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## Overcoming the War Within: Exploring the Relationship Between Exposure to Complex Trauma and Post Traumatic Growth

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**Overcoming the War Within: Exploring the Relationship between Complex Trauma and  
Post Traumatic Growth among Urban Black Youth**

A Thesis

Presented In Fulfillment

of the Requirements

for the Degree of

Master of Arts

By

Diego Tommaso Thompson

June 2024

Department of Psychology

College of Science and Health

DePaul University

Chicago, Illinois

**Thesis Committee**

Kathryn Grant, PhD, Chair

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## **Biography**

Diego Tommaso Thompson was born in Baltimore, Maryland on May 11, 2000. He graduated from Baltimore City College High School, in Baltimore, Maryland. He earned his Bachelor of Arts degree in Psychology from Johns Hopkins University in 2022. After graduating with his undergraduate degree, Diego began the Clinical-Child Psychology PhD Program at DePaul University.

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## Abstract

Exposure to complex trauma can be understood as exposure to multiple and varied types of traumatic events, often chronic in nature. Exposure to complex trauma is prevalent among youth in the United States, especially youth living in urban environments and marginalized populations. Black youth who live in urban environments are of particular concern due to their increases susceptibility of exposure to community violence, entrenched poverty, and other sources of trauma at multiple levels, making them an appropriate population in which to examine PTG. The effect that these exposures have on these youth should be acknowledged, it is necessary to also identify the potential for post traumatic growth (PTG) following exposure to complex trauma. PTG can be best conceptualized as the positive psychological change that occurs during the struggle to handle highly stressful life circumstances. This growth can occur in five main areas: 1. Appreciation of Life, 2. Relating to Others, 3. Personal Strength, 4. New Possibilities, and 5. Spiritual Change. PTG has been found consistently for youth exposed to acute trauma, however there is much to learn about the extent to which youth who have been exposed to complex trauma can experience PTG. In order to gain a better understanding of the process of growth among urban Black youth exposed to complex trauma, factors related to growth outcomes were the primary focus of the present study. Social support, active coping, and rumination were hypothesized to generate PTG outcomes in youth, interacting with exposure to complex trauma to predict PTG. Given that research has largely focused on the adverse effects of exposure to complex trauma, this study's researcher sought to understand the positive growth process that occurs following exposure to complex trauma in an urban adolescent population.

This study is part of a larger study that included 400 adolescents (47% female and 53% male), grades six through 12, recruited from three urban schools. Data collection took place at

two time points, six months apart, and included the Post Traumatic Growth measure, the Major Events measure, the System Levels Stressor measure, the Places I Spend Time measure, and the Responses to Stress Questionnaire. In the study, the researcher applied a moderated regression analysis to investigate the moderating effects of exposure to complex trauma, social support, and coping style on PTG outcomes both cross-sectionally and longitudinally. Cross-sectional results did not indicate a statistically significant relationship between exposure to complex trauma and PTG for Black adolescents nor youth of all races and ethnicities more broadly, revealing no support for the hypothesized moderators to this relationship. Longitudinal analyses did not indicate a statistically significant relationship between exposure to complex trauma and PTG among Black adolescents nor all races and ethnicities broadly but did reveal support for active coping as a moderator to this relationship among Black adolescents.

## **Overcoming the War Within: Exploring the Relationship between Complex Trauma and Post Traumatic Growth among Urban Black Youth**

### **Chapter I: Introduction**

**Exposure to Complex Trauma.** Exposure to trauma is highly prevalent across people from a diversity of cultures, contexts, and racial/ethnic groups. According to Benjet and colleagues (2016), 82.7% of people in the United States have been exposed to at least one type of traumatic event. However, while exposure to trauma is highly prevalent among the general population, certain subsets of the population are exposed to more pervasive, intersecting traumatic events that can be best conceptualized under the framework of *complex trauma*. Since the introduction of the concept by Herman (1992), there have been many different definitions of complex trauma offered up in the current literature. There is consensus however, that it consists of exposure to multiple traumatic events, often chronic and interpersonal in nature, generally beginning in childhood (Wamser-Nanney and Vandenberg, 2013). Examples of complex traumas include child abuse (physical, emotional, and sexual), neglect, witnessing domestic violence, and exposure to community violence. These forms of trauma are considered complex given their severe and pervasive nature. Complex trauma differs from acute trauma, which is conceptualized as a single incident of trauma, while complex trauma can include exposure to multiple and varied types of traumatic events. A multitude of effects have been linked to exposure to complex trauma, including, but not limited to, difficulties in emotional and self-regulation, impulse control, developing healthy attachments, and regulating stress (Cook et al., 2003).

Although exposure to complex trauma is prevalent among youth in the United States, the rates and incidence of complex trauma exposure are significantly higher in limited-income, urban communities across the United States. While over 60% of adolescents in the United States

have been exposed to at least one traumatic event, 19% of adolescents ages 13 to 17% have been exposed to three or more traumatic events (Gunaratnam and Alisic, 2017; Darnell et al., 2018). In a study on exposure to family and friend homicide in a nationally representative sample, it was found that youth living in urban environments experienced higher rates of firearm-related violence exposure (Turner et al., 2019). Along with community violence, exposure to other forms of complex trauma is also highly prevalent among urban youth. About 3 in 5 urban youth have experienced physical assault, sexual victimization, and maltreatment (including physical abuse, emotional abuse, and neglect (Finkelhor et al., 2015). In addition to disparities in complex trauma affecting urban youth, there are also racial disparities in complex trauma exposure, with urban African-American youth at significantly higher risk, with these children more likely to live in poverty, be exposed to familial and community violence, lose a loved one violently, have an incarcerated family member, experience contacts with police and the criminal justice system and experience homelessness (Complex Trauma Treatment Network of the National Child Traumatic Stress Network, 2016). In a longitudinal study on 4989 children across large US cities between 1999 and 2017, it was found that 56% of Black youth lived within 1300 feet of a gun homicide in the past year, with 1 in 4 Black youth experiencing 3 or more incidents (Karvitz-Wirtz, 2022). Black youth were more likely to live in closer proximity to the nearest incident and for the last incident to have occurred more recently than white youth. The study also found that 3 in 4 Black youth living in limited-income households resided in moderately or highly disadvantaged neighborhoods compared to only 1 in 4 white youth who lived in limited-income households (Karvitz-Wirtz, 2022).

When looking at Adverse Childhood Experiences (ACEs), which overlap with some of the traumatic events that are included under the complex trauma framework (i.e., physical abuse,

sexual abuse, emotional abuse, physical and emotional neglect, domestic violence, and community violence), we also see similarities in exposure among Black youth. ACEs can be best understood as events that interfere with physiological, cognitive, and socio-emotional development, undermining one's sense of safety and security, ultimately resulting in maladaptive coping and decreased quality of life (Centers for Disease Control and Prevention, 2019). Black youth are especially vulnerable to exposure to ACEs, reporting more ACEs than Latinx and White youth, with their experience of ACEs remaining relatively more stable than Latinx and White youth even when their socioeconomic status increases (Hampton-Anderson et al., 2021).

While exposure to trauma is associated with multiple negative outcomes, it is important to acknowledge that growth following trauma is possible. McGrath (2006) notes that most psychological theories that conceptualize growth explain growth outcomes as involving the reorganization of one's assumptions or schemas. One such theory, shattered assumptions theory, describes the destructive nature of trauma on an individual's belief system, with these disruptions including changes in one's sense of self and worldview regarding the benevolence and meaningfulness of the world (Schuler and Boals, 2016; Janoff-Bulman, 1989). Growth then occurs through the re-establishment or discarding of assumptions that were shattered and an adoption of a new worldview that creates meaning out of the traumatic experiences one has faced. Thus, Post Traumatic Growth is best conceptualized as the positive psychological change that occurs during the struggle to handle highly stressful life circumstances (Tedeschi and Calhoun, 2004). There are five main areas of growth included in this construct: 1. Greater appreciation of life and changes in sense of priorities 2. Closer relationships with others, especially those who have experienced similar difficult circumstances 3. A greater sense of personal strength 4. Recognition of new possibilities and 5. Spiritual and existential development

(Tedeschi and Calhoun, 2004). Following exposure to trauma, an individual experiences cognitive restructuring in which they integrate the trauma they experience into their schemas, which become more resistant to being shattered, with these schemas determining the extent to which post traumatic growth has occurred (Tedeschi and Calhoun, 2004). Gerrish and colleagues (2009) note that trauma involves the shattering of assumptions, but that PTG is a process in which schema are reconstructed, fostering a new sense of meaning in one's life and personal growth. However, while we know that PTG has been studied in relation to acute trauma, what we currently do not know is whether growth is possible among individuals who have been exposed to complex trauma, given that positive views of the world might not have been formed to begin with and their worldview is consistently being shattered by chronic exposure to traumatic events.

Yet, it is important to differentiate growth from resilience. Resilience usually refers to the ability to persevere through life's hardships, with resilient individuals displaying a relatively stable trajectory of healthy functioning over time despite experiencing difficult life circumstances (Tedeschi and Calhoun, 2004; Bonanno, 2004). Additionally, resilience implies that individuals avoid distress in an effort to maintain their baseline functioning, whereas PTG requires that individuals experience distress during the appraisal of their experiences in the process of growth (Tedeschi and Calhoun, 2004). Growth, however, involves excelling beyond one's baseline levels of functioning, beyond the levels of adaptation conceptualized by resilience, demonstrated through improved relationships, changes in self-perception, and shifts in one's life philosophy (McGrath, 2006).

Limited studies have assessed the relationship between complex trauma and post traumatic growth. Less than 5 studies have examined this relationship through the lens of complex post-traumatic stress disorder (C-PTSD). C-PTSD is distinct from the traditional

diagnosis of PTSD, in that it is comprised of three PTSD clusters relating to a traumatic event (i.e., reexperiencing the traumatic event, avoidance of traumatic reminders, and heightened sense of threat) along with three symptom clusters that represent chronic disturbances in self-organization (i.e., affect dysregulation, extremely negative self-concept, and difficulties forming and maintaining relationships) (Maercker et al., (2022). C-PTSD recognizes the effects that chronic or repeated trauma have on mechanisms related to self-organization and is associated with traumatic events including repeated childhood physical or sexual abuse, domestic violence, and combat-related violence. One study conducted by Dagan and Yager (2019) examining the relationship between PTG and C-PTSD, specifically as it pertains to child abuse, found that PTG may be possible among individuals diagnosed with C-PTSD following chronic exposure to child abuse, especially when an individual had supportive and stable therapeutic and extra-therapeutic relationships. This study presents promising findings that inform the potential for a relationship between exposure to complex trauma and post traumatic growth. The present study will build on these findings, exploring the relationship between exposure to complex trauma and post traumatic growth among urban Black youth.

**Post Traumatic Growth.** Although research on the specific relationship between exposure to complex trauma and post traumatic growth is lacking, prior research on how more severe forms of acute trauma contribute to the development of post traumatic growth provides insight into what this new relationship may look like. Ickovics et al. (2006) conducted a study on the relationship between traumatic events, post traumatic growth, and emotional distress among urban adolescents and found that more life-threatening and life-changing events (i.e., unexpected death of a loved one) result in greater post traumatic growth. Other research on the unexpected death of a loved one (either suddenly or through violence) has demonstrated that while

unexpected deaths often lead to greater distress, this type of loss leads to an increased likelihood of growth (Tedeschi and Calhoun, 2006). Thus, distress is necessary for one to develop post traumatic growth. Calhoun et al., (2010) explain that this kind of loss shatters one's world beliefs, which requires cognitive efforts to rebuild to prepare for possible growth. Given the conceptualization of complex trauma as chronic exposure to more pervasive and distressful forms of trauma, exposure to complex trauma may operate similarly to acute traumas, such as the violent death of a loved one, by contributing to distress significant enough to shatter one's worldview and promote post traumatic growth through the appraisal of the effects of their experience.

**PTG Predictors: Social Support and Coping Strategies.** Social support has also been found to be a significant predictor of post traumatic growth. Social support may include multiple components such as the perception that one is cared for and loved, one is esteemed and valued, and that one belongs to a group (Michael and Cooper, 2013). While Cohen and Willis (1985) demonstrated that social support lessens the impact of distress and increases well-being, contributing to resilience, social support aids in the development of post traumatic growth by contributing to a more constructive appraisal of trauma and more effective coping strategies, allowing a new worldview from supportive others to be integrated into schema change (Prati and Pietrantonio, 2009).

While the contribution of social support to post traumatic growth has been studied extensively, most of these studies have been among adults and within the field of health psychology, specifically among cancer patients, leaving a gap in the literature about the influence of social support on the development of post traumatic growth among individuals exposed to complex trauma. In fact, the current literature has demonstrated the inhibiting nature



of exposure to complex trauma on social support, by both impacting youth's perception of the social support they receive and true reductions in the amount of social support youth exposed to complex trauma receive. Youth who have been exposed to complex trauma and experience repetitive experiences of harm and/or rejection by significant others are likely to develop a self-perception of defectiveness, helplessness, and deficiency (Cook et al., 2005). As a result, these youth perceive themselves as powerless or incompetent, expecting to be rejected and despised by others, and are therefore more likely to blame themselves for negative experiences, leading to difficulty developing and responding to social support (Cook et al, 2005). Additionally, studies on social erosion model provide insight into the effect that trauma can have on social support. According to the social erosion model, PTSD erodes support given that individuals who have PTSD have an increased tendency to believe others are dangerous and unsafe, therefore increasing difficulty establishing trust in their relationships and isolating themselves (Cox et al., 2019). Thus, the interpersonal difficulties that individuals with PTSD experience may in fact lead to decreased social support. One study by Simon et al. (2019), found that individuals diagnosed with Complex PTSD (C-PTSD) were more likely to exhibit lower levels of perceived social support, with these findings likely explained by the social erosion mode, in which interpersonal difficulties that arise as a result of the experience of C-PTSD lead to a reduction in social resources and therefore lower levels of perceived social support. Complex trauma, therefore, may operate to effectively reduce social support, both by leading to reductions in an individual's perceptions of social support, both due to their cognitions about their relationships with others that lead them to have difficulty responding to social support and the erosion of social resources as a result of their interpersonal difficulties.

Less than 5 studies have provided some insight into what the role of social support in the relationship between exposure to complex trauma and PTG might look like. In a study on intimate partner violence and post traumatic growth, it was found that social support predicted higher levels of post traumatic growth and the development of new positive identities (Žukauskienė et al., 2021). Given the pervasive nature of intimate partner violence, the experience and its effects are consistent with those conceptualized under the complex trauma framework, this study provides one of the first insights into what the role of social support may be in the development of post traumatic growth among those exposed to complex trauma. The current study will build on this insight by exploring the potential moderating effect of social support on the relationship between exposure to complex trauma and post traumatic growth.

Extensive research has also found that active coping strategies are significantly associated with PTG. Wolchik et al. (2009) defined active coping as problem-focused strategies and positive cognitive restructuring, while avoidant coping included problem avoidance and engaging in wishful thinking. In particular, active coping styles, which are strategies intended to achieve a level of personal control over the stressors in one's environment and emotions, have been found to nurture positive growth, (Compas et al., 2001). Over 50 studies have demonstrated the positive contribution that active coping strategies have on the development of post traumatic growth, with many of these studies having been conducted on adults and within the field of health psychology, predominately on cancer patients. Less than 10 studies have studied the contribution of active coping on the development of PTG among adolescents, specifically Black youth. Meyerson et al. (2011) note that, while active coping may be less effective when facing uncontrollable stressors, it is generally associated with positive outcomes among youth in the literature. Similarly, a study conducted by Aldrige and Roesch (2008) offers a glimpse into the

role that active coping plays in the development of PTG, finding that adolescents from minoritized racial backgrounds who managed stress with active coping strategies experienced significantly more growth than those who used avoidant coping strategies. Avoidant coping strategies can be operationalized as problem avoidance and social withdrawal and, although there have been mixed findings in the literature, with results indicating that both active coping and avoidant coping were found to positively predict scores on the New Possibilities and Personal Strength domains of the Posttraumatic Growth Inventory (Wolchik et al., 2009), they have largely been shown to negatively correlate with growth (Elderton et al., 2015). Meyerson et al. (2011) suggest that additional research is needed to understand how coping strategies contribute to positive growth outcomes among children and adolescents, therefore the present study will aim to assess the role of active coping strategies in facilitating post traumatic growth.

Another coping style that has been related to PTG among adolescents is rumination. Rumination refers to a cognitive process in which one repetitively thinks about or dwells on negative feelings and distress, along with their causes and consequences (American Psychiatric Association, 2020). Within the context of trauma, it refers to the process of continuously thinking about traumatic events and their consequences (Watkins, 2008). Meyerson et al. (2011) note that, while rumination is often predictive of psychological distress, it can also promote positive reinterpretation of traumatic events, with this reinterpretation included in new post-trauma schemas. Two forms of post-trauma rumination generally occur: intrusive rumination and deliberate rumination (Calhoun and Tedeschi, 2006). Intrusive rumination refers to repetitive, negative, and unwanted thoughts, while deliberate rumination refers to repetitive, reflective, and purposeful thoughts. Deliberate rumination has been shown to promote PTG through the rebuilding of shattered assumptions so the individual can re-appraise their traumatic experience,

and, once that individual can re-appraise their experience and the world, they can better cope with their changed circumstances as a result of that traumatic experience (Calhoun and Tedeschi, 2006). Limited studies have examined the role of rumination in PTG among adolescents, with the current literature focused on adolescents living outside of the U.S. One such study conducted by Wang et al. (2020) found that rumination positively predicted PTG among Chinese adolescents who had survived an earthquake. Given these preliminary findings and the lack of studies examining the role of rumination in PTG among U.S. youth, the current study will examine rumination within the context of PTG, specifically as it pertains to urban Black youth exposed to complex trauma.

While the relationship between coping strategies and post traumatic growth has been studied extensively, limited studies have assessed the relationship between complex trauma and coping strategies. Pfluger (2022) conducted a study examining the mediating role of coping strategies and coping self-perception in the relationship between complex trauma exposure in one's youth and psychopathology in older age. They found that complex trauma was associated with high maladaptive coping strategies (e.g., avoidance behavior and self-harm) and low levels of coping self-perception (i.e., individuals perceive their stress coping as less effective and satisfying), with both serving as relevant mediators of the relationship between complex trauma exposure and psychopathology. Individuals exposed to complex trauma may develop maladaptive coping strategies that help resolve short-term negative consequences but may not be as useful in effectively processing traumatic experiences or facilitating long-term coping with stressful situations later in one's life. Further research has demonstrated the relationship between complex trauma exposure and maladaptive coping responses (Pfluger et al., 2022). Briere and Scott (2015) note that posttraumatic symptoms stemming from exposure to complex trauma may

contribute to the development of maladaptive coping responses, such as suicidality and avoidance activities (e.g., dissociation and substance use) in response to traumatic stress. Yet, while the relationship between complex trauma exposure and coping strategies has been studied, no studies were found on the moderating role that coping strategies may have on the relationship between exposure to complex trauma and post traumatic growth. Therefore, the present study will explore the moderation effect of coping strategy type on the relationship between complex trauma and post traumatic growth.

### **Study Rationale and Hypotheses**

There is limited research on the relationship between exposure to complex trauma and PTG, especially as it relates to the experience of urban Black youth. Much of the empirical literature on complex trauma has revolved around its contribution to the development of psychopathology, and research on PTG and the contributing effects of social support and coping strategies have focused on growth outcomes as they relate to acute forms of trauma. While these studies have provided integral information that has furthered the field's understanding of complex trauma and PTG as a whole, more research is needed to both understand what this fundamental relationship looks like, as well as how it is uniquely expressed in the experience of urban Black youth. The current study's research intends to delve deeper into the experiences of exposure to complex trauma and PTG among urban Black youth through a quantitative study.

### **Statement of Hypotheses**

- 1. Hypothesis I:** Exposure to complex trauma will significantly predict PTG both cross-sectionally and longitudinally.

2. **Hypothesis II:** Youth who have the perceived availability of social support will report higher levels of PTG. Furthermore, social support will interact with exposure to complex trauma to significantly predict PTG.
3. **Hypothesis III:** Youth who engage in active coping and rumination will report higher levels of PTG. Each of these coping strategies will interact with exposure to complex trauma to significantly predict PTG.

## **Chapter II: Methods**

### ***Participants***

This study is part of a larger study that included 400 adolescents, grades six through 12, recruited from three urban schools, two of which were K through 8<sup>th</sup> grade and one high school. The sample was approximately 47% male and 53% female. In terms of racial and ethnic identity, 34.6% identified as Hispanic/Latinx, 34.3% as African American/Black, 18.1% as European American/White, 11% as Asian or Asian American, 2.5% American Indian or Alaskan Native, .5% Native Hawaiian or Other Pacific Islander, 15% as Bi-Racial or Multiracial, and 14.5% as Other. Participants in the current proposed study must identify as Black or African American. Based on this criterion, the sample for the current study included 140 Black or African American adolescents.

### ***Procedure***

All measures and protocols included in this study were approved by the Institutional Review Board at DePaul University and Northwestern University. During the fall of 2012, participants came for a day of data collection on one of five consecutive Saturdays where consent and assent forms were collected for all participants. Participants were also served breakfast, lunch, and dinner and were provided breaks to relax, watched short movies, and received a college

informational including a tour of campus. Throughout the testing day, participants were assigned to a random order of participation in various measures and tasks and were incentivized with a \$50 gift card to Target, Old Navy, or Best Buy at the end of the day. An additional \$20 in gift cards were distributed to students if they returned parent rating forms, with \$10 going to the parent and \$10 going to the child. Below a summary of the measures utilized in the current study can be found.

### *Measures*

Post-Traumatic Growth. The Post Traumatic Growth Measure is an 11-item scale assessing positive psychological change following exposure to trauma across 5 areas: New Possibilities, Relating to Others, Appreciation of Life, Personal Strength, and Spiritual Change (Kilmer et al. 2009). The first item in the scale asks the participant to remember a bad or traumatic experience. The following 10 items are scored on a four-point Likert scale (0 to 4; higher scores indicate greater change) with the option to choose either “no change”, “a little”, “some”, or “a lot of change”. Each of the subscales for the present sample demonstrated good internal consistencies: (a) New Possibilities ( $\alpha = .81$ ), (b) Relating to Others ( $\alpha = .81$ ), (c) Appreciation of Life ( $\alpha = .80$ ), (d) Personal Strength ( $\alpha = .82$ ), and (e) Spiritual Change ( $\alpha = .92$ ). Each subscale contains two items. The New Possibilities subscale includes items a.) “I now have a chance to do some things I couldn’t before” and b.) “I have new ideas about how I want things to be when I grow up.” The Relating to Others subscale includes items a.) “I learned how nice and helpful some people can be” and b.) “I feel closer to other people (friends or family) than I used to.” The Appreciation of Life subscale includes items a.) “I know what is important to me better than I used to” and b.) “I appreciate (enjoy) each day more than I used to.” The Personal Strength subscales include items a.) “I can now handle big problems better than I used

to” and b.) “I have learned that I can deal with more things than I thought I could before.” The Spiritual Change subscale includes items a.) “I understand how God works better than I used to” and b.) “My faith (belief) in God is stronger than it was before.” Post Traumatic Growth was calculated by summing all the items with a possible score range of 0 to 30, with higher scores indicating greater post traumatic growth. The overall mean scores at both Time 1 and Time 2 were used.

Social Support. Social Support will be assessed using the Places I Spend Time measure (PIST; Duffy et al., 2020; Grant et al., 2020). This measure is scored on a 3-point Likert scale (0 to 2; higher scores indicate greater availability of social support) with the option to choose either “Never or Hardly”, “Sometimes”, or “A lot”. Internal consistency for social support in the present sample was very high indicated by a Cronbach's alpha of .98. The PIST assesses adolescents’ perspectives on the perceived availability of social support across three settings: home, school, and an additional protective setting outside of home and school, which the respondent identifies as where they spend the most time. Examples of items in the measure include, “Someone helps me to not give up”, “Someone tells me it’s okay to fail”, “I learn to notice the good things and be grateful”, “Someone teaches me how to make sense of the world”, and “Someone teaches me how to work hard.” Social Support was scored using the mean of all the items with a possible score of 0 to 120, with higher scores indicating greater levels of social support. The overall mean score across settings at Time 1 was used.

Coping Strategies. Coping strategies will be assessed using the Response to Stress Questionnaire (RSQ) (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001). Respondents are presented with three different types of stressful life experiences (i.e., academic stressors, social



stressors, and violence stressors) and asked to assess those experiences across three areas: 1. to what extent have they been exposed to stressors of that type 2. how stressful that exposure has been, and 3. their perceptions of control over the experience. Participants then respond to a series of 68 questions assessing the extent to which they use various types of strategies to cope with that particular type of stressor on a 4-point Likert scale (1 to 4; “not at all” to “a lot”). In the present study, two types of coping will be assessed with this measure: (a) active coping and (b) rumination. A sample item that indicates active coping is: “I try to think of different ways to change or fix the situation.” A sample item that indicates rumination is: “When something stressful happens related to violence, I can’t stop thinking about how I am feeling.” Good psychometrics have been established for the Response to Stress Questionnaire with diverse stressors and diverse samples (Nuttbrock-Allen, 2002; Wadsworth, Rieckmann, Benson, & Compas, 2004) with internal consistencies in the adequate to good range (Compas et al., 2001). Internal consistency in the present sample was low for active coping ( $\alpha = .56$ ) and good for rumination ( $\alpha = .74$ ). Active coping was measured using the mean score across all settings of the primary control coping strategies (emotional expression, emotional regulation, and problem solving) at Time 1. Rumination was measured using the mean rumination scores across all settings at Time 1.

Exposure to Complex Trauma. Several measures will be used to assess Exposure to Complex Trauma. The Major Events Measure (MEM) assesses exposure to major life events across the areas of losing people, rejection/betrayal, direct victimization or witnessing victimization, disappointments, accidents and disasters, illness and disability, and changes (Grant et al., 2020). The current study will use responses from the sections of the measure assessing “losing people in the past”, “losing people in the future”, “people hurting or threatening our bodies or taking our

things”, “seeing other people get their bodies hurt or threatened or taking their things”, “accidents and disasters”, and “illness and disability”. All the sections begin with an item that asks participants to elect whether they have been exposed to an event in that area, but a diversity of scales and items are used to assess the specific contents of exposure. For example, the “MEM-Losing People in the Past” section includes an item asking “Have you ever lost someone you are close with?” with answers responses either “Yes” or “No”, followed by a later item that asks “How often did you see or talk to this person before you lost or were separated from them?” with answers on a 5 point Likert-scale (1-5 with response options including “once a year or less”, “about once a month”, “about once a week”, “every or almost every day”, and “I lived with that person”). The mean scores of the major events of conflict, threat, and loss at Time 1 were used.

The System Level Stressor (SLS) measure assesses exposure to system-level stressors across the areas of different treatment, different beliefs, different homes, and different schools and neighborhoods (Grant et al., 2020). The current study will use responses from the “Different Treatment” and the “Different Schools and Neighborhoods” sections of the measure. The SLS-Different Treatment section assesses the nature of the different treatment, who perpetrated the differential treatment, the reason for the different treatment, where it occurred, and how often it occurred. The item assessing the frequency of different treatments provides response options on a 5-point Likert scale scored 0 to 5 with response choices including “Never”, “Once”, “Twice”, “Three times”, or “Four or more times”. Examples of items include “Where have you seen people mistreated because they are different?” and “What reasons have people given for mistreating you and how often has that happened to you?”. The SLS-Different Different Schools and Neighborhoods section of the measure assesses aspects of the school and aspects of the neighborhood that would be considered advantaged or disadvantaged. The item assessing school

quality asks the respondent to “Check all that your school has”, with response options such as “a lot of stealing and crime”, “a lot of people who are in gangs”, and “a lot of fights and violence”. The item assessing neighborhood asks the respondent to “Check all that your neighborhood has”, including items such as “people drinking or using or selling drugs”, “a lot of crime”, and “gang lines you can’t cross safely”. The mean scores for system level stressors of threat and loss at Time 1 were used.

To assess exposure to complex trauma using these measures included in the study, the mean scores for MEM (loss, conflict, and threat) and SLS (threat and loss) were converted to z scores and then averaged together to create a composite score for exposure to complex trauma.

### **Analytical Plan**

The current study was a both a cross-sectional and longitudinal design to observe if several factors affect the ability for urban Black youth to demonstrate signs of PTG when experiencing exposure to complex trauma at both one specific point in time and across two time points. It was hypothesized that perceived social support, active coping, and rumination would significantly predict PTG and interact with exposure to complex trauma to increase the strength of the significance. To test these hypotheses, one-sample t-tests and multiple regression models were assessed using IBM SPSS Statistics Software for Mac, Version 1.0.0. After running the primary analyses exclusively for urban Black youth, analyses were rerun on the data to include all races and ethnicities.

A moderated regression analysis was run to examine the strength of the effect of Exposure to Complex Trauma on Post Traumatic Growth both cross sectionally and longitudinally depending on the level of Social Support and Type of Coping Strategy. The cross-

sectional analysis consisted of running analyses on the main effect of the Time 1 predictor variable (Exposure to Complex Trauma) on the Time 1 criterion variable (Post Traumatic Growth) and the interaction effect of Exposure to Complex Trauma by the Time 1 moderators, Social Support and Coping Strategy. The longitudinal analysis consisted of running analyses on the main effect of the Time 1 predictor variables (Exposure to Complex Trauma and Post Traumatic Growth) on the Time 2 criterion variable (Post Traumatic Growth), moderated by Social Support and Coping Strategy at Time 1.

Data preprocessing included screening of participants' data in which the data will be deleted if the participant leaves more than 20% of the items unanswered or if all the responses are the same for all the items in the scale. Outliers were identified and removed from the dataset.

## **Chapter III: Results**

### **Preliminary Analyses**

Frequencies were generated on main study variables including Exposure to Complex Trauma and PTG. See Table 1. For both PTG at Time 1 and Time 2, no significant differences were found between Black adolescents compared to youth of all the different racial and ethnic backgrounds in the study. Looking at exposure to complex trauma, no significant differences were found between Black adolescents and youth of all different racial and ethnic backgrounds. For social support, Black youth reported significantly different degrees of social support ( $m = 1.412$ ,  $SD = .379$ ,  $n = 123$ ) compared to youth of all different racial/ethnic backgrounds ( $M = 1.319$ ,  $SD = .422$ ,  $N = 347$ ). No significant differences were found for levels of rumination between Black adolescents ( $m = .0499$ ,  $SD = .011$ ,  $n = 109$ ) and youth of all different racial and ethnic backgrounds ( $M = .0493$ ,  $SD = 0.11$ ,  $N = 322$ ). For active coping, no significant differences were

found between Black adolescents ( $m = 2.181$ ,  $SD = .704$ ,  $n = 117$ ) and youth of all different racial and ethnic backgrounds ( $M = 2.267$ ,  $SD = .649$ ,  $N = 339$ ).

**Table 1** Descriptive Statistics of Study Variables Black Youth v. All Races/Ethnicities

| Variable                   | Black    |          |           | All Races/Ethnicities |          |           |
|----------------------------|----------|----------|-----------|-----------------------|----------|-----------|
|                            | <i>n</i> | <i>M</i> | <i>SD</i> | <i>n</i>              | <i>M</i> | <i>SD</i> |
| Exposure to Complex Trauma | 123      | -0.165   | 0.54      | 393                   | -0.132   | 0.571     |
| Social Support             | 123      | 1.412*   | 0.379     | 347                   | 1.319*   | 0.422     |
| Active Coping              | 117      | 2.18     | 0.704     | 339                   | 2.267    | 0.649     |
| Rumination                 | 109      | 0.49     | 0.011     | 322                   | 0.0493   | 0.011     |
| PTG T1                     | 96       | 18.709   | 9.199     | 293                   | 17.206   | 9.048     |
| PTG T2                     | 59       | 1.655    | 1.033     | 162                   | 1.51     | 0.999     |

\* =  $p < .05$ , \*\* =  $p < .001$

Bivariate correlation analyses were conducted to assess associations among study variables for Black adolescents. The Urban Adolescents Life Experiences Survey (UALES), as well-established stress measure, was included in the correlation matrix at both Time 1 and Time 2 as another check for the validity of the Exposure to Complex Trauma measure. See Table 2. Results did not reveal a significant relationship, although positive, between exposure to complex trauma and PTG at both Time 1 and Time 2 ( $r(96) = .123$ ,  $p = .231$ ;  $r(59) = .129$ ,  $p = .328$ ). Exposure to complex trauma was significantly negatively correlated with social support ( $r(123) = -.198$ ,  $p = .028$ ). Exposure to complex was not significantly correlated with active coping ( $r(117) = .116$ ,  $p = .211$ ) nor rumination ( $r(109) = .136$ ,  $p = .159$ ). Social support was significantly positively correlated with active coping ( $r(117) = .214$ ,  $p = .021$ ) and significantly negatively correlated with rumination ( $r(109) = -.239$ ,  $p = .012$ ). Social support was significantly positively correlated with PTG at Time 1 ( $r(96) = .302$ ,  $p = .003$ ) and was nearing a significant

positive correlation with PTG at Time 2 ( $r(59) = .256, p = .050$ ). Active coping was not significantly correlated with rumination ( $r(109) = -.001, p = .990$ ). Active coping was significantly positively correlated with PTG at Time 1 ( $r(95) = .452, p < .001$ ) and significantly positively correlated with PTG at Time 2 ( $r(56) = .297, p = .026$ ). PTG at Time 1 was significantly positively correlated with PTG at Time 2 ( $r(47) = .512, p < .001$ ).

Table 2

**Table 2** Bivariate Correlations Among Study Variables for Black Youth

| Variable                      | 1       | 2       | 3       | 4     | 5       | 6    | 7      | 8 |
|-------------------------------|---------|---------|---------|-------|---------|------|--------|---|
| 1. Exposure to Complex Trauma | 1       |         |         |       |         |      |        |   |
| 2. Social Support             | -0.198* | 1       |         |       |         |      |        |   |
| 3. Active Coping              | 0.116   | 0.214*  | 1       |       |         |      |        |   |
| 4. Rumination                 | 0.136   | -0.239* | -0.001  | 1     |         |      |        |   |
| 5. PTG T1                     | 0.123   | 0.302** | 0.452** | .015  | 1       |      |        |   |
| 6. PTG T2                     | 0.129   | 0.256   | 0.297*  | -.077 | 0.512** | 1    | 1      |   |
| 7. UALES T1                   | .492**  | -.288** | .080    | .172  | .083    | .032 | 1      |   |
| 8. UALES T2                   | .356**  | -.278*  | -.042   | .109  | -.010   | .122 | .549** | 1 |

\* =  $p < .05$ , \*\* =  $p < .001$

## Primary Analyses

### 1. Hypothesis I. Exposure to Complex Trauma will significantly predict PTG.

A simple linear regression model was used to test hypothesis 1 both cross-sectionally and longitudinally. For the cross-sectional analysis, exposure to complex trauma was entered as the predictor variable. PTG at time 1 served as the outcome variable within the regression. Cross-sectional results revealed that the overall model was not significant ( $F(1,94) = 1.47, p = .231, \text{adj. } R^2 = .005$ ) and exposure to complex trauma ( $\beta = .123, p = .231$ ) was not significantly associated with PTG. Results do not support the hypothesis that exposure to complex trauma would significantly predict PTG.

For the longitudinal analysis, exposure to complex trauma and post traumatic growth at time 1 were entered as predictor variables. PTG at time 2 served as the outcome variable within the regression. Results showed that the overall model was significant ( $F(2,44) = 8.98, p = 0.001, \text{adj. } R^2 = .26$ ). However, the main effect for exposure to complex trauma was not significant ( $\beta = .166, p = .199$ ), while the main effect for PTG at time 1 was significant ( $\beta = .518, p = .000$ ). Results do not support the hypothesis that exposure to complex trauma will predict PTG longitudinally.

**2. Hypothesis II:** Youth who have the perceived availability of social support will report higher levels of PTG. Furthermore, social support will interact with exposure to complex trauma to significantly predict PTG.

A linear regression was used to test hypothesis 2 cross sectionally and longitudinally. For the cross-sectional analysis, Exposure to complex trauma and social support were entered as predictor variables, including an interaction between exposure to complex trauma and social support. PTG at time 1 served as the outcome variable within the regression. Results showed that the overall model was significant ( $F(2, 93) = 7.05, p = 0.001, \text{adj. } R^2 = .113$ ). The main effect of social support on PTG at time 1 was significant, ( $\beta = .351, p < .001$ ). The main effect of exposure to complex trauma on PTG at time 1 was also significant ( $\beta = .206, p = .041$ ). Results also revealed that the interaction between exposure to complex trauma and social support did not significantly predict PTG at Time 1 ( $\beta = .045, p = .676$ ). Results provide support the hypotheses that social support will predict PTG cross-sectionally, but did not support the hypothesis that social support would interact with exposure to complex trauma to significantly predict PTG.

For the longitudinal analysis, exposure to complex trauma, social support, and post traumatic growth at time 1 were entered as predictor variables, including the interaction between exposure to complex trauma and social support. PTG at time 2 served as the outcome variable within the regression. Results showed that the overall model was significant ( $F(3, 43) = 6.32, p = 0.001, \text{adj. } R^2 = .258$ ). However, the main effect of social support was not significant ( $\beta = .146, p = .323$ ). The main effect of exposure to complex trauma was also not significant ( $\beta = .228, p = .115$ ), whereas the main effect for PTG at time 1 was significant ( $\beta = .483, p = .001$ ). Results revealed that the interaction between exposure to complex trauma and social support ( $\beta = -.041, p = .805$ ) did not significantly predict PTG. Results do not support the hypothesis that social support predicts PTG longitudinally, and do not support the hypothesis that social support would interact with exposure to complex to significantly predict PTG.

- 3. Hypothesis III:** Youth who engage in active coping and rumination will report higher levels of PTG. Each of these coping strategies will interact with exposure to complex trauma to significantly predict PTG.

A linear regression was used to test hypothesis 2 cross sectionally and longitudinally. For the cross-sectional analysis, Exposure to complex trauma and coping strategy (active coping and rumination) were entered as predictor variables, including interactions between exposure to complex trauma and active coping and rumination respectively. PTG at time 1 served as the outcome variable within the regression. Results showed that the overall model was significant ( $F(3, 87) = 7.03, p = 0.000, \text{adj. } R^2 = .167$ ). The main effect of active coping on PTG at time 1 was

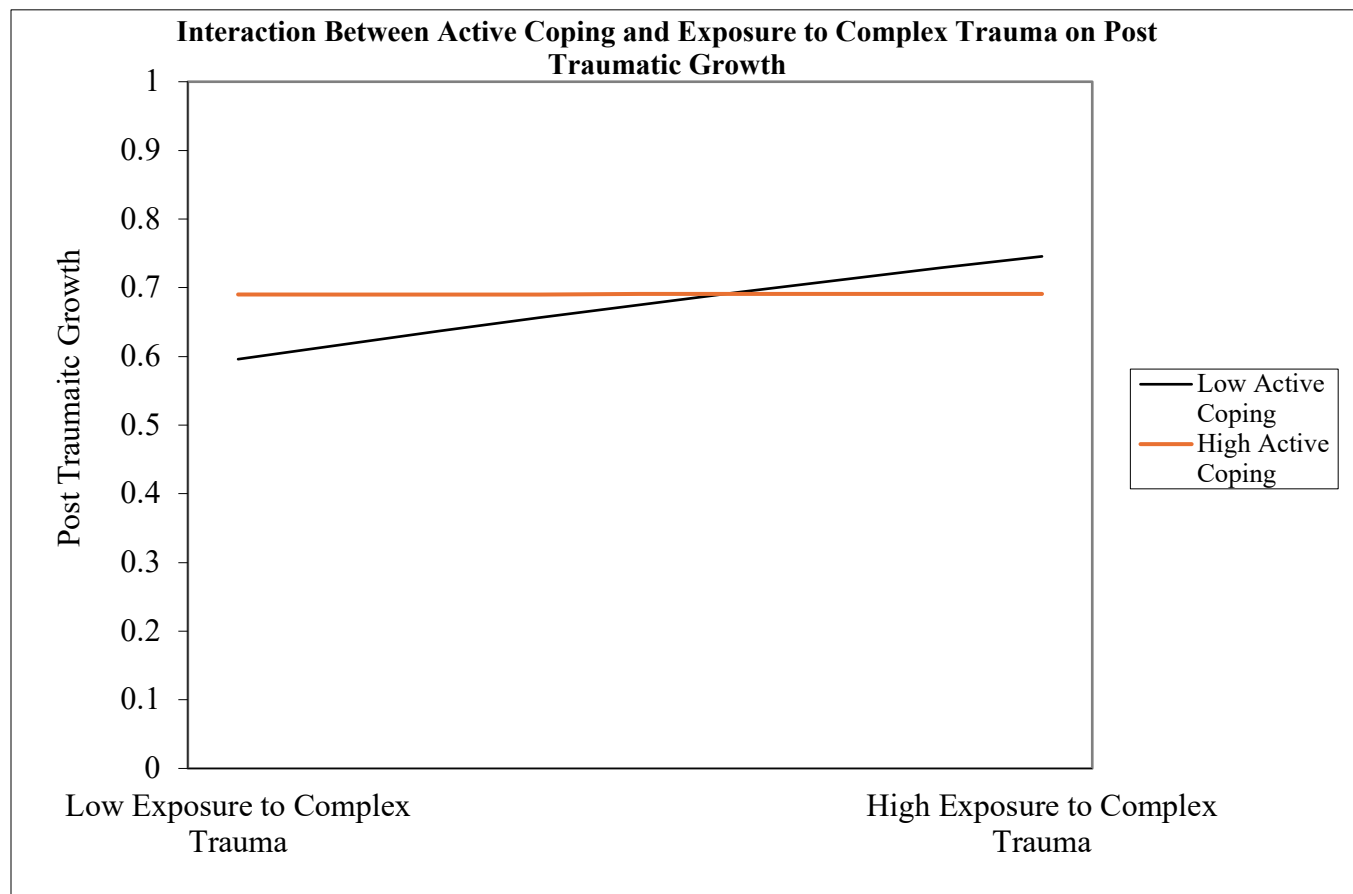


significant, ( $\beta = .420, p = .000$ ). The main effect of rumination on PTG at time 1 was not significant ( $\beta = .002, p = .980$ ). The main effect of exposure to complex trauma on PTG at time 1 was not significant ( $\beta = .097, p = .319$ ). Results revealed that the interactions between exposure to complex trauma and active coping ( $\beta = .113, p = .275$ ) and exposure to complex trauma and rumination ( $\beta = -.033, p = .789$ ) did not significantly predict PTG at time 1. Results provide support for the hypothesis that active coping will predict PTG, but did not support the hypothesis that coping strategy would interact with exposure to complex trauma to predict PTG.

For the longitudinal analysis, exposure to complex trauma, coping strategy (active coping and rumination), and post traumatic growth at time 1 were entered as predictor variables, including interactions between exposure to complex trauma and active coping and rumination respectively. PTG at time 2 served as the outcome variable within the regression. Results showed that the overall model was significant ( $F(4, 38) = 3.703, p = 0.012, \text{adj. } R^2 = .205$ ). However, the main effect of active coping was not significant ( $\beta = .145, p = .327$ ). The main effect of rumination was also not significant ( $\beta = -.029, p = .827$ ) nor was the main effect of exposure to complex trauma ( $\beta = .195, p = .164$ ). The main effect for PTG at time 1 was significant ( $\beta = .425, p = .006$ ). Results revealed that the interaction between exposure to complex trauma and active coping significantly predicted PTG at Time 2 ( $\beta = -.332, p = .042$ ) such that high exposure to complex trauma and low active coping were associated with the highest PTG, with low exposure to complex trauma and high active coping also predicting similarly high levels of PTG. See Graph 1. However, the interaction between exposure to complex trauma and rumination did not significantly predict

PTG at Time 2 ( $\beta = .012, p = .959$ ). Results do not provide support that coping strategy, either active coping or rumination, predict PTG longitudinally, however, they provide support for the hypothesis that active coping strategies would interact with exposure to complex trauma to significantly predict PTG.

**Figure 1**



### Supplementary Analysis

Analyses were rerun without filtering for race to assess whether a larger sample size would provide power to detect additional significant effects. Bivariate correlation analyses were conducted to assess associations among study variables for all youth of different racial and ethnic backgrounds. See Table 3. Results did not reveal a significant relationship between exposure to complex trauma and PTG Time 1 ( $r(293) = -.024, p = .686$ ), but they did reveal a significant

positive relationship between exposure to complex trauma and PTG at Time 2 ( $r(162) = .187, p = .017$ ). Exposure to complex trauma was significantly negatively correlated with social support ( $r(347) = -.247, p < 0.001$ ). Exposure to complex trauma was not significantly correlated with active coping ( $r(339) = .104, p = .057$ ) nor rumination ( $r(322) = .087, p = .118$ ). Social support was significantly positively correlated with active coping ( $r(335) = .357, p < 0.001$ ) but was not significantly correlated with rumination ( $r(318) = -.101, p = .072$ ). Social support was significantly positively correlated with PTG at Time 1 ( $r(289) = .375, p < 0.001$ ) and PTG at Time 2 ( $r(146) = .321, p < 0.001$ ). Active coping was not significantly correlated with rumination ( $r(322) = .041, p = .466$ ). Active coping was significantly positively correlated with PTG at Time 1 ( $r(289) = .399, p < .001$ ) and significantly correlated with PTG at Time 2 ( $r(142) = .285, p < 0.001$ ). PTG at Time 1 was significantly correlated with PTG at Time 2 ( $r(129) = .450, p < .001$ ).

**Table 3** Bivariate Correlations Among Study Variables for Youth of All Races/Ethnicities

| Variable                      | 1        | 2        | 3       | 4       | 5      | 6     | 7      | 8    | 9 |
|-------------------------------|----------|----------|---------|---------|--------|-------|--------|------|---|
| 1. Exposure to Complex Trauma | 1        |          |         |         |        |       |        |      |   |
| 2. Social Support             | -0.247** | 1        |         |         |        |       |        |      |   |
| 3. Active Coping              | 0.104    | 0.357*   | 1       |         |        |       |        |      |   |
| 4. Rumination                 | 0.087    | -0.101   | .041    | 1       |        |       |        |      |   |
| 5. PTG T1                     | -0.024   | 0.375**  | 0.399** | 1       |        |       |        |      |   |
| 6. PTG T2                     | 0.187*   | 0.321**  | 0.285** | 0.450** | 1      | 1     |        |      |   |
| 7. UALES T1                   | .512**   | -0.369** | -0.055  | 0.130*  | -.123* | .080  | 1      |      |   |
| 8. UALES T2                   | .352**   | -.242**  | -.036   | .046    | -.103  | .123  | .573** | 1    |   |
| 9. Race                       | .137*    | -.174**  | .060    | -.015   | -.110  | -.059 | .075   | .012 | 1 |

\* =  $p < .05$ , \*\* =  $p < .001$

**Hypothesis I.** Exposure to Complex Trauma will significantly predict PTG.

A simple linear regression model was used to test hypothesis 1 both cross-sectionally and longitudinally. For the cross-sectional analysis, exposure to complex trauma was entered as the predictor variable. PTG at time 1 served as the outcome variable within the regression. Cross-sectional results revealed that the overall model was not significant ( $F(1,291) = .164, p = .686, \text{adj. } R^2 = -.003$ ) and exposure to complex trauma ( $\beta = -.024, p = .686$ ) was not significantly associated with PTG. Results do not support the hypothesis that exposure to complex trauma predicts PTG.

For the longitudinal analysis, exposure to complex trauma and post traumatic growth at time 1 were entered as predictor variables. PTG at time 2 served as the outcome variable within the regression. Results showed that the overall model was significant ( $F(2,126) = 19.93, p = 0.000, \text{adj. } R^2 = .228$ ). The main effect for exposure to complex trauma was significant ( $\beta = .196, p = .013$ ), and the main effect for PTG at time 1 was also significant ( $\beta = .469, p = .000$ ). Results indicate support for the hypothesis that exposure to complex trauma with predict PTG longitudinally.

**Hypothesis II:** Youth who have the perceived availability of social support will report higher levels of PTG. Furthermore, social support will interact with exposure to complex trauma to significantly predict PTG.

A linear regression was used to test hypothesis 2 cross sectionally and longitudinally. For the cross-sectional analysis, Exposure to complex trauma and social support were entered as predictor variables, including the interaction between exposure to complex trauma and social support. PTG at time 1 served as the outcome variable within the regression. Results showed that the overall model was significant ( $F(2, 286) = 24.71, p = 0.000, \text{adj. } R^2 = .141$ ). The main effect of social support on PTG at time 1 was

significant, ( $\beta = .396, p = .000$ ). The main effect of exposure to complex trauma on PTG at time 1 was not significant ( $\beta = .084, p = .137$ ). Results revealed that the interaction between social support and exposure to complex trauma did not significantly predict PTG at Time 1 ( $\beta = .042, p = .449$ ). Results provide support for the hypothesis that social support will predict PTG, but did not support the hypothesis that social support would interact with exposure to complex trauma to significantly predict PTG.

For the longitudinal analysis, exposure to complex trauma, social support, and post traumatic growth at time 1 were entered as predictor variables, including the interaction between exposure to complex trauma and social support. PTG at time 2 served as the outcome variable within the regression. Results showed that the overall model was significant ( $F(3, 124) = 18.36, p = 0.000, \text{adj. } R^2 = .291$ ). The main effect of social support was significant ( $\beta = .251, p = .002$ ) as well as the main effect of exposure to complex trauma ( $\beta = .246, p = .002$ ). The main effect for PTG at time 1 was significant ( $\beta = .427, p = .000$ ). Results revealed that the interaction between exposure to complex trauma and social support approached significance in predicting PTG at Time 2 ( $\beta = .140, p = .072$ ). Results support the hypothesis that social support predicts PTG longitudinally, but do not provide support for the hypothesis that social support would interact with exposure to complex to significantly predict PTG longitudinally.

**Hypothesis III:** Youth who engage in active coping and rumination will report higher levels of PTG. Each of these coping strategies will interact with exposure to complex trauma to significantly predict PTG.

A linear regression was used to test hypothesis 2 cross sectionally and longitudinally. For the cross-sectional analysis, exposure to complex trauma and coping strategy (active coping and rumination) were entered as predictor variables, including the interaction effect between exposure to complex trauma and active coping and rumination respectively. PTG at time 1 served as the outcome variable within the regression. Results showed that the overall model was significant ( $F(3, 277) = 16.87, p = 0.000, \text{adj. } R^2 = .145$ ). The main effect of active coping on PTG at time 1 was significant, ( $\beta = .394, p = .000$ ). However, the main effect of rumination on PTG at time 1 was not significant ( $\beta = -.007, p = .895$ ) and the main effect of exposure to complex trauma on PTG at time 1 was also not significant ( $\beta = -.048, p = .389$ ). Results revealed that the interaction between exposure to complex trauma and active coping was not significant ( $\beta = .002, p = .967$ ), nor was the interaction between exposure to complex trauma and rumination ( $\beta = -.008, p = .902$ ). Results provide support for the hypothesis that active coping would predict PTG, however they do not provide support for the hypothesis that coping strategy would interact with exposure to complex trauma to significantly predict PTG.

For the longitudinal analysis, exposure to complex trauma, coping strategy (active coping and rumination), and post traumatic growth at time 1 were entered as predictor variables, including the interaction between exposure to complex trauma and active coping and rumination respectively. PTG at time 2 served as the outcome variable within the regression. Results showed that the overall model was significant ( $F(4, 117) = 9.87, p = 0.000, \text{adj. } R^2 = .227$ ). The main effect of active coping approached significance ( $\beta = .158, p = .062$ ), while the main effect of rumination was not

significant ( $\beta = -.014, p = .867$ ). The main effect of exposure to complex trauma was significant ( $\beta = .201, p = .014$ ) as well as the main effect for PTG at time 1 ( $\beta = .406, p = .000$ ). Results revealed that the interaction between active coping and exposure to complex trauma was not significant ( $\beta = -.060, p = .472$ ), nor was the interaction between rumination and exposure to complex trauma ( $\beta = .023, p = .781$ ). Results do not provide support for the hypothesis that coping strategy, either active coping or rumination, predict PTG longitudinally, nor do they provide support for hypothesis that both coping strategies would interact with exposure to complex trauma to significantly predict PTG.

#### **Chapter IV: Discussion**

The purpose of this study was to provide insight into the relationship between exposure to complex trauma and PTG, as well as the factors related to PTG among Black adolescents living in urban areas within the United States. Three primary hypotheses were of interest: 1.) Does exposure to complex trauma predict post traumatic growth? 2.) Does social support predict post traumatic growth and interact with exposure to complex trauma to predict post traumatic growth, and 3.) Which coping styles predict post traumatic growth and which coping styles interact with exposure to complex trauma to predict PTG? Archival data sets were used to gain access to study measures and conduct statistical analyses. The analytical approach involved assessing multiple regression models to test these three main hypotheses both cross-sectionally and longitudinally.

##### **Exposure to Complex Trauma and PTG**

Results of analyses testing hypothesis 1 revealed that exposure to complex trauma among urban Black youth was not significantly associated with PTG scores cross sectionally nor longitudinally. This is likely due to limited power to detect significance given the smaller sample

size for urban Black youth. After removing the filter for race and reanalyzing the data for all racial/ethnic groups, findings from the cross-sectional analyses were consistent with those for Black adolescents. However, longitudinal analyses including all races/ethnicities provided full support for the hypothesis that exposure to complex trauma predicts PTG, with a significant main effect of exposure to complex trauma on PTG. The present study aligns with previous research suggesting that it is possible for individuals to develop PTG after experiencing difficult or traumatic circumstances, building on these findings to extend them to individuals exposed to complex trauma and urban youth. While previous research has not been conducted to specifically assess for the association between exposure to complex trauma and posttraumatic growth, the longitudinal findings for participants of all races and ethnicities were consistent with previous findings that traumatic childhood experiences (some of which are included under the domain of complex trauma) predicted PTG (Quan et al., 2022). Future longitudinal research is warranted among Black youth exposed to complex trauma to further assess for possible PTG across multiple points in time.

### **Social Support and PTG**

Results of analyses testing hypothesis 2 revealed that, among urban Black youth, social support significantly predicted post traumatic growth but did not interact with exposure to complex trauma to significantly predict PTG cross-sectionally. However, longitudinal results did not support the hypothesis that social support significantly predicts PTG nor did they support the hypothesis that social support would interact with exposure to complex trauma to predict post traumatic growth. This may mean that social support is associated with PTG independent of the context of exposure to complex trauma. As reviewed above, social support has been associated with PTG in prior research. Therefore, the lack of an interaction effect may suggest that the



positive effects of this social support on PTG are inhibited among individuals exposed to complex trauma. However, a possible alternative explanation for the lack of interaction effects is that this study was under powered to test moderation given that moderation analyses require larger samples than those that are simply testing for main effects (Memon et al., 2019). Thus, future research is needed with larger samples to test these differing explanations.

When analyses were rerun to include subjects of all races/ethnicities, cross-sectional results for the analyses were replicated, however, longitudinal analyses revealed that social support significantly predicted PTG and maintained that social support did not interact with complex trauma to significantly predict PTG. The findings for social support are consistent with previous research, which suggests that supportive relationships can contribute to the development of PTG by providing exposure to outside perspectives on the changes that have occurred in someone's life and the opportunity for schema change (Tedeschi and Calhoun, 2004). In the presence of a supportive relationship, individuals can experience comfort and reassurance, especially when provided by those who have experienced similar circumstances, which can increase an individual's willingness to hear their perspective (Tedeschi and Calhoun, 1993).

### **Coping Strategies and PTG**

Results of cross-sectional analyses testing hypothesis 3 revealed that, among urban Black youth, active coping significantly predicted PTG while rumination did not, and that neither active coping nor rumination interacted with exposure to complex trauma to significantly predict PTG. Longitudinal analyses found that neither active coping nor rumination significantly predicted PTG, although they provide support for an interaction between active coping and exposure to complex trauma such that high exposure to complex trauma and low active coping

were associated with the highest PTG, with low exposure to complex trauma and high active coping also predicting high levels of PTG. When analyses were rerun to include subjects of all races and ethnicities, the cross-sectional analyses results for urban Black youth were replicated without a significant interaction between exposure to complex trauma and active coping, while the longitudinal analyses maintained that neither active coping nor rumination significantly predicted PTG, although active coping's effect approached significance, and did not show a significant interaction between active coping nor rumination and PTG.

The results on active coping strategies are consistent with previous research that shows that active coping strategies can contribute to positive growth in minoritized adolescents (Aldridge and Roesch, 2008). While previous research has not examined the relationship between exposure to complex trauma and active coping, the present study presents evidence that active coping can serve as an effective tool that contributes to growth following exposure to trauma for Black youth. Given that schema reconstruction is the mechanism that determines the extent to which someone experiences PTG (Tedeschi and Calhoun, 2004), active coping strategies may facilitate schema reconstruction and lead to PTG among urban adolescents exposed to complex trauma. However, the finding that high exposure to complex trauma and low active coping were associated with the highest PTG, while low exposure to complex trauma and high active coping produced high PTG, may suggest that for youth who experience high exposure to complex trauma, the use of active coping strategies may not produce growth at the same level as for those who had lower levels of complex trauma exposure. High exposure to complex could potentially influence the extent to which active coping facilitates schema reconstruction, with the high levels of PTG among these adolescents better explained by the extent of exposure and/or other coping mechanisms not assessed in the present study.

Although the findings for rumination were unexpected, research has shown that rumination can contribute to prolonged distress, including greater experiences of counterfactual thinking, inhibited ability to solve problems, and increases in the intensity of negative emotions and cognitions related to one's view of self and the world (Eisma and Stroebe, 2017). Although PTG typically requires that individuals experience distress during the appraisal of their experiences in the process of growth (Tedeschi and Calhoun, 2004) and rumination may allow for the traumatic event to be positively reinterpreted (Meyerson et al., 2011), research also suggests that ruminations are largely intrusive and may lead to low levels of growth (Calhoun et al., 2000). Thus, future studies should examine the role of rumination in its different forms on PTG among youth exposed to complex trauma.

### **Findings From Bivariate Correlations**

Beyond results connected to the main study hypotheses, there were several notable findings that emerged between the variables in the study. For both Black adolescents and youth of all races and ethnicities, exposure to complex trauma was significantly negatively correlated with social support, suggesting that as exposure to complex trauma increases there are decreases in perceived social support. In a similar study involving social support among urban Black adolescents exposed to complex trauma via community violence, Hammack et al. (2010) found that social support served as a protective-stabilizing factor both cross-sectionally and longitudinally for youth who witnessed community violence, although it failed to protect youth who experienced direct victimization. They explain these findings noting that their results support social support as a protection from the adverse effects of violence exposure, but this protection is limited at times for youth who are in conditions of extreme risk, such as direct victimization (Hammack et al., 2010). This argument may also apply to the findings of the

present study, given that social support may serve as a protective factor for some youth exposed to complex trauma, with the strength of this relationship limited by the degree of exposure and the type of complex trauma exposure, but that, as that exposure increases, their perception of social support decreases. Grant et al. (2003) also found that exposure to broad system stressors reduces social support, therefore, complex trauma may have a similar effect in reducing social support.

Another intriguing findings is that a significant positive association was found between social support and active coping for both Black youth and youth of all races and ethnicities more broadly, suggesting that as perceived social support increases, use of active coping strategies also increases. Although prior research has not examined the associations between social support and coping strategies within the context of trauma and PTG, social has been shown to play a role in the activation of coping strategies. Chapman and Chi (2017) found that social support fully mediated the association between optimism and active coping, explaining that perceived social support was the mechanism by which optimists engaged in active coping, given that the perception that one has a strong social support network makes someone more likely to engage in positive appraisal and active coping strategies. Therefore, in the present study, the association between social support and active coping may be understood as social support facilitating the use of active coping strategies among the participants. This is consistent with previous research that found that social support was necessary for youth exposed to severe and chronic stressors to effectively use active coping strategies (Reife et al., 2020). In tandem with the findings in the present study that active coping significantly predicted PTG and significantly interacted with exposure to complex trauma to predict PTG longitudinally, the findings suggest that social

support may play a role in facilitating the use of coping strategies among youth exposed to complex trauma, which may contribute to PTG.

A third intriguing finding was the negative association between social support and rumination found among Black youth, which suggests that as perceived social support increases, rumination decreases. Although no studies have assessed the association between social support and rumination as they pertain to trauma and PTG, one study conducted by Xu and colleagues (2024) on the relationship between social support and rumination among parents of children with autism, found that the higher level of perceived social support, the lower the level of rumination. Thus, in the present study, these findings suggest that Black youth who experienced higher perceived levels of social support may have engaged in less rumination-based coping.

### **Limitations and Future Directions**

There are several limitations that indicate the results of this study should be interpreted with caution. Along with the limited sample size used for the analyses that included participants of all races and ethnicities, this sample size was even more limited when running analyses strictly on subjects that identified as Black/African-American. In combination with attrition and missing responses, this served as a major limitation in the study. Secondly, Time 1 data were used for all of the measures included in the study outside of PTG, providing a snapshot of the population at only one point in time. Since exposure to complex trauma can include chronic traumatic experiences such as community violence, poverty, and abuse, the study could not possibly assess changes in exposure over time. Additionally, looking specifically at the measures used to create the composite score for exposure to complex trauma, these measures were originally intended to capture exposure to individual, system, and community level stressors, with all of the items included in these measures not directly assessing for stressful experiences

that would fit the criteria for an experience of complex trauma. Thus, there is a limitation in the ability for these measures to accurately capture the full scope of exposure to experiences that may fit criteria for complex trauma among the participants.

Future research should look to use measures that specifically assess for exposure to traumatic experiences that fit the conceptualization of complex trauma. Future research should also further explore the relationships among exposure to complex trauma, social support, and active coping strategies as they pertain to fostering PTG, including the role social support may play in facilitating active coping in the context of complex trauma. Lastly, follow-up studies should also look to explore the relationship between exposure to complex trauma and the specific PTG subscales (i.e., Relating to Others, New Possibilities, Personal Strength, Spiritual Change, and Appreciation of Life) as this study only used PTG Total scores.

### **Summary and Implications**

In spite of the limitations, the present study contributes to the literature in a meaningful way. While existing research has largely sought to look at PTG within a specific population, the present study sought to examine PTG both among urban Black adolescents as well as among a relatively large sample of urban adolescents from different racial and ethnic backgrounds. By using a representative sample in which there was a greater balance in the representation of racial and ethnic groups in the study, the characteristics of a larger, more diverse group were reflected. The present study contributed to the current gap in literature on the relationship between complex trauma and PTG, examining exposure to complex trauma from a strengths-based perspective, and providing evidence that positive growth outcomes can occur following exposure to complex trauma.

The present study also provided additional support for the role that social support and active coping play in fostering positive growth outcomes among urban adolescents who have been exposed to complex trauma. There should be a continued exploration into the factors that contribute to growth outcomes among urban adolescents, and, while this study was quantitative, a qualitative analysis of urban adolescents exposed to complex trauma may provide a more in-depth understanding of their experiences with complex trauma and the protective factors that are associated with their reports of positive growth.

As a novel study examining the relationship between exposure to complex trauma and post traumatic growth, the present study has important implications on the field of research, expanding on previous research that strictly examined the relationship between acute trauma and post traumatic growth. This newfound understanding of the relationship between post traumatic growth and exposure to complex trauma warrants further study. The implications of discovering a relationship between exposure to complex trauma and post traumatic growth could provide mental health care providers with a shift from their focus on fostering resilience in youth exposed to complex trauma to a focus on the appraisal of those experiences of complex trauma to foster growth. In doing so, youth from these populations can harness their experiences and grow despite the extremely difficult circumstances they navigate. The role that social support and active coping have in facilitating post traumatic growth among this population could also lead to an increase emphasis on increase perceived levels of social support as well as the use of active coping and other strategies that foster growth among youth responding to complex trauma.

With all this in mind, experiencing growth following exposure to complex trauma indeed involves overcoming the war within between one's past and/or present experiences and the future that lies ahead. Youth who have been exposed to complex trauma are not a lost or

hopeless population, and increased understanding of their personal and environmental assets are needed to better understand the ability for this population to find meaning in their experiences of complex trauma and experience positive growth.



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## Appendix

### Appendix A: Post Traumatic Growth Inventory for Children Revised (PTGI-C-R) (Kilmer et al., 2009)

#### Instructions:

“1. Everyone goes through bad things in life, and sometimes we grow from bad experiences.

Think about a bad experience you had and write it here”

“2. Now, answer the questions below about any way you have changed for the better because of what you went through.”

0 = No change

1 = a little

2 = some

3 = a lot

#### Sample Items

I can now handle big problems better than I used to

I feel closer to other people (friends or family) than I used to

My faith (belief) in God is stronger than it was before

I have new ideas about how I want things to be when I grow up

I know what is important to be better than I used to

**Appendix B: Places I Spend Time (PIST) (Duffy et al., 2020; Grant et al., 2020)****Instructions**

The next questions have to do with where you spend your time. The first questions ask about your home. If you have more than one home (like you live with your mom for part of the week and your dad for part of the week), answer the questions about the home where you spend the most time. If you spend exactly the same amount of time just pick one.

1. What kinds of things happen at home and how often do they happen?
2. Now, tell us what kinds of things happen at school and how often they happen

0 = Never or Hardly

1 = Sometimes

2 = A lot



**Appendix C: Responses to Stress Questionnaire (Compas, Connor-Smith, Saltzman,  
Thomsen, & Wadsworth, 2001)**

**Instructions**

Below is a list of things that children and teenagers sometimes do, think, or feel when they are dealing with violence. Everyone deals with problems in their own way – some people do a lot of the things on this list or have a bunch of feelings, other people just do or think a few of these things. Think of all the stressful parts of being around violence that you indicated on the last page.

For each item below, select one number from 1 (not at all) to 4 (a lot) that shows HOW MUCH you do or feel these things when you are around violence like the things you indicated on the last page. Please let us know about everything you do, think, and feel, even if you don't think it helps make things better.

1 = None

2 = A Little

3 = Some

4 = A Lot

**Appendix C: Major Events Measure (MEM) (Grant et al., 2020)**

- a) Answer the next questions about the person you lost who you were the closest with
- b) If you've lost more than one person, answer the next questions about the person you've lost who you were second closest with.
- c) Answer the next questions about the person you found out you may lose in the near future. If there is more than one person you may be losing, answer these questions about the person you are closest with.
- d) If there is more than one person you may be losing, answer the next questions about the person you are second closest with.
- e) The next questions ask you to think about different ways that people hurt or threaten our bodies or take our things. For each one, first, mark HOW MANY times it has happened in your life. Then, think about the WORST time it happened to you and answer the questions about who was involved and when and where it happened.
- f) Many people have watched other people get hurt. The next questions ask about times you may have seen other people get their bodies threatened or hurt or their things taken in real life. Don't count anything you have seen on T.V., in movies, or on the internet.
- g) The next questions ask you to think about different ways you might have seen other people get their bodies hurt or threatened or their things taken in real life. For each one, first, mark HOW MANY times you have seen it in real life. Remember, don't count anything you have seen on T.V. or movies or the internet. Then, think about the WORST time you saw that happen and answer the questions about who was involved and when and where it happened
- h) Sometimes car accidents happen or disasters hit (like a flood or fire). The next questions ask about accidents and disasters you might have experienced.

i) Sometimes our own bodies cause us problems like serious illness or disability. The next questions ask about illnesses or disabilities that may have affected you.

## **Appendix D: System Level Stressor Measure (SLS) (Grant et al., 2020)**

### **Instructions**

- a) “Sometimes people mistreat other people because they are different in some way. The next questions ask about situations like that, which you might have seen.”
- c) “The next questions ask you to think about your school and neighborhood. Answer the questions as honestly as you can.”

### **Sample items**

1. What reasons have people given for mistreating you and how often has that happened to you?
2. Check all that your school has

**Appendix E: Urban Adolescents Life Experiences Survey (UALES) (Allison et al., 1999).****Instructions:**

We want to know about things that may or may not have happened to you. Please read each of the sentences below and fill in the circle to show how often it has happened to you.

0 = Never

1 = Has happened once or twice

2 = Happens once a month

3 = Happens once a week

4 = Happens once a day

**Sample Items**

1. A friend has died
2. Friends use drugs
3. A friend goes to jail
4. I get beat up by boyfriend or girlfriend
5. I see or hear crime in my neighborhood

## **Appendix F: Responses to Stress – Violence Stressors 1 (Compas et al., 2001)**

### **Instructions**

This is a list of things about violence that children and teenagers sometimes find stressful or a problem to deal with. Please select the number indicating how stressful the following things have been for you in the past 6 months. If you have not experienced the type of violence, mark “not at all”

0 = “Not at All”

1 = “A Little”

2 = “Somewhat”

3 = “Very”

### **Sample Items**

1. Seeing someone else get threatened with a weapon
2. Getting threatened with a weapon yourself
3. Getting harassed or chased by gangs yourself
4. Getting beaten up or jumped yourself
5. Seeing someone seriously hurt by another person