

A Longitudinal Analysis of the Indirect Effect of Violence Exposure on Future Orientation  
through Perceived Stress and the Buffering Effect of Family Participation

Carissa J. Schmidt, Marc A. Zimmerman, and Sarah A. Stoddard

University of Michigan

Author Notes

Carissa J. Schmidt, Department of Health Behavior and Health Education, University of Michigan School of Public Health; Marc A. Zimmerman, Department of Health Behavior and Health Education, University of Michigan School of Public Health; Sarah A. Stoddard, Department of Systems, Populations and Leadership, University of Michigan School of Nursing and Department of Health Behavior and Health Education, University of Michigan School of Public Health

This research was supported by the Flint Adolescent Study Grant Number R01 DA007484 (PI, Zimmerman) from the National Institute on Drug Abuse. Special thanks are owed to individuals who participated in this project. S. Stoddard is supported by a Mentored Scientist Career Development Award (1K01 DA 034765) from the National Institute on Drug Abuse.

Correspondence concerning this article should be addressed to Carissa J. Schmidt, University of Michigan School of Public Health, Department of Health Behavior and Health Education. Phone: (989) 313-0677. E-mail: carissaj@umich.edu.

This is the author manuscript accepted for publication and has undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the [Version of Record](#). Please cite this article as [doi: 10.1002/AJCP.12254](https://doi.org/10.1002/AJCP.12254)

This article is protected by copyright. All rights reserved

## Article Type: Original Article

## Abstract

Exposure to violence (ETV) during adolescence has been associated with negative effects in later life, and may negatively affect an individual's future orientation. Future orientation has important health implications and warrants being studied. Yet, few researchers have examined how ETV affects an individual's future orientation as a young adult. The purpose of this study was to examine the indirect effect of ETV during adolescence on future orientation as a young adult through perceived stress. We also tested the moderating effect of family participation on the relationship between perceived stress and future orientation. Longitudinal data from a sample of 316 African American participants (42.10% male and 57.90% female, Mage = 14.76 at Wave 1) from low socioeconomic backgrounds recruited from a Midwestern school district were used in the analysis. Multi-group structural equation modeling (SEM) was used to test our hypotheses. Our findings indicated that greater ETV during adolescence is associated with higher levels of perceived stress and, in turn, a more negative outlook on one's future as a young adult. This indirect effect occurred for individuals with lower family participation, but was not evident for individuals with greater family participation. These findings provide important implications for youth development interventions.

Exposure to violence (ETV) is a substantial public health issue considering the high prevalence of violence exposure as an adolescent (Stein, Jaycox, Kataoka, Rhodes, & Vestal, 2003; Voisin, 2007). Similar to Buka, Stichick, Birdthistle, and Earls (2001), we consider ETV to include victimization from violence and witnessing violent events. In one recent nationally representative sample of 4,000 youth, approximately 68% of 14 to 17 year old's reported witnessing violence (Finkelhor, Turner, Shattuck, & Hamby, 2015). Other researchers report that males, African-American youth, and youth living in urban areas and economically disadvantaged neighborhoods are at higher risk for being exposed to violence than other youth (Campbell & Schwarz, 1996; Fitzpatrick & Boldizar, 1993; Selner-O'Hagan, Kindlon, Buka, Raudenbush, & Earls, 1998).

The adverse effects of ETV are well documented. It is associated with mental distress and several problem behaviors (Author, 2015; Foster, Kuperminc, & Price, 2004; Gorman-Smith &

Tolan, 1998). In a sample of adolescents, Mazza and Reynolds (1999) found ETV associated with suicide ideation. Others found ETV predicts violence perpetration among urban adolescents (Ozar & McDonald, 2006; Halliday-Boykins & Graham; 2001). Continual ETV is also linked to greater substance abuse among youth (Kilpatrick et al., 2000). Furthermore, youth faced with persistent ETV are more likely to have lower grade point averages due to sleep disturbances, decreased attention and concentration, and avoidant behavior (Saltzman, Pynoos, Layne, Steinberg, & Aisenberg, 2001). Yet, few researchers have focused on how ETV affects positive outcomes such as future orientation.

### **Future Orientation**

Developing a sense of the future and identifying future goals are vital developmental tasks for adolescents and young adults. Future orientation has been described as an individual's thoughts, plans, motivations, hopes, and feelings about his or her future (Arnett, 2000; Nurmi, 1989, 1991; Nuttin, 1964; Trommsdorff, 1983). An individual's feelings of hope and purpose in life can be strong indicators of future orientation given they are both associated with goal-directed behavior and cognitions. Hope is defined as, "the process of thinking about one's goals, along with the motivation to move toward (agency) and the ways to achieve (pathways) those goals" (Snyder, 1995, p. 355). Similarly, a greater purpose in life is characterized by having goals in life and a sense of directedness, and having aims and objectives for living (Ryff, 1995).

Future orientation is associated with positive development (Nurmi, 1993) and greater life satisfaction (O'Sullivan, 2010). Furthermore, having a positive future orientation provides individuals with motivation for reaching future-oriented goals and plays an important role in effective decision-making (Trommsdorff, Lamm, & Schmidt, 1979). Routledge and Arndt (2005) suggest that individuals with well-articulated goals and the belief they can attain these goals are more likely to be aware of the consequences of engaging in risk behaviors. Positive future orientation is also linked to less involvement in criminal behavior (Oyserman & Markus, 1990; Oyserman & Saltz, 1993), less violent behavior over time (Author, 2011), less alcohol use (Robbins & Bryan, 2004), and less drug use (Bolland et al., 2007; Robbins & Bryan, 2004).

Most research on the benefits of future orientation have focused on younger adolescents, even though being future oriented is especially salient for young adults. From a developmental perspective, young adults (i.e., ages 18-35) are often in the career planning and development stage of life, which requires goal setting and decision-making—two tasks that demand a strong

sense of future orientation (Phillips & Blustein, 1994). Additionally, young adults have goals related to pursuing higher education and getting married (Cross & Markus, 1991; Nurmi, 1992). A more positive future orientation provides young adults with the motivation necessary to successfully reach these life goals.

### **Exposure to Violence and Future Orientation**

In their hopelessness theory of depression, Abramson, Metalsky, and Alloy (1989) postulate that people are likely to experience hopelessness when faced with chronic exposure to an uncontrollable event and when this event has important negative implications. ETV is one example of an uncontrollable event that has copious negative effects and can be chronic, particularly among young, low-income, African American urban residents (Buka et al., 2001; Crouch, Hanson, Saunders, Kilpatrick, & Resnick, 2000; Youngstrom, Weist, & Albus, 2003). As a result, this population may be more likely to experience hopelessness and less likely to envision a positive future for themselves (Logan, 2001; So, Gaylord-Harden, Voisin, & Scott, 2015; Author et al., 2011). This hypothesis is supported by researchers who have found lower educational and occupational aspirations and more negative future expectations among low-income minority individuals living in urban centers compared to other populations (Duke, Skay, Pettingell, & Borowsky, 2009; Prince et al., 2016; Strayhorn, 2009).

Limited studies have focused on the link between ETV and future orientation. Additionally, there have been mixed results reported by the few researchers who have examined this relationship. DuRant, Getts, Cadenhead, Emans, and Woods (1995) studied the associations between ETV, hope, and purpose in life among African-American urban adolescents and found that greater ETV was associated with less hope and less purpose in life. While Durant and colleagues (1995) studied the effect of living in violent communities rather than ETV specifically, it is reasonable to conclude that individuals who reside in communities burdened with crime and violence are more likely to both witness violence and be victims of violence. Brown and Gourdine (2001) found that higher levels of ETV were associated with less hopefulness in a study of African American adolescent females. Conversely, Hinton-Nelson, Roberts, and Snyder (1996) found self-reported hope was highest among adolescents who reported witnessing violence, but who did not have any violence directed specifically at them. Warren (2009) reported no association between ETV and hope.

Inconsistencies in the relationship between ETV and future orientation may be due to the use of cross-sectional study designs. In addition, researchers tended to examine main effects of ETV and did not consider potential mechanisms by which the relationship between ETV and future orientation operate. The stress resulting from ETV may mediate the relationship between ETV and future orientation. Thus, ETV may not directly affect future orientation, but it may increase stress, which reduces one's future orientation. Furthermore, this effect of ETV on future orientation may have long-lasting effects. ETV can lead to feelings of hopelessness (Abramson et al., 1989), and once a person becomes hopeless, there are biological and psychological processes activated that may cause the hopelessness to persist (Abramson et al., 1989). Overall, however, there is limited research on the pathways by which ETV influences a person's future orientation, and this is particularly true for research on the long-term effects of ETV on future orientation.

### **Exposure to Violence and Perceived Stress**

Researchers have consistently identified a relationship between ETV and higher levels of stress (Wilson & Rosenthal, 2003). The Transactional Theory of Stress and Coping (TTSC; Lazarus & Folkman, 1984) suggests that stress is based on person—environment transactions. When faced with a stressor, individuals provide an initial evaluation as to whether the stressor is irrelevant to them (i.e., neutral) or positive or negative to their wellbeing. If a stressor is appraised as uncontrollable and unpredictable, it is likely to be evaluated as negative and perceived as more stressful. ETV is often an uncontrollable and unpredictable stressor because individuals often do not know what to do about the violence they are exposed to nor can they predict when they are about to witness violence or be victimized. TTSC posits that after a stressor is perceived as negative to one's wellbeing, a secondary appraisal takes place in which individuals assess their ability to cope with the stressor (Lazarus & Folkman, 1984). Unfortunately, ETV can affect adolescents' ability to cope effectively with stress (Margolin & Gordis, 2000). Researchers have also found that ETV is related to both subjective stress outcomes (i.e., perceived stress) as well as objective stress outcomes (i.e., cortisol levels). For instance, Hartinger-Saunders et al. (2011) found that victimization was a significant predictor of self-reported perceived stress levels in adolescents. Similarly, Author (2014) found that cumulative violence exposure during adolescence and young adulthood predicted a weakened cortisol response in young adulthood.

### **Perceived Stress and Future Orientation**

Few researchers have studied the predictive relationship of perceived stress on future orientation. Higher stress levels are associated with greater mental health problems such as depression and anxiety (Hammen, 2005; Larzelere & Jones, 2008), but we have limited information on how higher stress may affect future orientation or hope for the future. A study by Yarcheski, Mahon, and Yarcheski (2011) is a notable exception. In a small sample of middle school students, they found that greater perceived stress was correlated with lower hope scores. This study, however, used a cross-sectional design, which cannot confirm a developmental process for this relationship.

Researchers who have studied stress and future orientation or related constructs (e.g., hope, purpose, meaning in life, optimism) focused on understanding how such constructs influence coping. Folkman (2010), for example, argues that when faced with stressful situations, hope is necessary to effectively cope with the stress, while at the same time, effective coping fosters hope. Conceptualizing hope and coping as a reciprocal relationship may lead one to conclude that if effective coping fosters hope, ineffective coping may hinder the development of hope, thus leading to greater levels of perceived stress. As such, it is plausible that higher stress levels may reduce an individual's future orientation.

### **Family Environment and Resiliency**

Resiliency theory provides a framework for understanding why some youth develop positively in the face of adversity, like ETV, while others do not (Luthar, Cicchetti, & Becker, 2000; Author, 2013). Author (2005) describe three basic mechanisms of resiliency—protective, compensatory, and challenge. The protective model of resiliency refers to a process in which a positive factor buffers or moderates the negative effect of a risk factor on an outcome (Author et al., 2013). The protective model is particularly relevant in the context of ETV and future orientation.

Scholars have studied the role of family environment for buffering the negative effects of stress on positive youth development. Researchers have reported that family support buffers the relationship between perceived stress and depression (i.e., the negative effect of stress on depression was reduced for adolescents who reported more family support; Author, 2013; Licitra-Kleckler & Waas, 1993; Raffaelli et al., 2013). Low family conflict has also been found to protect youth from the negative effects of high stress levels (Holmes, Yu, & Frenzt, 1999;

Kliewer & Kung, 1998). The role of family participation for buffering negative effects of stress has received less attention.

Family participation refers to the extent to which members of a family engage actively in various recreational events (e.g., engaging in a sport) or fun activities (e.g., attending a concert or sports event) together. Family participation is a unique characteristic of the family environment that may buffer the negative effects of stress differently than other family environment factors. It is possible that family participation helps to provide adolescents with stress-buffering skills and support. Findings from one study demonstrate, for example, that youth who participated in a greater number of activities with their families had significantly higher self-esteem compared to youth with less family participation (Ornelas, Perreira, & Ayala, 2007). Moreover, youth with higher self-esteem cope with stress by using their own resources (i.e., active coping), while youth with lower self-esteem tend to feel helpless and cope by relying on external sources, such as wishful thinking (i.e., passive coping; Thoits, 1995). Given that active coping is a more effective mechanism for dealing with stress (Taylor, Helgeson, Reed, & Skokan, 1991), it is plausible that adolescents from families with higher levels of family participation may be able to solve stressful situations better than adolescents from families with less family participation.

It is also possible that family participation may buffer the negative effects of stress by providing greater opportunities for positive role modeling by parents or other respected family members. Family participation refers to the idea that parents (or caregivers) and children engage in common activities together including recreational or more instrumental (e.g., homework) activities. Social learning theory (Bandura, 1977) suggests that individuals learn behaviors and skills through observing others. Therefore, it is possible that during the time adolescents spend doing activities together with their family, they are observing how individuals in their family handle stress. Through this observational learning, youth may develop their own coping strategies. Higher levels of family participation would be expected to reduce the negative effects of stress for adolescents because of the modeling that may occur or the closeness and support developed by interacting in positive ways. Few researchers, however, have studied family participation in the context of stress due to ETV and future orientation. To the best of our knowledge, none have longitudinally examined the role family participation may play for buffering the negative effects of stress due to ETV.

### **Present Study**

We used longitudinal data to examine the indirect relationship between ETV and future orientation through perceived stress in a sample of 316 urban African Americans who were predominantly low-income. We then studied if this indirect relationship was moderated by level of family participation. We hypothesized that ETV during adolescence would lead to lower future orientation in young adulthood, but that this relationship would be through perceived stress. More specifically, we hypothesized ETV would predict higher perceived stress, which would result in lower future orientation. Further, we expected this indirect effect would be reduced for individuals who report higher levels as compared to lower levels of family participation.

## Method

### Sample

The data used for this study were collected as part of the BLINDEDED Study, which is a longitudinal study of predominantly African American youth at risk for substance use and school dropout. Eligible students included those who were enrolled in one of four public high schools in BLINDEDED and had a grade point average of 3.0 or below at the start of high school. Youth who were diagnosed with emotional or developmental impairments were excluded from the study. Data were collected from 851 students when they were in ninth grade and they were followed into young adulthood. Waves 1-4 (collected in 1994, 1995, 1996, and 1997, respectively) correspond to adolescence, Waves 5-8 (collected in 1999, 2000, 2001, and 2002, respectively) to emerging adulthood, and Waves 9-12 (collected in 2009, 2010, 2011, and 2012, respectively) to young adulthood. Data were collected from participants once per wave.

Data from Waves 1-4 and Wave 11 were used in this study. ETV, perceived stress, and family participation variables were created using data from Waves 1-4, while our outcome of interest, future orientation, was created using data from Wave 11. Individuals were only included in analyses if they had no missing data for our latent outcome variable (i.e., future orientation) or our moderator variable (i.e., family participation). Additionally, our analyses focused only on African American youth because white and mixed race youth made up only 20% of the original sample. This resulted in a final sample size of 316 participants. The sample used for the present study consisted of 42.10% ( $n = 133$ ) males and 57.90% ( $n = 183$ ) females. The mean age of participants at Wave 1 was 14.76 ( $SD = .60$ ).

### Procedures



The BLINDED FOR REVIEW Review Board approved the BLINDED Study and a Certificate of Confidentiality was obtained from the National Institute of Health. Prior to participants completing the survey, consent was obtained. Participation in the study was completely voluntary and no compensation was provided to participants. Data were collected during structured, face-to-face interviews by trained research staff. Interviews took between 50-60 minutes. A self-administered survey followed the face-to-face interview and was used to collect more sensitive information (e.g., drug and alcohol use, sexual risk behavior). The retention rate was 90% from Waves 1 to 4, 65% from Waves 5 to 8, and dropped to 44% at Wave 11 due to a six year gap between Waves 8 and 9.

### Measures

**Future orientation.** Our dependent variable was future orientation at Wave 11 when participants were about 32 years old. It was specified as a latent construct with three observed variables: 1) hope agency, 2) hope pathways, and 3) purpose. Hope agency is a person's motivation for pursuing and reaching their goals (Snyder et al., 1991). This construct was assessed using four items from Snyder et al.'s (1991) Hope Scale. Participants were asked to determine how true or false each statement was about themselves (e.g., I energetically pursue my goals). Response options ranged from 1 (Definitely False) to 4 (Definitely True). A mean hope agency score was computed for each participant with higher scores indicating higher levels of hope agency ( $\alpha = 0.79$ ). Hope pathways is a person's ability to plan and produce routes for reaching their goals (Snyder et al., 1991). This construct was assessed using four items from Snyder et al.'s (1991) Hope Scale. Participants were asked to determine how true or false each statements was about themselves (e.g., I can think of many ways to get the things in life that are important to me). Response options ranged from 1 (Definitely False) to 4 (Definitely True). A mean hope pathways score was computed for each participant. Higher scores indicated a higher level of hope pathways ( $\alpha = 0.76$ ). Purpose, or a person's aims and objectives for living (Ryff, 1995), was assessed using a shortened version of the Meaning in Life questionnaire (Steger, Frazier, Oishi, & Kaler, 2006). Participants were asked to indicate how strongly they agree or disagree with four statements (e.g., My life has a clear sense of purpose). Response options ranged from 1 (Strongly Disagree) to 7 (Strongly Agree). A mean purpose score was computed for each participant with higher scores indicating greater purpose in life ( $\alpha = 0.92$ ).

**Exposure to violence.** ETV was calculated using two subscales (i.e., violence victimization and witnessing violence). Violence victimization was measured with three items (Wave 1:  $\alpha = 0.50$ ; Wave 2:  $\alpha = 0.51$ , Wave 3:  $\alpha = 0.57$ ). Participants were asked to report the frequency over the last 12-months of experiencing the following: someone threatening to hurt them, someone physically assaulting or hurting them, and someone taking something from them using physical force. The response options ranged from 1 (0 times) to 5 (4 or more times). Participants were also asked to report the frequency over the last 12-months of witnessing violence with the following events: seeing someone commit a violent crime where a person was hurt, and seeing someone get shot, stabbed, or beaten up. The response options ranged from 1 (0 times) to 5 (4 or more times). The inter-item correlations for these two questions were: Wave 1 = 0.51; Wave 2 = 0.64; Wave 3 = 0.68. Each item from both subscales was dichotomized into 0 (no experience of any event) and 1 (at least one event once) because individual items were highly skewed. A sum of these dichotomized values was calculated for ETV at Wave 1, Wave 2, and Wave 3. Scores could range from 0-5 within a given year. Each annual summed score was then used as three individual indicators for our latent construct of ETV.

**Perceived stress.** Perceived stress is a measure of the degree to which situations in a person's life are appraised as stressful (Cohen, Kamarck, & Mermelstein, 1994). We assessed perceived stress with Cohen, Kamarck, and Mermelstein's (1983) 14-item Perceived Stress Scale (e.g., In the past month, how often have you *felt nervous and "stressed out"*?). Response options ranged from 1 (Never) to 5 (Very Often). A mean composite score was computed for each participant using data from Wave 4. Higher scores indicated a higher level of perceived stress ( $\alpha = 0.77$ ).

**Family participation.** Family participation was assessed with four items from the Active-Recreational Orientation subscale of the Family Environment Scale (e.g., We go to movies, sports events, or do other fun activities together as a family; Moos & Moos, 1994). Response options ranged from 1 (Hardly Ever) to 4 (Often). A mean composite score was computed for each participant using data from Wave 4. Higher scores indicated a greater level of family participation ( $\alpha = 0.75$ ).

**Demographic variables.** Demographic variables measured in this study included gender and family socioeconomic status (SES). Gender was self-reported at Wave 1 with response options of male or female. Family SES was assessed by prestige scores (Nakao & Treas, 1990),

assigned based on participants' reports of their parents' occupations. The occupations ranged from 29.3 (private household work) to 64.5 (professional). If both parents had occupations, the higher of the two prestige scores was used.

### **Data Analytic Strategy**

First, we conducted attrition analysis to see if youth excluded from analysis differed from those included in the analysis. Second, we conducted univariate descriptive statistics and Pearson correlations to examine distributions and bivariate relationships among variables of interest. Finally, we tested our hypothesized moderated-mediation using structural equation modeling (SEM) using Mplus 7.3 (Muthén & Muthén, 2012). To deal with missing data, we used full information maximum likelihood (FIML). FIML was used on all study variables with missing data except for our observed variables for future orientation (i.e., hope agency, hope pathways, and purpose) and our moderator variable (i.e., family participation) because individuals were not included in our analysis if they had missing data for these variables. The advantage of using FIML for missing data, as opposed to multiple imputation, is that it produces a deterministic result rather than a different result each time it is run. FIML works by estimating a likelihood function for each individual based on the variables that are present so that all the available data are used (Schlomer, Bauman, & Card, 2010).

The first step in testing our hypothesized relationships was to create and test a measurement model assessing whether our measured items were appropriate indicators of our latent constructs. We specified ETV and future orientation as latent constructs in our model. Confirmatory factor analysis within Mplus was used to test the fit of our measurement model. We then tested our full measurement and structural model among all participants to determine whether ETV indirectly affected future orientation through perceived stress. Our structural model included a direct and indirect path from ETV to future orientation. The indirect pathway was through perceived stress. We also controlled for gender and SES in our model. Based on findings from bivariate correlations, we controlled for gender and SES by regressing them on perceived stress. Finally, we used multi-group structural equation modeling to test whether level of family participation moderates the pathway between perceived stress and future orientation. For this analysis, our grouping variable was high versus low levels of family participation. Participants in the high family participation group had scores greater than or equal to the average score of 2.18

( $n = 152$ ), while participants in the low family participation group had scores lower than the average score of 2.18 ( $n = 164$ ).

Model fit was based on multiple indices including the following: model chi-square, Comparative Fit Index (CFI; Bentler, 1990), Root Mean Square Error of Approximation (RMSEA; Steiger, 1990), and Standardized Root Mean Square Residual (SRMR). Statistical significance for individual pathways was also assessed. Furthermore, to determine whether our structural model differed between individuals with low family participation and high family participation, a chi-square difference test was computed.

## Results

### Attrition Analysis

Attrition analyses were conducted to determine if participants excluded from this analysis differed from participants included. Results of the attrition analyses indicated that these individuals did not differ on SES ( $t(748) = 0.04, p > .05$ ), but that females were more likely to be included than males ( $\chi^2(1, N = 850) = 12.53, p < .001$ ) and those included in our analysis were younger by 0.15 years on average compared to those excluded ( $t(848) = -3.41, p = .001$ ). Furthermore, participants included in our analysis reported a lower purpose in life ( $t(408) = 2.06, p = .04$ ) and greater hope agency ( $t(408) = 1.80, p < .01$ ) compared to those excluded from our analysis. Individuals included in our study did not differ from those excluded on exposure to violence at Wave 1 ( $t(846) = .38, p > .05$ ), Wave 2 ( $t(809) = .56, p > .05$ ), or Wave 3 ( $t(781) = .42, p > .05$ ), perceived stress ( $t(764) = 1.14, p > .05$ ), family participation ( $t(745) = 1.63, p > .05$ ), or hope pathways ( $t(408) = 1.80, p > .05$ ).

### Descriptive Statistics & Correlation Analyses

Table 1 provides descriptive statistics for all study variables. Participants reported high levels of hope agency and hope pathways during young adulthood. Additionally, participants reported moderately high levels of purpose in life at Wave 11 of data collection. The level of ETV among participants during the first three waves of data collection remained relatively consistent. ETV was the highest during Wave 1 and the average level of exposure decreased each year. With regards to perceived stress, participants reported moderate levels of stress at Wave 4. The average family participation level in our sample indicates low levels of family participation in recreational events or supportive activities as a family unit. The average family SES score indicates that our sample is more blue-collar to low-income.

Correlations among all measured continuous variables are presented in Table 2. Hope agency, hope pathways, and purpose in life were all correlated with each other. Additionally, higher levels of hope agency and higher levels of hope pathways were both associated with greater family participation and less perceived stress. Purpose, however, was not correlated with family participation or perceived stress. ETV at each of the first three waves of data collection was positively correlated with each other. Greater levels of ETV at Wave 1, Wave 2, and Wave 3 were associated with higher perceived stress levels. Family participation was associated with less perceived stress. Older youth reported more hope agency, ETV at Waves 1 and 2, and perceived stress. Finally, family SES was not associated with any variables of interest.

### **Measurement Model**

Results of our measurement model indicated that our ETV and future orientation latent constructs fit the data well among our full sample. The model chi-square statistic for the measurement model was 7.46 ( $df = 8$ ,  $N = 316$ ,  $p = 0.49$ ). The CFI, RMSEA, and SRMR model fit indices indicated excellent fit of our model to the data (CFI = 1.00; RMSEA = 0.00; SRMR = .03). In addition, each of the indicators loaded on their respective latent constructs. Standardized factor loadings were all significant ( $p < .001$ ) and ranged from 0.51 to 0.90.

### **Indirect Effect Model**

Results from our indirect effect model tested among all participants are shown in Figure 1. The chi-square test of model fit suggested our model fit the data well ( $\chi^2 = 26.44$ ,  $df = 22$ ,  $N = 316$ ,  $p = .23$ ). Other model fit indices also indicated our model was a good fit (CFI = 0.99; RMSEA = 0.03; SRMR = 0.04).

ETV predicted higher levels of perceived stress ( $b = 0.19$ ,  $SE = 0.04$ ,  $p < .001$ ) but was not predictive of future orientation ( $b = 0.06$ ,  $SE = 0.08$ ,  $p > .05$ ). Also, while SES was not predictive of perceived stress ( $b = -0.001$ ,  $SE = 0.003$ ,  $p > .05$ ), we found that being female was predictive of higher levels of perceived stress ( $b = 0.34$ ,  $SE = 0.06$ ,  $p < .001$ ). We found a main effect of perceived stress on future orientation ( $b = -0.52$ ,  $SE = 0.13$ ,  $p < .001$ ), where greater perceived stress predicted lower future orientation. Overall, our model explained 18% of variance in participants' perceived stress ( $p < .001$ ) and 7% of variance in participants' future orientation ( $p = .03$ ). Using the model indirect feature in Mplus, we found no evidence of a direct effect between ETV and future orientation ( $b = 0.06$ ,  $SE = 0.08$ ,  $p > .05$ ), but we did find a

strong indirect effect of ETV on future orientation through perceived stress ( $b = -0.10$ ,  $SE = 0.03$ ,  $p = .002$ ).

### **Multi-group Model: Moderating effects of family participation**

We found the measurement model for high and low family participation groups to be the same, as indicators loaded on their respective latent constructs in the same direction and with the same level of significance for both groups. Next, to test for differences between groups on the path from perceived stress to future orientation, a model with the parameters for gender, SES, ETV to stress, and ETV to future orientation constrained was compared to a model with each of these parameters constrained except for the parameter for the pathway between perceived stress and future orientation. The model with all of the parameters constrained to be equal across groups had a marginally significant chi-square ( $\chi^2(63) = 82.79$ ,  $p = 0.048$ ) and other fit indices indicated acceptable fit ( $CFI = 0.95$ ;  $RMSEA = 0.05$ ;  $SRMR = 0.07$ ). The model with all of the parameters constrained to be equal across groups except for the pathway from perceived stress to future orientation had a non-significant chi-square ( $\chi^2(62) = 79.10$ ,  $p = 0.07$ ) and other fit indices indicated better model fit as well ( $CFI = 0.96$ ;  $RMSEA = 0.04$ ;  $SRMR = 0.07$ ). Parameter estimates for this model can be found in Figure 2. A chi-square difference test indicated that releasing the loading constraint for the path from perceived stress to future orientation provided a better model ( $\Delta\chi^2 = 3.69$ ,  $\Delta df = 1$ ,  $p = 0.05$ ).

### **Discussion**

Overall, our findings support our main hypothesis that violence exposure during adolescence indirectly affects African American young adults' future orientation through perceived stress. More ETV was predictive of greater perceived stress and higher levels of perceived stress was predictive of lower future orientation. Similar to Ludwig and Warren (2009), we found no support for a direct relationship between ETV and future orientation. Instead, however, our findings provide evidence that the effect of violence exposure on future orientation works fully through a separate construct, in the case of our study, that separate construct was perceived stress. This is consistent with previous findings demonstrating that ETV is often indirectly related to behavioral and psychosocial outcomes through individual-level processes (Buckner, Beardslee, & Bassuk, 2004; Calvete & Orue, 2011). It is important to note that Baron and Kenny's (1986) causal steps approach to testing mediating effects would require us to have found an association between ETV and future orientation in order to conclude an

indirect effect was present. However, this requirement has been heavily critiqued. In fact, statisticians have proven that a variable can causally mediate between a predictor and outcome even if the predictor and outcome are not associated (Hayes, 2009; Shrout & Bolger, 2002). As Mathieu and Taylor (2006) state, "...mediation inferences are justified if the indirect effect carried by the X [predictor]  $\rightarrow$  M [mediator] and M $\rightarrow$ Y [outcome] paths is significant" (p. 1037). Thus, it is legitimate for us to conclude there is an indirect effect of ETV on future orientation through perceived stress despite a non-significant direct effect of ETV on future orientation.

Our results suggest that consistent ETV may disrupt an individual's ability to think about and plan for his or her future because they are overburdened by stress. Individuals exposed to violence are tasked with figuring out how to deal with the stress they face stemming from the ETV, which can be mentally and emotionally taxing. It is likely challenging to be oriented towards the future under these conditions. Of the utmost concern is that we found the stress from ETV negatively influences an individual's future orientation well past adolescence and into young adulthood. This finding demonstrates the extensive and long-lasting risk ETV places on adolescents and highlights the importance of preventing violence, particularly among low-income minority youth who tend to be at greater risk for ETV (Campbell & Schwarz, 1996; Fitzpatrick & Boldizar, 1993; Selner-O'Hagan et al., 1998).

Another key finding from our study supports a protective model of resiliency for family participation. This was evidenced by our finding that the indirect effect of ETV on future orientation through perceived stress was eliminated for youth reporting high family participation. In this case, family participation is a resource, or a positive factor that helps individuals overcome the risks associated with high stress levels (Author, 2005). One possible explanation as to why greater levels of family participation may buffer the negative effect of stress on future orientation is by fostering close family relationships. Given family closeness promotes self-esteem among adolescents (Youngblade et al., 2007), it is plausible that this increased self-esteem positively influences one's coping skills. This explanation is supported by Thoits (1995) who found that adolescents with higher self-esteem are better able to cope with stress compared to adolescents with lower self-esteem.

It is also possible that adolescents learn coping skills from members of their family during the time they are spending with them doing fun activities together as suggested by social

learning theory. It is unlikely that parents' (or caregivers), especially those from low income African-American families (Williams, 1999), feelings of stress disappear during the times when they are actively engaging in fun and supportive activities with their children. Therefore, parents (or caregivers) may be modeling for their children, consciously or unconsciously, that the stress of everyday life does not have to interfere with moments of fun or negate the assistance they can provide to help them do well in school. Thus, family participation may provide adolescents with more opportunities to observe coping behaviors and skills, which they can then use themselves to cope with stress.

### **Study Limitations**

The results of the study should be interpreted with some attention to study limitations. First, we examined only one source of stress affecting future orientation despite there being several salient stressors, particularly for lower income, communities of color (Lloyd & Turner, 2003; Margolin & Vickerman, 2007). Therefore, one reason our model may not explain as much variation as we expected may be because ETV may not be the most important predictor of perceived stress levels. Yet, ETV is a particularly salient source of stress for our sample of participants because low-income urban adolescents are at a greater risk for being exposed (Campbell & Schwarz, 1996). Furthermore, ETV has recently been proposed as a new adverse childhood experience (ACE) category (WHO, 2011; Lee, Larkin, & Esaki, 2017) given the plethora of consequences stemming from ETV. In fact, Finkelhor, Shattuck, Turner, and Hamby (2013, 2015) suggest ETV is a stronger predictor of health outcomes compared to some of the original ACE items. Thus, our focus on adolescents' ETV as a pervasive stressor affecting later future orientation is warranted. Nevertheless, it would be advantageous to examine additional sources of stress (e.g., family economics, experiences of racism) to help tease apart which may be more or less relevant for future orientation.

Second, given the data that were available, we created a latent construct for our future orientation measure using hope agency, hope pathways, and purpose as opposed to using an already existing measure. However, the scales we used to create our latent future orientation construct include items similar to those included in traditional measures. For instance, Whitaker, Miller, and Clark's (2000) Positive Future Outlook scale includes an item that states, "I can do just about anything I set my mind to," which is similar to the item, "I can meet the goals that I set for myself," included in our study from Snyder et al.'s (1991) Hope Scale. Furthermore,



researchers recommend measuring future orientation by incorporating items that measure hope and purpose as these are central aspects of future orientation (Author, 2011). While some existing measures of future orientation include items assessing hope, many do not include items assessing purpose. Thus, our inclusion of purpose in our measure of future orientation is a strength of our study. That being said, some existing measures of future orientation assess individuals' anticipation of future consequences (e.g., Cauffman & Woolard, 1999; Steinberg et al., 2009), which was not included in our measure. A multidimensional measure of future orientation that incorporates hope, purpose, and anticipation of future consequences would be useful in future studies.

Third, we did not assess specific types of recreational events and supportive activities in which families participated. It is possible that some types of family participation may be more effective than others for moderating the effects of stress on future orientation. Yet, our study is one of the first to examine these effects and suggests that research on more detailed family participation activities may be warranted. Finally, the observed variables for our measure of ETV were somewhat skewed and recoded into dichotomous variables. This may have contributed to less variation in our stress exposure measure, but the fact that we included multiple measures over multiple years and found excellent measurement models in our study somewhat reduces this concern. Further, the fact that we found results in hypothesized directions regardless of limited variation in the individual ETV variables also diminishes this concern.

### **Conclusion & Implication**

Despite these limitations, the current study adds to our understanding of the effects of ETV on development in several useful ways. First, we examined how ETV relates to a positive outcome (i.e., future orientation) while the majority of research on the effects of ETV is in relation to negative outcomes such as mental distress and violence perpetration. Additionally, we examined this relationship longitudinally. Prior research has often been conducted using cross-sectional designs limiting the capability of identifying a directional relationship. Our study was able to address this limitation by demonstrating ETV during adolescence negatively impacts future orientation later in young adulthood for African Americans. Third, most researchers have examined the main effects of ETV but have not considered potential mechanisms by which ETV influences health-related outcomes. Our study investigated one possible pathway through which ETV indirectly affects future orientation. Our findings demonstrate the importance of continuing

to examine the mechanisms that explain how ETV affects other outcomes instead of solely focusing on the main effects. Finally, our study contributed to the importance of family participation as a protective factor for youth exposed to violence. Although many researchers have examined parental support, family participation is an under-studied family environment characteristic. The buffering effect of family participation as a specific characteristic of the family has been ignored.

Our study findings offer some guidance for efforts to prevent negative effects of ETV, particularly among youth at greater risk of being exposed to violence. Our results, for example, suggest that ETV is associated with increased stress, which reduces hope for the future. This lost hope may have significant deleterious consequences for the future of many individuals that could continue the cycle of violence, poverty, and psychological distress. Our findings also suggest that one way to help youth cope with the negative effects of ETV is to create programs designed to increase the amount of time youth and their families spend participating in recreational and supportive activities. While adolescence is a developmental period in which friends become increasingly more salient, parents and family remain important (Steinberg, 2002). In fact, our study provides evidence that the buffering effect of family participation during adolescence lasts across several years into young adulthood.

#### References

- Abramson, L. Y., Metalsky, G. I., & Alloy, L. B. (1989). Hopelessness depression: A theory-based subtype of depression. *Psychological Review*, 96(2), 358.
- Arnett, J. J. (2000). High hopes in a grim world: Emerging adults' views of their futures and

- “Generation X”. *Youth & Society*, 31, 267–286.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191-215.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107, 238–246.
- Bolland, J. M., Bryant, C. M., Lian, B. E., McCallum, D. M., Vazsonyi, A. T., & Barth, J. M. (2007). Development and risk behavior among African American, Caucasian, and mixed-race adolescent living in high poverty inner-city neighborhoods. *American Journal of Community Psychology*, 40, 230–249. doi:10.1007/s10464-007-9132-1
- Brown, A. W., & Gourdine, R. (2001). Black adolescent females: An examination of the impact of violence on their lives and perceptions of environmental supports. *Journal of Human Behavior in the Social Environment*, 4(4), 275-298.
- Buka, S. L., Stichick, T. L., Birdthistle, I., & Earls, F. J. (2001). Youth exposure to violence: prevalence, risks, and consequences. *American Journal of Orthopsychiatry*, 71(3), 298.
- Buckner, J. C., Beardslee, W. R., & Bassuk, E. L. (2004). Exposure to violence and low-income children's mental health: Direct, moderated, and mediated relations. *American Journal of Orthopsychiatry*, 74(4), 413.
- Calvete, E., & Orue, I. (2011). The impact of violence exposure on aggressive behavior through social information processing in adolescents. *American Journal of Orthopsychiatry*, 81(1), 38.
- Campbell, C., & Schwarz, D. F. (1996). Prevalence and impact of exposure to violence among suburban and urban middle school students. *Pediatrics*, 98, 396–402.
- Cauffman, E., & Woolard, J. (1999). The future outlook inventory. Unpublished text.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 385-396.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1994). Perceived stress scale. *Measuring stress: A guide for health and social scientists*.
- Cross, S., & Markus, H. (1991). Possible selves across the life span. *Human Development*, 34,

230-255.

- Crouch, J. L., Hanson, R. F., Saunders, B. E., Kilpatrick, D. G., & Resnick, H. S. (2000). Income, race/ethnicity, and exposure to violence in youth: Results from the National Survey of Adolescents. *Journal of Community Psychology*, 28, 625–641.
- Duke, N., Skay, C., Pettingell, S., & Borowsky, I. (2009). Adolescent perception of premature risk for death: Contributions from individual and environmental contextual factors. *Academic Pediatrics*, 9(4), 256–262.
- DuRant, R. H., Getts, A., Cadenhead, C., Emans, S. J., & Woods, E. R. (1995). Exposure to violence and victimization and depression, hopelessness, and purpose in life among adolescents living in and around public housing. *Developmental and Behavioral Pediatrics*, 16(4), 233-237.
- Finkelhor, D., Shattuck, A., Turner, H., & Hamby, S. (2013). Improving the adverse childhood experiences study scale. *JAMA Pediatrics*, 167(1), 70-75.
- Finkelhor, D., Shattuck, A., Turner, H., & Hamby, S. (2015). A revised inventory of adverse childhood experiences. *Child Abuse & Neglect*, 48, 13-21.
- Finkelhor, D., Turner, H. A., Shattuck, A., & Hamby, S. L. (2015). Prevalence of childhood exposure to violence, crime, and abuse: Results from the National Survey of Children's Exposure to Violence. *The Journal of American Medical Association Pediatrics*, 169(8), 746-754. doi:10.1001/jamapediatrics.2015.0676.
- Fitzpatrick, K. M., & Boldizar, J. P. (1993). The prevalence and consequences of exposure to violence among African-American youth. *Journal of the American Academy of Child & Adolescent Psychiatry*, 32(2), 424-430.
- Folkman, S. (2010). Stress, coping, and hope. *Psychooncology*, 19(9), 901-908.
- Foster, J. D., Kuperminc, G. P., & Price, A. W. (2004). Gender differences in posttraumatic stress and related symptoms among inner-city minority youth exposed to community violence. *Journal of Youth and Adolescence*, 33, 59–69.
- Gorman-Smith, D., & Tolan, P. (1998). The role of exposure to community violence and developmental problems among inner-city youth. *Development & Psychopathology*, 10, 101–116.
- Halliday-Boykins, C. A., & Graham, S. (2001). At both ends of the gun: Testing the relationship

- between community violence and youth violent behavior. *Journal of Abnormal Child Psychology*, 29, 383-402.
- Hammen, C. (2005). Stress and depression. *Annual Review of Clinical Psychology*, 1, 293-319.
- Hartering-Saunders, R. M., Rittner, B., Wieczorek, W., Nochajski, T., Rine, C. M., & Welte, J. (2011). Victimization, psychological distress and subsequent offending among youth. *Children and Youth Services Review*, 33, 2375-2385.
- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, 76, 408-420.
- Hinton-Nelson, M. D., Roberts, M. C., & Snyder, C. R. (1996). Early adolescents exposed to violence: Hope and vulnerability to victimization. *American Journal of Orthopsychiatry*, 66(3), 346-353.
- Holmes, C. S., Yu, Z., & Frenzt, J. (1999). Chronic and discrete stress as predictors of children's adjustment. *Journal of Consulting and Clinical Psychology*, 67, 411-419.
- Kilpatrick, D.G., Aciero, R., Saunders, B., Resnick, H., Best, C., & Schnurr, P.P. (2000). Risk factors for adolescent substance abuse and dependence: Data from a national sample. *Journal of Consulting and Clinical Psychology*, 68, 19-30.
- Kliewer, W., & Kung, E. (1998). Family moderators of the relation between hassles and behavior problems in inner-city youth. *Journal of Clinical Child Psychology*, 27, 278-292.
- Larzelere, M. M., & Jones, G. N. (2008). Stress and health. *Primary Care: Clinics in Office Practice*, 35, 839-856.
- Lazarus, R. S., & Folkman, S. (1984). *Psychological stress and the coping process*. New York, NY: Springer.
- Lee, E., Larkin, H., & Esaki, N. (2017). Exposure to community violence as a new adverse childhood experience category: Promising results and future considerations. *Families in Society: The Journal of Contemporary Social Services*, 98(1), 69-78.
- Licitra-Kleckler, D. M., & Waas, G. A. (1993). Perceived social support among high-stress adolescents: The role of peers and family. *Journal of Adolescent Research*, 8(4), 381-402.
- Lloyd, D. A., & Turner, R. J. (2003). Cumulative adversity and posttraumatic stress disorder: Evidence from a diverse community sample of young adults. *American Journal of Orthopsychiatry*, 73, 381-391. doi:10.1037/0002-9432.73.4.381.
- Logan, S. (2001). *The Black family: Strengths, self-help, and positive change*. Boulder, CO:

Westview Press.

- Ludwig, K. A., & Warren, J. S. (2009). Community violence, school-related protective factors, and psychosocial outcomes in urban youth. *Psychology in Schools*, 46(10), 1061-1073.
- Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, 71(3), 543-62.
- Margolin, G., & Gordis, E. (2000). The effects of family and community violence on children. *Annual Review of Psychology*, 51, 445-479.
- Margolin, G., & Vickerman, K. A. (2007). Post-traumatic stress in children and adolescents exposed to family violence: I. Overview and issues. *Professional Psychology: Research and Practice*, 38, 613-619. doi:10.1037/0735-7028.38.6.613.
- Mathieu, J. E., & Taylor, S. R. (2006). Clarifying conditions and decision points for mediational type inferences in organizational behavior. *Journal of Organizational Behavior*, 27(8), 1031-1056.
- Mazza, J. J., & Reynolds, W. M. (1999). Exposure to violence in young inner-city adolescents: Relationships with suicidal ideation, depression, and PTSD symptomatology. *Journal of Abnormal Child Psychology*, 27, 203-213.
- Moos, R., & Moos, B. (1994). *Family Environment Scale Manual: Development, Applications, Research - Third Edition*. Palo Alto, CA: Consulting Psychologist Press.
- Muthén, L. K., & Muthén, B. O. (2012). *Mplus user's guide* (7<sup>th</sup> ed.). [Computer software and manual]. Los Angeles, CA: Author.
- Nakao, K., & Treas, J. (1990). Computing 1989 occupational prestige scores (GSS Methodological Report No. 70). Chicago: National Opinion Research Center.
- Nurmi, J. (1989). Planning, motivation, and evaluation in orientation to the future: A latent structure analysis. *Scandinavian Journal of Psychology*, 30, 64-71.
- Nurmi, J. (1991). How do adolescents see their future? A review of the development of future orientation and planning. *Developmental Review*, 11, 1-59.
- Nurmi, J. (1992). Age differences in adult life goals, concerns, and their temporal extension: A life course approach to future-oriented motivation. *International Journal of Behavioral Development*, 15(4), 487-508.
- Nurmi, J. (1993). Adolescent development in an age-graded context: The role of personal beliefs,

- goals, and strategies in the lacking of developmental tasks and standards. *International Journal of Behavioral Development*, 16, 169–189.
- Nuttin, J. (1964). *The future time perspective in human motivation and learning: Proceedings from the 17th international congress of psychology*. Amsterdam: North-Holland Publishing Co.
- Ornelas, I. J., Perreira, K. M., & Ayala, G. X. (2007). Parental influences on adolescent physical activity: A longitudinal study. *International Journal of Behavioral Nutrition and Physical Activity*, 4(1).
- O'Sullivan, G. (2010). The relationship between hope, eustress, self-efficacy, and life satisfaction among undergraduates. *Social Indicators Research*, 101, 155-172.
- Oyserman, D., & Markus, H. (1990). Possible selves in balance: Implications for delinquency. *Journal of Social Issues*, 46, 141–157.
- Oyserman, D., & Saltz, E. (1993). Competence, delinquency, and attempts to attain possible selves. *Journal of Personality and Social Psychology*, 65, 360–374.
- Phillips, S. D., & Blustein, D. L. (1994). Readiness for career choices: Planning exploring and deciding. *The Career Development Quarterly*, 43, 63–71.
- Prince, D. M., Epstein, M., Nurius, P. S., King, K., Gorman-Smith, D., & Henry, D. B. (2016). Assessing future expectations of low-income minority young men: Survival-threats and positive expectations. *Journal of Child and Family Studies*, 25, 2089-2101.
- Raffaelli, M., Andrade, F. C. D., Wiley, A. R., Sanchez-Armass, O., Edwards, L. L., & Aradillas-Garcia, C. (2013). Stress, social support, and depression: A test of the stress-buffering hypothesis in a Mexican sample. *Journal of Research on Adolescence*, 23(2), 283-289.
- Robbins, R. N., & Bryan, A. (2004). Relationships between future orientation, impulsive sensation seeking, and risk behavior among adjudicated adolescence. *Journal of Adolescent Research*, 19, 428–445. doi:10.1177/0743558403258860
- Routledge, C., & Arndt, J. (2005). Time and terror: Managing temporal consciousness and the awareness of mortality. In A. Strathman & J. Joireman (Eds.), *Understanding behavior in the context of time* (pp. 59–84). New Jersey: Lawrence Erlbaum Associates Publishers.
- Ryff, C. D. (1995). Psychological well-being in adult life. *Current Directions in Psychological Science*, 4(4), 9-104.

- Saltzman, W. R., Pynoos, R. S., Layne, C. M., Steinberg, A. M., & Aisenberg, E. (2001). Trauma- and grief-focused intervention for adolescents exposed to community violence: Results of a school-based screening and group treatment protocol. *Group Dynamics: Theory, Research, and Practice*, 5(4), 291-303. doi:10.1037/1089-2699.5.4.291
- Schlomer, G., Bauman, S., & Card, N. A. (2010). Best practices for missing data management in counseling psychology. *Journal of Counseling Psychology*, 57(1), 1-10.
- Selner-O'Hagan, M. B., Kindlon, D. J., Buka, S. L., Raudenbush, S. W., & Earls, F. J. (1998). Assessing exposure to violence in urban youth. *Journal of Child Psychology and Psychiatry*, 39, 215-224
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, 7, 422-445.
- Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., et al. (1991). The will and the ways: Development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology*, 60, 570-585.
- Snyder, C. R. (1995). Conceptualizing, measuring, and nurturing hope. *Journal of Counseling & Development*, 73(3), 355-360.
- So, S., Gaylord-Harden, N. K., Voisin, D. R., & Scott, D. (2015). *Youth & Society*, 1-24.
- Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology*, 53, 80-93.
- Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioural Research*, 25, 173-180.
- Stein, B. D., Jaycox, L., Kataoka, S. H., Rhodes, H., & Vestal, K. D. (2003). Prevalence of child and adolescent exposure to community violence. *Clinical Child and Family Psychology Review*, 6, 247-264.
- Steinberg, L. (2002). *Families. Adolescence* (6th Edition). New York: McGraw Hill, 125-158.
- Steinberg, L., Graham, S., O'Brien, L., Woolard, J., Cauffman, E., & Banich, M. (2009). Age differences in future orientation and delay discounting. *Child Development*, 80(1), 28-44.
- Strayhorn, T. L. (2009). Different folks, different hopes: The educational aspirations of Black males in urban, suburban, and rural high schools. *Urban Education*, 44(6), 710-731.
- Taylor, S., Helgeson, V., Reed, G., & Skokan, L. (1991). Self-generated feelings of control and



- adjustment to physical illness. *Journal of Social Issues*, 91-109.
- Thoits, P. A. (1995). Stress, coping, and social support processes: Where are we? What next?. *Journal of Health and Social Behavior*, 35, 53-79.
- Trommsdorff, G., Lamm, H., & Schmidt, R. W. (1979). A longitudinal study of adolescents' future orientation (time perspective). *Journal of Youth and Adolescence*, 8, 132-147.
- Trommsdorff, G. (1983). Future orientation and socialization. *International Journal of Psychology*, 18, 381-406.
- Voisin, D. R. (2007). The effects of family and community violence exposure among youth: Recommendations for practice and policy. *Journal of Social Work Education*, 43, 51-66.
- Whitaker, D. J., Miller, K. S., & Clark, L. F. (2000). Reconceptualizing adolescent sexual behavior: Beyond did they or didn't they?. *Family Planning Perspectives*, 32(3), 111-117.
- Williams, D. (1999). Race, socioeconomic status, and health: The added effects of racism and discrimination. *Annals of the New York Academy of Sciences*, 896, 173-188.
- Wilson, W. C., & Rosenthal, B. S. (2003). The relationship between exposure to community violence and psychological distress among adolescents: A meta-analysis. *Violence and Victims*, 18(3), 335-352.
- World Health Organization (WHO). (2011). Adverse childhood experiences international questionnaire. *Violence and Injury Prevention*. Retrieved from [http://www.who.int/violence\\_injury\\_prevention/violence/activities/adverse\\_childhood\\_experiences/en/](http://www.who.int/violence_injury_prevention/violence/activities/adverse_childhood_experiences/en/)
- Yarcheski, A., Mahon, N. E., & Yarcheski, T. J. (2011). Stress, hope, and loneliness in young adolescents. *Psychological Reports*, 108(3), 919-922.
- Youngblade, L. M., Theokas, C., Schulenberg, J., Curry, L., Huang, I. C., & Novak, M. (2007). Risk and promotive factors in families, schools, and communities: A contextual model of positive youth development in adolescence. *Pediatrics*, 119(Supplement 1), S47-S53.
- Youngstrom, E., Weist, M. D., & Albus, K. E. (2003). Exploring violence exposure, stress, protective factors and behavioral problems among inner-city youth. *American Journal of Community Psychology*, 32, 115-129.

Table 1

*Descriptive Statistics for Study Variables*

Variable	N(%)	M(SD)	Range	Skew
Gender				
Male	133(42.10)	--	--	--
Female	183(57.90)	--	--	--
Age at Wave 1	--	14.76 (0.60)	13.88-16.81	0.71
SES	--	39.94 (10.47)	29.44-64.38	1.38
Hope Agency	--	3.33 (0.50)	1.75-4.00	-0.35
Hope Pathways	--	3.38 (0.47)	1.75-4.00	-0.24
Purpose	--	5.80 (1.34)	1.00-7.00	-1.44
Exposure to Violence at Wave 1	--	1.95 (1.32)	0.00-5.00	0.18
Exposure to Violence at Wave 2	--	1.80 (1.34)	0.00-5.00	0.30
Exposure to Violence at Wave 3	--	1.57 (1.33)	0.00-5.00	0.56
Perceived Stress	--	2.60 (0.54)	1.21-4.43	-0.14
Family Participation	--	2.18 (0.76)	1.00-4.00	0.39

**Note:** Descriptive statistics are based on data from participants with full data; imputed data are not included in calculations.

Table 2

*Bivariate Correlations between Study Variables*

	1	2	3	4	5	6	7	8	9	10
1. Hope Agency	--									
2. Hope Pathways	0.56**	--								
3. Purpose	0.32**	0.24**	--							
4. Exposure to Violence at Wave 1	-0.04	-0.08	-0.06	--						
5. Exposure to Violence at Wave 2	0.03	0.03	-0.01	0.39**	--					
6. Exposure to Violence at Wave 3	-0.06	-0.06	0.01	0.32**	0.48**	--				
7. Perceived Stress	-0.23**	-0.17**	-0.06	0.22**	0.21**	0.16*	--			
8. Family Participation	0.17*	0.03	-0.02	-0.02	-0.09	-0.10	-0.22**	--		
9. Age	0.14*	0.09	0.07	0.13*	0.15*	0.08	0.12*	0.03	--	
10. SES	0.09	0.07	0.05	-0.01	-0.04	-0.02	-0.04	-0.04	-0.02	--

Note. \*  $p < .05$ ; \*\*  $p < .001$

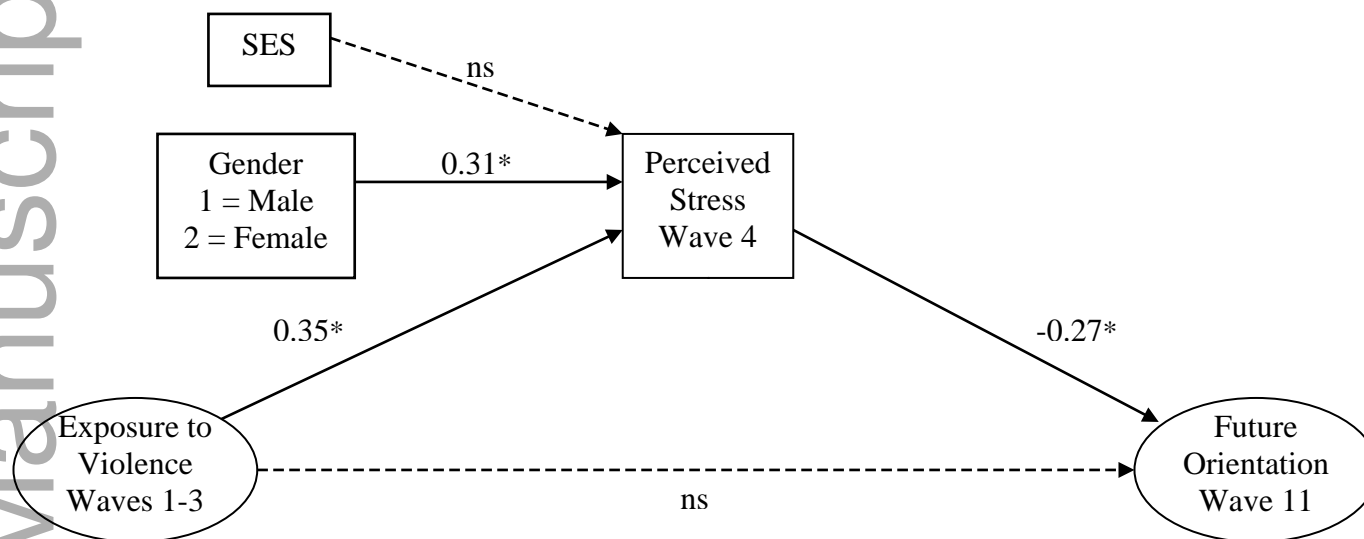


Figure 1. Structural equation model showing standardized coefficients to indicate relationships between exposure to violence, perceived stress, and future orientation among all study participants ( $N = 316$ ) after controlling for SES and gender. Note: dotted lines depict non-significant pathways; \*  $p < .001$

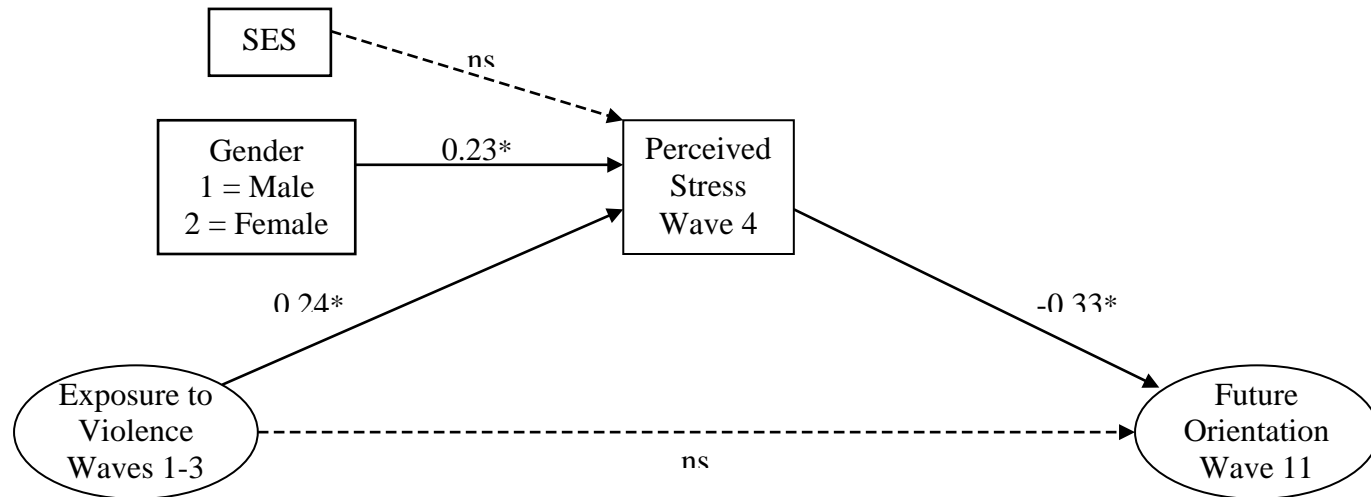
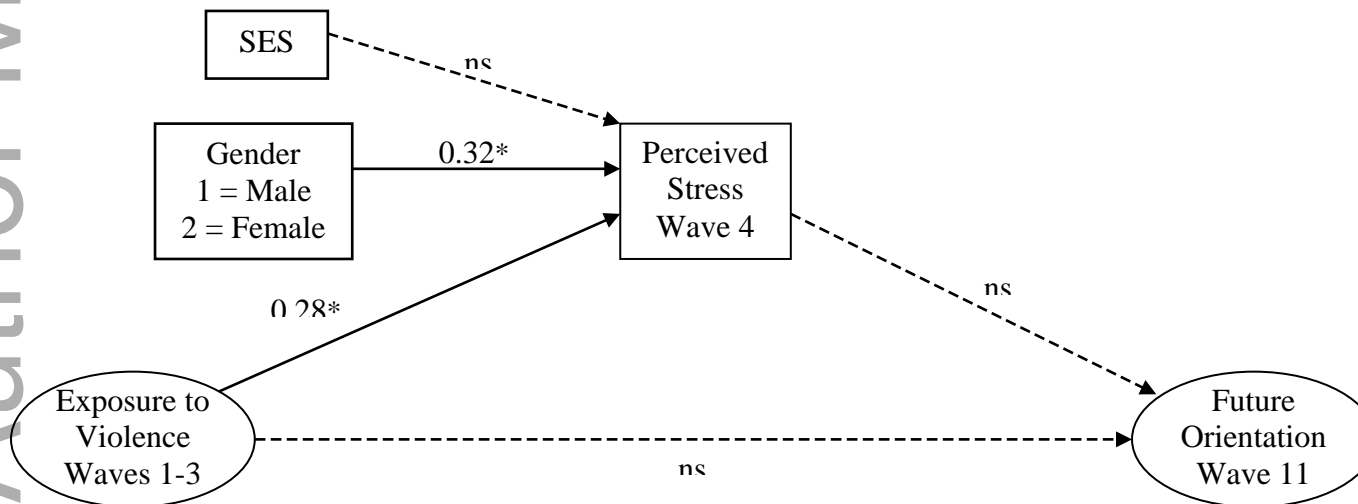
a) Low Family Participation Adolescents ( $n = 164$ )b) High Family Participation Adolescents ( $n = 152$ )

Figure 2. Multi-group SEM analyses showing standardized coefficients. **Note:** dotted lines depict non-significant pathways; \*  $p < .001$