39, p = 0.61$, and neither was percentage living below the poverty line, $\chi^2(2, N = 132) = 2.23, p = 0.14$. One interesting difference was found between the parental education levels, $\chi^2(2, N = 132) = 10.24, p = 0.01$, with significantly higher levels of education among the parents of the nonmaltreated children.

All parents consented to an examination of DSS records as well as to child and parent participation in the study. DSS records were reviewed for all children, both those children with suspected maltreatment histories and those without such suspected histories. Thus, for the experimental group, DSS records were examined to confirm the *presence* of child maltreatment while for the control group, records were reviewed to confirm the *absence* of child maltreatment or receipt of any DSS preventive services. Maltreatment status was unaffected by the identity of the perpetrator and thus a child was considered maltreated if any claim of abuse or neglect was substantiated by DSS. Records were reviewed each year during the study to verify that there was

² In 1996, AFDC was replaced by the Temporary Assistance for Needy Families (TANF) Program.

no change in maltreatment status among the comparison group. In fact, all of the nonmaltreated children remained in the comparison group throughout the course of the study.

Children were asked to participate in the various assessments and thus, in choosing to participate for each assessment, they continuously assented to study participation. All participants chose from a variety of small prizes once they had participated. Such incentives ensured almost complete participation.

Data Collection

All participants attended a week-long summer day camp program that operated during four consecutive summers (1997-2000). The current study examined data from years three and four (1999-2000). During the week, children were placed into same-age, same-sex groups of mixed maltreated and nonmaltreated children that were supervised by adult camp counselors. These counselors were trained to complete a range of assessment batteries based on their observations. Children were blind to this arrangement. In addition, trained research assistants conducted brief interviews with the children throughout the week. Camp staff (both counselors and research assistants) were blind to the children's maltreatment status and to the study's hypotheses, and staff changed from year to year.

Measures

General demographic information was gathered including child age, race/ethnicity of both child and caregiver, and number of adults and children in the household. The original researchers employed multiple sources of information, including examination of DSS records, child self-reports, peer evaluations, counselor reports, and school ratings. Self-esteem and

socioeconomic status were assessed as well as interpersonal and cognitive functioning.

Caregivers were also interviewed in their homes within one month of camp attendance. One caregiver was selected for each child. Caregivers included a child's mother, father, grandmother, grandfather, and foster parent.

Social functioning

Children's social functioning was assessed through ratings provided by children's counselors and peers at camp.

Pupil Evaluation Inventory. The Pupil Evaluation Inventory (PEI; Pekarik, Prinz, Liebert, & Weintraub, 1976) is a 35-item assessment of the behavior of children in grades one through nine. The peer or adult who completes the PEI must indicate whether each item appropriately describes, or does not describe, a child. In this study, the PEI was completed by camp counselors.

Three unique scales were identified through factor analysis (Pekarik et al., 1976). The Aggression scale consists of 20 items and includes items pertaining to physical aggression and classroom disruptive behaviors. The nine-item Withdrawal scale contains items pertaining to social withdrawal and oversensitivity. The Likeability scale contains five items that concern popularity and competence. Pekarik et al. (1976) found that the factors are distinct and capture independent behaviors. Internal consistency of the measure, across factors, raters, gender, and sex, is high (Cronbach's $\alpha > .70$). Test-retest reliability for each of the factors ranges from .81-.95. Concurrent validity of the PEI as measured by the correlation between teacher and peer ratings is moderate, ranging from .47 to .83 for all three factors.

Behavior Ratings. Twice during each weeklong summer camp, counselors completed a nine-item behavior rating developed by Wright (1983) that represented three types of interpersonal functioning: prosocial behavior, aggression, and withdrawal. Both internal consistency and interrater reliability (Cronbach's $\alpha = .65$ to $.88$) of these three subscales are high (Cicchetti & Rogosch, 1997; Wright, 1983).

Peer Nominations. After a full week of summer camp, children evaluated characteristics of their peers using Coie and Dodge's (1983) Peer Nomination method. Children were provided with a list of behavioral descriptors—most liked, least liked, cooperative, leader, shy, disruptive, and fighter—and were asked to select one peer from the group who best exemplified each characteristic. The total number of nominations that each child received in each descriptor category was computed and presented as a proportion of the total possible nominations.

Cognitive functioning

Peabody Picture Vocabulary Test-Revised. The Peabody Picture Vocabulary Test, Revised (PPVT-R) (Dunn & Dunn, 1981) is a 175-item assessment of receptive vocabulary. Examiners presented the children with four pictures and then recited a word describing one of the pictures. Children were instructed to select the picture that best illustrated each word. A basal level is established and then items are continuously administered until a child reaches his/her ceiling level. Thus, not all 175 items are presented during each administration. The PPVT-R was administered as a test of general intelligence since vocabulary is highly related to intelligence; the PPVT-R has an average correlation in the .70s and low .80s with other tests of intelligence (Bracken, Prasse, & McCallum, 1984). Internal consistency ranges from .71 to .81 (Dunn & Dunn, 1981).

Self-Esteem

Self-Esteem Inventory. The Self-Esteem Inventory (SEI; Coopersmith, 1981) is a 58-item brief self-report measure that assesses one's global self-esteem. There are two forms, a School Form, which is appropriate for individuals aged 8-15, and an Adult Form, which is used with individuals 16 and older. The School Form of the SEI was administered to child participants in this study. The inventory measured self-perceptions based on participant responses to 58 distinct statements; participants were asked to indicate if each statement is "Like me" or "Unlike me." Examples of items include, "I often wish I were someone else" and "I like the kind of person I am."

The SEI School Form consists of four subscales: General Self, Social Self-Peers, Home-Parents, and School-Academic. The sum of the four subscales produces a maximum of 50 points, while the other eight items are used as a Lie Scale. A high Lie Scale indicates defensiveness in responding. Each item is worth two points, making the possible range of Total Self Scores 0-100. Coopersmith (1984) did not specify Total Self Scores that correspond to high and low self-esteem. Rather, the manual recommends using the interquartile range as indicative of average self-esteem, with the lower quartile and higher quartile indicative of low and high self-esteem, respectively. The SEI demonstrates good psychometric properties, including good internal consistency (Cronbach's $\alpha = .80-.92$) and good reliability (Coopersmith, 1984).

Demographics

The Demographics Interview. The Demographics Interview (Carlson & Cicchetti, 1979) was administered to primary caregivers. Caregivers provided information about family income, parental education and occupation, presence of adult partners, and experience of welfare

assistance. The Demographics Interview was employed to compile information regarding such variables as family income and number of adults/children in the home which were used to determine poverty level by the U.S. Census Bureau guidelines (Dalaker, 2001). Such information was used to match the maltreated and nonmaltreated groups on poverty level.

Variable Construction

Psychological growth. Growth among all adolescents was determined by noting the change in intellectual and social functioning from year three to year four. Using a technique employed by the original study's principal investigators (Cicchetti & Rogosch, 1997, 2012; Cicchetti, Rogosch, Lynch, & Holt, 1993), certain scores from the Pupil Evaluation Inventory (PEI; Pekarik et al., 1976), Peer Nominations (Coie & Dodge, 1983), and Behavior Ratings (Wright, 1983) measures were combined into two composite scores of social competence, a *prosocial* composite and *disruptive-aggressive* composite. These composite scores were constructed by standardizing scores (i.e., converting raw scores to z scores) on each of the three aforementioned measures and then summing and averaging these standardized variables. Separate composite scores were created for each year of participation in the study. Each of the composite scores was standardized based on the larger sample of 300 youth; peer nomination scores within this dataset were available in standardized form only.

The prosocial composite is comprised of PEI scores for likeability, peer nomination scores for leader and cooperative, and behavioral ratings of prosocial behavior by the counselors. Positive change in the prosocial composite score from year three to year four was indicative of growth. The disruptive-aggressive composite is comprised of PEI scores for aggressiveness, peer nomination scores of disruptive and fights, and behavioral ratings of aggressive. Positive growth

was indicated by decreases in the disruptive-aggressive composite score. The internal consistency of these composites ranges from $\alpha = .66-.87$ (Cicchetti & Rogosch, 2012). A third composite, withdrawn, was suggested by the authors but was not examined in the current analysis due to its unsuitability to the research questions; being withdrawn can be a sign of distress but it can also stand in for such personality characteristics as shyness and self-consciousness.

Additionally, raw score results of the Peabody Picture Vocabulary Test, Revised (PPVT-R) (Dunn & Dunn, 1981) were converted into standardized z scores and were examined to consider change in cognitive functioning. Increases in PPVT-R scores from Year 3 to Year 4 indicate improvement in cognitive functioning.

The ultimate measure of psychological growth was constructed by summing the prosocial composite score and the PPVT-R standardized scores and subtracting the disruptive-aggressive composite score. The measure was constructed in this way given that *increases* in prosocial and cognitive functioning, but *decreases* in disruptive and aggressive behaviors, would indicate growth.

Posttraumatic growth and adaptation. Psychological growth among all children was assessed, with growth among nonmaltreated adolescents serving as a baseline level of change for this study. Posttraumatic growth was thus defined as positive psychological growth among maltreated adolescents that occurred above and beyond average growth among nonmaltreated adolescents. Since both cognitive and interpersonal functioning may be affected by intense emotional experiences and trauma, a change over time is expected. It is proposed that posttraumatic growth would be the norm for a subset of maltreated youth.

Change in self-esteem. Self-esteem change scores were established for each subject based on the degree of change in the SEI Total Self score between year three and year four. The SEI Total Self score was employed, rather than considering self-esteem differences through the interquartile range as suggested by Coopersmith (1981), because self-esteem appears to have wide variability that would not be captured through subgroups alone. As described above, the Total Self score represents the sum of raw scores on each of 50 items, in which each item is worth two points. The possible range of Total Self Scores is 0-100.

Data Analytic Approach

The dataset as well as a printed copy of the codebook were obtained from the NDACAN. Data from 132 participants were included in this secondary data analysis. Prior to statistical analysis, tests of normality, linearity, assumptions of independence, and homoscedasticity were conducted. Due to the fact that Dataset #110 contains missing data, the missing data were imputed with replacement values, creating a dataset with no missing data. See Chapter Four for a description of the imputation.

Descriptive statistics, including mean scores and standard deviations, were performed for the sample. Relevant variables included age, total family income, gender, race/ethnicity, and maltreatment status. Each hypothesis was then considered by employing distinct statistical analysis procedures. Relevant demographic variables were included as covariates throughout this study.

The first hypothesis considered the presence of growth and adaptation among maltreated and nonmaltreated adolescents. As previously mentioned, prosocial and disruptive-aggressive composite scores were constructed for each subject for year three and year four by standardizing

select scores on the PEI, Peer Nominations, and Behavior Ratings measures and then averaging these z scores. Results of the Peabody Picture Vocabulary Test, Revised (PPVT-R) (Dunn & Dunn, 1981), in standardized form, were added to the prosocial composite scores while the disruptive-aggressive scores were subtracted from the total. Separate scores were constructed for each subject for year three and year four. Lastly, change scores were created by subtracting the year three scores from the year four scores. Positive change is indicative of psychological growth.

Multiple hierarchical regression analyses were performed on these change scores to consider change in functioning from year three to year four. Relevant demographic variables were included as covariates in step one while maltreatment status was included in step two. A significant effect in step two would indicate significant growth as a result of maltreatment status above and beyond the effect of any relevant demographic variables.

The second hypothesis proposed that changes in self-esteem total scores predict levels of psychological growth. Changes in self-esteem were established for each subject, both maltreated and nonmaltreated, based on the degree of change in the SEI total self-score between year three and year four. It was possible to receive either a positive or negative change score for this variable. The degree of psychological growth was previously established through the analysis in hypothesis one. To test this hypothesis multiple regression analyses were conducted to examine whether each individual's change in self-esteem was predictive of his/her level of posttraumatic growth. It is proposed that those who experience considerable positive change in self-esteem, or those who do not experience any change in self-esteem, would experience the greatest degree of psychological growth.

CHAPTER 4: Results

Missing Data

Multiple imputation (Baer, Kivlahan, Blume, McKnight, & Marlatt, 2001; Rubin, 1987; Schafer, 1997) was used to create a dataset with no missing data. SPSS 22 was used for all analyses, including imputation and tests of hypotheses. Multiple imputation (MI) is a technique that replaces missing values with predictions based on the available information observed in the study. MI was employed within this study because it relies on more plausible assumptions than do other standard approaches for addressing missing data, including listwise deletion and replacement of missing values with group means. Missing values analysis (MVA) was conducted prior to the imputation and revealed that 12 out of the 115 variables (11.43%) contained missing data for at least one case. Nearly half of the participants had some missing data, and 11.23% of all the values in the dataset were missing. Fifteen imputations were chosen to create the final dataset for analysis. Pooled analyses were used for all presentations of descriptive data and hypotheses tests. Standard errors of the mean (SE) are reported in conjunction with reported means for the pooled data, rather than standard deviations.

Baseline Characteristics

This study examined a sample of 132 youth who were between the ages of 10 and 13.9 during the first year of this study (i.e., year three). The mean age of the adolescents was 11.30 (SE = .08); among the maltreated adolescents, the mean age was 11.25 (SE = 0.11) while among the nonmaltreated adolescents, the mean age was 11.34 (SE = 0.11). Thirty-nine percent of the entire sample was female (n = 52) while the majority of the sample was male (n = 80, 63%).

Close to 69% identified as Black, 15.9% as White, and 3.0% as Hispanic, with the remainder identifying as mixed-race or other. As described above, a large proportion (54.0%) of the children lived below the poverty line, 38.8 (60.6%) of the 64 maltreated adolescents and 47.9 (32.6%) of the 68 nonmaltreated adolescents. Overall, the average family income was \$22,097 (SE = 0.99).

In an effort to create robust categories with sufficient frequencies, alternate categories based on the original data were created for several of the study variables. Such a process was required to facilitate an examination of any possible interactions between demographic variables and those variables present in the main hypotheses. The logical meaning of the original categories was maintained to the extent possible. Changes were made to the following demographic categorical variables: a) respondent; b) respondent marital status; c) receives public assistance; d) child race; and e) respondent Hollingshead education score. For example, the variable 'respondent' originally contained five categories, with frequencies as follows: Mother (n = 120); Father (n = 4); Grandmother (n = 5); Foster Parent (n = 1); and Other (n=2). Because the largest category (mother, n = 120) could not be divided, the remaining four categories were combined into a “not mother” category (n = 12). The two variables, child gender and above or below the poverty line, did not need to be re-coded because they were already presented as dichotomous variables with only two categories. See Table 1 for a review of the sample’s key demographic characteristics, including the aforementioned re-coded demographic variables.

Table 1 Descriptive Statistics of the Study Sample ($N = 132$)

Demographic variables	Total subsample ($N = 132$)		Maltreated ($n = 64$)		Nonmaltreated ($n = 68$)	
	%	N	%	N	%	N
<i>Maltreatment status</i>						
Maltreated	48.5	64	100.0	64	0.0	0
Nonmaltreated	51.5	68	0.0	0	100.0	68
<i>Child Age</i> ^{3,4}						
10	46.2	61	50.0	32	42.6	29
11	30.3	40	26.6	17	33.8	23
12	19.7	26	20.3	13	19.1	13
13	3.8	5	3.1	2	4.4	3
<i>Child's gender</i>						
Male	60.6	80	64.0	41	57.4	39
Female	39.4	52	35.9	23	42.6	29
<i>Child's race/ethnicity</i>						
Black	68.9	91	65.6	42	72.1	49
Not Black (Mixed race, White, Hispanic, Other)	31.1	41	34.4	22	27.9	19
<i>Poverty Status</i> ^c						
Below the Poverty Line	54.0	71.3	60.6	38.8	47.9	32.6
Above the Poverty Line	46.0	60.7	39.4	25.2	52.1	35.4
<i>Respondent</i>						
Mother	90.9	120	87.5	56	94.1	64
Non-Mother	9.1	12	12.5	8	5.9	4
<i>Parental Educational Level</i>						
Less than high school education	32.6	43	43.8	28	22.1	15
High school graduates	37.1	49	37.5	24	36.7	25
Some college or more	30.3	40	18.8	12	41.2	28
<i>Marital Status</i>						
Never married	37.1	49	42.2	27	32.4	22
Married or Living with partner	36.4	48	31.3	20	41.2	28
Divorced/separated/widowed	26.5	35	26.6	17	26.5	18
<i>Receipt of Public Assistance</i>						
Full assistance	47.2	62.3	61.3	39.2	33.8	23
Less than full assistance	52.8	69.7	38.8	24.8	66.2	45

³ All ages represent child's age in Year 3. For this study, ages are rounded to the nearest tenth. For this table, ages are provided as whole numbers without further rounding up.

⁴ Mean Age: Total Sample ($M = 11.30$, $SE = 0.88$); Maltreated group ($M = 11.25$, $SE = 0.88$); Nonmaltreated group ($M = 11.34$, $SE = 0.89$);

As shown in Table 2, 64 (48.5%) of the adolescents experienced substantiated claims of maltreatment while the other 68 (51.5%) did not. The vast majority of maltreated adolescents experienced abuse or neglect prior to entering elementary school ($n = 55$; 86%), even as maltreatment may have also occurred at a later developmental period. About 63% ($n = 40$) of the maltreated adolescents experienced abuse or neglect at two or more developmental periods (e.g., infancy, toddlerhood, preschool age, school age, later school age).

Table 2 *Developmental Period During which Maltreatment Occurred (N = 64)*

	Total (N = 64)		Boys (N = 41)		Girls (N = 23)	
	%	N	%	N	%	N
Infancy	59.0	37.7	58.3	23.9	60.0	13.8
Toddlerhood	67.3	43.1	69.5	28.5	63.9	14.7
Preschool age	66.4	42.5	66.3	27.2	66.5	15.3
School age	23.4	15	20.2	8.3	29.1	6.7
Later school age	26.7	17.1	29.0	11.9	22.6	5.2
Two or more developmental periods	68.6	43.9	66.1	27.1	73.0	16.8

All DSS records for maltreated adolescents were coded utilizing the Maltreatment Classification System (MCS; Barnett, Manly, & Cicchetti, 1993). The majority of the adolescents with available information experienced multiple forms of maltreatment ($N = 36$, 63%). There was little change in subtype designation over the course of the study.

Relationship between Demographics & Study Variables

Preliminary analyses were conducted to identify covariates that would then be controlled in all final models. This examination of connections between demographic and study variables revealed that several study variables, including maltreatment status and components of the PTG/psychological growth score, were related to both child age and to the family's receipt of

public assistance. Therefore, child age and public assistance status were included as covariates in subsequent analyses. These variables are presented in Table 1.

Hypothesis #1 Analysis

A hierarchical multiple regression analysis was conducted to test hypothesis 1 that growth is greater among the maltreated adolescents. Since public assistance and child age had shown a relationship with some of these variables, they were included in the multiple regression. Variables were entered into the equation in two blocks, with the demographics entered first, and the predictor variable (i.e., maltreatment status) entered in the second block. Such a procedure was employed in order to demonstrate that the hypothesized predictor variable contributed to the explanation of variance in the outcome variable, over and above any demographic effects that might exist. This was done by a test of change in the adjusted R^2 when the hypothesized predictors were added to the equation. In this case, both models were not significant and thus further analyses comparing the two groups were unnecessary. Child age and public assistance status were not predictive of psychological growth, $F(2, 129) = 0.57, p > 0.10$, adjusted $R^2 = -0.01$, and this was true for both the maltreated and nonmaltreated adolescents, $F(3, 128) = 0.87, p > 0.10$, adjusted $R^2 = -0.00$. The coefficients for this analysis can be seen in Table 3.

Given the fact that no significant results were found, a factor analysis was conducted to isolate the subgroup of maltreated adolescents who had experienced PTG and to identify the characteristics that distinguished that subgroup of maltreated adolescents from those maltreated and nonmaltreated adolescents who did not experience growth. Correlations were conducted between maltreatment variables and growth variables. Maltreatment variables included maltreatment status, the number of developmental levels in which maltreatment occurred, and

maltreatment severity (maltreatment status x number of developmental levels in which maltreatment occurred). Growth variables were examined in the aggregate, as they were previously, as well as by individual scores. Growth scores were created for each specific area of potential growth (e.g., peer nomination as a “leader,” PEI likeability score, behavioral rating of “aggressive”) by subtracting the individual z scores of year three from year four and classifying the difference as growth when it was greater than zero for positive traits and less than zero for negative traits. The total number of variables classified as signifiers of growth was tallied, indicating the number of areas in which an individual had experienced growth. No correlations between the maltreatment variables and these growth variables were found to be significant. In addition, hierarchical regression analyses with the newly created maltreatment variables as predictors were conducted. Non-significant results were found for all analyses with age and income controlled.

Table 3 Hierarchical Multiple Linear Regression of Growth x Maltreatment Status

	B	SEB	β	t	Sig.	Adjusted R²
1 (Constant)	1.45	2.46		0.59	0.56	-0.01
Child’s Age	-0.09	0.22	-0.04	-0.41	0.68	
Public Assistance	-0.28	0.38	0.07	-0.75	0.45	
2 (Constant)	1.85	2.51		0.74	0.46	-0.00
Child’s Age	-0.09	0.22	-0.04	-0.41	0.68	
Public Assistance	-0.40	0.40	-0.01	-1.02	0.31	
Maltreatment Status	-0.43	0.39	-0.01	-1.10	0.27	

* $p < .05$

Hypothesis #2 Analysis

Hypothesis 2 was also tested using a hierarchical multiple regression analysis. Self-esteem was considered as a predictor of psychological growth among maltreated and nonmaltreated adolescents. Public assistance and child age were once again included in the first block of the multiple regression and self-esteem introduced in the second block of the multiple

regression in order to demonstrate the unique contribution of self-esteem in the explanation of variance, over and above any demographic effects. A test of change in the adjusted R^2 was conducted. In this case, the results were not significant for the maltreated or nonmaltreated adolescents. Among the maltreated adolescents, child age and public assistance status were not predictive of psychological growth, $F(2,61) = 0.65, p > 0.10$, adjusted $R^2 = -0.01$, and neither was self-esteem, $F(3,60) = 0.59, p > 0.10$, adjusted $R^2 = -0.02$. Child age and public assistance status were not predictive of psychological growth among the nonmaltreated adolescents, $F(2,65) = 0.61, p > 0.10$, adjusted $R^2 = 0.02$, and once again, neither was self-esteem, $F(3,64) = 0.80, p > 0.10$, adjusted $R^2 = 0.04$. By conducting separate analyses for maltreated and nonmaltreated adolescents, the relationship of maltreatment, growth, and self-esteem could be explored. Since a significant relationship was not found among either maltreated or nonmaltreated adolescents, no further analyses were conducted to test whether there was a significant difference between the two groups. The coefficients for this analysis can be seen in Table 4.

Table 4 Hierarchical Multiple Linear Regression of Growth x Self-Esteem

	Maltreated			Nonmaltreated		
	β	Sig.	Adj. R^2	β	Sig.	Adj. R^2
1 (Constant)		1.00	-0.01	0.39	0.02	
Child's Age	0.03	0.86		-0.10	0.48	
Public Assistance	-0.14	0.32		-0.06	0.65	
2 (Constant)		0.98	-0.02	0.40	0.04	
Child's Age	0.03	0.84		-0.10	0.50	
Public Assistance	-0.02	0.34		-0.06	0.63	
Self-Esteem	0.00	0.87		0.01	0.69	

* $p < .05$

CHAPTER 5: Discussion

Given that posttraumatic growth has been studied and confirmed among adolescent samples (e.g., Barakat et al., 2006; Levine et al., 2008; Milam et al., 2005; Salter & Stallard, 2004) with higher rates of growth among those who experienced trauma than among those who did not (e.g., Alisic et al., 2008; Taku et al., 2012), this study proposed that psychological growth would be more prevalent among a sample of adolescents who had experienced abuse or neglect than among a control sample of nonmaltreated adolescents. Furthermore, self-esteem was hypothesized as a predictor of this relationship, with those maltreated adolescents who experienced positive changes in self-esteem also experiencing higher levels of PTG and vice versa, with negative change predicting low levels of PTG. This study defined PTG as a significant change in cognitive and social functioning over a two-year period and through a secondary analysis of a longitudinal public use dataset, this study explored the relationship between maltreatment, growth, and self-esteem among an early adolescent population.

Commentary on Main Findings

The theory of PTG was initially conceptualized as positive psychological change that might be experienced by *adults* who have suffered devastation or trauma (Tedeschi & Calhoun, 1996). In its inception, this concept was not designed with children and adolescents in mind, and despite research confirming that PTG can occur among youth (e.g., Milam et al., 2004; Taku et al., 2012), the concept of PTG cannot simply be assigned to an adolescent population without caution and thoughtfulness. Moreover, many researchers have voiced skepticism regarding

youth's capacity for growth and adaptation given their relative cognitive immaturity (Cryder, Kilmer, Tedeschi, & Calhoun, 2006; Milam et al., 2004).

Examining PTG among adolescents requires particular sensitivity for a variety of reasons. First, traumatic reactions in adults and youth differ in many significant ways. For example, traumatized adolescents are at increased risk for developing PTSD, substance use disorders, and depressive disorders as compared to adults (Kilpatrick et al., 2003) and, irrespective of trauma, are at increased risk for developing psychological disorders (Kessler et al., 2005; Patel et al., 2007). Furthermore, given that considerable hormonal, physical, sexual, cognitive, and neurological growth occurs during adolescence (National Research Council and Institute of Medicine, 2006), growth and maturation are the norm for adolescents. Thus, in studying the construct of PTG among adolescents, researchers must cautiously consider the unique contributions of trauma and of PTG to ensure that behavioral and cognitive changes that are captured within the construct of PTG are not better accounted for by normal maturational processes (Cohen, Hettler, & Pane, 1998) or by psychological thriving (Scales & Leffert, 1999). Distinguishing PTG from these other experiences of growth is essential to maintaining PTG as a distinctive and relevant construct among adolescents. On the other hand, the normal maturational growth that is a hallmark of adolescence may set the stage for PTG, facilitating cognitive development and establishing the very schemata that undergo transformation in PTG (Tedeschi & Calhoun, 2004). While it is important to keep these considerations about adolescence in mind, it is also important to note that the age at which the trauma was experienced, rather than the age at time of data collection, may be more important to the construct of PTG (Barakat et al., 2006; Phipps, Long, & Ogden, 2007).

Of the studies that have explored the concept of PTG among adolescents, none have explored the utility of this construct immediately following relational abuse. It is possible that PTG may occur in the aftermath of a motor vehicle accident or even the death of a parent (Milam et al., 2004; Salter & Sallard, 2004) but not occur after the experience of maltreatment. Some early research suggests that growth is more common after traumas that are caused by natural events rather than by other people (Ickovics et al., 2006; Shakespeare-Finch & Armstrong, 2010). Thus, abuse and neglect may constitute a wholly different form of trauma, one that is devastating and painful in such a way in which growth is all but impossible in its aftermath (Kilmer, 2006).

Abuse and neglect disrupt the sense of safety and invulnerability that epitomize youth. When a child is maltreated, his/her world is diminished in some way and the experience remains in that child's history throughout life. For most children who are maltreated, the pain and distress are compounded by the fact that the trauma is perpetrated by the child's biological parent (84% of cases) or by a non-biological parent or partner, like a stepparent (10% of cases)⁵ (Sedlak & Basena, 2014). Abuse that is committed by the very people who are entrusted with loving, protecting, and caring for the child can be particularly confusing, devastating, and earth-shattering. Such a maltreated child must endeavor to integrate images of a violating, negligent parent with those of a parent who can adequately love and care for him/her and who is still concerned with his/her survival (Sheinberg & Fraenkel, 2001).

⁵ It is important to note here that most state central registries fail to include extrafamilial maltreatment in their count of overall maltreatment (Knutson, 1995). Given that the children under study were identified through the NYS central registry, these numbers are somewhat representative of the population under study but fail to reflect the considerable number of extrafamilial abuse and neglect cases.

Growth posttrauma may be rare or even impossible among children who have experienced maltreatment. Given that these children may be preoccupied with other tasks—attempting to protect one’s body against future attacks or dissociating from or avoiding the abuses so as to protect one’s mind (Davies & Frawley, 1994)—it is possible that they lack the additional resources necessary to undergo the psychological growth of PTG. Maltreatment may thus constitute a stressor like no other and may be so devastating to the cognitive and emotional system that it dampens the body’s instinct toward growth (Kilmer, 2006).

Levine et al. (2008) provide some credence to this hypothesis, noting that a quadratic relationship exists between growth and symptom severity among adolescents in which PTG is greatest at moderate levels of distress but is less prevalent at both low and high levels of distress. Hence, PTG may occur after other traumas but not after a trauma that is as distressing and agonizing as abuse or neglect. On the other hand, McMillen et al. (1995) did find that over a quarter of women who had been sexually abused as youth described perceived benefits of that experience. These results add nuance to this discussion but should be interpreted with caution, given that this research was conducted retrospectively with adult women and that the measure included a statement about how “some individuals can benefit from abuse,” thus introducing significant demand characteristics.

The results of the present study did not support the primary hypothesis that growth among maltreated adolescents, so-called posttraumatic growth, occurred more often than growth among a comparison group of nonmaltreated adolescents. While this study did not find a significant relationship between maltreatment and growth in contrast to past results that acknowledged the presence of posttraumatic growth among traumatized youth (Barakat et al., 2006; Levine et al., 2008; Milam et al., 2005; Salter & Stallard, 2004), the results of hypothesis

one are in agreement with the central premise of the extant literature that PTG is one of many potential posttraumatic reactions that can occur in the aftermath of trauma. Furthermore, a factor analysis was conducted to identify a subgroup of maltreated adolescents who had experienced PTG and to note the characteristics that differentiate the PTG group from the non-PTG group. No significant characteristics were identified. The results of hypothesis one also did not support the notion that the capacity for growth increases with age; similar to research with children, no consistent age effects were found (Kilmer & Gil-Rivas, 2010; Meyerson et al., 2011).

Many diverse factors could contribute to these seemingly discrepant findings. First, the above discussion illustrates the fact that neither adolescents nor maltreatment were considered in PTG's inception and that the construct of PTG may thus be ill-suited to research with these populations. Furthermore, aspects of this dataset may have contributed to these seemingly discrepant findings and will be described in detail below.

Since the experimental group within this study included only those adolescents who had experienced substantiated cases of maltreatment, a basic sampling bias is embedded within this study given that most cases of child maltreatment are never reported and among those that are, many are never investigated or substantiated. Rates of both reporting and substantiation are not equivalent across demographic variables and many potential confounders may be introduced by selecting only substantiated cases. For example, allegations of maltreatment against black children are submitted and substantiated at higher rates than are those against non-black children (Drake et al., 2011; Morton, 1999; Sabol, Coulton, & Polousky, 2004), and it remains unclear whether this difference represents a clear racial bias or whether there is in fact a significant relationship between racial group and maltreatment status above and beyond other demographic variables, like geographic location, SES, and family structure (Ards, Myers, Malkis, Sugrue, &

Zhou, 2003; Sedlak, McPherson, Das, 2010). Poor families are also more likely to be referred to CPS, in part due to the fact that poor families frequently interact with public agencies that are mandated to report suspected maltreatment (Knutson, 1995).

In this study, the experimental and control groups were particularly well-matched on demographic variables and this research design may have also influenced the findings. The sample of both maltreated and nonmaltreated adolescents had experienced myriad social stressors—high likelihood of living below the poverty line, $\chi^2(2, N = 132) = 2.23, p = 0.14$, and of relationship instability, $\chi^2(2, N = 132) = 1.75, p = 0.42$, for example. This process of specifically matching the nonmaltreated and maltreated groups on variables of disadvantage produced a sample in which child maltreatment could be isolated and confounding variables controlled. At the same time, it also created a sample in which a majority of the children experienced chronic psychosocial adversity, experiencing economic, sociocultural, or institutional traumas. By creating two groups with high levels of psychosocial stressors, this study may have confounded the effects of maltreatment with the effects of other experiences of disadvantage and adversity.

Given the fact that the majority of those adolescents under investigation, both maltreated and nonmaltreated, were exposed to chronic stressors, including poverty and associated problems like family conflict and neighborhood violence, it is likely that a high percentage struggled with such proven correlates of cumulative poverty-related stress as physical health, academic functioning, and psychological well-being (e.g., Wadsworth et al., 2008; Yates et al., 2003). On the one hand, the cumulative strain of such psychosocial adversity may have put all of the adolescents under investigation at a disadvantage in relation to PTG. While PTSD and PTG are often positively correlated as described above (Alisic et al., 2008), non-PTSD symptoms and

PTG are more often inversely related and thus an individual who experienced significant psychological distress, as one might expect among both the maltreated and nonmaltreated adolescents in this study, may have a hampered ability to experience growth and positive change in the future (see Meyerson et al., 2011 for a review). The youth in this study may be at a disadvantage, with their resource levels depleted (Hobfoll & Lilly, 1993), prior to any maltreatment experiences, crippling their abilities to experience meaningful social or cognitive growth in the future. Some research supports this claim that prior life stressors decrease the likelihood of experiencing PTG (e.g., Yu et al., 2010). Furthermore, Pynoos et al. (1995) note that adaptation in the face of trauma is also affected by the child's pretrauma mental health. A child who is at a psychological disadvantage—due to psychological or psychosocial reasons—prior to experiencing a trauma may be less able to adapt well to any additional stressors.

On the other hand, given their histories of significant stressors, a high percentage of the youth under investigation experienced the prerequisites of PTG (i.e., stress, trauma, adversity, etc.) and contradictory research suggests that prior life stressors may increase the likelihood of PTG after a subsequent trauma (Hafstad, Kilmer, & Gil-Rivas, 2011; Laufer, Hamama-Raz, Levine, & Solomon, 2009; Laufer & Solomon, 2006). Alternatively, it is possible that these chronic stressors may both enhance PTG, and undermine it, depending on the situation and the individual, thus explaining the contradictory findings within the literature (Meyerson et al., 2011). Regardless of the directionality of the effect, it is possible that a small but insignificant difference between the two groups, as was found within this study, would be expected given that both subsamples should perhaps be categorized as “traumatized.”

This study introduces a worthwhile question to the PTG literature: does growth occur only in the aftermath of acute or situational stressors or can growth occur in the aftermath of

chronic stressors? The impact of chronic stressors differs from that of acute stressors, causing a slow degradation of physiological and emotional processes rather than a rapid, sudden change (Friedman, 2000). Aldwin and Stokols (1988) proposed that stressor characteristics like severity and onset can either serve to promote or counter change. They suggested that those stressors that are more severe, have a rapid onset, and affect multiple domains of an individual's life are more likely to result in long-term change than those that do not. However, Aldwin and Stokols (1988)'s theories are based on stress generally and not trauma specifically and no empirical data is provided to support their claims. No conclusive answer is provided by the aforementioned analysis but is suggested that PTG should be empirically explored in the aftermath of chronic stressors, including poverty, neighborhood violence, and even ongoing abuse or neglect, as well as acute stressors,

This study's results also do not support the second hypothesis that one's self-esteem profile is predictive of one's degree of growth and positive change. Specifically, no significant relationship was found between one's level of self-esteem change and one's level of growth over a two-year period. These results are somewhat consistent with previous research that has been conducted examining the predictability of self-esteem. Contradictory results, that self-esteem both is and is not predictive of growth, have been reported and thus no consistent relationship has been found (Engelkemeyer & Marwit, 2008; King et al., 2000; Siegel et al., 2005). These results suggest that, given the complexity and variability of the construct of self-esteem, it is difficult to capture a stable and reliable relationship between self-esteem and change.

Self-esteem as a concept is a matter of nature and nurture, influenced in particular by such shared non-environmental factors as the parent-child relationship, trauma, and the physical and social environment (Armsden & Greenberg, 1987; Harter, 1999; McGuire et al., 1999).

Maltreatment has been specifically linked to decrements in self-esteem among many, though not all, children (e.g., Herrenkohl et al., 2012; Moran & Eckenrode, 1992) though it is unclear whether such declines are a direct result of the maltreatment or are secondary to its effects. Thus, of note for this discussion, research has found that maltreatment independently influences both self-esteem *and* growth—both the independent and dependent variables in this analysis. When maltreatment is considered, there is no longer a discrete relationship between self-esteem and growth. In fact, maltreatment is only one of many factors within this study that may contribute independently to changes in self-esteem and may affect the clarity of considering the relationship between self-esteem and growth. For example, experiences of adversity, like low SES and receipt of welfare (Mosley, 1995), may independently lead to decrements in self-esteem. It is possible that after the significant decreases in self-esteem caused by the stressors discussed above, there may be less variability in an individual's self-esteem and that any smaller variations that do occur may be difficult to detect. However, given that self-esteem is generally considered a relatively stable element of individual personality, drastic changes in either direction are unlikely.

Furthermore, exploring the concept of self-esteem among adolescents, regardless of its relationship to psychological growth, is complicated for reasons discussed above. To review, research suggests that early adolescents experience a decline in self-esteem that rebounds at some point during middle adolescence (Marsh, 1989; Marsh et al., 1985; Robins et al., 2002; Simmons et al., 1973; Twenge & Campbell, 2001). Examining changes in self-esteem during a period of development in which change is the norm may obscure researchers' ability to clearly identify the relationship between self-esteem and other similarly-changing concepts, like growth.

This relationship is complicated further when the notion of maltreatment- or adversity-related changes in self-esteem is also considered.

While limited PTG research has been conducted with youth, an extensive resilience literature exists. As previously described, resilience reflects positive *adaptation* in the aftermath of a trauma while PTG refers to a positive *transformation* in which one's functioning posttrauma is an improvement on, and not merely a return to, pretrauma levels of functioning (Linley & Joseph, 2004). Growth within this study was assessed after/during experiences of maltreatment, without assessing premorbid functioning, and thus aimed to extrapolate growth throughout the period prior to and after the maltreatment by focusing specifically on the adolescent's experience within a two-year posttrauma window. Many studies of PTG use a similar methodology (e.g., Cryder et al., 2006; Kilmer & Gil-Rivas, 2010; Levine et al., 2008), introducing the possibility that growth and resilience may have significant unintended overlap within the literature.

The relationship between these two constructs is complex. Calhoun and Tedeschi (2006) propose that higher levels of resilience would be reflected in higher levels of reported PTG, while Clay, Knibbs, and Joseph (2009) propose the opposite. These authors posit that a necessary condition of PTG, but not of resilience, is intense distress and traumatization; a resilient individual would likely experience *less* distress not more and therefore, as Clay et al. (2009) suggest, they might be less likely, rather than more likely, to experience PTG. Given that studies do not find a 1:1 correlation between these two constructs, it is clear that PTG and resilience are in fact measuring distinct but interrelated (and perhaps, at times, overlapping) constructs (Ickovics et al., 2006; Meyerson et al., 2011).

Separate bodies of literature and lines of inquiry are necessary but lessons learned within one area may still be applicable to the other. Thus, just as youth who experience transient

negative reactions to trauma might still be deemed resilient (Bonanno, 2004), so too may youth who experience trauma-induced regressions in some domains still be capable of growth. In fact, as was proposed but not proven within the PTG literature, resilient functioning in one domain does not preclude non-resilient functioning in other domains (Masten & Coatsworth, 1998) and studying growth across domains, rather than specifically within domains, may serve to obscure, rather than reveal, areas of growth.

This study specifically focused on posttraumatic growth and adaptation rather than resilience among adolescents in large part because this is an under-researched population within the PTG literature. Thus, while there are significant justifications for conducting PTG research within this population, there are many complicating factors as well, which perhaps explain why few researchers have tackled this subject within this population. As mentioned in Chapter Two, adolescents are particularly vulnerable to experience the negative effects of trauma. While it has been clearly established that positive growth can exist alongside negative sequelae, it is also possible, as has been suggested above, that among this population, the negative eclipses or overwhelms the positive.

Limitations of the Study

This study examined previously-collected data and thus several limitations of the original dataset were inherent to this study. First, all participants were recruited from New York State, introducing the possibility that geographic limitations might have hindered the generalizability of the results. Second, maltreated children were identified through their involvement with Child Protective Services (CPS) and the New York Department of Social Services (DSS). It is possible (and likely) that differences exist between those whose maltreatment is reported and

substantiated and those for whom the maltreatment remains hidden. Additionally, differences may exist between those who receive social service intervention and those who do not (Moran & Eckenrode, 1992). The extent of these differences, and their relevance to this study, is unknown. Furthermore, the experience of interacting with social service agencies may constitute a secondary trauma, as when mental health practitioners, law enforcement personnel, or lawyers fail to provide sensitive, client-focused care. Additional traumas may be introduced into the lives of the youth, possibly as a result of the original trauma, that are not captured in the data. Third, the sample under study is disproportionately poor and financially disadvantaged. These results may not be generalizable to a population of higher SES maltreated children. Yet, since nearly half of all children in the United States under eighteen live in low-income households (Addy, Engelhardt, & Skinner, 2013), these results have considerable significance.

The dataset under investigation did not provide information on several key factors that influence the effect of maltreatment like premorbid functioning, the frequency and duration of the maltreatment, or the relationship of the victim to the perpetrator. First, as described above, given that children were surveyed after/during their experiences of maltreatment without assessing children prior to their experiences of maltreatment, it is impossible to precisely capture the degree of posttraumatic *change* or *growth* as it relates to one's premorbid level of functioning (DuMont, 2007). Second, an individual who experienced one incident of maltreatment by a stranger may have a qualitatively different experience from someone who experienced chronic abuse or neglect at the hands of a parent. Third, no information is provided about the time that has elapsed since the maltreatment. Since this study focused particularly on the experience of positive psychological growth in the months and years following a traumatic event, it should, but unfortunately could not, consider the time elapsed since the event nor could it account for the

developmental stage during which the trauma occurred. However, without such information, the maltreated group represents adolescents whose trauma may have occurred one year ago or ten years ago and thus may add a significant confounder to the analysis (Park et al. 1996); the self-reported impact of an experience can change over time and as described above, the age at time of traumatic event, but not the age at time of data collection, is significantly related to PTG (Barakat et al., 2006; Phipps et al., 2007). However, many studies have not found a correlation between PTG and time since the trauma (Ickovics et al., 2006; Milam et al., 2004; Tedeschi & Calhoun, 1996). Alternatively, a child may still be experiencing chronic maltreatment throughout the study, complicating the validity of conclusions about the consequences of an experience that persists.

Furthermore, it is quite possible that growth that occurred may have been missed given this study's design. It is still unclear whether growth occurs in the direct aftermath of the trauma or within the years following it. In this study, considerable psychological growth may have occurred prior to years three and four, or even completely predated the commencement of the study, growth that was no longer observable as it had become the status quo. Moreover, since the vast majority of children's maltreatment statuses (i.e., from nonmaltreated to maltreated) did not change throughout the course of the four years of data collection, it is possible that most of those in this study who experienced maltreatment first experienced it prior to year one of the study. Further research should examine children within the direct aftermath of the termination of the maltreatment to understand how these various confounding variables may play into each other.

Another major limitation of this study is that growth was measured in a unique and unconventional way. Rather than employing a standard measure of PTG like the PTGI (Tedeschi & Calhoun, 1996), PTGI-C (Kilmer et al., 2009), or the Stress-Related Growth Scale (SRGS) for

Adolescents (Vaughn et al., 2009), this study inferred growth by measuring changes in cognitive and social functioning over time. This strategy aimed to tap into change that might be occurring unconsciously and across various domains, but by employing a unique strategy, this study may have found idiosyncratic and nongeneralizable results that cannot be systematically compared with previous results. While this strategy still holds promise—to measure PTG while overcoming demand characteristics—it is likely that the operationalization of PTG that was proposed in this study, with a specific emphasis on changes in cognitive and social functioning, is incomplete or inaccurate. PTG may measure change in domains other than social and cognitive functioning and alternative measures of PTG must account for changes in various domains of functioning.

Maltreatment, too, was identified and verified in a way that most previously-researched forms of trauma were not. Whereas previous studies of PTG assessed trauma by asking the adolescent to identify negative life events that he/she experienced (e.g., Milam et al., 2004; Taku et al., 2012) or by only assessing those who were present for a natural disaster (e.g., Cryder et al., 2006), this study examined New York Department of Social Services (DSS) records to identify children who had experienced substantiated claims of abuse or neglect. In this study, an objective accounting was preferred over one's subjective account of the traumatic nature of an experience, a fact that may have influenced or limited the results.

Self-esteem may also have limited utility as a construct within this study. First, as mentioned above, self-esteem is changing in considerable ways as a result of the age and experiences of participants and may be an unreliable research construct within this population. Second, since self-esteem is measured almost exclusively by self-report (Blascovich & Tomaka, 1991), it is a highly subjective construct that may involve a degree of poor construct validity.

Measures of self-esteem may actually measure an individual's level of confidence or arrogance rather than self-esteem specifically. Lastly, it has been suggested—though it constitutes a minority opinion—that high self-esteem has limited benefits and may even have drawbacks (Baumeister, Campbell, Krueger, & Vohs, 2003) and thus employing high self-esteem as a marker of mental health may be a flawed assumption.

Just as imputing the data reduced uncertainty and increased the available sample size for analysis, limitations were introduced by its inclusion in this analysis. Imputation processes can bias parametric statistics and can underestimate standard error. Given that the results in this study were not found to be significant, these limitations do not affect significance but are still important to understanding the functionality of this method.

One interesting question to consider is whether it is possible to compare results that were exclusively collected within the camp setting with results that were predominantly collected within the school setting. No predictions about the effect of this comparison are proposed, but it is possible that important differences exist. Since global self-esteem may be related to such salient aspects of school and camp as academic achievement and physical competence, measuring youth's self-esteem in these two settings may produce significantly different results.

Future Directions

The results of this study suggest that additional research exploring the construct of PTG among adolescents, and particularly among maltreated adolescents, is necessary and warranted. Specifically, prospective, longitudinal studies with high-quality experimental designs that control for maturational growth would allow researchers to explore important but as yet unanswered questions about PTG among adolescents, including the occurrence of PTG among adolescents,

the potential interaction between PTG and normal adolescent thriving, the possible confounding nature of such thriving, the unique contribution of maltreatment to PTG and the feasibility of PTG in the aftermath of devastating traumas like maltreatment, and the timetable of PTG occurrence in the aftermath of trauma. In order to properly answer these essential questions, such a prospective study must also be cautious to gather information about the cessation of the maltreatment experience—and the possibility that maltreatment is ongoing—so as to control for the effects of time elapsed since the trauma.

Future researchers must remain committed to exploring the experience of psychological growth and adaptation within an adolescent population. There are no doubt numerous reasons why research with adolescents, and particularly maltreated adolescents, is complicated. Identifying a suitable population, engaging those adolescents, and maintaining that engagement when parental consent is required are just a few of the complications of conducting the research. Then, given the number of potential confounding variables within this population, even significant results from a well-defined and well-researched study will remain speculative without further confirmation. Despite this fact, research conducted with an adolescent population that adequately addresses the theoretical and clinical considerations that are unique to this population has the potential to add considerably to the overall understanding of normal maturational development, adolescent thriving, and posttraumatic growth and adaptation.

It is also suggested that further research explore the interaction between maltreatment, significant psychosocial adversity, and growth. As discussed above, one possible reason for the nonsignificant results in this study is that all of the youth were exposed to significant psychosocial stressors that may have influenced their potential for experiencing PTG at various points within their development. This research study was not designed to answer this important

question, but future research will ideally consider whether growth occurs only in the aftermath of acute or situational stressors or whether it can also occur in the aftermath of chronic stressors. In particular, the relationship between growth and chronic psychosocial stressors, including poverty, neighborhood violence, and repeated abuse or neglect, should be explored.

Lastly, additional research that considers the relationship between personality or psychological functioning and PTG should be conducted. If future research can detect a relationship between posttraumatic growth and self-esteem or other measures of psychological well-being, then intervention efforts can be aimed at identifying those individuals who are more or less likely to experience positive growth and adaptation. Furthermore, efforts to increase PTG among adolescents may be able to target these individual characteristics—working to increase a child’s self-esteem, for example—as an indirect method of increasing the potential for positive growth and adaptation among adolescents. Given that adolescents are at particularly high risk of experiencing psychiatric symptomatology (Kessler et al., 2005; Patel et al., 2007), any intervention that lessens this vulnerability holds considerable promise and should be seriously explored and investigated.

Clinical Implications

The findings discussed above have potential implications for the treatment of childhood maltreatment. First, given that PTG was not found among maltreated adolescents but has been experienced by survivors of other traumas, it is possible that childhood maltreatment may be experienced as a uniquely devastating form of trauma, unlike other traumatic experiences in childhood. Conceptualizing maltreated youth in the same manner as one would conceptualize a survivor of a motor vehicle accident, for example, might lead the clinician to make inadvertent

assumptions about the subjective experience of the trauma of maltreatment that are based on other, quite different traumas. Furthermore, clinicians should be open to the possibility that youth who have been maltreated may be unable to experience significant levels of growth, even as some adolescent survivors of other traumas do.

Second, this study demonstrated that self-esteem is not predictive of growth, a finding that should serve as a humbling reminder to clinicians and researchers alike that there are as yet no easy or guaranteed methods of predicting how an individual will react to a specific trauma. While future research will ideally provide greater information about the characteristics that are predictive of growth, at present, there are no well-defined indicators of future posttraumatic growth among adolescents. Clinicians must continue to rely on their clinical skills and listen carefully and openly to each individual's narrative for clues of growth.

Though the results of this study do not confirm that growth occurs post-maltreatment, it is quite possible that growth is experienced but was simply not captured by the measure or analyses employed. Additionally, it is possible that PTG can occur among maltreated adolescents but must be properly nurtured in a way that is unnecessary or superfluous with other forms of trauma. The research on fostering PTG is still in a nascent form but there is evidence to suggest that interventions that serve to lessen posttraumatic stress may also support posttraumatic growth. Specific interventions may include harnessing social support from family, friends, and other survivors, creating a narrative of one's experience, and grappling with one's sense of guilt and self-blame (Malchiodi, Steele, & Kuban, 2008). In particular, many common treatments may already explore this growth and help facilitate it and should be sought after for their capacity to support a child's entire experience. Treatments that are nondirective are preferred since the

traumatized youth must feel free to discuss his/her experience of pain, suffering, or growth without the implication that one experience is expected or preferred (Clay et al., 2009).

It is important for clinicians to invite adolescents to speak about their experiences, to consider the growth that might have occurred, and to leave room for the possibility that the experience was too destructive and that no silver lining could be found. Clinicians must be willing to give voice to the potential pain experienced in response to trauma and to the potential pain experienced as a result of one's subsequent reaction, whether it be growth or greater suffering. This approach can ideally protect those adolescents who do experience growth from feeling invalidated and unheard while supporting those individuals whose experience is devoid of growth. Such a technique in which negative sequelae and growth are emphasized is best defined by Malchiodi, Steele, and Kuban (2008):

While it is important to provide children with the opportunity to communicate their memories of and feelings about what happened, it is equally important to ask them to explore how the experience may have helped them to become stronger or discover new things. (p. 298)

Clinicians and service providers in general must be attentive to the possibility of growth in the direct aftermath of trauma and in subsequent years. It is as yet unclear when growth is most likely to occur and when it would be most effective to foster and nurture the experience of growth. With further research, interventions will ideally be more precise and time-sensitive.

Adolescents experience their bodies, their social environments, and the world as a whole, differently than either children or adults. Despite the focus on socialization in adolescence, many teenagers can feel acutely isolated, distanced from their families and unsurely navigating new and increasingly complicated social relationships (Levy-Warren, 1996). Existing in this social

limbo between parents and friends, adolescents may be particularly vulnerable to decreased levels of social support; as previously mentioned, greater social and parental support are correlated with increased levels of PTG (Cryder et al., 2006; Prati & Pietrantonio, 2009). This fluctuating level of social support may exacerbate suffering among some adolescents and thwart efforts at healing.

In sum, clinicians who work with maltreated adolescents should be sensitive to the fact that adolescents may be both particularly vulnerable to experiencing negative sequelae (National Research Council and Institute of Medicine, 2006) and to not experiencing positive growth and adaptation. Clinicians are aware that clinical work with adolescents is distinctive—a hybrid of the talk therapy of adults and elements of the play therapy of childhood. The experience of childhood abuse or neglect adds another level of complexity to this dynamic.

When the presence and process of growth among adolescents is better understood, clinical interventions can more specifically target those aspects of experience that differentiate youth who experience growth from those who do not. Enhancing this capacity for positive growth and adaptation among those who do not yet experience it—and understanding the potential efficacy and utility of intervention—will help us better protect youth against the difficulties and traumas of life. It will also help professionals remain attentive to the myriad possible reactions to trauma and the positive experiences that might coexist with negative reactions (Tedeschi & Kilmer, 2005).

Conclusion

The current study found nonsignificant results for both proposed hypotheses, contributing a nuanced perspective to previous research on the concept of posttraumatic growth and

adaptation among adolescents who have experienced abuse or neglect. This study confirmed the importance and utility of carefully exploring the construct of PTG among adolescents and of remaining aware of the many possible confounding variables inherent within this population. Additionally, findings suggested that maltreatment may represent a distinct and particularly devastating form of trauma that masks or obliterates the possibility of growth in its aftermath. A clearer understanding of the growth experiences of maltreated adolescents is necessary to help clinicians provide trauma-informed psychotherapy that is individualized and sensitive to the many possible, and healthy, reactions to abuse and neglect.

The primary aim of this study was to explore the concept of PTG among maltreated and nonmaltreated adolescents and to understand the potential for self-esteem to predict the relationship between such maltreatment and increased levels of growth posttrauma. This study did not yield significant results and no significant predictive relationships were found. Future prospective, longitudinal studies are recommended in order to investigate and elucidate the complex relationship between relational trauma, psychological growth, and adolescence.

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