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Examining Trauma, Aggression, and Anxiety in African American Girls

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Dedications

This thesis is dedicated to me, first and foremost, for sitting down and completing it. Secondly, but perhaps most importantly, it is dedicated to my parents and siblings who from a young age pushed me to persevere in the face of all challenges. Also, to my Boyfriend, who continues to push me to be the best version of myself every single day. To my best friend and biggest confidant Daniela, who is also writing her Masters thesis and knows the struggle. To my friends and peers at UNF who have been a constant source of support and joy. Lastly, to my Advisor Dr. Dawn Witherspoon for being a guiding light in the adventure that is writing your own thesis and Dr. Alloway for taking time to help direct me on the proper path.

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Abstract

The study of trauma through bully victimization, rates of aggression, and anxiety in African Americans (AA) and other minorities, as well as the influence that their weight has on these items is severely understudied. This study had four aims: 1) Evaluate the relationship of anxiety, victimization, and aggression in early adolescent AA females, 2) Observe whether the individuals who are victimized also report being aggressive in early adolescent AA females, 3) Investigate the relationship between weight, victimization, anxiety and aggression, 4) Test mediation effects of poverty ratio, and moderation of poverty level and caregivers education. This study contains 77 AA girl participants (M_{age}=11.81) from a Mid-Atlantic city. Self-administered questionnaires for the Problem Behavior Frequency Scale and the Revised Children Manifest Anxiety Scale were used to assess rates of bullying victimization, aggression, and anxiety, caregivers answered a questionnaire about household income and education level. Participants use of relational and physical aggression was unrelated to their manifestation of anxiety, however, the use of verbal aggressions was. Participants who were aggressive were often found to be victims of similar forms of victimization (i.e., if a relational aggressor, more likely to be a relational victim). The weight of a participant was related to their relational victimization; however, their weight was unrelated to use of aggression. Individuals who were overweight or obese had higher rates of overall anxiety. The current study strived to bridge the gap between knowledge on trauma, rates of aggression, anxiety, and its pertinence to AA girls.

Keywords: Aggression, Anxiety, African American, Trauma, Youth, Weight, Bullying

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Trauma through Bully Victimization

Trauma is an emotional response to a horrific event, that event can be directly experienced by an individual or indirectly i.e., happen to a person close to the individual that includes a threat of injury, death, or sexual assault (APA, 2019; DSM-5, 2013). According to a 2008 Presidential *American Psychological Association (APA)* task force on Post-Traumatic Stress Disorder (PTSD) and trauma in children and adolescents, more than two-thirds of children will experience a traumatic event by age 16 (APA, 2008). Examples of trauma include but are not limited to school violence (youth violence that occurs on school property i.e. bullying), domestic violence, sexual abuse, and car accidents (APA, 2008). Children consider bullying to be a traumatic experience (Nielsen et al., 2015). It is significant to discuss bullying as a traumatic and prevailing event for children and adolescents because the rate of victimization can continue for individuals well into older adolescence (Arseneault et al., 2009). Scholte et al. (2007), found that 43% of 11-year old's, from a study in The Netherlands, reported still being bullied 4 years later.

The frequency of traumatic events varies between 28.6% and 84.6% across different countries (Benjet et al., 2015). Nearly everyone at some point in their lifespan will be privy to a situation they perceive as traumatic; however, repeated exposures to traumatic events are considered one of the precursors for later development of Post-Traumatic Stress Disorder (Benjet et al., 2015; Ogle et al., 2013; Veterans Association, 2018).

Post-Traumatic stress disorder

Post-Traumatic stress disorder or PTSD is a disorder that manifests as a result of experiencing a traumatic event such as an unexpected death of a loved one or a threat to one's personal safety or life (DSM-5, 2013; NIMH, 2019, Ogle et al. 2013). Symptoms of PTSD

include but are not limited to flashbacks of the traumatic event, avoidance of places that remind an individual of the site of the trauma, irritability or anger, easily being startled, and commonly in older children and adolescents' destructive behaviors such as acting out lasting for duration of at least 1 month (APA, 2019; NIMH, 2019). Current diagnostic criteria within the DSM-5 (2013), is focused heavily on adults, adolescents, and children with an age greater than 6. In the United States the prevalence rates of PTSD for adults are around 3.5 %, however, in other countries such as those in Europe or Africa the prevalence rate is seen to be at 0.5%-1.0% in community samples (DSM-5, 2013). A meta-analysis by Nielsen et al. (2015), found that 57% of individuals that were bullied qualified for PTSD above the thresholds that were set for cases.

Trauma in Children and Adolescents

The nature of the repercussions of a traumatic event on an adolescent can be determined in part by the developmental timing of the event (Marshall, 2016). Young adults are more likely to encounter traumatic events (Benjet et al., 2015). In a study conducted by Benjet et al. (2015) on traumatic events from a cross world study, the younger cohorts had higher changes of interpersonal violence (i.e., being beaten up by someone) and the youngest cohort had the highest chances of causing or witnessing bodily harm as compared to the older cohorts.

Bullying is a form of a traumatic event in which there is a power imbalance between the aggressor and the victim who cannot protect themselves against the bully (Plexousakis et al., 2019). Bullying is particularly prevalent in childhood and adolescence, and with children and adolescents spending the majority of their time at school (about 180 days annually) with the majority of bullying taking place on school grounds, it is incredibly important to address this frequent form of trauma (Hymel & Bonanno, 2014; National Center for Education Statistics, 2004; Plexousakis et al., 2019).

Twenty- three percent of children will encounter school violence through a bullying situation (Luxenberg et al., 2014). The impact that child and adolescent bullying can have on an individual can last a lifetime (Wolke et al., 2013; Obrdalj et al., 2013). High encounters of stressful situations, such as bullying, in children that are identified as low SES, has been noted as negatively impactful in their development, as well as their overall view of others (Blitz & Lee, 2015). The fight, flight, or freeze reactions displayed in individuals who experienced varying forms of traumatic or very stressful events are mirrored in bullying interactions (Blitz & Lee, 2015). In response to high stress situations that cause individuals to fear for their safety, a bullied student may become aggressive and perpetuate the trauma they themselves are experiencing upon others (Essex, 2011).

Albeit the effect of bullying on a bullied individual is well researched (Haynie et al., 2001), such as the development of psychopathologies like anxiety, depression, and in some cases PTSD (Plexousakis et al., 2019). It is possible that the adolescents who commit these acts of trauma upon their peers are also victims of trauma themselves. Being a victim of bullying more than two times in one month has been associated with an increased likelihood for further bullying (Solberg & Olweus, 2003).

Trauma symptomology in children may include dreams that seem to have no context or reenactment of the traumatic event they experienced (DSM-5, 2013). Frequent involvement in bullying was found to be associated with sleep disruptions in those individuals (Shaikh, 2013).

However, the overall rate of PTSD in children and adolescents is lower than adults. Yet, this may be due to previous diagnostic criteria that largely ignored the developmental differences in the manifestation of PTSD, in which only 25-40% of children who experienced a traumatic event met the diagnostic criteria for PTSD (DSM-5, 2013; Fletcher, 1996, as cited in Hunt et al., 2011).

In a study conducted by Obrdalj et al. (2013) looking at 1,055 Bosnian and Herzegovina participants ages 12-14, researchers wanted to know if children who have been traumatized were involved in bullying and if so, was it either as victim, bully, or bully-victim. The researchers found that any involvement in bullying was associated with higher trauma symptomology than those not involved in any bullying, and children who were found to be a bully-victim had higher rates of anxiety, anger, and PTSD (Obrdalj et al., 2013). In another study by Turner et al. (2015), involving 3,164 American participants between the ages of 6 to 17, any form of peer victimization (relational, physical, verbal etc.) where there was an imbalance in power among perpetrators and their victims was found to lead to higher trauma symptomology for the victims.

Bullying, Trauma and Gender

In a study conducted by Blitz and Lee (2015), found that 41.7% of female students in their sample participated in bullying another student, with the highest rates of bully endorsement among older children. Yet, the researchers also found that 81.7% of their female sample endorsed being a victim or bystander of bullying. Evidence has been found in support for the concept that boys and girls have differing experiences when it comes to community violence exposure (Voisin et al., 2010).

While boys and girls equally reported exposure to gun violence, boys frequently reported being directly involved in violence (i.e., fighting), whereas girls typically heard secondhand accounts of the violence (Voisin et al., 2010). In a study conducted by Vidourek et al. (2016), the researchers found that female and junior high students endorsed being victims of bullying more frequently than their peers. Females who endorsed being victims of bullying also reported fear and avoidance of school activities or classes. The characterization of avoidance and fear due to past encounters of trauma events reflects current symptomology individuals attempting to cope with traumatic stress engage in (APA, 2019).

Girls are more likely to experience indirect forms of victimization from bullying such as having a rumor spread about them, whereas boys are found to be victims of direct forms of bullying such as punching (Sawyer et al., 2008). Parents and caregivers of girls who have experienced multiple traumatic events reported their girl's trauma symptomology as more complex than for boys (Hodges et al., 2013). Female students report being victims of bullying more often than male students and have higher rates of suicidal ideation because of the trauma (Obrdalj et al., 2013; Vidourek et al., 2016). Boys, however, have been found to be more involved in bullying overall, especially as bully-victims which has been found to have an association with higher trauma symptoms (Obrdalj et al., 2013).

Idsoe et al. (2012), found that in a sample of 963 Norwegian students in grades 8 and 9, that boys were 2.5 more times likely to be bullied on a daily basis. However, even though those who reported being a victim of a bullying event were more often boys, 40.5% of girls were more likely than boys to report clinically significant PTSD symptomology because of bullying. They also found that the more frequent exposures to bullying were related to the rate of PTSD symptomology reported.

Trauma and African Americans

Cultural groups (i.e., race) an individual is a part of can be considered a risk or protective factor for the development and severity of PTSD seen in individuals (DSM-5, 2013). In a study involving AAs and their experiences with discrimination, researchers noted that about 53.13% had experienced discrimination due to their race being AA (Sibrava et al., 2019). This endorsement of racial discrimination was found to have a positive relationship with PTSD diagnosis in AAs (Sibrava et al., 2019). Previous research has found that young AA individuals are more likely to become a victim to violence outside of their school setting (Sawyer et al., 2008). Community trauma exposure in particular is common for some AA youth (Seth et al.,

2017). Community trauma is seen as aggressive acts (i.e., beating up individuals or robberies) that occur outside of an individual's home (Krug et al., 2002, as cited in Seth et al., 2017). These exposures to community violence for AA have been associated with PTSD symptomology (Krug et al., 2002, as cited in Seth et al., 2017). The SES of AAs was associated with a PTSD symptomology remission, in AAs earning less than $20,000 a year the remission was only 0.23 in comparison to 0.75 for those who made greater than $20,000 (Sibrava et al., 2019)

About 20.8% of AA's live in poverty compared to 10.1% of Whites (Poverty USA, 2018). AA children have also been more likely to encounter high rates of interpersonal trauma and are more likely to be victims of homicide (Centers for Disease Control and Prevention, 2009, as cited in Hunt et al., 2011). In a study done by Hunt et al. (2011), with child participants, being an AA female was associated with higher PTSD symptomology.

AA are not only at a higher risker for community violence exposure but also victimization through bullying (Hong et al., 2018). However, despite this finding most of the studies on bullying focus on samples that are majority white and middle class (Goldweber et al., 2013). Hong et al. (2018), found that a sample of AA adolescents from Chicago who were aware of the community violence, were at a higher risk to be victimized by acts of bullying or be the perpetrator of it; however, involvement within the school reduced this overall risk. In a study by Carlyle & Steinman (2007), which had a sample of about 79,000 Ohio adolescent participants, found that the AA and Native American participants were reported as being more heavily involved in acts of perpetration and victimization in bullying situations compared to their peers. The researchers also found that gender differences for AAs and Native Americans were less in rates of perpetration of bullying compared to other races which noted rate differences by gender (Carlyle & Steinman, 2007). In another study with AA, Caucasian, and Hispanic middle school

students, the AA participants were more likely than other races to be involved in a bullying situation as either a victim or a bully-victim (Goldweber et al., 2013).

Trauma and Weight

Adolescents who are overweight or obese are more likely to fall victim to trauma from bullying and this form of trauma was found to be the most prevalent in adolescents with higher body mass index (BMI) (Hicks White et al., 2018; Van Den Berg et al., 2008). For overweight and obese adolescents, the most common forms of bullying are teasing, relational victimization, forms of cyber-bullying, and lastly, physical victimization (Puhl & King, 2013). Ogden et al. (2010), found that AA children and adolescents were overweight or obese (35.9%) more often than their white peers (23.9%). The weight of children and adolescents is commonly associated with the high rates of traumatization due to bullying, even more so than race, religion, or disability (Puhl & King, 2013). Yet, the study from Puhl & King (2013), had a relatively small sample of AA participants (18%) compared to their white participants (71%). However, Van Den Berg et al. (2008), found that AA adolescents endorsed preferring a larger body size and reported not being as bothered by teasing about their weight from their peers as compared to other races.

Intergenerational Trauma

Intergenerational trauma, which is the exploration of the effects of historical and cultural traumas on survivors' children, is also important to consider (Dangelis, 2019). Some cultural groups may have higher instances of trauma across time because of the examples of coping (i.e., not seeking out help) and whom to interact with demonstrated by relatives and close members of their inner circle (Benitiz et al., 2014; Dangelis, 2019). Also, a parental figure's previous experiences of trauma or PTSD can be considered a contributing factor to their own children's potential trauma exposure (Cross et al., 2018).

The effects of trauma can be presented and dealt with differently depending on the historical period. For instance, if an individual experiences traumatic events during a time-period in which it is taboo or abnormal to discuss such events, that time-period will have a direct effect on their perception and potential recovery (Dyregrov & Yule, 2006).

Trauma and the Environment

In regard to trauma, from bullying in childhood and adolescence, families of children who are bullied are overprotective and too involved (Canales et al., 2018; Schwartz et al., 2001). Due to this overinvolvement in their child's life, they limit the child's potential ability to interact with others their own age, and their capacity to build the proper social skills necessary to do so (Rigby, 2013).

The children also have fewer abilities to cope with the act of bullying and lack the intuition to avoid harassment (Canales et al., 2018). In the case of cyberbullying, which is repeated and deliberately aggressive behavior towards another via technology i.e. instant text messaging (Buelga et al., 2017), family factors, such as lack of familial cohesion intensify the likelihood of cyber-victimization (Buelga et al., 2017). An example of low familial cohesion, for cyber-victims, would be lower rates of open style communication with their mothers (Buelga et al., 2017). This lack of open communication can lengthen the duration of cyber-bullying because of the lack of parental intervention (Buelga et al., 2017).

Support from peers and individuals who have experienced the same thing are considered protective factors for AA against PTSD (Hunt et al., 2011). Repeated exposure to traumatic events during a person's childhood is related to the complexity of their symptomologies (Hodges et al., 2013).

It has also been found that parental maltreatment and victimization due to bullying have a relationship with one another (Benavides et al., 2018). The presence of a violent household

increases the risk of victimization by bullies because home violence has lasting effects on the social and emotional well-being of an individual (Benavides et al., 2018) and if a child lacks good social skills, they may be perceived as weird or strange by their peers, which increase the likelihood of being seen as a potential victim (Ball et al., 2008).

Some contextual factors of the environment have a relationship with the rates of mental health problems experienced by individual residents (Gapen et al., 2011). There is a large gap in knowledge regarding environmental context and subsequent PTSD development (Gapen et al. 2011). It has been found that individuals who reside within majority low SES neighborhoods have not only an overall higher risk for PTSD development but also a 65% lifetime prevalence of trauma exposure (Alim et al., 2006; Gapen et al., 2011). Research has found that a buffer of the development of PTSD is having friends because of the social support they provide (Gapen et al. 2011; Linares, 2004). Gapen et al. (2011) conducted a study to investigate the effects community cohesion and perception of neighborhood had on PTSD symptomology of low-income AAs. The participants were gathered via medical offices in Atlanta, Georgia. Community cohesion through social ties was associated with mediating, acting as buffer, for perceived neighborhood disorder and PTSD symptoms (Gapen et al., 2011).

When a traumatic event such as being a victim of bullying in childhood or adolescence occurs, the event itself, the duration of it, the genetic makeup of the individual, their personal resources (parental or school support) and the environment (i.e., neighborhood SES) in which they reside within all work in tandem to determine the severity and reaction to experiencing bullying (Benitiz et al., 2014; Cummings et al., 2000; DSM-5, 2013; Dyregrov & Yule, 2006; Kaufman & Henrich, 2000; Mckay et al., 2005; Meiser-Stedman, 2002; Pine & Cohen, 2002; Scarr & Mccartney, 1983; Sibrava et al., 2019). Without a holistic approach to bullying, there cannot be any understanding to why there are victims (those who are susceptible to being

traumatized), why there are bullies (those who perpetrate the trauma), and why some individuals seem to have the unfortunate fate of being both a bully and a victim (those who are both the traumatizer and the traumatized).

A more specific view at the genetic makeup of an individual indicates that genetics partly determines the type of responsiveness they will elicit from their environment (Scarr & Mccartney, 1983). That is why a group of people can experience the same exact event simultaneously, yet not everyone will develop PTSD or feel the repercussions of the trauma in light of the event (Scarr & Mccartney, 1983; Yehuda et al., 2005). Inherited differences in specific genes can mitigate the overall effects of trauma or increase sensitivity to it (Ryan et al., 2016; Scarr & Mccartney, 1983; Weaver, 2020). There is debate in regard to whether a genetic factor exists that sets an individual up for more victimization compared to a fellow peer. While previous studies have found that the reasons behind adults victimizing children or others is typically due to the characteristics of said individual and/or the situational factors, the opposite was found in child peer to peer victimization (Ball et al., 2008). For children who traumatize their peers through bullying, there seems to be a genetic factor of the victim that entices the perpetrator child to single out the victim for bullying (Ball et al., 2008).

Aggression

Aggression is defined as a behavior that has the intention to cause harm to others either physically or psychologically (APA, 2020). There are different forms of aggression such as reactive and instrumental (Liu, 2004; Xie et al., 2003). Reactive, also known as reactionary aggression, usually occurs under circumstances in which a person has a response or reaction that is unplanned (Liu, 2004; Yamasaki & Nishida, 2009). For example, a child having their toy grabbed unexpectedly by a friend may whack the friend on the hand in response. The other form of aggression is instrumental, which can be thought as methodological or planned and is

considered very advantageous to the individual as it helps them reach a goal (Liu, 2004; Yamasaki & Nishida, 2009). An example of this would be a child planning to hit someone in order to make them cry as punishment for a toy they took the previous day.

Reactive and instrumental aggression is parsed further into three parts to include physical, verbal, and relational aggression (Berk & Meyers, 2015; Mrug et al., 2013). Physical aggression is displayed by acts such as hitting or kicking (Coyne et al., 2008). Verbal aggression manifests in the form of name calling or attacking an individual's character (Coyne et al., 2008). Lastly, relational aggression is an aggressive act that seeks to isolate an individual through rumors or ostracization (Coyne et al., 2008). The display of occasional aggressive behaviors is not considered an anomaly in children as they engage with their siblings or peers, however the frequency of it can become a problem (Berk & Meyers, 2015).

Aggression and the Environment

Environment has been established as a correlate of aggression rates seen within individuals (Guerra et al.,2003; Kuo & Sullivan, 2001). Dependent on the neighborhood an adolescent resides in or the school they attend, the frequency of aggressive acts can be possibly due to the normalization of aggression within the community (Gorman–Smith & Tolan, 1998; Elsaesser et al. 2012; Henry et al., 2011).

The education and household income level of a child or adolescent's caregiver can have an influence on their tendency to use aggressive responses (Boxer et al., 2012). There are alternating hypotheses for why this may occur; some researchers peg the idea that lack of access to resources like good education or job and career opportunities give differential opportunities to parents i.e., proper parenting techniques, time afforded to child rearing, and living in low SES can exacerbate the exposure to community violence which can lead to a normalization or aggression (Elsaesser et al. 2012; Pachter et al., 2006). In a study involving 512 students who all

identified as ethnically Asian between the ages of 13-19, a reported lower SES was related to higher instances of aggression in adolescents versus those in higher SES families (Fatima & Sheikh, 2014).

While other researchers argue that children and adolescents who take advantage of situations by using aggression is an example of Goode's resource theory which postulates that individuals will use aggressive techniques when they lack resources (Fatima & Sheikh, 2014). There is also the Frustration-aggression hypothesis that argues when an individual is frustrated because they cannot meet their basic needs in a situation like living in poverty, this will ultimately lead to their use of aggression (Fatima & Sheikh, 2014).

Pachter et al. (2006) found from a longitudinal study that had participants (ages 6-9) of different races (White, Black, and Latino) that the primary caregiver was often a single parent with the majority of single parent households being found in black families. They also found that chronic poverty (poverty that lasted for more than 50% of the child's life thus far) had effects on externalizing and internalizing behaviors of children, specifically for black children, chronic poverty was mediated by the neighborhood, the mother's depression, and their parenting (Patcher et al., 2006). Yu et al. (2006) found that maternal education and the parent's occupation had an effect on the aggressive tendencies utilized by children and adolescents.

Individuals who live within less "green" buildings report higher instances of aggression and overall violence (Kuo & Sullivan, 2001). Wen et al. (2013) Found that low income AA and Hispanics in their study had less exposure to green spaces such as a park.

One form of aggressive behavior used by children and adolescents is bullying their peers (Plexousakis et al., 2019). It has also been found that children within home environments that are less emotionally supportive or cognitively stimulating are more likely to bully others (Zimmerman et al., 2005).

Martinez et al. (2014) found a positive relationship between poor family function, amount of time spent online, and being involved in cyberbullying. It has also been found that children within home environments that are less emotionally supportive or cognitively stimulating are more likely to bully others (Zimmerman et al., 2005). Taking these factors into account, from an environmental perspective, it becomes easier to understand how this could lead to a child trying to create an illusion of power through their own personal use of aggression in their lives.

Aggression and Gender

At the start of preschool, boys begin to display physical aggression more commonly, as well as verbal aggression and girls begin to display verbal and relational aggression (Berk & Meyers, 2015). However, as girls age, they typically do not engage in verbal aggression as much as boys (Leschied et al., 2001). Leschied et al. (2001) found that victimization by same age peers is common in adolescent boys and girls. Yet, the majority of literature on aggression largely ignores girls (Marsee & Frick, 2007).

There are many theories surrounding why certain types of aggression are more frequent in one gender versus the other, for instance, boys produce the male hormone androgen (Berk & Meyers, 2015), also there is the need to consider gender role conformity, which dictate what form of aggression each gender should engage in (Elsaesser et al, 2012). For example, physical aggression is typically discouraged in girls and higher instances of relational aggression are seen as normal (Berk & Meyers, 2015; Elsaesser et al., 2012). Girls are more likely than boys to be the perpetrators and victims of relational aggression (Elsaesser et al., 2012). In a study done by Waasdorp & Bradshaw (2009), no significant differences between boys and girls existed for their perception of how harmful relational aggression was.

Early maturation in girls was equated with higher rates of aggression at age 11, however, as they progressively aged the rate of aggression fell (Mrug et al., 2013). In a study by Kim et al. (2006), involving Korean middle school students, it was found that girls who bullied others had more externalizing disorders than boys were perpetrators of bullying.

There has also been increasing concern over the elevated violence rates in girls (Luke, 2008). However, it has been shown it is potentially not that girls' behaviors are experiencing an increase in violence, but rather there are changes happening in the criminal justice system and to policies within it (Luke, 2008). For instance, certain situations in which there are physically aggressive acts such as self-defense have been "relabeled" to violent aggressive acts such as aggravated assault (Luke, 2008). The argument of girls' increasing participation in violence has not taken into account the overwhelming policies that continue to facilitate mass incarceration for minor offenders and people of color (Luke, 2008).

Aggression in Children and Adolescents

Children and adolescents who were neglected have been found to be at a higher risk for perpetrating violent acts (Leschied et al., 2001). Aggressive children may have poor relationships with their peers and as a result of the isolation from their peers they may act out in disruptive ways (Yamasaki & Nishida, 2009). Relational aggression might be so harmful for older children and adolescents because during this time period there is high importance placed on developing friendships and being the victim of relational aggression has the potential to harm an individual's ability to do this (Elsaesser et al. 2012).

Affiliation with delinquent peers have been found to promote and increase the duration of aggressive behaviors in adolescents (Kramer-Kuhn & Farrell, 2016).Also being given more freedom outside of the home, thus increasing their potential contact with community violence,

has also been deemed an increasing factor for adolescent aggressive behavior (Kramer-Kuhn & Farrell, 2016; Farrell & Bruce, 1997).

Aggression and African Americans

Past research has almost entirely focused on samples that are white, in order to study aggression (Waasdorp & Bradshaw, 2009; Xie et al., 2003). Farrell et al. (2007), found that AA middle school students endorsed aggression as norm within their peers. In a study done by Mrug et al. (2013), AA and Hispanic girls were found to be more engaged in problem behaviors than their white female peers. This finding however should be viewed through a contextual lens, which often states that minorities are typically viewed as more aggressive or engaging in problem behaviors than their white peers (Dixon, 2008). Living in low SES neighborhoods leads to more common exposure to stressors such a violence (Farrell et al., 2007).

Close relationships allow individuals to mitigate the costs of stressful situations in their day to day lives (Deci & Ryan, 2014; Miller et al., 2015). In regard to relational aggression, research has found its presence to be considered a threat to close relationships (Elsaesser et al. 2012) and 20.8% of individuals who are AA live in low SES neighborhoods, so the presence of relational aggression and the loss of a close relationship can be particularly harmful to these individuals as it can be a loss of a potential protective factor or coping mechanism (Waasdorp & Bradshaw, 2009; Poverty USA, 2018).

In a predominantly AA sample, the parents of girls rated verbal aggression, such as being made fun of, as more harmful to their child, whereas the parents of boys rated physical aggression, such as hitting, to be more harmful (Waasdorp & Bradshaw, 2009). These differences however could be due to cultural stigmas within the AA community towards victimization in general and what is “appropriate” for a respective gender (Sawyer et al., 2008).

In regard to victimization due to the aggression of a peer, AA's are less likely to report being bullied than their white peers; however, if they do report it, they are less likely to report it as a frequent occurrence (Sawyer et al., 2008).

Waasdorp & Bradshaw (2009) found that relational aggression is common within 5th grade urban AA students. However, in another study, elementary school aged AA girls were more likely to become a victim of direct physical aggression (i.e. hitting or punching) than white elementary school aged girls, whereas middle school aged minorities overall were more likely to be physical aggression victims (Sawyer et al., 2008). Previous research has found that middle school aged AA girls and boys were less likely to indicate being bullied in comparison to other races, however, when particular bullying situations were presented (physical victimization, 43.47% of girls and 42.78% of boys, verbal victimization, 59.59% of girls and 52.73% of boys, indirect victimization 45.32% of girls and 35.83% of boys), they were more likely to endorse a specific form of victimization due to bullying (Sawyer et al., 2008).

A study by Fitzpatrick et al. (2007), looked at 1542 AA adolescents in grades 5-12 and their rate of bullying. Fitzpatrick et al. (2007) found that there were no gender differences between boys and girls in elementary and middle school. Noting that differences in bullying rates only appeared in the high school aged participants.

Aggression and Trauma

The majority of individuals who have been traumatized are adolescents (Abate et al., 2017) and it has been noted that trauma symptoms coincide with aggressive behaviors (Abate et al., 2017; DSM-5, 2013). There is evidence that the mental state of an individual changes because of a traumatic event (Abate et al., 2017) and due to this change an individual may incorrectly evaluate a situation as threatening, thus displaying aggressive behaviors in response

(Abate et al., 2017; Verlinden et al., 2013). Researchers found that hyper-mentalizing acted as a mediator between increased trauma and higher rates of aggression within a clinical sample of adolescent females (Abate et al., 2017). However, the mere experience of a traumatic event does not equate to symptomology i.e. aggression (Gorman–Smith & Tolan, 1998), familial factors like a mother's education can negate the effects of the exposure to a traumatic event (Gorman–Smith & Tolan, 1998).

As a result of traumatic experiences children may become aggressive or exhibit bully behaviors (Blaustein & Kinniburgh, 2010). It is theorized that people who have been traumatized themselves may become aggressors or perpetuators of others' trauma possibly due to the fact that experiencing trauma can inhibit executive functioning (i.e., regulation of behavior), or that by becoming the aggressor they create a semblance of control over the trauma that occurred (U.S. Department of Health, 2014; Verlinden et al., 2013).

One study found that the experience of anxiety, stress, and trauma in a community sample of AAs was comparable to clinical rates due to mistreatment based on their race (Williams et al., 2017). In a study by Storr and colleagues (2007), children whose teachers rated them with aggressive and disruptive behavior in the first grade were more likely to experience an assaultive traumatic event in early adulthood.

Anxiety

Up to 33.7% of individuals will be affected by anxiety disorders within their lifespan (Bandelow & Michaelis, 2015). Anxiety is categorized as an intense and persistent worry about everyday things, with behavioral disruptions that are unrelated to medication or other substance uses (DSM-5, 2013). Symptoms of anxiety can include difficulty in concentration, fidgeting, headaches, or sweating, and dry mouth (Ritchie & Roser, 2018).

There are differing forms of anxiety, such as generalized anxiety disorder (GAD) which is characterized by excessive worry about things such as school or work, for at least 6 months on most days, in tandem with symptoms such as restlessness or irritability, and has no realistic basis to actual threat (DSM-5, 2013; Burstein et al., 2014; Spitzer et al., 2006; Masi et al., 2004).

Social anxiety encompasses feelings of fear or avoidance of social situations that require interaction with people the individual is not familiar with (DSM-5, 2013). It may also include situations in which the individuals feel they are being observed while eating food, drinking, or performing such as giving a talk in front of the class, cognitively this individual feels they are embarrassing themselves, being humiliated or rejected, and potentially offending someone (DSM-5, 2013). For children, the criterion for social anxiety has to also include peer to peer interactions and can also take into account fear due to torment or bullying from a peer (DSM-5, 2013).

Per year, 110 million days are taken off work and school for individuals with GAD (DSM-5, 2013). While there is much discussion about the increased prevalence rate of anxiety diagnoses being made worldwide, it is important to note that a new version of the DSM came out, the DSM-5, and this version contains more developmentally appropriate diagnostic criteria (Bandelow & Michaelis, 2015; DSM-5,2013). Previous research found a prevalence rate in the general population of 1.6%-5.0% which has lack of concentration and irritability as commonly associated symptoms of GAD (Burstein et al., 2014; Masi et al., 2004).

Comorbidities, such as depression and other anxiety disorders are commonly found in adolescents and children diagnosed with GAD (Burstein et al.,2014; Masi et al., 2004). While somatic symptoms i.e., stomach aches, are common in adults and children alike (Masi et al., 2004), there is speculation that children who exhibit somatic symptoms are predisposed to it due to their temperamental traits (Masi et al., 2004).

Anxiety and the Environment

The environment that an individual resides within can influence their perception of the world (Ellen et al., 2001). For individuals that reside within low income areas that are typically plagued by community violence, they have been found to have higher levels of anxiety in adolescence (Currier et al., 2019; Ellen et al., 2001).

Household income or socioeconomic status (SES) has repeatedly been found to have a relationship with anxiety disorders in adult populations (Vine et al., 2012). This relationship is partially due to the fact that low SES households and neighborhoods experience stressors, such as reduced access to resources, which can effectively increase anxiety rates (Vine et al., 2012). In low SES neighborhoods, there was an association with levels of physical and separation/panic anxiety symptoms found, as well as a negative relationship between household income and social anxiety in girls (Vine et al., 2012). Interestingly enough, according to a study done by Vine and colleagues (2012), the effect of parental depression due to economic downfall leads to poorer parenting and increases the risk of separation/panic anxiety symptomology in their children.

Past research has supported the idea that environments that contain overprotective parents are a risk factor associated with development of anxiety in children and adolescents (Bakhla et al., 2013; DSM-5, 2013).

Anxiety and Gender

Gender differences in anxiety rates have been reported as appearing around pre-school aged children (Paulus et al., 2014). Other studies have found that gender differences may be a result of pubertal start differences (Bakhla et al., 2013). Around 63% of individuals who are diagnosed with anxiety identify as women (Ritchie & Roser, 2018). Currently, for GAD diagnoses there is a 2:1 Female to Male ratio (DSM-5, 2013; Masi et al., 2004; Bahrami & Yousefi, 2011).

Social anxiety in boys have been associated with feelings of loneliness as they are perceived to receive less social support, whereas girls with social anxiety are more likely to be victimized by their peers through bullying (Tillfors et al., 2012). In a study from Bakhla et al. (2013), girls were found to score higher on anxiety overall, as well as the subgroups of anxiety that were measured.

Lewinsohn et al. (1998) controlled for psychosocial factors between girls and boys and still found that girls were more likely to have higher rates of anxiety, which he felt suggested a potential genetic component difference between the genders. However, it is important to consider this ratio discrepancy in light of social norms that disallow boys and men from seeking help for psychopathologies and diagnosticians' own biases about men's mental health (Jutel, 2011; Smith et al., 2016; Paulus et al., 2014). In a study executed by Obrdalj et al. (2013), girls who were involved in bullying were found to frequently exhibit symptomology of anxiety. The highest rates of anxiety were found in individuals who were involved in bullying as a bully-victim (Obrdalj et al., 2013).

Anxiety in Children and Adolescents

Most anxiety disorders manifest in childhood and the average age of onset is 11 years old (Bandelow & Michaelis, 2015; DSM-5, 2013). The overall community rate of anxiety diagnoses in children and adolescents spans from 9% to 32% and past research has found a relationship between anxiety diagnoses in childhood and later psychological difficulty in adulthood (Creswell et al., 2014; Paulus et al., 2014).

Children and adolescents with GAD commonly have excessive worry about their overall performance or ability to complete a task related to school (DSM-5, 2013). While the overall reasoning behind an individual's diagnoses of GAD seems to be appropriate for their age, the severity of symptoms is much stronger in children and adolescents than it is in adults, also the

focus of their worry has the ability to change repeatedly and still be considered GAD (DSM-5, 2013). Within adolescents, GAD has a one-year prevalence rate of 0.9% in community samples (DSM-5, 2013). While research supports that children and adolescents can develop and be diagnosed with GAD, there is a concern that the disorder is over-diagnosed in this population samples (DSM-5, 2013).

Anxiety in children has been seen in the manifestation of fear and worry when facing bullies or completing scholastic assignments (Vine et al., 2012). Regarding social anxiety in children and adolescents, the prevalence rate is 7%, comparable to the rate of adults suffering this affliction, with a typical onset of symptomologies seen at age 13. The onset can sometimes be due to past situational factors such as being traumatized from bullying (DSM-5, 2013). High rates of anxiety and depression in the first grade were also strong predictors of PTSD development following a traumatic event, later in life (Storr et al., 2007).

During the transitionary phase of childhood to adolescence, a spike is seen in the rate of GAD diagnoses (Beesdo-Baum et al., 2011). A large majority of adolescents do not receive clinical help for their anxiety, however, there is speculation this is due to their unawareness of the resources that exist and/or a lack of services available to help them (Creswell et al., 2014). The cost of children with anxiety disorders is monumental for societies, therefore it is incredibly important to research the foundation of anxiety (Paulus et al., 2014).

Anxiety and African Americans

Race within the United States of America is associated with differential social status and intergroup relations (Levine et al., 2015). Despite the differences that exist in the manifestation of anxiety by cultural group, race, or ethnicity, either in tandem or separately, the research on AAs anxiety is severely lacking (DSM-5, 2013; Lambert et al., 2004; Sibrava et al., 2013). AAs

who face discrimination because of their race, have been associated with higher rates of GAD (Soto et al., 2011). Yet, in a study by Assari et al. (2017), involving 681 Black youth between the ages of 15-32, only black males who experienced racial discrimination had a higher likelihood of increased anxiety and depressive symptomology. However, contrarian research has found in a sample of adolescents, racial minorities overall were less likely to fall within the criteria that warranted a diagnosis of GAD, compared to non -Hispanic white adolescents (Burstein et al., 2014).

In Williams et al. (2012), AAs overall experienced more state anxiety and depressive symptomology than those with European descent however AAs who had a strong ethnic identity had lower rates of anxiety and depression symptomology. This was an important finding because ethnic identity has been linked with increased self-esteem which can buffer against psychopathologies such as anxiety (Williams et al., 2012).

Interestingly enough, the DSM-5 (2013) found that individuals who are not of European descent are less likely to experience GAD. However, this is most likely due to errors in the measurement of anxiety and influence of distrust, as well as the cultural stigma of mental illness overall in the community that results in them reporting less symptomology (Hunter & Schmidt, 2010). The typical presentation of anxiety symptoms in AAs differs from European Americans. AA children's anxiety is typically categorized by a fear of some sort (Lambert et al., 2004). This classification of fear as a symptom is in part exacerbated by environmental factors for children living in inner cities (Lambert et al., 2004). This is because individuals who reside in urban inner cities experience or witness crime and violence more often than others (Lambert et al., 2004).

Informal social support (one not provided by the state or government) is considered important to AAs in the United States, as these individuals provide AAs with protection against the development of psychopathologies such as depression (Levine et al., 2015). It was found that

AA individuals who are experiencing anxiety or depression may withdraw from their informal social support networks, thereby experiencing an exacerbation of their symptoms (Lincoln et al., 2010). In a study done by Sibrava et al. (2013), although the majority of their AA participants had a severe and long-lasting effects of anxiety, half of them still were not receiving treatment for their anxiety.

Anxiety, Victimization, and Aggression

In a study by Isolan et al. (2013) looking at 2,353 Brazilian adolescents, instances of anxiety in victims of bullying and bully-victims were highest for these groups compared to individuals not involved in bullying or involved solely as aggressors of bullying. They also found support for the idea that boys were typically more involved in the bullying but that girls reported more anxiety symptomology because of being a victim of bullying (Isolan et al., 2013). They theorized that rates of anxiety in individuals in their sample were related to their peer victimization. The rates of anxiety endorsed by their participants that were victims or bully-victims was in line with their expectations (Isolan et al., 2013).

In a sample of Dutch children, 23.2% of individuals who were both a victim of bullying, and an aggressor (Bully-victim) reported symptomology in line with anxiety, compared to 9.9% of those not involved in any way (Fekkes et al., 2004). There is opposing literature regarding the theory that bullies typically do not have comparable rates of anxiety to other individuals in bully situations but rather display more frequently externalizing behaviors, whereas other research has found that bullies do have high anxiety rates (Haghighi et al., 2016; Isolan et al., 2013; Roberts & Duong, 2016; Fekkes et al., 2004).

Summary of Previous Literature

AAs are a severely understudied group (Benetiz et al., 2014). Past research on trauma, aggression, and anxiety has almost exclusively focused on white samples (Waasdorp &

Bradshaw, 2009; Xie et al., 2003). AAs are more likely to experience traumatic events, especially in the form of bullying than other races (Elsaesser et al., 2012).

Although it was found that middle school aged girls are more likely to be victims of bullying and avoid situations that involve scholastic events and school in general as a result of the bullying, much of the research on aggression has focused on male students (Marsee & Frick, 2007; Vidourek et al. 2016). Although girls have often been found to be victims of relational aggression, studies have found that AA girls engage in physical aggression more than their peers (Sawyer et al., 2008). This is important to highlight because even though they are more frequently found as participants in physical aggression, they underreport it as happening (Sawyer et al., 2008). However, reports of higher aggression in minorities have to be taken from the understanding that contextually minorities are viewed as more aggressive than other races (Dixon, 2008; Konold et al., 2016; Ghavami & Peplau, 2012). This means that what may be constituted as a normal reaction to an environmental elicitor in a person who is white, may be misconstrued as more or highly aggressive in a person that is of a minority racial group such as AA.

AAs that live in low income neighborhoods have been found to have higher instances of trauma exposure and anxiety rates potentially due to low SES being associated with trauma and anxiety (Alim et al., 2006; Benitez et al., 2014; Gapen et al., 2011). However, support from social groups has been found to be a buffer for trauma and anxiety development in AAs (Gapen et al. 2011; Linares, 2004), whereas as a perceived lack of social support has been found to exacerbate symptomologies (Gapen et al., 2011). Rates of Generalized Anxiety Disorder (GAD) in AA individuals are potentially higher than other races due to the racial discrimination they face (Soto et al., 2011). In light of all of these factors, it is incredibly important for research to

further focus on this understudied population rates of victimization, aggression, and anxiety in AA girls.

Gaps in Previous Literature

Although many strides have been made in research on trauma, aggression, and anxiety, over the last decade the resulting research focus has continued to largely ignore AAs. Without approaching research involving AA from a contextually and culturally relevant lens, the rate of misdiagnoses, ineffective treatment methods, and inapplicable generalizations will continue to plague this community (Bell et al., 2015).

As Bronfenbrenner & Morris (2005) pointed out, individuals do not develop in the absence of their surrounding environments, parental figures, and cultures, but rather in tandem and because of them, and as result differences are expected in individuals. Trauma, as a result of bullying, has been associated with the development of anxiety and the tendency to be a participant in aggression (Swearer & Hymel, 2015).

Past research on physical aggression and victimization from aggression has focused primarily on boys (Marsee & Frick, 2007). However, when aggression studies are done with samples of girls it is typically focused on relational aggression or girls who are involved in the judicial system (Marsee & Frick, 2007). Avoidance behavior has been found to be higher in girls following trauma from being bullied and avoidance has been noted as a common correlate of social anxiety and trauma (Plexousakis et al., 2019; Vidourek et al. 2016).

Past experiences of bullying may cause some victims to attempt to create a sense of control over what happened to them by becoming perpetrators themselves and these individuals typically have higher levels of anxiety (Swearer et al., 2001). The choice to ignore these differential factors, in order to generalize research findings to different racial groups from research that does not take them into account in the first place, is a huge disservice. The current

study aimed to illuminate the potential anxiety and trauma from victimization by their peers, as well as the participants own aggressive behaviors.

Hypotheses

Aim 1. Evaluate the relationship of anxiety, aggression, and victimization in early adolescent AA females

Hypothesis 1: It was hypothesized that there would have a positive relationship between anxiety, aggression and victimization.

Hypothesis 1a. It was hypothesized that relational aggression would have a positive relationship with social anxiety.

Hypothesis 1b. It was hypothesized that physical aggression would have a positive relationship with worry anxiety.

Hypothesis 1c. It was hypothesized that verbal aggression would have a positive relationship with social anxiety.

Hypothesis 1d. It was hypothesized that overt victimization would have a positive relationship with worry/oversensitivity.

Hypothesis 1e. It was hypothesized that relational victimization would have a positive relationship with social concerns/concentration.

Aim 2. Observe whether the individuals who are victims of aggression would also report being aggressors in early adolescent AA females.

Hypothesis 2: It was hypothesized that individuals who are victims of aggression would also report being aggressors .

Hypothesis 2a. It was hypothesized that the same individuals who are endorsing being physical aggressors would report being victims of overt aggression themselves.

Hypothesis 2b. It was hypothesized that the same individuals who are endorsing being relational aggressors would report being victims of relational aggression.

Hypothesis 2c. It was hypothesized that the same individuals who are endorsing being verbal aggressors would report being victims of overt aggression.

Aim 3. Investigate the relationship between weight, aggression, victimization, and anxiety.

Hypothesis 3*:* It was hypothesized that early adolescent AA females with higher weight would have increased rates of victimization in early adolescent AA females.

Hypothesis 3a. It was hypothesized that there would be significant differences between the weight groupings and the use of relational victimization.

Hypothesis 3b. It was hypothesized that there would be significant differences between the weight groupings and the use overt victimization.

Hypothesis 4: It was hypothesized that early adolescent AA females with higher weight would have increased rates of anxiety in early adolescent AA females.

Hypothesis 4a. It was hypothesized that that there would be significant differences between the weight groupings and social anxiety.

Hypothesis 4b. It was hypothesized that that there would be significant differences between the weight groupings and worry anxiety.

Hypothesis 5. *:* It was hypothesized that early adolescent AA females with higher weight would significantly differ from the other weight groups rates of aggression in early adolescent AA females.

Hypothesis 5a. It was hypothesized that that there would be significant differences between the weight groupings and the use of physical aggression.

Hypothesis 5b. It was hypothesized that that there would be significant differences between the weight groupings and the use of relational aggression.

Hypothesis 5c. It was hypothesized that that there would be significant differences between the weight groupings and the use of verbal aggression subscale.

Aim 4. Investigate the relationship between the environment, aggression, anxiety, and victimization in early adolescent AA females

Hypothesis 6*:* It was hypothesized that environmental factors would have an effect on the rate of aggression, victimization, and anxiety.

Hypothesis 6a. It was hypothesized that environmental factors (poverty ratio) would mediate the relationship between physical aggression and anxiety.

Hypothesis 6b. It was hypothesized that environmental factors (poverty level) would moderate the relationship between relational aggression and relational victimization.

Hypothesis 6c. It was hypothesized that environmental factors (caregivers highest education) would moderate the relationship between anxiety and overt victimization.

Method

Participants

The present study is part of a larger school-based RCT health promotion and obesity prevention called Challenge! 77 AA girls, ages 11 to 13 (M=11.81, SD=.69) were recruited from middle schools in a mid-Atlantic city, with individuals from primarily low-income neighborhoods. Eligibility for this study was determined by their age and comprehension of the

English language. Students who were in special education classes were not included in the Challenge! study. A specific weight range was not a requirement to be enrolled. Out of 138 students, 97 were eligible for this study (70%). However, due to the study being a 2-day (2 hour session) assessment time constraints may have influenced their completion of the measures, such is the case 77 were used for analyses because they completed at least one of the measures. For the present study, the girls needed to have completed the Revised Children's Manifestation of Anxiety Scale (RCMAS) and the Problem Behavior Problem Frequency Scale (PBFS), as well as reported identifying as AA or Black.

Procedure

The University of Maryland School of Medicine Institutional Review Board approved of methodology for the study. Written consent was given by the adolescents and their caregivers for the study. Prior to the beginning of the Challenge! health promotion and obesity prevention, participants were administered baseline measurements. All measures used in the study were self-reported on a computer with questions appearing auditorily through headphones and visually on the computer screen; they used a computer mouse to give the responses. Trained research assistants collected sociodemographic information and assisted the participants when necessary. Trained research assistants were on standby to answer any questions the participants had. The individuals were compensated for their participation.

Measures

Demographics. Demographic surveys were assessed using the information students provided as well as their caregivers responses. The participants provided information regarding their race/ethnicity, age, and grade level. Their caregivers provided responses regarding their own education level and family income status.

Anxiety. The Revised Children's Manifestation of Anxiety Scale (RCMAS) sometimes known as 'what I think I feel' was self-reported by the participants to measure their rates of anxiety symptomatology (Cowart, 1987; Reynolds et al., 1981). The RCMAS is a 37-item self-report measure used for children ages 6 to 19. It consists of 3 subscales: physiological anxiety, worry/oversensitivity, and social concerns/concentration (Cowart, 1987). The participant indicates their response based off 2 available endorsements: (1) Yes, (2) No. The total manifest anxiety score is determined by the total number of yeses a participant endorses, disregarding the lie score yeses (Cowart, 1987). Stallard et al. (2001) found that a total manifest anxiety cut off score of 19 was indicative of children suffering from clinically significant anxiety. A high score on the subscales of the RCMAS indicates that the participant filling it out experiences a high level of anxiety on the respective subscale (Cowart, 1987). Previous studies utilizing the RCMAS to compare youth with anxiety to those without have reported an effect size of Hedges d=1.30 when the sample size was 808 (Seligman et al., 2004). The RCMAS has been found to be a reliable self-report measure for black and white, female and male participants with a Cronbach's alpha between 0.78 to 0.85 (Reynolds et al., 1981; Reynolds & Richmond, 2000). The anxiety of the participants was assessed using two subscales (worry/oversensitivity, and social concerns/concentration). A Cronbach's alpha was calculated for this sample and was found to be 0.87. (See Appendix B. & Table 4.)

Victimization and Aggression. The Problem Behavior Frequency Scale (PBFS) was self-reported by the participants. The PBFS is a 37-item questionnaire that is administered to assess violent and non-violent delinquent behavior within the last thirty days in adolescents (Farrell et al., 2017). The participants respond based off a 6-point scale (1- never to 6 - 20+ times) and scoring is based off the total for each subscale i.e. a high score is indicative of a particular encounters with certain subscale behaviors (Farrell et al., 2017). Initially, it was

designed to evaluate the progress of preventions to lower youth violence (Farrell et al.,2000) There are seven factors: three forms of aggression (physical, verbal, and relational), two types of victimization (overt or relational), substance use and delinquent behavior (Farrell et al., 2016) (See Appendix A.). Modest effect sizes (*d*s= .20 to .40) were found for the PBFS gender differences in a sample of 5.532 adolescents (Farrell et al., 2016). The subscales of the PBFS were found to have an internal consistency of .77 to .81 (Farrell et al., 2017). A Cronbach's alpha was calculated for this measure using this sample and was found to be 0.94. (See Table 4.)

Weight status. Weight status of the individuals were gathered by weighing and measuring the participants in triplicate using a standardized procedure by trained research assistants. Body Mass Index (BMI) was then calculated (weight in kgs/[height in meters]^2) and translated to percentiles using CDC age and gender requirements (CDC, 2018). The BMI was then broken down into 3 categories (normal, overweight, and obese) based off CDC guidelines for youth, normal weight (<85th percentile), overweight (≥85th and <95th percentile), and obese (≥95th percentile) (CDC, 2018).

Environmental Factors. Environmental factors were measured using the information caregivers gave regarding their highest education level (on a scale of 1-8), poverty ratio and poverty level. (See Appendix C. & Table 2.)

Data Analysis Plan

Responses to the demographic questionnaires (age, grade, primary care giver, education level, and poverty level), The Revised Children's Manifestation of Anxiety Scale (RCMAS*)* and The Problem Behavior Frequency Scale (PBFS) was entered into Statistical Package for the Social Sciences (SPSS V.25). The data was cleaned prior to use to remove missing or incomplete data. The rates of anxiety, aggression, and victimization were determined via the cut offs provided by the scoring guideline for the PBFS and the RCMAS. Environmental factors were

determined by evaluating the education level and income status of the participants caregivers during the time period of the initial data collection.

Preliminary Analysis. Descriptive statistics were run for the participants age, weight, poverty level and highest education level of the caregivers, total RCMAS subscale scores and total PBFS subscale scores in order to gather a better understanding of the sample set.

Aim 1. Evaluate the relationship of anxiety, aggression, and victimization in early adolescent AA females

Hypothesis 1: To test the hypothesis that there would be a relationship between rates of anxiety, aggression and victimization in early adolescent AA females, a Pearson's correlation was performed.

Hypothesis 1a. To test the hypothesis that relational aggression would have a positive relationship with social concerns/concentration in AA girls a Pearson's correlation was conducted.

Hypothesis 1b. To test the hypothesis that physical aggression would have a positive relationship with worry/oversensitivity a Pearson's correlation was conducted.

Hypothesis 1c. To test the hypothesis that verbal aggression would have a positive relationship with social concerns/concentration a Pearson's correlation was conducted.

Hypothesis 1d. To test the hypothesis that overt victimization and the worry/oversensitivity subscale would have a positive relationship a Pearson's correlation was conducted.

Hypothesis 1e . To test the hypothesis that relational victimization and the social concerns/concentration subscale would have a positive relationship a Pearson's correlation was conducted.

Aim 2. Observe whether early adolescent AA females who are victims of aggression are also aggressors.

Hypothesis 2: To evaluate the hypothesis that early adolescent AA females who are victims of aggression are also aggressors, a linear regression was performed.

Hypothesis 2a. To evaluate the hypothesis that the same individuals who are endorsing being physical aggressors would report being victims of overt aggression themselves, a linear regression was performed.

Hypothesis 2b. To evaluate the hypothesis that the same individuals who are endorsing being relational aggressors would report being victims of relational aggression, a linear regression was performed.

Hypothesis 2c. To evaluate the hypothesis that the same individuals who are endorsing being verbal aggressors would report being victims of overt aggression, a linear regression was performed.

Aim 3. Investigate the relationship between weight, aggression, victimization, and anxiety.

Hypothesis 3*:* To test the hypothesis that higher weight would be related to increased rates of victimization in early adolescent AA females, an ANOVA was conducted.

Hypothesis 3a. To test the hypothesis that higher weight would have a positive relationship with the total score of relational victimization, an ANOVA was conducted.

Hypothesis 3b. To test the hypothesis that higher weight would have a positive relationship with total score of overt victimization, an ANOVA was conducted.

Hypothesis 4: To test the hypothesis that higher weight would be related to increased rates of anxiety in early adolescent AA females, an ANOVA was conducted.

Hypothesis 4a. To test the hypothesis that higher weight would have a positive relationship with social concerns subscale, an ANOVA was conducted.

Hypothesis 4b. To test the hypothesis that higher weight would have a positive relationship with worry anxiety subscale, an ANOVA was conducted.

Hypothesis 5. To test the hypothesis that higher weight would significantly differ from the other weight groups rates of aggression in early adolescent AA females, an ANOVA was conducted.

Hypothesis 5a. To test the hypothesis that higher weight would significantly differ from the other groups on the physical aggression subscale, an ANOVA was conducted.

Hypothesis 5b. To test the hypothesis that higher weight would significantly differ from the other groups on the relational aggression subscale, an ANOVA was conducted.

Hypothesis 5c. To test the hypothesis that higher weight would differ from the other groups on the verbal aggression subscale, an ANOVA was conducted.

Aim 5. Testing Model (See *Figure 1*) Model 2 (See *Figure 2*) & Model 3 (See *Figure 3*)

Results

Preliminary Analyses

This study contains 77, 11–13-year-old (*M*=11.81, *SD* = .69) participants who identified as AA girls. The participants were in the 6th and 7th grade with the majority of them reporting being in 6th grade. More than half of the girls (80.5%) indicated that their mother was the primary caregiver. Only 42.9% of caregivers provided information about their highest education level. Of the caregivers who reported their education level, 72.7% were a high school graduate or had some college. Only 39% of participants caregivers responded to information about household income, of that number 43.3% reported living at or below the poverty line. BMI was calculated, their scores ranged from 15.86 – 37.79 (*M*= 23.24, *SD*= 5.43). A little over half of the girls (53.2%) had a measured BMI in a normal range, 14.3% had a measured BMI in the overweight range, whereas 32.5% had a measured BMI in the obese range. (See Table 1. & Table 2.).

The majority of girls indicated that in the last 30 days the most common forms of physical aggression were having shoved or pushed another student (53.3%), hit or slapped another kid (52%), and thrown something at another student to hurt them (37.3%). The most common forms of overt victimization were being shoved or pushed by someone (48%), being hit by someone (48%), being yelled at or called mean names (60%), and had a student threaten to hit or physically harm you (37.3%). Around 6.7% of girls had reported threatening someone with a weapon such as a gun or knife, with 2.7% of the sample having reported that the act of threatening someone had occurred more than 20+ times in the last 30 days. About 12% of the girls reported being threatened or injured with a weapon, with 4% of them reporting the event as happening 20+ times.

Aim 1. Evaluate the rates of anxiety, aggression and victimization in early adolescent AA females

Hypothesis 1: To test the hypothesis that there would be a relationship between rates of anxiety, aggression and victimization in early adolescent AA females, a Pearson's correlation was performed (See Table 3).

Hypothesis 1a. A Pearson Correlation was conducted between relational aggression and social concern/concentration subscale. No significant relationship was found between instances of relational aggression and participants social concerns/concentration, $r(71) = .188$, $p = .117$.

Hypothesis 1b. A Pearson Correlation was conducted between physical aggression and worry/oversensitivity subscale. No significant relationship was found between instances of physical aggression and participants worry/oversensitivity, $r(73) = .118$, $p = .327$.

Hypothesis 1c. A Pearson Correlation was conducted between verbal aggression and social concerns/concentration subscale. A significant positive relationship was found between instances of verbal aggression and participants social concerns/concentration, $r(71) = .253$, $p < .05$.

Hypothesis 1d. A Pearson Correlation was conducted between overt victimization and worry/oversensitivity subscale. A significant positive relationship was found between instances of overt victimization and participants worry/oversensitivity, $r(71) = .254$, $p < .05$.

Hypothesis 1e. A Pearson Correlation was conducted between relational victimization and social concerns/concentration subscale. A significant positive relationship was found between instances of relational victimization and participants social concerns/concentration, $r(71) = .519$, $p < .01$.

Aim 2. Observe whether the individuals who are victims of aggression are also aggressors in early adolescent AA females.

Hypothesis 2: To evaluate the hypothesis that individuals who are victims of aggression would be aggressors in early adolescent AA females, a linear regression was performed.

Hypothesis 2a. A linear regression was conducted to assess the usage of physical aggression to predict level of overt victimization. A significant regression equation was found $F(1,73)= 18.12$, $p < .000$), with an R^2 of .199. Participants predicted overt victimization is equal to 4.61 + .56 (physical aggression) when physical aggression is measured. Participants overt victimization increased .56 for each endorsement of physical aggression.

Hypothesis 2b. A linear regression was conducted to assess the usage of relational aggression to predict being a victim of relational aggression. A significant regression equation was found $F(1,73)= 5.54$, $p < .05$), with an R^2 of .070. Participants predicted relational victimization is equal to 5.28 + .344 (relational aggression) when relational aggression is measured. Participants relational victimization increased .344 for each endorsement of relational aggression.

Hypothesis 2c. A linear regression was conducted to assess the usage of verbal aggression to predict being a victim of overt aggression. A significant regression equation was found $F(1,73)= 19.99$, $p < .000$), with an R^2 of .215. Participants predicted overt victimization is equal to 4.69 + .67 (verbal aggression) when verbal aggression is measured. Participants overt victimization increased .67 for each endorsement of verbal aggression.

Aim 3. Investigate the relationship between weight, victimization, anxiety and aggression in early adolescent AA females.

Hypothesis 3*:* To test the hypothesis that that early adolescent AA females with higher weight would be related to increased rates of victimization, an ANOVA was conducted.

Hypothesis 3a. An Analysis of Variance was conducted to test if the relational victimization of a participant was different based on their weight (BMI Classification). A significant difference was found between the three groups (normal, overweight, obese), $F(2,72)=3.163$, $p<.05$. Normal weight ($M=8.60$, $SD =4.91$) participants had the highest average endorsement of relational victimization compared to overweight ($M=5.64$, $SD = 1.21$) and obese ($M=6.96$, $SD = 2.03$).

Then, an independent samples t-test was conducted to see if being normal category ($M=8.60$, $SD= 4.91$) or overweight/obese category ($M= 6.54$, $SD=1.90$) influenced the total relational victimization of the participants. A significant difference was found between the groups total relational victimization score $t(73) = 2.33$, $p <.05$ with individuals in the normal category reporting higher instances of relational victimization.

Hypothesis 3b. An Analysis of Variance was conducted to test if the overt victimization of a participant was different based on their weight (BMI Classification). No significant difference was found between the three groups (normal, overweight, obese), $F(2,72)=3.12$, $p>.05$. Even though normal weight ($M=9.88$, $SD=6.67$) participants had the highest average endorsement of overt victimization compared to overweight ($M=8.27$, $SD = 5.76$) and obese ($M=8.75$, $SD = 4.06$).

Then an independent samples *t*-test was conducted to see if being normal category ($M=9.88$, $SD= 6.67$) or overweight/obese category ($M= 8.60$, $SD=4.58$) influenced the total overt victimization of the participants. No significant difference was found between the groups total overt victimization score $t(73) = 3.44$, $p >.05$. An additional analysis was run with an independent samples t-test, instead grouping normal/overweight together and obese separately. No significant difference was found between normal/overweight group ($M=9.53$, $SD= 6.46$) and the obese groups ($M=8.75$, $SD= 4.06$) scores on overt victimization.

Hypothesis 4: To test the hypothesis that that early adolescent AA females with higher weight would be related to increased rates of anxiety, an ANOVA was conducted.

Hypothesis 4a. To test the hypothesis that that early adolescent AA females with higher weight will differ from the other groups on the social concerns/concentration subscale, an ANOVA was conducted. No significant difference was found between the groups (normal, overweight, obese) social

concerns anxiety subscale score F(2,70)=1.33, p>.05 . Even though individuals in the obese category (*M*=2.56, *SD*= 1.92) scored higher than the participants in the normal (*M*=1.79, *SD*= 1.80) and overweight (*M*=2.00, *SD*= 1.83) groups. Further analyses were conducted to see if the collapse of the groups into normal/ overweight and obese would have an influence on the social concern anxiety reported. An independent samples t-test was run. No significant difference were found between the groups social concern anxiety score t(71) = -1.61, *p* >.05.)

Hypothesis 4b. To test the hypothesis that early adolescent AA females with higher weight would differ from the other groups on the worry subscale, an ANOVA was conducted. A significant difference was found between the groups F(2,70)=3.39, p<.05. With individuals in the obese category (*M*=6.00, *SD*= 3.20) reporting higher instances of worry than the individuals in the normal (*M*=3.95, *SD*= 3.10) and overweight (*M*=4.60, *SD*= 2.50) group. Then, an independent samples t-test was conducted to see if being in the normal (*M*=5.73, *SD*= 4.59) or overweight/obese category (*M*= 8.00, *SD*=4.60) influenced the total RCMAS anxiety score of the participants. A significant difference was found between the groups total anxiety score t(71) = -2.10, *p* = .039 with individuals in the overweight/obese category reporting higher instances of overall manifest anxiety.

Hypothesis 5. To test the hypothesis that early adolescent AA females with higher weight would be related to increased rates of aggression in early adolescent AA females, an ANOVA was conducted.

Hypothesis 5a. To test the hypothesis that early adolescent AA females with higher weight would differ from the other groups on the physical aggression subscale, an ANOVA was conducted. No significant difference was found between the groups (normal, overweight, obese) physical aggression subscale score, $F(2,72)= .97$, $p>.05$. Even though individuals in the obese category (M=9.38, SD= 5.94) scored higher than the participants in the normal (M=7.75, SD= 4.09) and overweight (M=8.00, SD= 2.37) groups.

Hypothesis 5b. To test the hypothesis that early adolescent AA females with higher weight would differ from the other groups on the relational aggression subscale, an ANOVA was conducted. No significant difference was found between the groups (normal, overweight, obese) relational aggression subscale score, $F(2,72)= .72$, $p>.05$. Even though individuals in the obese category (M=7.46, SD= 3.72) scored higher than the participants in the normal (M=6.70, SD= 2.79) and overweight (M=6.27, SD= 2.11) groups.

Hypothesis 5c. To test the hypothesis that early adolescent AA females with higher weight would differ from the other groups on the verbal aggression subscale, an ANOVA was conducted. No significant difference was found between the groups (normal, overweight, obese) verbal aggression subscale score, $F(2,72)= .78$, $p>.05$. Even though individuals in the obese category (M=7.54, SD= 4.37) scored higher than the participants in the normal (M=6.65, SD= 4.15) and overweight (M=5.82, SD= 1.83) groups.

Aim 4. Testing Model (See *Figure 1*) Model 2 (See *Figure 2*) & Model 3 (See *Figure 3*)

Hypothesis 6. A regression analysis was used to investigate the hypothesis that environmental factors (poverty ratio) mediates the relationship between physical aggression and anxiety (See *Figure 1*). The results indicated that environmental factor was not a significant mediator between physical aggression and anxiety. As reported above, physical aggression was not related to environmental factor (poverty ratio), (*B*=.02, *p*=.73) but was significantly related to anxiety score (*B*=.62, *p*=0.02).

Hypothesis 7. A regression analysis was used to investigate the hypothesis that environmental factor (poverty line) moderates the relationship between relational aggression and relational victimization (See *Figure 2*). The results indicate that environmental factor does not moderate the relationship between relational aggression and relational victimization. As reported above, the interaction of environmental factor did not moderate relational aggression and relational victimization scores (*B*=-0.18 *p>.05*).

Hypothesis 8. A regression analysis was used to investigate the hypothesis that environmental factor (Caregiver education level; no schooling - high school and some college – college degree) moderates the relationship between total anxiety and overt victimization (See *Figure 3*). The results indicate that environmental factor does not moderate the relationship between total anxiety and overt victimization. As reported above, the interaction of environmental factor did not moderate between total anxiety and overt victimization scores (*B*= -0.55, *p>.05*).

Discussion

The first aim of this study was to evaluate the rates of anxiety, aggression, and victimization in early adolescent AA girls. It was hypothesized that there would be a positive relationship between the rates of anxiety, aggression, and victimization in this sample. This hypothesis was in part supported. In this sample, AA girls' endorsements of relational aggression in the last 30 days did not have a significant relationship with their scores on the subscale social concerns/concentration which contains items such as “it is hard for me to keep my mind on my school work”. Nor was physical aggression and anxiety which contains items such as “I get nervous when things do not go the right way for me” correlated. This is consistent with some research that noted aggression had not been found to be correlated with rates of anxiety (Isolan et al., 2013). However, this finding can be the result of the sample size. Verbal aggression and social concerns of anxiety were found to be positively correlated. This finding is consistent with a study by Kashani et al. (1991), which utilized the RCMAS and an aggression measure with adolescents. The researchers found that the use of verbal and physical aggression were correlated with increased reports of anxiety. They theorized that the use of aggression by their sample may be a result of the individuals trying to compensate for their anxiety (Kashani et al., 1991).

In terms of victimization, overt victimization was found to have a relationship with anxiety, this could be because overt victimization includes items that encompass some physical attacks such as “being pushed or shoved” and “being threatened with a weapon” aggressive action which may cause an individual to worry for their safety. This is consistent with items from the RCMAS such as “I worry a lot of the time” and “I am afraid of a lot of things”. Relational victimization was found to be positively correlated with social aspects of anxiety. This seems to be expected as being relationally victimized results in a threat to friendships/social support and the RCMAS includes items such as “I feel others do not like the way I do things” which could be

a potential reflection of thoughts a participant has after being ostracized by their peers (Elsaesser et al. 2012).

The second aim of this study was to observe whether the individuals who are victims of aggression would also report being an aggressor. The hypothesis was fully supported via the rates of correlation. This suggested that the same individuals who reported aggressing against others in the last 30 days, also reported that they were victimized in those same 30 days, i.e. physical and verbal aggressors reported overt victimization, while relational aggressors reported relational victimization. This is consistent with previous literature that individuals who are traumatized by bullying may become a bully as well (Abate et al., 2017; Goldweber et al., 2013; Verlinden et al., 2013). The aggressive factors also correlated onto their respective victimization factors in a similar fashion that was seen by Farrell et al. (2016) i.e., relational aggression correlated with relational victimization and physical and verbal aggression correlated with overt victimization. Perhaps one of the most concerning findings were the number of girls who had reported threatening someone with a weapon such as a gun or knife, and/or being threatened or injured with a weapon themselves. Further exploration into where the acts of threatening and being threatened are occurring (i.e., on school grounds or in their neighborhood) are of the upmost importance to ensure the safety of young AA girls.

The third aim of the study was to test the hypothesis that early adolescent AA females with higher weight (BMI category) would have increased rates of victimization. This hypothesis was only partially supported. While BMI membership (normal, overweight, and obese) mattered for instances of relational victimization (consisting of items such as being left out on purpose), it was normal weight individuals who reported higher frequencies of this occurrence than overweight or obese individuals. This finding violates previous research that stated higher weight led to more instances of bullying, specifically in the form of relational victimization (Puhl &

King., 2013). This finding could be due to the sample of the study, and future research should explore if similar findings occur in studies using AA and girls. Regarding overt victimization, BMI category membership had no significant effect on the rates of victimization experiences by the girls.

The hypothesis that higher weight (BMI category) would be related to increased rates of aggression was not supported by the data. No significant findings were found between the participants BMI category and their subsequent aggressive (physical, relational, and verbal) use. This finding was surprising as previous research has found that children that are overweight or obese use physical aggression more often than their underweight or normal weight peers (Janssen et al., 2004; Tso et al., 2017). In a Canadian sample of adolescents ages 11-16, older overweight and obese girls and boys ages 15-16 were more likely to bully their peers (Janssen et al., 2004) .Our finding could be a result of two things; our participants, as AA, typically endorse having higher body weight ideals than other races, and they may not experience the same rates of weight related bullying (which could influence them to become bully-victims) if they attend predominately AA schools and therefore rates of aggression seen are not significant (Berg et al., 2008). Or the other reasoning could be because our participants are not old enough to display significant weight related aggression for observation (Janssen et al., 2004).

Lastly, the hypothesis that higher weight (BMI category) would be related to increased rates of anxiety was partially supported. No significant differences were found between the participants BMI category and aspects of social anxiety. This could be due to the distribution of individuals in each group not being large enough to test this thoroughly. Yet, a significant difference was found between groups and aspects of worry, with individuals in the obese group reporting higher instances of worry items of anxiety. Further analysis was conducted to test if collapsing the weight groups into normal and overweight/obese, thereby increasing the frequency

of participants in the group, would predict individuals in the overweight/obese category having higher overall anxiety and this finding was supported by the data. Parsing the role of anxiety and BMI is difficult as some studies have pointed to no clear evidence of a relationship between anxiety and being overweight or obese (Haghighi et al., 2016). However, the study by Haghighi et al. (2016) utilized a majority of females in their sample of adults. Beyond biological differences between adults and adolescents there are psychological ones such as body esteem, which infers that during puberty overweight or obese adolescents would have more anxiety about their body (Lindberg et al., 2020). While a study conducted utilizing adolescents between the age of 11-17 have emphasized a relationship that seems to exist between weight and anxiety but reiterated that it requires a more in-depth look to determine if the relationship is bidirectional or unilinear (Roberts & Duong, 2016).

The fourth aim of this study was to test Model 1 (see Figure 1), Model 2 (see Figure 2) & Model 3 (see Figure 3). It was predicted that an environmental factor (poverty ratio) would mediate the relationship between physical aggression and anxiety scores of the participants. The hypothesis was not supported (see Figure 1). This could be due to the smaller sample of caregivers that provided information about household income and number of individuals in them whom that are dependent in order to calculate poverty ratio.

An analysis conducted to see if environmental factors [poverty level (living at or below the poverty line)] moderated the relationship between relational aggression and relational victimization. The data did not support this hypothesis as poverty level had no impact on the relationship between relational aggression and relational victimization. This again could be due to the limited number of completed responses in order to calculate poverty level.

Lastly, an analysis was conducted to see if an environmental factor (the caregiver's highest education level) moderated the relationship between anxiety of the participants and overt

victimization. This hypothesis was not supported. This was not in line with expectations. It was theorized that education level (an environmental correlate of SES) would affect the rates of anxiety and overt victimization seen in the participants. This is because a study involving adults found that low SES was related to increased anxiety (Vine et al., 2012). Also, in another study low SES was related to being victimized by others in child participants (Jansen et al., 2012). however, due to our sample being adolescents a potential reason behind no effect being seen could be that SES doesn't affect their anxiety rates nor their victimization from peers. Another potential explanation for the lack of mediating and moderating relationship of environment could be because there is no environmental variability, meaning all the girls and their caregivers likely live in the same environments and have similar experiences within them.

Limitations

As expected, there are limitations present within the study's design. The limitations of the current study include the fact that the participants were not initially gathered for the purpose of looking at trauma, aggression, and anxiety. As a result of this, the measures used were not extensive or directly chosen to reveal the effects of traumatic experiences, aggressive responses nor anxiety. Ideally, to measure trauma symptoms through the lens of a developmental approach, a measure such as My Worst Experience Scale (MWES) would have garnered a complimentary view, being designed from an ethnically diverse population for children ages 9-18, it helps identify experiences with situational experiences such as physical punishment, as well as divorce (experiences children may consider traumatic) to assess them (Hyman et al., 2002). Anxiety in this study utilized the RCMAS, however, a measure such as the Youth Anxiety Measure for DSM-5 (YAM-5) might better capture anxiety in children and adolescents as it is more update with the current anxiety criteria from the DSM-5 (Muris et al., 2017).

The current study was also limited by sample demographics. Not all participants that filled out both measures and even fewer caregivers that provided information about household income and highest education level. A very specific sample of AA girls was used. As a result, generalizability of the results from the study are particularly limited to this population. There are also gender differences in the types of aggression boys and girls display i.e. relational versus physical (Hess & Hagen, 2006) and not including males in sample hindered the ability to evaluate how they differ in their use of aggression. Finally, the measures were self-administered, meaning that the participants could have given answers they believed were socially desirable, instead of truthfully answering for fear of backlash due to their answers (APA, n.d.).

Future Directions

Findings from this study can afford to be expanded further. Future directions should recruit a larger more ethnically diverse sample size to increase the generalizability to other populations, as well as include males to be able to compare and contrast their differences in rates of trauma, aggression, and anxiety.

Environmental context and intergenerational trauma should be taken into account when gathering data and conducting analyses because being a minority effects a person's perceptions, treatment, and standing in society (Levine et al., 2015). Researchers should also operationalize the specific cultural views on what constitutes anxiety and trauma in their population of interest such as AA and compare/contrast them to other populations (Henderson, 2019). Parent reports on their perception of their children's explicit trauma, aggression, and anxiety should be taken, as well as their own trauma, aggression, and anxiety. This is because parents own trauma, aggression, or anxiety can have an influence on the symptoms their children display (Kaufman & Henrich, 2000; Plexousakis et al., 2019; Vine et al., 2012). Research should also look at positive aspects or protective factors in their participants' lives by measuring social relationship such as

friendships that can mitigate the effects of trauma and anxiety and lower aggression rates (Gapen et al. 2011; Linares, 2004).

Conclusion

The overarching aim this research sought to answer was how the rates of victimization, aggression, and anxiety manifested in a community sample of AA girls. This study found that the AA girls were both aggressors and victims of a variety of aggressions. The rates of aggression and victimization correlations found indicate a potential bully-victim relationship. Increased weight of participants did not have the expected influence on victimization, however, this could be due to difference in body ideals or potentially highlighting that weight isn't as influential on the rates victimization in low income African American girls (Berg et al., 2008). However, overall anxiety was effected by the participants' weight when said participants were overweight/obese.

Future research should take care to explore the concerning number of AA adolescents who are traumatized by bullying and are aggressors themselves in low income community samples and compare them to AA individuals in middle or high income communities to better understand the of environmental factors for AAs, as well as the rates of anxiety seen. Further research could lead to the development of culturally relevant interventions to lower the concerning rate of victimization, aggression, and anxiety.

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Tables

Table 1.
Demographics

Variable	*n* (%)
BMI category	77 (100%)
Normal	41 (53.2%)
Overweight	11 (14.3%)
Obese	25 (32.5%)
Grade Level	77 (100%)
6^{th}	42 (54.5%)
7^{th}	35 (45.5%)

Table 2.
Caregiver Demographics

Variable	*n* (%)
Living at or below poverty line	30 (39%)
Yes	13 (43.3%)
No	17 (56.7%)
Education level	33 (42.9%)
No High school	1 (1.3%)
Some High school	5 (6.5%)
High school Grad	11 (14.3%)
GED	1 (1.3%)
Some college	13 (16.9%)
College Grad	1 (1.3%)
Masters level +	1 (1.3%)

Table 3.
Correlations between Anxiety Aggression and Victimization Measures

	1.	2.	3.	4.	5.	6.	7.
1.Worry	--	.737**	.118	.195	.210	.254*	.399**
2. Social Concern		--	.230	.253*	.188	.385**	.519**
3. Physical Aggression			--	.796**	.715**	.446**	.117
4.Verbal Aggression				--	.767**	.464**	.210
5. Relational aggression					--	.484**	.265*
6. Overt Victimization						--	.665**
7.RelationalVictimization							--

*Correlation is significant at the 0.05 level (2-tailed)
**Correlation is significant at the 0.01 level (2-tailed).

Table 4.
Cronbach alpha for subscales

	α
RCMAS	
Worry/Oversensitivity	0.80
Social Concerns/Concentration	0.69
PBFS	
Physical Aggression	0.86
Verbal Aggression	0.86
Relational aggression	0.70
Overt Victimization	0.89
Relational Victimization	0.82

Table 5.

	Mean scores (SD)			ANOVA		
Psychosocial Variables	Normal	Overweight	Obese	(df)	F	p-value
Physical Aggression	7.75(4.09)	8.00(2.37)	9.38(5.94)	(2,72)	.967	.39
Verbal Aggression	6.65(4.15)	5.82(1.83)	7.54(4.37)	(2,72)	.775	.46
Relational Aggression	6.70(2.79)	6.27(2.10)	7.46(3.72)	(2,72)	.723	.49
Overt Victimization	9.88(6.67)	8.27(5.76)	8.75(4.06)	(2,72)	.472	.63
Relational Victimization	8.60(4.91)	5.64(1.21)	6.96(2.03)	(2,72)	3.16	.048*
Worry/Oversensitivity	3.95(3.10)	4.60(2.50)	6.00(3.20)	(2,70)	1.32	.27
Social Concerns/ Concentration	1.79(1.80)	2.00(1.83)	2.56(1.92)	(2,70)	3.39	.039*

[a] : normal = BMI < 85%; overweight = 85% ≤ BMI < 95%; obese = BMI ≥ 95%

*: $p<.05$, significant differences between the BMI groups on the subscale.

Figures

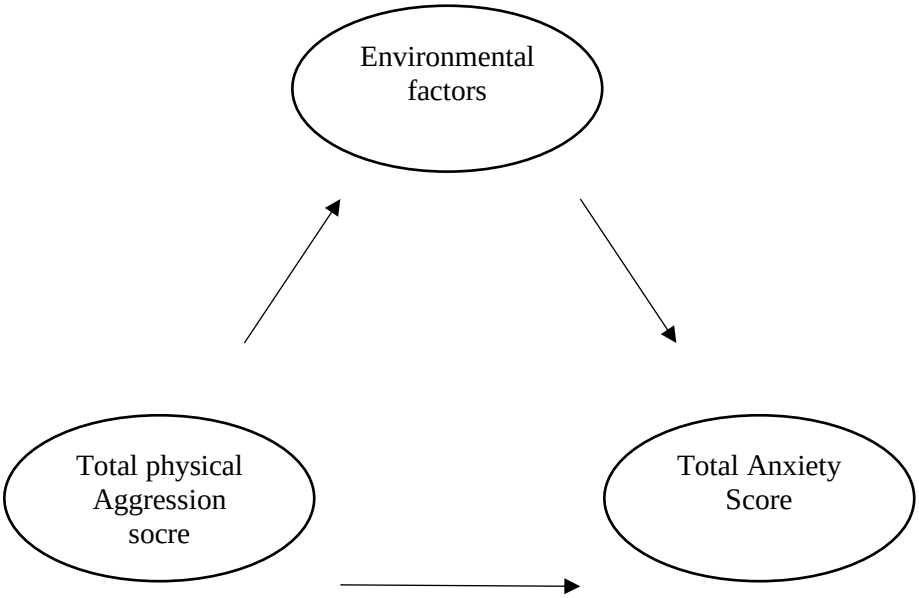

Figure 1. Environmental factors *(*Poverty ratio) will mediate the relationship between total physical aggression and total manifest anxiety.

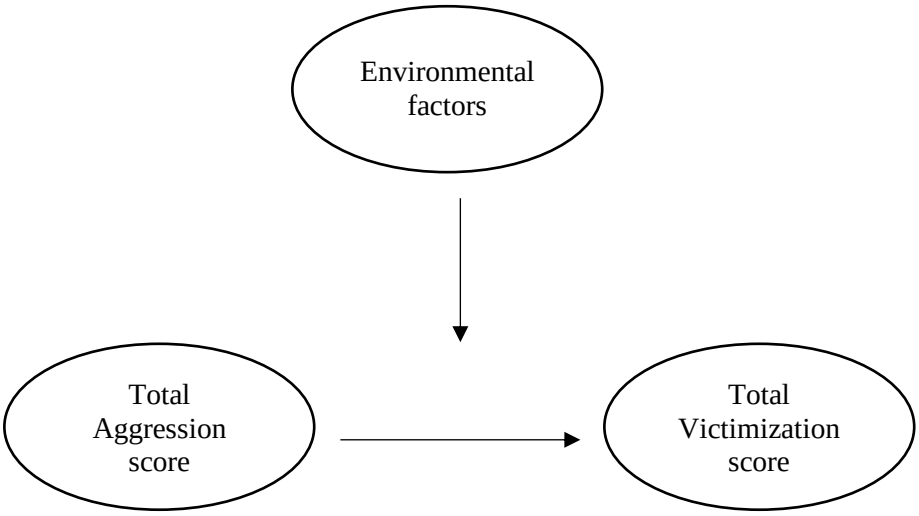

Figure 2. Environmental factors (living at or below the poverty line) are predicted to moderate the relationship between total relational aggression and total relational victimization.

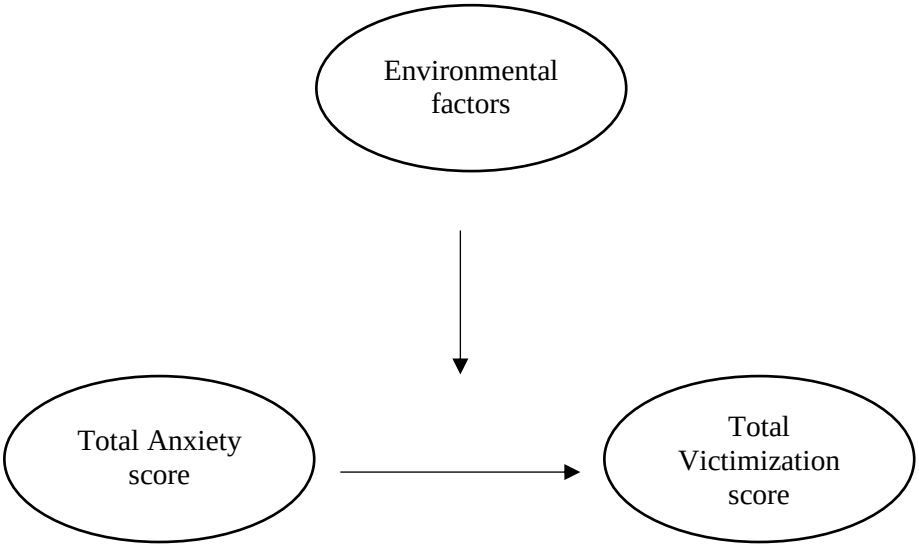

Figure 3. Negative environmental factors (Caregiver education level) are predicted to moderate the relationship between total anxiety and overt victimization.

Appendices

Appendix C

Demographic Questionnaire

Primary Caretaker

Baseline Demographics Interview Form

ID: _____ **Today's date:** _____/_____/_____ **Your date of birth:** ____/____/_____

mm / dd / yyyy mm / dd / yyyy

What is your gender?

- ❑ male
- ❑ female

What is your relationship to the teen?

- ❑ Mother
- ❑ Father
- ❑ Grandfather
- ❑ Grandmother
- ❑ Brother
- ❑ Sister
- ❑ Stepfather/mother's partner
- ❑ Stepmother/father's partner
- ❑ Aunt
- ❑ Uncle
- ❑ Cousin
- ❑ Other relative
- ❑ Non-relative

Does your teen have any disabilities that would prevent him/her from being physically active?

- ❑ Yes
- ❑ No

Is there a history of Diabetes in your family?

- ❑ Yes
- ❑ No

If YES, Who? (check all that apply)

- ❑ Teen's Mother
- ❑ Teen's Father
- ❑ Teen's Paternal Grandfather
- ❑ Teen's Paternal Grandmother
- ❑ Teen's Maternal Grandfather
- ❑ Teen's Maternal Grandmother
- ❑ Teen's Brother
- ❑ Teen's Sister
- ❑ Teen's Aunt on father side
- ❑ Teen's Uncle on father side
- ❑ Teen's Aunt on mother side
- ❑ Teen's Uncle on mother side
- ❑ Teen's Cousin
- ❑ Other relative

What is the highest grade you have completed?

- ❑ 5th grade or less
- ❑ 6th
- ❑ 7th
- ❑ 8th
- ❑ 9th
- ❑ 10th
- ❑ 11th
- ❑ 12th
- ❑ GED
- ❑ Some college
- ❑ Vocational school
- ❑ Associate degree
- ❑ Bachelor's degree
- ❑ Master's degree
- ❑ Doctorate degree

How often do you work for money?

- ❑ Unemployed
- ❑ Retired
- ❑ Work part-time (less than 25 hours per week)
- ❑ Work full-time (25 or more hours per week)

What is your household income?

	Per Year	Per Month	Per Week
❑	Less than $5,000	Less than $418	Less than $97
❑	$5,000 - $9,999	$418 - $833	$97 - $192
❑	$10,000 - $14,999	$834 - $1,250	$193 - $288
❑	$15,000 - $19,999	$1,251 - $1,666	$289 - $384
❑	$20,000 - $24,999	$1,667 - $2,083	$385 - $480
❑	$25,000 - $29,999	$2,084 - $2,500	$481 - $576
❑	$30,000 - $34,999	$2,501 - $2,916	$577 - $673
❑	$35,000 - $39,999	$2,917 - $3,333	$674 - $769
❑	$40,000 - $44,999	$3,334 - $3,750	$770 - $865
❑	$45,000 - $49,999	$3,751 - $4,166	$866 - $961
❑	More than $50,000	More than $4,167	More than $961

How many people are dependent on this income? _____

Who resides in the same household with the teen?

- ❑ Mother
- ❑ Father
- ❑ Father's partner
- ❑ Mother's partner
- ❑ Brothers, # _____
- ❑ Sisters, # _____
- ❑ Grandmother
- ❑ Grandfather
- ❑ Aunts/Uncles, # _____
- ❑ Cousins, # _____
- ❑ Other Relatives, # _____
- ❑ Non-relatives, # _____