

Summer 8-21-2022

Black Adolescent Self-Perceptions: The Roles of Ethnic Identity and Stress Exposure

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Black Adolescent Self-Perceptions: The Roles of Ethnic Identity and Stress Exposure

A Thesis

Presented into

Partial Fulfillment of the

Requirements for the Degree of

Master of Arts

By

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July 18, 2022

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Thesis Committee

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Acknowledgements

I would like to express my deepest appreciation to my mentor and thesis chairperson, Dr. Susan McMahon, who has provided unwavering support throughout this project and whose guidance makes not only this manuscript, but my entire academic career possible, exciting, and within reach. I am extremely grateful to Dr. Kathy Grant for her encouragement and direction in her role as thesis chair. It is difficult to express the extensive gratitude I owe to my dad, James Bare, my partner, Jonathan Villarreal, and many family members and friends who have offered steadfast belief in me throughout this process. Finally, I would like to thank the DePaul Athletic Department, particularly Jean Lenti Ponsetto, Dr. Jill Hollembeak, and Karen Uhler for their support and consistent positivity that propelled me through the beginning of my graduate career.

Biography

Kailyn Marie Bare was born in Chicago, Illinois on March 30, 1994. She graduated from Oak Park and River Forest High School in Oak Park, Illinois. She received a Bachelor of Arts degree in Philosophy from Texas A&M University in 2016. She is currently pursuing a Doctor of Philosophy degree in Clinical Psychology at DePaul University.

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Abstract

The effects of stressors during youth and adolescence have long been investigated as powerful experiences affecting adjustment and well-being. Stressful life events predict a range of psychological and physical outcomes, but their impact on adolescent self-perception has yet to be studied thoroughly. Adolescent strengths, such as ethnic identity, may serve as protection from threats and warrant exploration. Using resilience theory (Fergus & Zimmerman, 2005) and a stressor model of adolescent development (Grant et al., 2003), this study examines the influence of ethnic identity in the relationship between youth stressful experiences and different types of self-perception (social competence, behavioral conduct, and global self-worth). Using multiple imputation and multiple linear regressions, this study examines longitudinal data from 140 Black, low-income youth ages 11-14. Results of this study indicate stressful life events are associated with behavioral conduct self-perception and ethnic identity is associated with global self-worth. In addition, individual aspects of ethnic identity, including ethnic identity behavior and other group orientation have unique impacts on self-perception outcomes. Ethnic identity and ethnic identity behavior were protective against the impact of stressful life events on behavioral conduct self-perception. Understanding the specific connections between youth stressors, ethnic identity, and self-perception for Black adolescents can provide insight into research, practice, and policy directions that rely on youth strengths to promote healthy outcomes.

Introduction

The risks and resiliencies associated with young people's environmental conditions and life experiences are a prominent theme in understanding youth development (McLaughlin, 2016). Stressful life events at individual and family levels during youth and adolescence have enormous effects on development and long-term health outcomes (Nurius et al., 2015). Conceptualized within a stressor model of development, stressful life experiences lead to negative mental health outcomes for youth (Grant et al., 2003). Given the disproportionately higher levels of adverse childhood experiences faced by youth of color relative to other youth (Sacks & Murphey, 2018), it is crucial to understand the unique threats faced by minority youth as well as the characteristics that may protect them from potentially harmful outcomes. Understanding these experiences within the context of a resilience theory (Fergus & Zimmerman, 2005) may facilitate identifying and understanding protective characteristics.

Adolescent self-perception influences many aspects of development and long-term well-being (e.g., Orth & Robins, 2014). Youth self-perception refers to a collection of attitudes that youth have about themselves in relation to a variety of life domains, including a general judgement about one's self-worth, also known as self-esteem (Harter, 1985). Stressful experiences early in life can threaten self-worth (Baldwin & Hoffman, 2002), and low self-worth is subsequently associated with mental health symptomatology (Lee & Hankin, 2009). Identifying factors that can protect children from the effects of early threatening life experiences is crucial for developing positive youth self-perceptions.

Resilience Theory and The Stressor Model of Adolescent Development

A common approach to understanding the effects of stressful experiences on youth is through resilience theory (Fergus & Zimmerman, 2005). Resilience is a dynamic process of positive adaptation in the face of stress and adversity (Luthar et al., 2000). This strengths-based approach seeks to understand healthy adolescent development despite exposure to environmental risks by identifying protective

factors that promote positive outcomes. These factors are typically individual, family, or community characteristics that can mitigate the effects of certain stressors on adolescent outcomes.

Although youth stressors have often been identified as a significant precursor to negative psychological outcomes (Grant et al., 2004), much of this literature lacks a consistent theoretical basis (Grant et al., 2003). To unify this body of literature, Grant and colleagues (2003) propose the stressor model of adolescent development comprising reciprocal, dynamic, and specific relationships between youth stressors and psychopathology. According to this model, stressful experiences, including chronic conditions and life events, can powerfully affect adolescent development. However, because stressful experiences do not invariably lead to negative outcomes for youth, it is important to identify factors that may explain why certain youth fare better under stressful circumstances (Kushner, 2015). Therefore, models designed to understand the influence of stressors on youth outcomes should consider mediating variables, such as biological, psychological, and social processes as well as moderating influences of child characteristics and environmental contexts (Grant et al., 2003) that will provide insight into whether and how specific stressors uniquely impact specific psychological outcomes (McMahon et al., 2003). Despite these theoretical improvements, current literature lacks a nuanced understanding of the role of individual youth characteristics in the face of stress (Kushner, 2015).

The integration of the stressor model of adolescent development (Grant et al., 2003) with resilience theory (Fergus & Zimmerman, 2005) will provide researchers the tools necessary to deepen our understanding of the effects of adverse youth conditions. Stressful life events in childhood are common and harmful experiences that can impact a wide array of important psychological outcomes (Nurius et al., 2015), including self-esteem (Baldwin & Hoffman, 2002). One factor that may serve to protect against the negative self-perception outcomes of these experiences is youth ethnic identity, which refers to a spectrum of attitudes and behaviors associated with the self-identification of an individual within a group membership (Phinney et al., 1997). Ethnic identity is a central factor in youth

identity development and psychological adjustment (Phinney et al., 1990), and has been linked with youth self-esteem outcomes (Phinney et al., 1997). Given the racial and ethnic disparities that exist regarding exposure to certain stressful life experiences (Sacks & Murphey, 2018), it is critical to examine the role ethnic identity plays in relation to these conditions.

Self-Perception and Stressful Life Events

Youth self-perception constitutes a collection of domain-specific evaluations that originate during middle childhood and comprise judgements about one's behavioral conduct, physical appearance, and scholastic, social, and athletic competence. Respectively, these self-perceptions reflect a child's evaluation of their satisfaction with the way they behave, how they look, their performance in school, their confidence in social groups, and their athletic abilities. Self-perception also includes a distinct value judgement of a child's overall worth as a person, which is referred to as global self-worth or self-esteem (Harter, 1985). Historically, self-esteem, self-concept, or self-image was conceptualized as a general, unidimensional construct that reflected an overall assessment of a person's self-attitudes (e.g., Frey & Carlock, 1989). More recently, there has been a shift in the understanding and measurement of self-perception toward a multidimensional framework (e.g., Muris et al., 2003). Despite the benefits of focusing on unique domains of self-perception, most research continues to represent self-esteem as a general, unidimensional construct, or to focus on self-worth as the primary variable of interest while neglecting the influence of other domains of self-perception.

Distinctions in self-competence are important to assess, because although general self-esteem consistently predicts positive relationship, health, and work-related outcomes (Orth & Robins, 2014), the effects of self-esteem are not always straightforward. The relationship between self-esteem and various positive outcomes is often modest and indirect, suggesting other factors may be at play. Further, important details emerge when we examine different domains of self-perception rather than focusing solely on general self-concept. While self-competence generally becomes more stable throughout

development, toward the end of elementary school, academic, social, and athletic competence increase while perceptions of behavioral conduct decrease. Middle schoolers experience declines in every domain of self-perception except for behavioral conduct while high schoolers report increases in academic competence and physical attractiveness self-concept but declines in behavioral conduct and athletic self-concept. (Cole et al., 2001). Further, certain self-perception domains are uniquely related to important life outcomes. Academic self-concept, for example, is the strongest self-perception predictor of educational attainment, and domain-specific self-evaluations predict long-term socioeconomic status (SES) more accurately than general self-concept (von Soest et al., 2016). Investigating various domains of self-perception and understanding the factors that contribute to the development of these domains will yield important implications for youth development. There is a lack of research dedicated to understanding the development of various forms of self-perception, and Black youth are particularly underrepresented in this literature.

Stressful life events during youth and adolescence are important contributors to developmental outcomes. These types of experiences are broad, but often involve life transitions or acute traumatic events, such as parental divorce or separation, school transition, sickness or loss of a family member, family drug use, or crime (Dubow et al., 1997). Stressful life events during youth are consistently linked with increased risk for internalizing and externalizing symptoms for adolescents and have long-term impacts on psychological well-being of adults (March-Llanes et al., 2017; Nurius et al., 2015). These risks are reciprocal and multiplicative in nature, such that those who experience negative outcomes due to stressful life events are more at risk for experiencing additional trauma and risk levels increase exponentially when youth are exposed to multiple stressful events (Attar et al., 1994; Kim et al., 2003).

Among the variety of negative outcomes associated with stressful life experiences, Black adolescents who experience a higher number of stressful life events report lower levels of self-esteem (McCreary et al., 1996). Most research into the connection between stressful life experiences and self-

perception has focused on the effects of adverse childhood experiences. As opposed to more broad stressful life events, adverse childhood experiences refer to objectively traumatizing experiences such as incarceration, mental illness, substance use, and exposure to violence (Sacks & Murphey, 2018). While not identical, the similarity of these constructs means that understanding the implications of adverse childhood experiences may reveal important information about broader stressful youth experiences as well. Another challenge within this body of literature is that studies often focus on a specific type of adverse childhood experience within specific populations, which makes it difficult to understand how these experiences might manifest in a broader sense.

This connection between stressful life events and self-perception may be explained in part by the reciprocal association between stressful experiences and internalizing and externalizing adolescent maladjustment. When adolescents experience stressful life events, such as parental divorce, loss of a family member, breaking up with a romantic partner, and physical illness, they demonstrate an increased risk for mood problems, which can be associated with low self-perception (Creemers et al., 2013). Low self-perception subsequently increases the risk of stressful life events for adolescents (Orth & Luciano, 2015). A complete understanding of the effects of stressful life events on specific types of youth self-perceptions is lacking, but overall, existing research suggests a strong relationship between stress and self-perception.

The detrimental outcomes of stressful life events have been well-established, but their effects on self-perception have rarely been studied, especially when self-perception is conceptualized as a multifaceted construct. Further, children's unique risks and resiliencies are not often incorporated into this literature. Although racial and ethnic minority children have a disproportionately high risk of stressful life experiences (Sacks & Murphey, 2018), youth belonging to minority groups also demonstrate unique strengths during adolescence that are beneficial for positive development. For example, during adolescence, Black youth report higher levels of self-esteem compared to Caucasian

and Hispanic youth (Adams et al., 2006). To improve our understanding of the risks faced by diverse adolescents, we must develop our knowledge of the protective factors, such as self-perception and ethnic identity, that may buffer against the detrimental impact of stressful life experiences.

The Role of Ethnic Identity

Ethnic identity is an integral aspect of youth identity development. Higher levels of ethnic identity are characterized by dedication to ethnic behaviors and practices within a group, degree of pride toward a group, and sense of belonging and achievement associated with a group (Phinney, 1992). Attitudes toward other ethnic groups are also inextricably related to ethnic identity. In general, ethnic identity describes an individual's connection to a larger ethnic group.

The role of ethnic identity for adolescents exposed to stressful experiences lacks thorough investigation, and most of this research focuses on specific strengths and stressors that are related to ethnicity itself, such as cultural support and experiences of discrimination and racism (e.g., Utsey et al., 2002). Higher ethnic identity is associated with a variety of positive characteristics, including improved adolescent academic outcomes (Supple et al., 2006), decreased aggression (Holmes & Lochman, 2009) and reduced symptoms of anxiety and depression (Terwilliger Williams et al., 2012). Ethnic identity and self-esteem have a positive relationship for a variety of ethnic groups (Verkuyten, 1994).

Although ethnic identity is considered beneficial for multiple ethnic groups, it may be particularly important to consider as a protective factor for Black youth, who typically have stronger ethnic identities but more life stressors compared to Latinx, White, and Asian American youth (Phinney, 1992; Sacks & Murphey, 2018). For Black adolescents, ethnic identity is correlated with higher self-esteem and decreased dysfunctional behaviors (McCreary et al., 1996; McMahon & Watts, 2002). Ethnic identity can also buffer against the negative consequences of discrimination, a prevalent experience for Black adolescents that can have a deleterious effect on self-esteem (Neblett et al., 2012). Although recent research has demonstrated the importance of ethnic identity and self-perception for youth,

further investigation is necessary to understand how ethnic identity may influence the effects of environmental and personal stressors on youth self-perception, especially for low-income Black adolescents.

Rationale

The current study seeks to understand the role of ethnic identity in adolescent self-perception in the context of stressful life experiences. The goal of this study is to uncover strengths that may help explain childhood resilience in spite of adversity. Most literature in this line of research focuses on mental illnesses as outcomes of youth experiences. While these perspectives are important, characteristics such as self-perception and ethnic identity represent positive adolescent qualities and studying them may inform a strengths-based viewpoint of adolescent development. Existing research suggests ethnic identity and self-perception serve as strengths for Black adolescents and are positively and reciprocally related to one another (Adams et al., 2006; Phinney, 1992). This study will improve our understanding of ethnic identity and self-perception as strengths for Black adolescents by investigating them in the context of prevalent life stressors.

We hypothesize a negative main effect of stressful life events on each type of self-perception, taking into account self-perception at time one and relevant control variables. We hypothesize a positive main effect of ethnic identity and each of its components on each type of self-perception, taking into account self-perception at time one and relevant control variables. We also expect ethnic identity and its components to moderate the relationship between stressful life events and each of the self-perception outcomes. Specifically, ethnic identity and its components will protect against the negative effects of stressful life events.

Method

Participants

The sample for this study includes participants who completed self-report surveys as part of a violence prevention research project. At time one, 209 students completed at least part of a survey that included assessments of stressful life events, self-perception, and ethnic identity. At time two, 148 students completed at least part of a survey that included a self-perception measurement. The longitudinal sample includes 140 youth in grades 6-8 from two Chicago public schools who completed at least part of each of the surveys administered at both timepoints. In the longitudinal sample, there were 130 Black youth, 10 multiracial youth, 91 females and 49 males who ranged in age from 11 to 14 ($SD = .85$ & $M = 12.55$). At the time of survey completion, the schools attended by participants were located in a public housing development community in Chicago where approximately 7% of residents were employed, violent crime rates were higher compared to surrounding districts, 43% of the population had an annual income below \$4,000, and over 94% of students were eligible for free or reduced lunch (McMahon & Watts, 2002). The schools were chosen because the principals requested violence prevention interventions from the DePaul Community Mental Health Center.

Measures

Stressful Life Events. This 13-item scale measures whether respondents have experienced certain individual, family, and peer-level life transitions and stressful experiences within the past year. The scale is a compilation of items taken from other scales that have been used to measure stressful experiences for urban minority youth (Attar et al., 1994; Sandler & Block, 1979; Work et al., 1990). Sample items include “In the past year, has your family had a new baby come in the family?” and “In the past year, has a close family member been arrested or in jail?”. Participants responded *yes* or *no* to each question for a total possible score of 13. Because this scale assesses discrete stressful events that are not theoretically related to each other, measuring internal consistency is not as appropriate as in other measures.

Multi-Group Ethnic Identity. The Multi-Group Ethnic Identity Measurement is a 20-item assessment of ethnic identity that includes four subscales: ethnic behaviors and practices, ethnic identity achievement, affirmation and belonging, and attitudes towards other groups (Phinney, 1992). For adolescents, overall reliability for this scale is good (Cronbach's alpha = .81 (Phinney, 1992)). Five items were used to measure affirmation/belonging, including "I feel a strong attachment towards my own racial group" ($\alpha = .74$). The subscale for ethnic identity behaviors/practices was measured using two items, including "I participate in cultural practices of my own group, such as special food, music, or customs" ($r(68) = .13, p = .15$). Since the subscale for ethnic behaviors includes two items, it is more appropriate to measure reliability using a Spearman correlation statistic rather than Cronbach's alpha (Eisinga et al., 2013). In this study, ethnic identity achievement was measured using five items, including "I have a clear sense of my racial background and what it means for me" ($\alpha = .64$). Finally, four items were used to measure other group orientation, including "I enjoy being around people from racial groups other than my own" ($\alpha = .65$). The original subscales by Phinney (1992) included seven items for ethnic identity achievement and six items for other group orientation. However, item-level analyses revealed optimal reliability for these subscales when two of the items from each of these scales were removed. Youth responded to each item using a four-point scale ranging from strongly disagree to strongly agree. A mean total score was produced for each participant as well as mean scores for each of the four subscales, accounting for reverse-scored items. The total score was derived from the average of the 12 items items measuring ethnic behaviors, ethnic identity achievement, and affirmation and belonging ($\alpha = .74$). Based on previous factor analyses, other group orientation is a distinct factor of ethnic identity and was thus not included in the total score (Phinney, 1992).

Self-Perception. The 18-item self-perception scale used for this study is based on the original 36-item Self Perception Scale for Children (Harter, 1985), which measures six domains of youth self-perception. The abbreviated version used in this study focuses on three of the six original domains:

social competence, behavioral conduct, and global self-worth, and the full six-item subscales were used to assess each of these domains. Participants indicated which of two statements they most related to, and then chose whether the statement was 'sort of' or 'really' true of them. An example item from the social competence subscale is "some kids would like to have a lot more friends BUT other kids have as many friends as they want." From the behavioral conduct subscale, an example is "some kids behave themselves very well BUT other kids find it hard to behave themselves." Finally, an example item from the global self-worth subscale is "some kids like the kind of person they are BUT other kids often wish they were someone else". Each question had a maximum score of four, indicating most positive self-judgement. Average scores for each subscale were calculated. Reliabilities for these subscales were calculated using Cronbach's alpha scores and range between .71 and .87 (Harter, 2012). For this study, Cronbach's alpha coefficients for the social competence, behavioral conduct, and global self-worth scales are .74, .71, and .78 respectively.

Procedure

This study's protocol was approved by DePaul IRB as part of a larger violence prevention project. Students from four classes in each school were invited to complete surveys during school hours. Student agreement to participate was obtained prior to survey administration. Students were notified that they were free to decline participation, skip items, or withdraw during the survey. Parents of students were provided information and a chance to decline participation on behalf of their students through newsletters, permission forms sent home with students, and report card pickup. Data collection occurred under the supervision of trained graduate students on two days during fall and two days during spring of one academic year. Surveys were administered aloud to account for differences in student reading abilities.

Results

Preliminary Analyses

In order to determine the minimum sample size for the proposed analyses, an a priori power analysis was conducted using G*Power3 (Faul et al., 2007). Results indicated that for main effect models, which include one predictor variable and one control variable, a minimum sample size of 55 is necessary to detect a medium effect size of $f^2 = .15$ using an alpha level of .05 and to reach a power of .80. For moderation models, to detect a medium effect size of $f^2 = .15$ using an alpha level of .05, a minimum sample of 68 participants is required to reach a power of .80 in a model that includes one independent variable, one control variables, and one moderator variable. All analyses were conducted using RStudio statistical software (RStudio Team, 2021). Means, standard deviations, and bivariate correlations among all variables are presented in Table 1. Descriptive statistics and histograms revealed that the distributions of social competence, behavioral conduct, and global self-worth at time two were negatively skewed. Based upon recommendations by Wicklin (2016), all variables were reverse-coded to address non-normality and create positively skewed variables that are consistent with gamma distributions. Regression diagnostics using these reverse-coded variables were performed to assess for linear regression assumptions. All other assumptions for linear regressions were met (Osborne & Waters, 2002). Examination of plots indicated a linear relationship between each of the independent variables and the self-perception variables. Plots of residuals and analysis of variance ratios confirmed assumptions of homoscedasticity (Cohen et al., 2003). Finally, plots indicated residuals were normally distributed.

Gender and age are important variables to consider when studying self-perception, as they have both been found to explain differences in self-esteem in a variety of cultures (e.g., Bleidorn et al., 2016). However, preliminary regression analyses indicated neither gender nor age were associated with social competence self-perception ($\beta = -0.03$, $p = .55$; $\beta = -0.01$, $p = .79$), behavioral conduct self-perception ($\beta = -0.02$, $p = .67$; $\beta = 0.01$, $p = .82$), or global self-worth ($\beta = 0.01$, $p = .98$; $\beta = 0.01$, $p = .70$). These demographic variables were thus excluded from further analyses.

Missing Data

An initial review of the data revealed that more than 10% of data were missing for each variable within the study. When missing data rates exceed this threshold, multiple imputation using auxiliary variables is recommended (Newman, 2014). Multiple imputation is suggested as an alternative to listwise deletion and single imputation methods due to its ability to reduce bias and maximize the validity of statistical estimates (Fichman & Cummings, 2003; Sinharay et al., 2001). Compared to complete case analysis and single imputation methods, this strategy has been shown to achieve smaller mean square error and thus better precision because it allows for each imputation to depend on the most recently imputed values (Eekhout et al., 2018). To perform multiple imputation, the MICE package in R was utilized (van Buuren & Groothuis-Oudshoorn, 2011). MICE implements multiple imputation by chained equations using type one predictive mean matching (also known as fully conditional specification), which involves specifying the imputation model based on each individual variable (van Buuren & Groothuis-Oudshoorn, 2011). Prior to imputation, a predictor matrix in conjunction with passive imputation was specified (Van Buuren & Groothuis-Oudshoorn, 2011). The predictor matrix was designed so that each variable was predicted only by other variables of the same wave and scale and passive imputation codes were included to ensure scales were properly calculated. To optimize statistical power, 40 imputations were performed with 10 iterations each (Graham et al., 2007; Raghunathan et al., 2001). All analyses were performed on each of these 40 datasets, and results reflect the pooled findings across all imputed datasets.

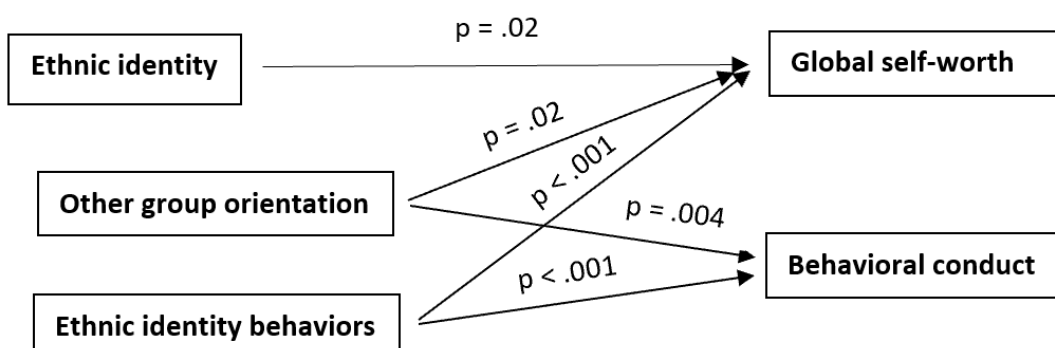
Multiple Linear Regressions

Six generalized linear models (GLMs) were performed to assess the effects of ethnic identity and stressful life events at time 1 on the three components of self-perception (social competence, behavioral conduct, and global self-worth) at time 2 (see Table 2). Time one ethnic identity was positively associated with time two global self-worth ($\beta = 0.16$, $p = .02$) but not social competence or

behavioral conduct self-perception. In main effect models, stressful life events was not a significant predictor of any of the three types of self-perception. 12 multiple linear regressions were conducted to examine the four components (affirmation, behaviors, achievement, and other group orientation) that comprise ethnic identity at time one as predictors of the three types of self-perception. Both other group orientation and ethnic identity behavior were significant predictors of behavioral conduct self-perception ($\beta = 0.10$, $p = .004$; $\beta = .12$, $p < .001$) and global self-worth ($\beta = 0.08$, $p = .02$; $\beta = 0.13$, $p < .001$). The significant relationships found in the main effect models are depicted in Figure 1.

Figure 1

Model of significant relationships in main effect models.



Note. Straight arrows represent positive relationships between predictors and outcomes.

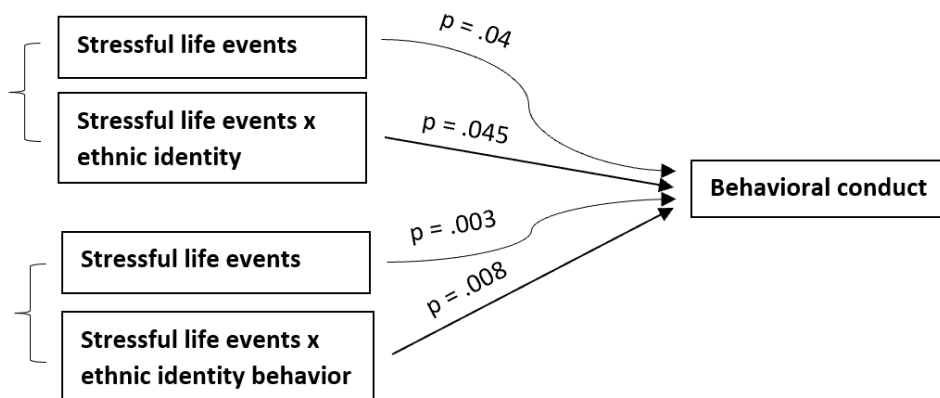
An additional 15 moderated GLMs were conducted to analyze the hypothesized moderation effects of ethnic identity and the four components of ethnic identity at time one on the relationship between stressful life events and the three components of self-perception at time 2 (see Table 3). Ethnic identity was a significant moderator in the relationship between stressful life events at time one and behavioral conduct self-perception at time two ($\beta = 0.06$, $p = .045$). By analyzing relevant plots, it was determined that as ethnic identity increased, the relationship between stressful life events and behavioral conduct self-perception weakened. Specifically, for low levels of ethnic identity, behavioral conduct self-perception at time two decreased as time one stressful life events increased. However, for

higher levels of ethnic identity, time one behavioral conduct self-perception remained more stable for all levels of stressful life events. In this model, stressful life events was a significant predictor of behavioral conduct self-perception, such that higher levels of stressful life events predicted lower levels of behavioral conduct self-perception ($\beta = -0.14$, $p = .04$).

In addition, ethnic identity behavior was a significant moderator in the relationship between stressful life events and behavioral conduct self-perception ($\beta = 0.04$, $p = .008$). The relationship between stressful life events and behavioral conduct self-perception was dependent upon level of ethnic identity. For low levels of ethnic identity, behavioral conduct self-perception at time two decreased as time one stressful life events increased. However, for high levels of ethnic identity, behavioral conduct self-perception at time two increased as time one stressful life events decreased. In this model, stressful life events was a significant predictor of behavioral conduct self-perception, such that higher levels of stressful life events predicted lower levels of behavioral conduct self-perception ($\beta = -0.12$, $p = .003$). Neither ethnic identity affirmation and belonging nor ethnic identity achievement were associated with self-perception. The significant moderation effects are depicted in Figure 2.

Figure 2

Model of significant relationships in moderation models.



Note. Straight arrows represent positive relationships between predictors and outcomes. Curved arrows represent negative relationships between predictors and outcomes.

Discussion

The goal of this study was to understand the relationship between stressful life events, self-perception, and ethnic identity for adolescents. Consistent with the hypotheses, ethnic identity predicted global self-worth for Black adolescents at the end of the academic year. In addition, individual components of ethnic identity predicted aspects of self-competence, highlighting the utility of measuring these facets individually. Ethnic identity as a whole and ethnic identity behaviors emerged as significant moderators in the relationship between stressful life events and behavioral conduct self-perception.

The current findings provide partial support for the consensus in the literature that higher levels of ethnic identity are associated with more positive self-esteem (e.g., Umaña-Taylor et al., 2009). Ethnic identity was associated with greater adolescent global self-worth but not with social competence or behavioral conduct self-perception, challenging the assumption that ethnic identity has a uniform promotive impact on all types of self-perception. This provides credence to previous recommendations that youth stress studies should incorporate specificity (testing multiple predictors against multiple outcomes) in their methodology (McMahon et al., 2003). Research that examines complex concepts such as ethnic identity and self-perception at a broad level may overlook nuanced relationships.

This study contributes to a mixed body of literature, in which ethnic identity has differential effects on self-perception across various studies. This study found that ethnic identity was not associated with all types of self-worth, which is consistent with other research of ethnic minority undergraduates that found a relationship between ethnic identity and self-worth but not scholastic or social competence (Gummadam et al., 2015). On the other hand, in a sample of predominantly Latinx adolescents, ethnic identity was related to global self-worth and indicators of social competence as measured at the beginning and end of high school, indicating the relationship between ethnic identity and self-perception may be different for youth of various cultural identities (Rew et al., 2015). Further,

longitudinal research with young Black children has found that ethnic identity is associated with nearly all domains of self-perception (Smith et al., 2003), indicating the effects of ethnic identity on self-perception may be narrower for adolescents compared to younger children. While these few studies do not provide a sufficient basis to draw firm conclusions, these discrepancies indicate that other factors are at play. The current study bolsters this body of research by seeking to understand this relationship for impoverished Black adolescents and examining specific types of ethnic identity and specific types of self-efficacy.

Differential findings associated with various components of ethnic identity suggest distinguishing between aspects of ethnic identity is essential for fully understanding its relationship with self-perception. Other group orientation was a predictor of behavioral conduct self-perception but not social competence self-perception or global self-worth. Given the results of the present study, it seems that stronger other group orientation, which in some cases means more positive attitudes about the mainstream ethnic group, facilitates greater behavioral conduct self-perception across settings. It is conceivable that adolescents derive stronger perceptions of their behavioral conduct by associating positively with dominant group norms or expectations in schools or other diverse settings. Indeed, Bennett Jr. (2007) found that bicultural competence, or the ability to effectively navigate multicultural settings protected Black adolescents from problem behaviors resulting from stress. Lee (2003) similarly described other group orientation as a “behavioral coping strategy” for adapting in a diverse society.

In this study, ethnic identity behaviors significantly and positively predicted behavioral conduct self-perception and global self-worth. According to these results, it seems that Black adolescents who are more involved in cultural practices, customs, and organizations report stronger behavioral conduct self-perception and general self-perception. While the definition of cultural involvement is broad, certain types of involvement have been shown to be beneficial for Black youth. For example, involvement in community extracurricular activities and availability of religious-based support are

associated with positive mental health (Hope et al., 2017; Hull et al., 2008). Further, participation in church is longitudinally related to higher self-esteem for low-income Black adolescents (McMahon et al., 2004). The current study contributes to a limited body of research that lacks investigation into non-religious cultural activities that are beneficial for Black adolescents. In addition, the results of this study suggest that the benefits adolescents acquire from cultural involvement are specifically associated with their perceptions of their behavior and their general self-worth.

In this study, ethnic identity behaviors also had a positive predictive effect on global self-worth. In early investigations of the construct, ethnic identity as a whole was identified as a predictor of self-esteem across ethnic groups (Phinney et al., 1997). However, Phinney and colleagues (1997) found that ethnic identity accounted for only a small proportion of variance in self-esteem, indicating many additional factors contribute to the development of self-esteem. In recent decades, research has pointed to an even more complex relationship between ethnic identity and self-perception. For example, while ethnic identity was related to self-worth for White and Latinx adolescents, this relationship is not significant for Black adolescents (Holmes & Lochman, 2009; Umaña-Taylor, 2004). For Black youth, ethnic identity may have other important benefits besides self-esteem. After controlling for self-worth, McMahon and Watts (2002) found that ethnic identity was associated with more active coping strategies and more prosocial beliefs and behaviors. Given societal shifts relating to race, ethnicity, and culture in the United States over the past several decades, it is important to ensure research reflects these shifting perspectives and experiences. It seems that for Black adolescents, ethnic identity behaviors are the most salient predictor of self-worth relative to other aspects of ethnic identity. These positive effects fit with the importance of cultural practices and activities for some Black communities (e.g., Rose et al., 2021).

The current findings indicate that the impact of stressful life events on self-perception for Black adolescents is also best understood in the context of specific aspects of ethnic identity. On the surface,

the finding that stressful life events do not predict any of the self-perception outcomes in main effect models seems surprising. After all, researchers have consistently found that more stressful life events are associated with less self-esteem (e.g., Wilburn & Smith, 2005); however, stressful life events may not contribute to self-worth across time. In fact, other longitudinal studies have found the opposite relationship; self-perception predicts and protects against stressful experiences. For young adults, self-esteem was found to contribute to stressful life events, which subsequently decreased self-esteem (Orth & Luciano, 2015).

Both ethnic identity as a whole and ethnic identity behaviors emerged as significant moderators of the relationship between stressful life events and behavioral conduct self-perception. Lower levels of ethnic identity predicted a stronger negative relationship between stressful life events and behavioral conduct self-perception. In addition, lower levels of ethnic identity behaviors were associated with a negative relationship between stressful life events and behavioral conduct self-perception while a positive relationship emerged for higher levels of ethnic identity behaviors. It seems that for Black adolescents, general ethnic identity, and especially ethnic identity behaviors mitigate the negative impact of stressful life events on youth perceptions of their behavioral conduct. For adolescents with strong endorsement of ethnic identity behaviors, more stressful life events were actually associated with higher behavioral conduct self-perception. Among other benefits, it is likely that the social support derived from engaging in ethnic-related behaviors protects adolescents from poor self-competence outcomes. For example, McMahon and colleagues (2011) found that support from parents and peers protects adolescents from the effects of neighborhood stressors on their self-worth. Findings from the current study indicate ethnic identity behaviors serve a similar function, and that the protective effects can extend to many types of stressors. Stressful life events was a predictor of behavioral conduct self-perception when ethnic identity was included as a moderator. This study is among the first to identify a connection between stressful life events and adolescent perceptions of their behavioral conduct. It is

understandable that adolescents would struggle with their perceptions of their behavior given previous research that has found a positive relationship between stressful life events and externalizing behaviors (McKnight et al., 2002). It may be that adolescent perceptions of their behavioral conduct are sometimes a reflection of externalizing psychological symptomatology.

Limitations

The findings from this study should be understood within the context of a few important limitations. Although compiled from previously established surveys, our assessment of stressful life events was restricted to the specific types of events identified by our measurement tool (Attar et al., 1994; Sandler & Block, 1979; Work et al., 1990). The 13 types of stressful life events included in this measure do not encompass the entire range of stressful experiences reported by youth, nor does the assessment take into account the potential unique impacts of each type of stressful event (Grant et al., 2003). In addition, despite the strengths associated with the longitudinal nature of the study design and the advanced statistical approach, analyses and interpretations could have been strengthened by measuring across more than two timepoints. Finally, although this study focuses on an underrepresented group of impoverished Black youth, the sample size is small, limiting the statistical power of the results.

Implications

Research

Findings from this study reveal important connections between adolescent stress, ethnic identity, and self-perception that highlight potentially fruitful research directions for improving our understanding of adolescent experiences. Stressful life events and ethnic identity differentially impacted various components of self-perception, providing support for Harter's (1985) well-established recommendation that self-perception is most appropriately researched as a multidimensional construct. This study's findings also provide compelling evidence for similarly studying components of ethnic identity individually rather than as a composite construct. Although researchers have found evidence to

support the internal consistency of ethnic identity and moderate goodness of fit for the construct (e.g., Ponterotto et al., 2003), the unique results observed in this study suggest true relationships between variables can be obscured if aspects of ethnic identity are solely measured as an average score. In addition to these measurement considerations, the field would benefit from a deeper investigation into the mechanisms that explain how stressful life events impact adolescent behavioral perceptions, including potential mediators such as externalizing psychological disorders.

Policy

These findings speak to best practices for school discipline and behavioral support policies. School policies must prioritize culturally responsive training programs that prepare educators to recognize differences between expected behaviors across cultural groups and patterns indicative of student externalizing symptomatology. Such policies will simultaneously prevent implementation of discipline for non-harmful and culturally normative behavior and encourage referrals for mental health or other student support services when appropriate. In addition, local, statewide, and federal education policies should promote multicultural education that emphasizes learning about various cultures, traditions, and religions. Further, national holidays should be celebrated to appropriately honor cultural events and traditions. When holidays are not federally mandated, policies should protect individual and community rights to celebrate without negative professional or educational consequences.

Practice

Findings from this study can be used to design evidence-based school and community programs for supporting Black adolescents through stressful life experiences. Given the role of ethnic identity as a contributor to self-worth, classrooms and programs should support ethnic identity development starting from a young age. While it is important to continue developing ethnic identity throughout the lifespan, findings from the current study indicate that during adolescence, aspects of ethnic identity specifically impact global self-worth and behavioral conduct self-perception but not other types of self-perception.

Programs aimed at improving Black adolescent self-perception broadly should not rely solely on bolstering ethnic identity, as there may be more salient factors for protecting against stressors. However, these programs would benefit from fostering ethnic identity behaviors, such as celebrating cultural holidays and traditions, engaging in religious events, or cooking foods associated with specific ethnic backgrounds.

Results of this study simultaneously underscore the importance of ethnic identity development for adolescents while urging additional investigation into the complexity of the impacts of stress on youth. In addition to its important standalone effects, ethnic identity has an important influence on adolescent global self-worth, and ethnic identity behaviors and other group orientation have previously unidentified impacts on adolescent perceptions of their behavioral conduct. These findings illuminate the nuanced interactions between youth stress, ethnic identity, and self-perception that impact the lives of Black adolescents.

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Table 1.
Pooled Means, Standard Deviations, and Correlations

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. T1 SLE	6.14	2.13												
2. T1 EI	2.23	0.46	-0.07											
3. T1 AFF/BEL	3.08	0.67	-0.08	0.79***										
4. T1 BEH	2.76	0.64	0.02	0.68***	0.40***									
5. T1 ACH	2.38	0.66	0.05	0.77***	0.45***	0.65***								
6. T1 OGO	2.51	0.83	0.02	0.43***	0.37**	0.58***	0.54***							
7. T1 SC	2.10	0.64	0.08	-0.02	0.03	-0.01	-0.04	-0.05						
8. T1 BC	2.66	0.59	-0.13	0.12	0.14	0.13	0.05	0.07	0.16					
9. T1 GSW	3.14	0.62	-0.12	0.17	0.23*	0.06	0.08	0.11	0.34***	0.28**				
10. T2 SC	2.04	0.68	-0.05	0.10	0.05	0.11	0.09	-0.01	0.48***	0.09	0.38***			
11. T2 BC	2.76	0.64	-0.08	0.14	0.09	0.32***	0.14	0.26**	0.03	0.27**	0.22*	0.14		
12. T2 GSW	3.16	0.67	-0.11	0.26**	0.22*	0.31***	0.14	0.24**	0.23**	0.17	0.48***	0.33***	0.43***	

Note. SLE = stressful life events; EI = ethnic identity; AFF/BEL = affirmation/belonging; BEH = behaviors; ACH = achievement; OGO = other group orientation; SC = social competence; BC = behavioral conduct; GSW = global self-worth; T1 = data collected at time 1; T2 = data collected at time 2

^aFor this table only, values are derived from original, non-reverse coded variables to support interpretability.

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 2.
Pooled Main Effect Estimates for Multiple Regressions

Variable	T2 Social Competence			T2 Behavioral Conduct			T2 Global Self-Worth		
	β	<i>SE B</i>	<i>t</i>	β	<i>SE B</i>	<i>t</i>	β	<i>SE B</i>	<i>t</i>
T1 SLE	-0.02	0.01	-1.03	-0.01	0.01	-0.59	-0.01	0.01	-0.82
T1 Control	0.26***	0.05	5.61	0.14**	0.05	3.10	0.27***	0.05	5.74
T1 EI	0.08	0.06	1.31	0.08	0.06	1.39	0.16*	0.07	2.40
T1 Control	0.26***	0.05	5.57	0.14**	0.05	3.08	0.26***	0.05	5.50
T1 AFF	0.01	0.04	0.28	0.02	0.05	0.55	0.06	0.05	1.21
T1 Control	0.26***	0.05	5.50	0.14**	0.04	3.08	0.26***	0.05	5.37
T1 BEH	0.06	0.04	1.54	0.12***	0.03	3.56	0.13***	0.04	3.65
T1 Control	0.26***	0.05	5.60	0.13**	0.04	2.97	0.26	0.05	5.80
T1 ACH	0.06	0.04	1.41	0.06	0.04	1.48	0.06	0.04	1.37
T1 Control	0.26***	0.05	5.66	0.15**	0.05	3.24	0.27***	0.05	5.78
T1 OGO	0.01	0.04	0.31	0.10**	0.03	2.90	0.08*	0.04	2.32
T1 Control	0.26***	0.05	5.51	0.14**	0.04	3.23	0.26***	0.05	5.60

Note. SLE = stressful life events; EI = ethnic identity; AFF = ethnic identity affirmation; BEH = ethnic identity behaviors; ACH = ethnic identity achievement; OGO = other group orientation; T1 Control = social competence, behavioral conduct, or global self-worth depending on outcome in model; T1 = data collected at time 1; T2 = data collected at time 2

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 3.
Pooled Moderation Effect Estimates with Ethnic Identity and Components as Moderators

Variable	Social Competence T2			Behavioral Conduct T2			Global Self-Worth T2		
	β	<i>SE B</i>	<i>t</i>	β	<i>SE B</i>	<i>t</i>	β	<i>SE B</i>	<i>t</i>
T1 SLE	-0.02	0.07	-0.33	-0.14*	0.07	-2.12	-0.06	0.07	-0.76
T1 EI	0.05	0.21	0.25	-0.29	0.20	-1.47	0.02	0.22	0.10
T1 SLE x T1 EI	0.01	0.03	0.13	0.06*	0.03	2.02	0.02	0.03	0.63
T1 Control	0.26***	0.05	5.59	0.14**	0.05	3.02	0.26***	0.05	5.39
T1 SLE	-0.06	0.05	-1.26	-0.12**	0.04	-3.01	-0.05	0.05	-1.14
T1 BEH	-0.05	0.12	-0.40	-0.15	0.11	-1.41	0.04	0.12	0.33
T1 SLE x T1 BEH	0.02	0.02	0.91	0.04**	0.02	2.70	0.02	0.02	0.85
T1 Control	0.27***	0.05	5.79	0.12**	0.04	2.78	0.26***	0.05	5.62

Note. SLE = stressful life events; EI = ethnic identity; BEH = ethnic identity behaviors; SC = social competence self-perception; BC = behavioral conduct self-perception; GSW = global self-worth; T1 Control = social competence, behavioral conduct, or global self-worth depending on outcome in model; T1 = data collected at time 1; T2 = data collected at time 2

* $p < .05$; ** $p < .01$; *** $p < .001$

Appendix A

Original Thesis Proposal Including Results

Introduction

The risks and resiliencies associated with young people's environmental conditions and life experiences are a prominent theme in understanding youth development (McLaughlin, 2016). Neighborhood conditions of youth have been consistently associated with adjustment and linked with health outcomes throughout adulthood (McBride Murry et al., 2011; Vartanian & Houser, 2010). Stressful life events at individual or family levels during youth and adolescence are also important for understanding development and have enduring negative effects (Nurius, Green, Logan-Greene, Borja, 2015). Conceptualized within a stressor model of development, these stressful life events and chronic experiences can lead to negative mental health outcomes for youth (Grant et al., 2003). Given the disproportionately higher levels of neighborhood and personal life stressors faced by low-income youth of color relative to other youth (Sacks & Murphey, 2018; Teixeira & Zuberi, 2016), it is crucial to understand the unique threats faced by minority youth as well as the characteristics that may protect them from potentially harmful outcomes. Understanding these experiences within the context of a resilience theory (Fergus & Zimmerman, 2005) is one way of identifying and understanding these protective characteristics.

Adolescent self-perception has often been studied as influential in relation to many aspects of development and long-term well-being (e.g., Zimmerman, Copeland, Shope, & Dielman, 1997). Youth self-perception refers to a collection of attitudes that youth have about themselves in relation to a variety of life domains, including a general judgement about one's self-worth (Harter, 1985). Relative to other aspects, self-worth, also referred to as self-esteem, is the most commonly studied facet of self-perception. Self-worth is a critical factor affecting a variety of life outcomes including mental and physical health, relationships, and job satisfaction (Orth, Robins, & Widaman, 2012). Even under ideal

conditions, adolescence is a critical period for developing positive self-perception amidst a variety of other life changes. Adolescents living in under-resourced neighborhoods or exposed to other life stressors face additional barriers to healthy self-image development. Stressful experiences early in life can threaten self-esteem (Baldwin & Hoffman, 2002), and low self-esteem is subsequently associated with a variety of internalizing and externalizing symptoms (Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005; Lee & Hankin, 2009). Identifying factors that can protect children from the effects of early threatening life experiences is crucial to maximizing positive self-perceptions for youth from both a practical and theoretical standpoint.

Resilience Theory and The Stressor Model of Adolescent Development

A common approach to understanding the effects of stressful experiences on youth is through resilience theory (Fergus & Zimmerman, 2005). Resilience frameworks seek to understand healthy adolescent development despite exposure to environmental risks. Models guided by this theory generally attempt to identify risk and protective factors that promote positive outcomes, resulting in a strengths-based approach to conceptualizing adolescent adjustment. Risk and protective factors are typically individual, family, or community characteristics that can threaten or mitigate the effects of certain stressors on adolescent outcomes. Resilience can be conceptualized as a dynamic process of positive adaptation in the face of stress and adversity and is differentiated from resiliency, which is a personality trait (Luthar, Cicchetti, & Becker, 2000). Notably, resiliency as a personality trait does not necessitate the experience of significant life challenges, while resilience as a process develops only as a result of exposure to stressful circumstances (Luthar et al., 2000). When described as a personality trait, resiliency refers to a characteristic that contributes to adaptive functioning regardless of environmental surroundings (e.g. Block & Block, 1980). This construct is aligned with a fixed mindset of personal attributes (Dweck, 2008) and implies that resiliency is an innate ability that some people have while others do not. In contrast, a malleable mindset of personality reflects a belief in the capability to

develop and improve individual human potential (Dweck, 2008). Along these lines, studying resilience as a dynamic process provides a basis for developing interventions to promote resilience (e.g. Reynolds, 1998). It is important to consider multidimensionality and potential specificity in resilience research, as well as the underlying mechanisms that explain the influence of risk and protective factors (Luthar et al., 2000).

Although youth stressors have often been identified as a significant precursor to negative psychological outcomes (Grant, Compas, Thurm, McMahon, & Gipson, 2004), much of this literature lacks a consistent theoretical basis (Grant et al., 2003). In order to unify this body of literature, Grant and colleagues (2003) propose the stressor model of adolescent development comprising reciprocal, dynamic, and specific relationships between youth stressors and psychopathology. According to this model, stressful experiences, including chronic conditions and life events, have the potential to powerfully affect adolescent development. In this model stressors are considered environmental situations or ongoing conditions that are objectively threatening to the health or well-being of youth. However, because stressful experiences do not invariably lead to negative outcomes for youth, it is important to identify factors that may explain why certain youth fare better under stressful circumstances (Kushner, 2015). Therefore, models designed to understand the influence of stressors on youth outcomes should consider mediating variables, such as biological, psychological, and social processes as well as moderating influences of child characteristics and environmental contexts (Grant et al., 2003). Considering mediating and moderating factors will also provide insight into whether and how specific stressors uniquely impact specific psychological outcomes (McMahon, Grant, Compas, Thurm, & Ey, 2003). Despite these theoretical improvements, current literature remains focused on the direct effects of stressors on psychological outcomes and lacks a nuanced understanding of the role of youth individual variables (Kushner, 2015).

The integration of the stressor model of adolescent development (Grant et al., 2003) with resilience theory (Fergus & Zimmerman, 2005) will provide researchers the tools necessary to deepen our understanding of the effects of adverse youth conditions. Neighborhood disadvantage and stressful life events represent two prevalent youth experiences that can impact a wide array of important psychological outcomes (McBride Murry et al., 2011; Nurius et al., 2015), including self-esteem (Baldwin & Hoffman, 2002). One factor that may serve to protect against the negative self-perception outcomes of these experiences is youth ethnic identity (Phinney, Cantu, & Kurtz, 1997). Ethnic identity is a central factor in youth identity development and psychological adjustment (Phinney, Lochner, & Murphy, 1990), and has been linked with youth self-esteem outcomes (Phinney et al., 1997). Given the racial and ethnic disparities that exist regarding exposure to certain stressful life experiences (Sacks & Murphey, 2018), it is critical to examine the role ethnic identity plays in relation to these conditions.

Self-Perception, Neighborhood Conditions, and Stressful Life Events

Youth self-perception constitutes a collection of domain-specific evaluations that originate during middle childhood and comprise judgements about one's behavioral conduct, physical appearance, and scholastic, social, and athletic competence. Respectively, these self-perceptions reflect a child's evaluation of their satisfaction with the way they behave, how they look, their performance in school, their confidence in social groups, and their sport-related abilities. Self-perception also includes a distinct value judgement of a child's overall worth as a person, which is referred to as global self-worth or self-esteem (Harter, 1985). Historically, self-esteem, self-concept, or self-image was conceptualized as a general, unidimensional construct that reflected an overall assessment of a person's self-attitudes (e.g., Coopersmith, 1967; Piers & Harris, 1964). More recently, there has been a shift in the understanding and measurement of self-perception toward a multidimensional framework (e.g., Rosenberg, 1979; Harter, 1985). Subsequent analyses have confirmed the validity of multidimensional self-perception measurements (e.g., Muris, Meesters, & Fijen, 2003). This more complex definition

allows researchers to focus on domains within self-perception, each with unique self-evaluations that may be missed by a single-score approach. Nevertheless, most research continues to represent self-esteem as a general, unidimensional construct, or to focus on self-worth as the primary variable of interest while neglecting the influence of other domains of self-perception.

These distinctions are important to assess, because although general self-esteem consistently predicts positive relationship, health, and work-related outcomes (Orth & Robins, 2014), the effects of self-esteem are not always straightforward. For example, the relationship between self-esteem and various positive outcomes is often modest and indirect, suggesting other factors may be at play. In addition, self-esteem is sometimes associated with counterintuitive or negative outcomes, such as increased experimentation with high-risk behaviors (Baumeister, Campbell, Krueger, & Vohs, 2003). Further, important details emerge when we examine different domains of self-perception rather than focusing solely on general self-concept. In a large-scale longitudinal design, Cole and colleagues (2001) found that self-concept generally becomes more stable throughout development, but various domains of self-concept demonstrate distinct patterns. Toward the end of elementary school, academic, social, and athletic competence increase while perceptions of behavioral conduct decrease. Gender differences in self-perception exist even at this early age, with females experiencing a decrease in perceptions of physical appearance. When compared to each other, females report higher behavioral conduct self-concept, while males express higher athletic competence. At about age 12, when students transition to middle school and experience biological changes, youth experience declines in every domain of self-perception except for behavioral conduct. The transition to high school is accompanied with increases in academic competence across genders and increases in physical attractiveness self-concept but declines in behavioral conduct and athletic self-concept for females. Gender differences in self-perception remain relevant into adulthood, when males report higher self-concept in all domains except social competence (von Soest, Wichstrøm, & Lundin Kvaalem, 2016). Further, certain self-

perception domains are uniquely related to important life outcomes. Academic self-concept, for example, is the strongest self-perception predictor of educational attainment, and domain-specific self-evaluations predict long-term socioeconomic (SES) status more accurately than general self-concept (von Soest et al., 2016). Investigating various domains of self-perception, as well as understanding factors that contribute to the development of these domains will yield important implications for youth development. There is a general lack of research dedicated to understanding the development of various forms of self-perception, and African American youth are particularly underrepresented in this literature.

One factor that may contribute to the development of various domains of youth self-perception is the quality of a child's neighborhood. Neighborhoods are considered advantaged or disadvantaged based upon a complex array of factors such as crime, poverty and unemployment rates, drug and gang activity, availability of resources, housing quality, and perceived safety (Attar, Guerra, & Tolan, 1994; Dubow, Edwards, & Ippolito, 1997), and are subject to various civic, economic, and cultural changes (Elliot et al., 1996). Issues of structural racism and discrimination are also inextricably linked with neighborhood quality and are often underlying factors that contribute to these indicators of neighborhood conditions (e.g., Sadler & Lafreniere, 2016). It is difficult to overstate the influence of neighborhood conditions on a child's life trajectory. A child's zip code is associated with well-being, school dropout, teenage drug use (Moore & Gleib, 1995) and even life expectancy (Arias, Escobedo, Kennedy, & Fu, 2018). Residing in a disadvantaged neighborhood is related to poor physical health (Ross & Mirowsky, 2001), lower cognitive and socioemotional outcomes (McCoy, Connors, Morris, Yoshikawa, & Friedman-Krauss, 2015), depression, substance use, and schizophrenia (Silver, Mulvey, & Swanson, 2002), independent of individual characteristics. Further, a child's neighborhood has substantial causal effects on long-term outcomes, including salary and likelihood of incarceration (Chetty, Friedman, Hendren, Jones, and Porter, 2018).

In addition to these outcomes, children and adolescents residing in under-resourced communities may experience threats to their self-perception because of their surroundings. Given the link between neighborhood disadvantage and anxiety and depressive symptoms (McMahon, Coker, & Parnes, 2013), along with the strong relationship between self-worth and internalizing symptoms (e.g., Lee & Hankin, 2009), self-worth may also be intricately related to neighborhood factors. This connection has been investigated in other studies, although most of this research assesses self-esteem as a univariate construct and neighborhoods are often narrowly measured. For example, neighborhood poverty level, a commonly used, although arguably too restrictive, indicator of neighborhood disadvantage, is negatively associated with the self-esteem of residents (Haney, 2007). However, Haney (2007) argues that in order to deeply understand the nuance between neighborhood conditions and something as individualized as self-perception, it is important to consider subjective understandings of neighborhoods above and beyond objective neighborhood measurements, which are less likely to reflect resident perceptions of their neighborhood and may be influenced by bias (Elliot et al., 1996). One explanation for the development of self-perception is the process of reflected appraisals, which happens when self-evaluation is established based on how one believes they are viewed by others (Gecas & Seff, 1989). According to this theory, an individual's perception of a neighborhood as disordered may translate into the belief that others do not place worth on the quality of their neighborhood, which may be internalized and manifest as low self-esteem (Haney, 2007). Haney (2007) found that this perception of neighborhood disorder predicted self-esteem more strongly than age, sex, civic engagement, and neighborhood poverty, further emphasizing the importance of subjective interpretations of neighborhoods.

For urban African American youth specifically, McMahon, Felix, and Nagarajan (2011) found an association between neighborhood disadvantage and global self-worth using a cross-sectional design but did not find evidence for a longitudinal relationship. In contrast, Paschall and Hubbard (1998) found

that for African American males, exposure to neighborhood stressors had a detrimental effect on youth self-esteem, which can subsequently increase likelihood of antisocial behavior, indicating possible long-term outcomes. Further, youth exposed to neighborhood stressors over a five-year period demonstrate increased vulnerability to the risks of decreased self-worth, indicating this risk may exacerbate over time (Paschall & Hubbard, 1998). These threats pose constant risks for an estimated 22% of our nation's children who grow up in impoverished communities and 37% of children whose parents described their neighborhoods as unsafe or expressed uncertainty regarding the safety of their neighborhoods (Child Trends, 2019; Wolf, Magnuson, & Kimbro, 2017).

Overall, evidence points to negative self-esteem outcomes for adolescents in disadvantaged neighborhoods, but existing literature has yet to investigate potential unique effects of neighborhood conditions on different types of self-perception. Theoretically, there are reasons to suspect these differences might occur. For example, adolescents living in more disadvantaged neighborhoods exhibit more aggressive behavior compared to those living in more affluent neighborhoods (Cleveland, 2003). Haynie, Silver, & Teasdale (2006) found that among a variety of neighborhood characteristics, including residential stability and population size, neighborhood disadvantage emerged as the strongest correlate of adolescent violence. Even after accounting for individual factors such as age, gender, race, family SES, family structure, and parent-child relationships, neighborhood disadvantage was a significant predictor of serious violent behavior. This study also found evidence that exposure to peers partially mediates this relationship, such that adolescents living in more disadvantaged neighborhoods associate more with violent or less academically-oriented peers, which is subsequently associated with engaging in more violent behaviors. Neighborhood quality is also negatively associated with general externalizing symptoms, including hyperactivity, aggression, noncompliance, and lack of control over behaviors (Roosa et al., 2005). Although there may certainly be discrepancies between adolescent behaviors and

self-perceptions of those behaviors, it seems likely that neighborhood quality may have a similar negative effect on adolescent self-perception related to behavioral conduct.

Adolescent social competence may be another domain of self-perception that is affected by neighborhood characteristics. Although research has yet to investigate this connection, there is evidence that observed social competence is to some extent dependent on environmental conditions. In a large, ethnically diverse sample of elementary students, neighborhood conditions such as physical and social disorder, economic disadvantage, and social capital were linked with teacher-reported social outcomes, such that teachers reported increased social aggression and poorer social competence for students living in more disadvantaged neighborhoods (O'Brien Caughy et al., 2012). After controlling for family demographic variables, reported social competence remained a significant outcome of neighborhood physical disorder but not of neighborhood economic disadvantage. These findings demonstrate there are multiple factors at play to explain youth social outcomes, and further investigation is necessary to understand the role of neighborhood factors.

Similar to neighborhood conditions, stressful life events during youth and adolescence are also important contributors to developmental outcomes. These types of experiences are broad, but often involve life transitions or acute traumatic events, such as parental divorce or separation, school transition, sickness or loss of a family member, family drug use, or crime (Dubow et al., 1997). A recent meta-analysis found that controllable and uncontrollable stressful life events are consistently linked with increased risk for internalizing and externalizing symptoms for adolescents (March-Llanes, Marqu ez-Feixa, Mezquita, Fa an as, & Moya-Higueras, 2017). Stressful life experiences have a negative impact on the long-term psychological well-being of adolescents and their ability to function in daily life independent of adult experiences and social disadvantage (Nurius et al., 2015). These risks are thought to be reciprocal in nature, meaning adolescents who experience negative outcomes due to stressful life events are more at risk for experiencing additional trauma (Kim, Conger, Elder Jr., & Lorenz, 2003). The

effects of stressful life events are multiplicative rather than additive in nature, such that risk levels increase exponentially when youth are exposed to multiple stressful life events (Attar et al., 1994). The effects of stressful events tend to be non-specific, meaning they often lead to similar psychological issues regardless of the type of event a young person experiences (McMahon et al., 2003).

Compared to neighborhood stressors, there has been less investigation into the connection between stressful life events and self-perception. The research that does exist often looks at self-esteem as an outcome of adverse childhood experiences, which is a similar but sufficiently distinct form of stress. While stressful life events can refer to a broad array of experiences, adverse childhood experiences more specifically refer to objectively traumatizing experiences such as incarceration, mental illness, substance use, and exposure to violence (Sacks & Murphey, 2018). Adverse childhood experiences can be thought of as a type of stressful life experience. Nevertheless, the similarity of these constructs means that understanding the implications of adverse childhood experiences may reveal important information about broader stressful youth experiences as well. Another challenge within this body of literature is that studies often focus on a specific type of adverse childhood experience within specific populations, which makes it difficult to understand how these experiences might manifest in a broader sense. For example, experiencing physical maltreatment and witnessing domestic violence as a child has detrimental long-term implications for self-esteem (Shen, 2009). In addition to focusing on particular types of stressful experiences, researchers should seek to understand the general effects of these experiences on youth developmental outcomes. In one example of this general approach, McCreary, Slavin, and Berry (1996) found that for African American adolescents, experiencing a higher number of recent stressful life events was linked with lower levels of self-esteem for adolescents.

Although research on the connection between stressful life events and self-perception is limited, extant literature indicates stressful life experiences during young adulthood contribute to lower self-esteem, especially for up to a year after the event (Wilburn & Smith, 2005). Further, there is a

theoretical basis for the assumption that stressful life experiences may have unique effects on various types of self-perception. Stressful life events are reciprocally associated with internalizing and externalizing adolescent maladjustment. When adolescents experience stressful life events, such as parental divorce, loss of a family member, breaking up with a romantic partner, and physical illness, they demonstrate an increased risk for both mood problems and behavioral misconduct. These internalizing and externalizing behaviors are subsequently associated with experiencing more stressful events, resulting in a cyclical progression (Kim et al., 2003). There is evidence to suggest this increase in internalizing and externalizing behavior associated with stressful life events may diminish youth self-perceptions. A study of Swedish first grade children found that internalizing behaviors are associated with poorer youth self-perception. Youth externalizing behaviors were related to diminished student social competence as reported by teachers (Henricsson & Rydell, 2004). Another study found a negative relationship between preschool students' social competence and cumulative risk, as measured by a variety of indicators including poverty level, parental depression, and negative life events (Lengua, Honorado, & Bush, 2007). For adolescents, experiencing stressful life events are associated with increased verbal and physical aggression from peers (Brown & Fite, 2016). A complete understanding of the effects of stressful life events on specific youth self-perceptions is lacking, but overall, existing research suggests internalizing and externalizing behavior associated with stressful life events may negatively affect youth self-perception.

The detrimental outcomes of neighborhood disadvantage and stressful life events have been well-established, but their combined effects on self-esteem have rarely been studied. It is important to consider these constructs together because they often have similar effects and may work in tandem. Understanding the influence of stressful life events in addition to neighborhood disadvantage can partly explain the differential outcomes observed for youth living in similar neighborhoods (Gustafsson, Larsson, Nelson, & Gustafsson, 2009). Further, risks for children living in disadvantaged neighborhoods

are often compounded by stressful life events. Although these types of experiences can be detrimental for a variety of populations, children in underserved neighborhoods are more likely to experience stressful events in addition to the chronic stressors associated with living in their neighborhood (Attar et al., 1994). In addition, there is evidence that the relationship between neighborhood disadvantage and poorer childhood mental health outcomes is mediated by stressful life experiences (Roosa et al., 2010). Further, stressful life events predict aggressive behavior, but only in highly under-resourced neighborhoods, indicating stressful life events and neighborhood conditions interact in their effect on aggressive behavior (Attar et al., 1994). These findings underscore the importance of understanding how these experiences jointly contribute to youth development and adjustment.

It is important to consider that racial and ethnic minority children are often overrepresented in disadvantaged neighborhoods and therefore more likely to be exposed to the risks associated with these environments (Roosa et al., 2010). However, children belonging to minority groups also demonstrate unique strengths during adolescence that are beneficial for positive development. For example, during adolescence, Caucasian youth exhibit a steep drop in self-esteem and Hispanic youth report consistently low self-esteem. Both groups also report poorer self-esteem for females compared to males at these ages. In contrast, African American youth display consistently high levels of self-esteem during middle school, and these levels do not vary by gender (Adams, Kuhn, & Rhodes, 2015). In order to improve our understanding of the risks faced by diverse adolescents, it is important to consider the role that group strengths, such as self-perception, can play in these experiences. Further, we must develop our knowledge of the protective factors that may buffer against the detrimental impact of stressful life experiences.

The Role of Ethnic Identity

Ethnic identity is an integral aspect of youth identity development and comprises a spectrum of attitudes and behaviors related to the self-identification of an individual within a group membership.

Higher levels of ethnic identity are characterized by dedication to ethnic behaviors and practices within a group, degree of pride toward a group, and sense of belonging and achievement associated with a group (Phinney, 1992). Attitudes toward other ethnic groups are also inextricably related to ethnic identity. In general, ethnic identity describes an individual's connection to a larger ethnic group. Traditionally, ethnic identity was related to culture and distinguished from racial identity, which is considered a socially-constructed phenomenon. Recent literature suggests that researchers not differentiate between these constructs, as they tend to overlap conceptually and practically (Umaña-Taylor et al., 2014).

The influence of neighborhood factors on ethnic identity formation has yet to be fully understood, but an important connection between these variables does seem to exist. For Latinx adolescents, neighborhood risk and neighborhood poverty are respectively associated with diminished ethnic identity affirmation and exploration (Supple, Ghazarian, Frabutt, Plunckett, & Sands, 2006). For young African American children, positive perceptions of their neighborhood are related to stronger ethnic affirmation and belonging (Witherspoon, Daniels, Mason, & Phillips Smith, 2016). Further, ethnic identity may play a different role depending on neighborhood context. For example, high racial pride is associated with higher GPA for African American youth living in more disadvantaged neighborhoods, but the opposite relationship is found for African American youth living in more affluent neighborhoods (Byrd & Chavous, 2009). This finding highlights the need to further investigate the relationship between neighborhoods and ethnic identity as well as the potential different functions of ethnic identity in varying contexts.

The role of ethnic identity for adolescents exposed to stressful experiences also lacks thorough investigation, and most of this research focuses on specific stressors that are related to ethnicity itself. For instance, Dubow, Pargament, Boxer, & Tarakeshwar (2000) found that ethnic identity may serve as a source of stress as well as of strength for Jewish youth. In a sample of 75 adolescents, Jewish ethnic

identity was related to ethnic-related stressors (e.g. discrimination) as well as coping strategies (e.g. cultural and social support). Another study found that for African, Latinx, and Asian American youth and adults, ethnic identity was positively associated with individual, institutional, and cultural racism, but also with physical, psychological, relationship, environmental, and global quality of life (Utsey, Chae, Brown, & Kelly, 2002). For African American college students, ethnic identity can buffer the effects of stress related to racism on career aspirations (Tovar-Murray, Jenifer, Andrusyk, D'Angelo, & King, 2012). These studies demonstrate the benefits ethnic identity provides in stressful circumstances, but future research is necessary to understand how ethnic identity may function as protection against a variety of stressors.

Higher ethnic identity is associated with a variety of positive characteristics, including improved adolescent academic outcomes (Supple et al., 2006), empowerment (Lardier Jr., 2018), career self-efficacy, prosocial methods of attaining goals (Phillips Smith, Walker, Fields, Brookins, & Seay, 1999), decreased aggression (Holmes & Lochman, 2009) and reduced symptoms of anxiety and depression (Terwilliger Williams, Chapman, Wong, & Turkheimer, 2012). Ethnic identity and self-esteem influence each other bidirectionally (Phinney & Chavira, 1992), and the association between ethnic identity and self-esteem has been established for a variety of ethnic groups (Verkuyten, 1994). All aspects of ethnic identity are positively associated with high self-esteem, and developments in ethnic identity exploration are longitudinally predictive of increases in self-esteem, at least for Latinx adolescents (Umaña-Taylor, Gonzales-Backen, & Guimond, 2009).

Although ethnic identity is considered beneficial for multiple ethnic groups, it may be particularly important to consider as a protective factor for African American youth, who typically have stronger ethnic identities but more life stressors when compared to Latinx, White, and Asian American youth (Phinney, 1992; Sacks & Murphey, 2018). For African American adolescents, ethnic identity is associated with higher self-esteem (McMahon & Watts, 2002). Further, McCreary and colleagues (1996)

found that when African American adolescents hold positive attitudes toward their own ethnic group, their likelihood of dysfunctional behaviors decreases. Perceived racial discrimination is a prevalent experience for African American adolescents and can have a deleterious effect on self-esteem (Greene, Way, & Pahl, 2006; Harris-Britt, Valrie, Kurtz-Costes, & Rowley, 2007). Further, there is evidence that ethnic identity may buffer against the negative consequences of discrimination. For example, youth who report higher racial pride experience better self-esteem in spite of discrimination compared to youth who report lower reported racial pride (Harris-Britt et al., 2007). There remains an incomplete understanding of how and whether ethnic identity can function as a protective factor for African American adolescents exposed to disadvantaged neighborhoods and stressful life experiences.

Ethnic identity is a central factor in youth identity development and psychological adjustment (Phinney et al., 1990). Among minority youth, ethnic identity can predict self-esteem (Phinney et al., 1997) and can protect against harmful experiences such as discrimination (Neblett, Rivas-Drake, & Umaña-Taylor, 2012). Although recent research has demonstrated the importance of ethnic identity and self-perception for youth, further investigation is necessary to understand how ethnic identity may influence the effects of environmental and personal stressors on youth self-perception, especially for low-income African American adolescents.

Rationale

The current study seeks to understand the role that ethnic identity might play in self-perception outcomes of adolescents living in underserved neighborhoods and exposed to stressful life experiences. This is the only known study to date to measure the combined effects of neighborhood disadvantage and stressful life events on various types of self-perception while assessing the role of ethnic identity as a protective factor in this relationship. Many youth facing neighborhood and life stressors develop into well-adjusted and successful adolescents and adults. The goal of this study is to uncover potential strengths that may help explain the resilience of children who overcome these adversities. Most

literature in this line of research focuses on mental illnesses as outcomes of youth experiences. While these perspectives are important, characteristics such as self-perception and ethnic identity represent positive adolescent qualities and studying them may inform a strengths-based viewpoint of adolescent development. Existing research suggests ethnic identity and self-perception serve as strengths for African American adolescents and are positively and reciprocally related to one another (Adams et al., 2015; Phinney, 1992). This study will improve our understanding of ethnic identity and self-perception as strengths for African American adolescents by investigating them in the context of prevalent life stressors.

Statement of Hypotheses

Hypothesis 1. There will be negative main effects of neighborhood disadvantage, stressful life events, and ethnic identity measured at time 1 on each type of self-perception at time 2, taking into account time 1 self-perception and relevant control variables (i.e., gender, age) (see figure 1). More specifically, neighborhood disadvantage and stressful life events will have negative main effects and ethnic identity will have a positive main effect on three specific types of self-perception: a) social competence, b) behavioral conduct, and c) global self-worth.

Hypothesis 2. Moderation effects will emerge, such that ethnic identity will protect against the negative effects of neighborhood disadvantage, taking into account stressful life events, self-perception at time 1, and relevant control variables on three domains of self-perception (social competence, behavioral conduct, global self-worth) at time 2. At lower levels of neighborhood disadvantage, adolescent ethnic identity will not have a strong effect on self-perceptions, but for adolescents with higher levels of neighborhood disadvantage, higher levels of ethnic identity will be associated with higher self-perception (see figure 1). More specifically, ethnic identity will moderate the relation between neighborhood disadvantage and a) social competence, b) behavioral conduct, and c) global self-worth.

Hypothesis 3. Moderation effects will emerge, such that ethnic identity will protect against the negative effects of stressful life events (taking into account neighborhood disadvantage, self-perception at time 1, and relevant control variables) on three domains of self-perception (social competence, behavioral conduct, global self-worth) at time 2. At lower levels of stressful life events, adolescent ethnic identity will not have a strong effect on self-perceptions, but for adolescents with higher levels of stressful life events, higher levels of ethnic identity will be associated with higher self-perception (see figure 1). More specifically, ethnic identity will moderate the relation between stressful life events and a) social competence, b) behavioral conduct, and c) global self-worth.

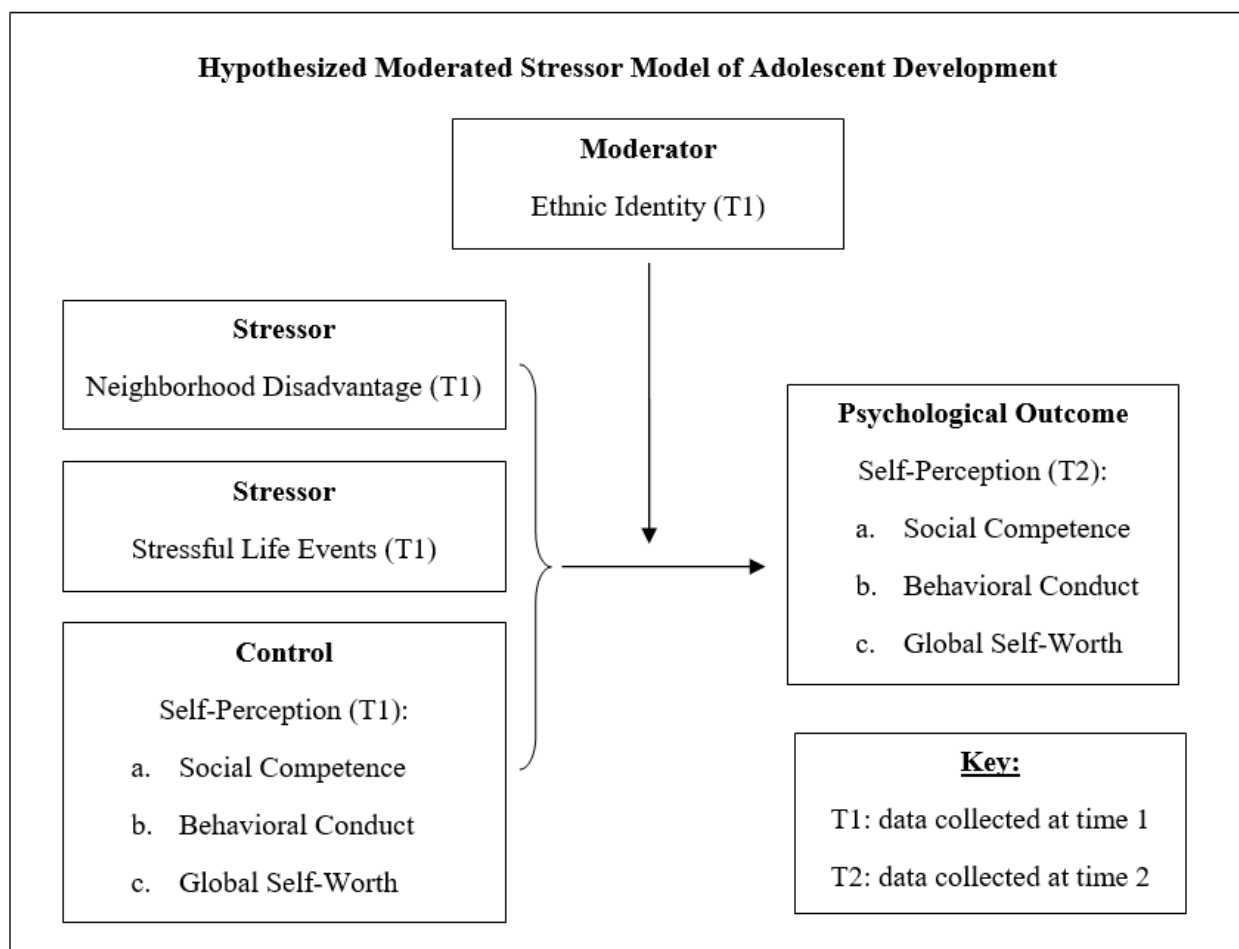


Figure 1. Model of proposed relationships among neighborhood disadvantage, stressful life events, ethnic identity, and various self-perceptions for urban African American youth.

Method

Participants

The sample for this study includes participants who completed relevant self-report surveys as part of a larger violence prevention research project. At time one, 130 students completed a survey that included assessment of neighborhood disadvantage, stressful life events, and ethnic identity. At time two, 125 students completed a survey that included a self-perception measurement. The current longitudinal sample includes 70 youth (94.3% African American and 5.7% multiracial) in grades 5-8 from two Chicago public schools who completed at least part of the surveys administered at both timepoints. In the longitudinal sample, there were 46 females and 24 males that ranged in age from 11 to 14 ($SD = .863$ & $M = 12.54$). At the time of survey completion, the schools attended by participants were located in a public housing development community in Chicago where approximately 7% of residents were employed, violent crime rates were higher compared to surrounding districts, and 43% of the population had an annual income below \$4,000 (As cited by McMahon & Watts, 2002). Within these two schools, 94.5% - 97.5% of their students were eligible for free or reduced lunch (As cited by McMahon & Watts, 2002). The schools were chosen because the principals requested violence prevention interventions from the DePaul Community Mental Health Center.

Measures

Neighborhood Disadvantage. The 11-item Neighborhood Disadvantage Scale (Dubow et al., 1997) assesses environmental conditions at the neighborhood level, including safety, orderliness, and poverty. Original reliability (Cronbach's $\alpha = .76$) and validity are adequate (compared to census data; Dubow et al., 1997), and Cronbach's α for the current study is .73. Participants answered either *yes* or *no* to indicate whether a statement was true or false, resulting in a range of scores between zero and 11. Sample items include "There are plenty of safe places to walk or play outdoors in

my neighborhood” and “I have been afraid to go outside or my parents have made me stay inside because of gangs and/or drugs in my neighborhood”.

Stressful Life Events. This 13-item scale measures whether respondents have experienced certain individual, family, and peer-level life transitions and stressful experiences within the past year. The scale is a compilation of items taken from other scales that have been used to measure stressful experiences for urban minority youth (Attar et al., 1994; Sandler & Block, 1979; Work, Cowen, Parker, Wyman, 1990). Sample items include “In the past year, has your family had a new baby come in the family?” and “In the past year, has a close family member been arrested or in jail?”. Participants responded *yes* or *no* to each question for a total possible score of 13. Because this scale assesses discrete stressful events that are not theoretically related to each other, measuring internal consistency is not as appropriate as in other measures.

Multi-Group Ethnic Identity. The Multi-Group Ethnic Identity Measurement is a 20-item assessment of ethnic identity that includes four subscales: ethnic behaviors and practices, ethnic identity achievement, affirmation and belonging, and attitudes towards other groups (Phinney, 1992). For adolescents, overall reliability for this scale is good (Cronbach’s alpha = .81 (Phinney, 1992)). Youth responded to each item using a four-point scale ranging from strongly disagree to strongly agree. A mean total score was produced for each participant, accounting for reverse-scored items. The total score was derived from the average of the 12 items measuring ethnic behaviors, ethnic identity achievement, and affirmation and belonging ($\alpha = .74$). Based on previous factor analyses, other group orientation is a distinct factor of ethnic identity and was thus not included in the total score (Phinney, 1992).

Self-Perception. The 18-item self-perception scale used for this study is based on the original 36-item Self Perception Scale for Children (Harter, 1985), which measures six domains of youth self-perception. The abbreviated version used in this study focuses on three of the six original domains:

social competence, behavioral conduct, and global self-worth, and the full six-item subscales were used to assess each of these domains. Participants indicated which of two statements they most related to, and then chose whether the statement was 'sort of' or 'really' true of them. For example, "some kids like the kind of person they are BUT other kids often wish they were someone else". Each question had a maximum score of four, indicating most positive self-judgement. Average scores for each subscale were calculated. Reliabilities for these subscales were calculated using Cronbach's alpha scores and range between .71 and .87 (Harter, 2012). For this study, Cronbach's alpha coefficients for the social competence, behavioral conduct, and global self-worth scales are .74, .71, and .78 respectively.

Procedure

This study's protocol was approved by DePaul IRB as part of a larger violence prevention project. Students from four classes in each school were invited to complete surveys during school hours. Student agreement to participate was obtained prior to survey administration. Students were notified that they were free to decline participation, skip items, or withdraw during the survey. Parents of students were provided information and a chance to decline participation on behalf of their students through newsletters, permission forms sent home with students, and report card pickup. Data collection occurred under the supervision of trained graduate students on two days during fall and two days during spring of one academic year. Surveys were administered aloud to account for differences in student reading abilities.

Results and Analysis

Proposed Analyses

Analyses will be conducted using RStudio statistical software. First, descriptive statistics will be conducted and reviewed to assess for central tendency and variability of all relevant variables. Means and standard deviations for all variables and correlations between all pairs of variables will be presented in a table. Skewness, kurtosis, and normality will be assessed to ensure the data is acceptable for

further analyses, and transformations will be conducted as needed. Preliminary regression analysis will be utilized to investigate the potential effects of gender and age on all three self-perception outcomes, which will determine the necessity of their inclusion as covariates. Gender and age are important variables to consider when studying self-perception, as they have both been found to explain important differences in self-esteem in a variety of cultures (e.g., Bleidorn et al., 2016).

Following the data analytic system presented by Cohen and Cohen (1983), multiple and hierarchical multiple regressions will be used in all subsequent analyses to test whether hypotheses 1, 2, and 3 are supported. The multiple regression/correlation method (MRC) is appropriate for understanding relationships between complex behavioral phenomena. To test hypothesis 1, regressions will assess the main effects of the predictors on: a) social competence self-perception, b) behavioral conduct self-perception, and c) global self-worth. One regression will be conducted for each of the models (for a total of three regressions). Neighborhood disadvantage, stressful life events, self-perception at time 1, and relevant control variables will be examined to predict each of the three types of self-perception at time 2.

To test hypotheses 2 and 3, hierarchical multiple regressions will be used to examine the protective effects of ethnic identity. This statistical method uses a step-by-step approach to understand the contribution of different groups of variables on a particular outcome and has successfully been used to study moderation effects related to adolescent self-esteem (e.g., Moksnes & Espnes, 2013). The variables will be entered into the models in the following order.

1. Control variables: time 1 self-perception and demographic variables (if determined to be significant in preliminary analyses)
2. Predictor variables: neighborhood disadvantage and stressful life events
3. Protective variable: ethnic identity

4. Interaction term: ethnic identity x neighborhood disadvantage (hypothesis 2) OR ethnic identity x stressful life events (hypothesis 3)

This process will be repeated for each self-perception outcome (social competence, behavioral conduct, and global self-worth), resulting in three regressions for hypothesis 2 and three regressions for hypothesis 3 to assess for moderation. The difference in R^2 will be analyzed using ANOVA to examine whether the addition of each interaction term significantly contributes to the variance explained in self-perception outcomes.

Anticipated Results

The execution of this research will provide valuable insight into experiences of African American youth exposed to stressful circumstances. Regarding hypothesis 1, this study will contribute to the already robust body of literature regarding the psychological effects of neighborhood disadvantage and other stressful experiences for adolescents. Self-esteem as an aggregate construct has been identified as an important correlate of adolescent stress (e.g., Baldwin & Hoffman, 2002), and this study will contribute to our field's understanding of this complex process by providing evidence either in favor of or against the proposition that neighborhood stressors and general life stressors impact self-perceptions of social competence, behavioral conduct, and global self-worth. The author anticipates that longitudinal analysis will reveal a significant negative relationship between neighborhood disadvantage and life stressors at time 1 and all three domains of self-perception at time 2. Further, by examining both of these stressors together, the author will be able to examine the amount of unique variance accounted for by each, taking into account the other. This research will have important implications for adolescents, families, schools, and researchers regarding designing appropriate interventions and understanding the multi-faceted nature of self-perception.

Regarding hypotheses 2 and 3, results of this study will contribute to our understanding of ethnic identity as a source of strength for adolescents exposed to stress. Ethnic identity can function as

protection from discrimination (e.g., Harris-Britt et al., 2007), and contributes to positive self-esteem (e.g., Phinney & Chavira, 1992). This study will improve our knowledge by assessing its role as a protective factor for African American adolescents exposed to neighborhood disadvantage (hypothesis 2) and stressful life events (hypothesis 3) in relation to their self-perceptions of social competence, behavioral conduct, and global self-worth. The author expects that hierarchical multiple regressions will reveal significant interaction effects between ethnic identity and both neighborhood disadvantage and stressful life events. Results will provide insight into the relevance of ethnic identity as an asset for adolescents exposed to environmental and life stress and may offer evidence that supports promoting and engaging ethnic identity in order to buffer adolescent stress among African American youth.

Results

The original analysis plan was modified based on research of best methodological practices by the student and expertise from the primary advisor. When data analyses began, it was revealed that each variable of interest had missing data at a rate of at least 10%. When this level of missing data is observed, multiple imputation is an appropriate technique for optimizing the validity of results (Newman, 2014). Thus, the researcher used this method using the MICE package in R (van Buuren & Groothuis-Oudshoorn, 2011), which resulted in a sample of 140 participants.

Data was organized, cleaned, and variables were recoded to be consistent with a Gamma distribution (Wicklin, 2016). Regression diagnostics were conducted to confirm that the data met the assumptions for regression, including investigating potential outliers, influential data points, distribution of residuals, multicollinearity, and homoscedasticity. All assumptions were met (Osborne & Waters, 2002). The proposed research questions were analyzed using all 40 multiply imputed datasets, and results were pooled to obtain individual statistics.

Based on theoretical background (Bleidorn et al., 2016), gender and age were assessed as predictors of each type of self-perception, and neither were found to be significant predictors. To test

hypothesis 1, three multiple regressions were conducted. These regressions revealed that neighborhood disadvantage was not a significant predictor of social competence self-perception, behavioral conduct self-perception, nor global self-worth. Higher levels of stressful life events at time 1 were associated with lower behavioral conduct self-perception at time 2 ($p=.049$). Stressful life events was not a significant predictor of social competence self-perception nor of global self-worth. Higher levels of ethnic identity were associated with higher global self-worth at time 2 ($p = .02$). Ethnic identity was not a significant predictor of social competence self-perception nor of behavioral conduct self-perception.

With regard to hypotheses 2 and 3, it was determined by additional research that the hierarchical linear regression models that were proposed were not the most appropriate method of analyses. Instead, moderated generalized linear regression models were conducted. Six regressions were used to assess the moderation effects of ethnic identity on the relationship between either neighborhood disadvantage or stressful life events on each of the three self-perception outcomes. Ethnic identity did not significantly moderate the relationship between neighborhood disadvantage and any of the self-perception outcomes. Ethnic identity approached significance as a moderator of the relationship between stressful life events and behavioral conduct self-perception ($p = .054$), and in this model, higher levels of stressful life events predicted lower levels of behavioral conduct self-perception ($p = .04$). For low levels of ethnic identity, behavioral conduct self-perception at time two decreased as wave one stressful life events increased. However, for higher levels of ethnic identity, time one behavioral conduct self-perception remained more stable for all levels of stressful life events. Ethnic identity did not significantly moderate the relationship between stressful life events and social competence self-perception nor global self-worth.

Based on these results, additional analyses were conducted to measure the impact of each of the components of ethnic identity (ethnic identity affirmation, achievement, behaviors, and other group orientation) on self-perception. Each of these four components were measured as predictors of each

type of self-perception and moderators of the relationship between stressful life events and each type of self-perception, leading to modified version of the study that is presented above. In addition, we decided to remove the concept of neighborhood disadvantage from the study to streamline the project given the added complexity of incorporating specific components of ethnic identity.

Discussion

Results of the original research proposal demonstrated specific relationships between stressful life events and self-perception and between ethnic identity and self-perception. Stressful life events was negatively associated with behavioral conduct self-perception while ethnic identity was associated with global self-worth, providing support for the recommendation to analyze specificity of relationships in investigations of child stress exposure (McMahon et al., 2003). While ethnic identity approached significance as a protective factor against the impact of stressful life events on behavioral conduct self-perception, no significant moderators were found. Neighborhood disadvantage did not emerge as a predictor of self-perception nor as a protective factor.

According to results from this study, when adolescents experience higher levels of stressful life events such as loss of a family member, family member loss of employment, exposure to drug use, and transferring schools, they have poorer perceptions of their behavioral abilities. While certain items in this scale appear more obviously related to behavioral conduct (In the past year, did a friend of yours get in trouble for stealing, fighting, or destroying property?) than others, the linear nature of stressful life events as a predictor variable indicates that the number and variety of events experienced in a short period of time can significantly impact adolescent views of their behavior. It is likely that when adolescents experience difficult events or transitions in home, academic, and/or peer-related spheres of their lives, their energy and motivation for managing their behavior diminishes.

When adolescents reported greater ethnic identity as an average score (affirmation, behaviors, and achievement), they experienced higher levels of global self-worth. While endorsement of ethnic

identity was not related to social competence nor behavioral conduct, it had a strong impact on adolescents' general self-concept. The global self-worth subscale assesses an adolescent's general happiness and contentedness with themselves and their lives. It seems that while strong ethnic identity is not a panacea for building and sustaining self-competence, it directly and positively influence adolescent overall perceptions of their self-worth. It is possible that adolescents with higher ethnic identity have more exposure to role models of their own race/ethnicity, a better understanding of their culture's history and accomplishments, and a stronger connection to their cultural strengths. These experiences may support the development of general self-concept as opposed to behavioral conduct or social competence self-perception, which are more skills-based competencies.

Ethnic identity trended toward significance as a moderator in the relationship between stressful life events and behavioral conduct self-perception ($p = .054$). While not at the level of statistical significance, tentative exploration of this finding was integral in the decision to further analyze components of ethnic identity as potential protective factors. With regard to this finding, higher levels of ethnic identity weakened the negative relationship between stressful life events behavioral conduct self-perception. It is possible that stronger ethnic identity provides adolescents with additional coping skills (e.g., social support, activities and organizations that provide distractions) that mitigate the impact of stressful life events. CITE. In addition, it may be that social engagement and obligations to attend cultural events or be accountable to groups increases motivation for prosocial behavior and decreases opportunities for risky behaviors.

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