#### Children's Mercy Kansas City

## SHARE @ Children's Mercy

Manuscripts, Articles, Book Chapters and Other Papers

7-2020

# Building a Contextually-Relevant Understanding of Resilience among African American Youth Exposed to Community Violence.

Briana Woods-Jaeger

**Emily Siedlik** Children's Mercy Hospital

Amber Adams Children's Mercy Hospital

Kaitlin Piper

Paige O'Connor

See next page for additional authors

Let us know how access to this publication benefits you

Follow this and additional works at: https://scholarlyexchange.childrensmercy.org/papers



Part of the Pediatrics Commons, and the Public Health Education and Promotion Commons

#### Recommended Citation

Woods-Jaeger B, Siedlik E, Adams A, Piper K, O'Connor P, Berkley-Patton J. Building a Contextually-Relevant Understanding of Resilience among African American Youth Exposed to Community Violence. Behav Med. 2020;46(3-4):330-339. doi:10.1080/08964289.2020.1725865

This Article is brought to you for free and open access by SHARE @ Children's Mercy. It has been accepted for inclusion in Manuscripts, Articles, Book Chapters and Other Papers by an authorized administrator of SHARE @ Children's Mercy. For more information, please contact histeel@cmh.edu.

Overator(a)
Creator(s)
Briana Woods-Jaeger, Emily Siedlik, Amber Adams, Kaitlin Piper, Paige O'Connor, and Jannette Berkley-
Patton

# Behavioral Medicine Biopsychosocial Aspects of Health

#### **Behavioral Medicine**



ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/vbmd20

# Building a Contextually-Relevant Understanding of Resilience among African American Youth Exposed to Community Violence

Briana Woods-Jaeger, Emily Siedlik, Amber Adams, Kaitlin Piper, Paige O'Connor & Jannette Berkley-Patton

**To cite this article:** Briana Woods-Jaeger, Emily Siedlik, Amber Adams, Kaitlin Piper, Paige O'Connor & Jannette Berkley-Patton (2020) Building a Contextually-Relevant Understanding of Resilience among African American Youth Exposed to Community Violence, Behavioral Medicine, 46:3-4, 330-339, DOI: 10.1080/08964289.2020.1725865

To link to this article: <a href="https://doi.org/10.1080/08964289.2020.1725865">https://doi.org/10.1080/08964289.2020.1725865</a>

9	© 2020 The Author(s). Published with license by Taylor & Francis Group, LLC.
	Published online: 13 Aug 2020.
	Submit your article to this journal $oldsymbol{arGeta}$
ılıl	Article views: 277
a <sup>L</sup>	View related articles 🗷
CrossMark	View Crossmark data 🗹





### Building a Contextually-Relevant Understanding of Resilience among African **American Youth Exposed to Community Violence**

Briana Woods-Jaeger<sup>a</sup>, Emily Siedlik<sup>b</sup>, Amber Adams<sup>b</sup>, Kaitlin Piper<sup>a</sup>, Paige O'Connor<sup>c</sup>, and Jannette Berkley-Patton<sup>d</sup>

<sup>a</sup>Rollins School of Public Health, Emory University; <sup>b</sup>Children's Mercy; <sup>c</sup>Youth Ambassadors; <sup>d</sup>University of Missouri-Kansas City

#### **ABSTRACT**

Studies consistently demonstrate that African American youth experience disproportionate levels of community violence, which is associated with negative health and well-being outcomes among these youth. The frequency and severity of community violence exposure is a unique challenge for these youth and requires tailored approaches to promote resilience after community violence exposure. However, limited research exists that operationalizes resilience after community violence based on the unique context and lived experience of African American youth. Developing a more contextually relevant understanding of resilience is critical to reducing health inequities experienced by African American youth and promoting their well-being. Five focus groups were conducted with 39 African American adolescents (ages 13-18) exposed to community violence. Participants also completed a brief survey that included questions on demographics, adverse childhood experiences, social capital, and resilience. Focus-group transcripts were independently coded by two members of the research team and analyzed using an inductive approach. Youth highlighted key indicators of resilience including the ability to persevere, self-regulate, and change to adapt/ improve. Youth also described family, peer, and cultural contexts that impact how resilience is produced and manifested, highlighting trust, perceived burdensomeness, self-determination, connectedness, and mental health stigma as key factors within these contexts. Results of this qualitative study support the development of health promotion programs for African American youth exposed to community violence that address unique risks and build on existing protective factors within family, peer, and cultural contexts.

#### **ARTICLE HISTORY**

Received 1 September 2019 Revised 31 January 2020 Accepted 1 February 2020

#### **KEYWORDS**

Violence; resilience; adolescence; context; cultural relevance

#### Introduction

Community violence is associated with a range of negative social, behavioral, and physical health outcomes over the lifecourse.1 Outcomes associated with community violence exposure among primarily African American youth include academic problems, cognitive difficulties, psychological symptoms, relationship problems, chronic health conditions (asthma, cardiovascular health, diabetes), and future violence perpetration or victimization.<sup>1,2</sup> Indeed, community violence exposure is a risk factor for ongoing violence involvement into adulthood.3 The disproportionate exposure and potential negative impact on health and life trajectory supports an urgent need to promote resilience among African American youth exposed to community violence.

Resilience after community violence exposure has been defined as "a dynamic process of transactions

within and among multiple levels of children's environment over time that influences their capacity to successfully adapt and function despite experiencing chronic stress and adversity."4 Resilience may be characterized by contexts that buffer the negative impact of community violence, such as family, peer, or community contexts that provide social support or resources.<sup>3-7</sup> These factors align with a socioecological model which highlights the person-social-environment context that can best support youth resilience after exposure to violence.<sup>8,9</sup> This model has been used to explain the importance of addressing multilevel factors (i.e., individual, family, peer, community, cultural, societal) to promote positive adaptation after community violence exposure<sup>10</sup> and to better understand unique risks, protective processes, and indicators of successful adaptation. Aligned with this approach, the social-interpersonal model for trauma sequelae

CONTACT Briana Woods-Jaeger 🖾 bwoodsjaeger@emory.edu 🗈 Emory University Rollins School of Public Health, Behavioral Sciences and Health Education, 1518 Clifton Rd NE, Atlanta, GA 30322, USA.

highlights key factors within these contexts such as social support, empathy, response to trauma disclosure, and cultural influences, that have been found to contribute to resilience after trauma. 11,12

The use of these models suggests that many factors may contribute to resilience among African American youth exposed to community violence. To understand which factors are most important, it is first necessary to operationalize resilience. Numerous definitions of resilience have been proposed that emphasize a process of "adapting well" despite adversity and threats to functioning and development, 13,14 but what does adapting well mean? Traditional resilience frameworks suggest persons who have experienced trauma adapt well by functioning well or showing competence in certain areas of their lives including work, school, family, relationships, and social-emotional functioning.13,14 However, it is important to note that one can demonstrate resilience in one area of life and not another. 15 For example, an adolescent may perform well in school but suffer from anxiety or depression, 16 suggesting that adaptation is partially defined by context.

African American youth navigating chronic stressors and systemic barriers to resilience may experience unique and nuanced contextual factors. For example, past research has found that African American youth tend to adopt fearlessness, loss or suppression of fear emotions, in response to chronic and unpredictable violence exposure and unresponsive support systems. 17,18 Fearlessness may be considered a maladaptive coping response as it is associated with aggressive behavior, 19 and thus categorized as a risk factor inhibiting resilience. However, fearlessness may also support African American youth's ability to continue to attend school despite constant threats of violence, thus serving as a protective factor related to maintaining school attendance. Past research has also demonstrated that hypervigilance, a traumatic stress symptom associated with aggressive behavior among African American youth exposed to violence, 19 is also associated with less future community violence exposure.<sup>20</sup> Taken together, the evidence suggests that the risks, protective factors, and potential indicators of adaption that constitute resilience among African American youth exposed to community violence may be unique and nuanced, warranting further investigation.

To develop a more contextually relevant understanding of resilience among African American youth exposed to community violence (defined as intentional acts of interpersonal violence committed in public places by persons who are not related to the victim),<sup>21</sup> it is critical to understand the lived experiences and

perspectives of these youth. To accomplish this, we conducted a focus group study with African American youth exposed to community violence. The overall goals of this study were to better understand resilience from the perspective of African American youth and identify priority intervention strategies to promote resilience based on youths' perspectives and experiences. Specific aims of the focus groups included: 1) operationalizing the construct of resilience based on the youth's lived experience and 2) identifying factors aligned with the socioecological model that promote and inhibit resilience. The use of qualitative methods was particularly important to better understand the unique and nuanced issues associated with resilience among this population.

#### **Methods**

#### **Procedures**

Using a community-based participatory research (CBPR) approach, this study was guided by our Community Action Board (CAB) comprised of African American youth, health care providers, community-based organization leaders, faith leaders, educators, and academic researchers. The CAB provided input on the development of the research questions, focus group guide, and assisted with interpretation of the focus group findings. A convenience sample of youth participants were recruited from a not-for-profit employment program for urban youth in the Midwest to participate in the focus groups. Fliers were posted and research team members attended program meetings to share information about the study with youth and answer questions. Inclusion criteria for the study included: aged 13 to 18, self-identified as African American, and reported community violence exposure (defined as intentional acts of interpersonal violence committed in public places by persons who are not related to the victim<sup>21</sup>). Interested youth who met these criteria were invited to participate in the focus groups which were conducted in the not-for-profit employment program offices. Focus groups were selected for this study, as they are an appropriate method for understanding community context as well as social and community norms and perceptions related to resilience.<sup>22,23</sup> Focus groups were not intended to gather indepth personal experiences with community violence or resilience. At the beginning of each focus group, the youth provided assent and then completed an anonymous survey via electronic tablet. This was followed by a focus group discussion that lasted approximately 1.5 hours and was audio-recorded. Participants received a one-time payment of \$30 on Greenphire Clincard for



participating in the focus group. Focus group discussions were transcribed verbatim with any identifying information removed. Approval for this study was granted by the Institutional Review Board at the researchers' institution.

#### Measures

A brief anonymous survey was completed prior to the start of each focus group to characterize the sample and included: demographics, the Adverse Childhood Experiences Questionnaire (ACE-Q) Teen self-report questionnaire,<sup>24</sup> the Brief Resilience Scale (BRS)<sup>25</sup> adapted for violence exposure, and the adolescent social capital scale.<sup>26</sup>

#### Demographic questionnaire

This questionnaire assessed demographics such as race, ethnicity, age, and highest school grade completed.

ACE-Q teen self-report<sup>24</sup>. This questionnaire assessed childhood adversity and trauma including stressors that occur outside of the home, such as public safety, bullying, and living in foster care.

#### Brief resilience questionnaire<sup>25</sup>

This questionnaire assessed resilient coping behaviors, protective factors that support resiliency, and successful stress-coping ability and how it relates with resilience. The possible score range on the Brief Resilience Scale is based on calculating the mean of the six scale items resulting in a score from 1 (low resilience) to 5 (high resilience). Scores between 1.00-2.99 indicate "low resilience"; 3.00-4.30 indicate "normal resilience"; and 4.31-5.00 indicate "high resilience". 25 We adapted this questionnaire to focus on resilience after violence exposure.

#### Social capital questionnaire<sup>26</sup>

This questionnaire assessed the quality of life among youth through examining the diversity of social interactions including: social cohesion, school friendships, neighborhood and social cohesion, and trust in schools and neighborhoods. Subscale score ranges include: School Social Cohesion: 4-12; School Friendships: 3-9; Neighborhood Social Cohesion: 2-6; and Trust school/neighborhood: 3-9. Total scores range from 12-36 with higher scores indicating a higher level of social capital.

#### Focus group guide

Our focus group guide was developed based on the socioecological model and social-interpersonal model

for trauma sequelae described above and feedback from our CAB on domains to include in our final guide. Focus group questions assessed four primary domains related to the experience of resilience: 1) experiences and perceptions of community violence; 2) barriers and facilitators to getting support after community violence exposure; 3) experiences and perceptions of resilience; and 4) strategies that could be implemented at multiple levels of the socioecological model to promote resilience after exposure to community violence.

#### Data analysis

Descriptive statistics were used to summarize survey data, where mean and standard deviations were calculated for continuous variables and counts and percentages were calculated for categorical variables. An iterative thematic approach was used to analyze the focus group transcripts. To generate inductive codes, open coding was utilized. Three analysts read through all transcripts and labeled reoccurring concepts that were relevant to the research questions. Open coding continued until no new concepts were identified (i.e., saturation). All inductive codes were given a working definition along with inclusion and exclusion criteria. After developing the codebook, two of the three analysts then coded all of the focus group transcripts. These analysts coded the transcripts separately and then met weekly to compare their coding, which enhanced the validity of the qualitative analysis. The analysts resolved all coding disagreements through discussion, improving analysts' consensus on code definitions. Based on discussion between analysts, codes were bundled into major themes. These themes were shared with youth on our CAB during a member-checking process to ensure proper interpretation. Themes related to structural barriers to getting support after community violence exposure and strategies to address these barriers were previously reported.<sup>27</sup> Themes presented in this paper focus on study aims to operationalize the construct of resilience based on youth's lived experience and identify family, peer, and cultural contextual factors that promote and inhibit resilience. Qualitative analysis was conducted in Atlas.ti version 8.0.

#### Results

#### **Participant characteristics**

Thirty-nine youth with a mean age of 15.84 years (SD = 1.15) participated in the focus groups (Table 1). All

**Table 1.** Participant sociodemographic characteristics and resilience.

Age, mean (SD)  Race, n (%)  American Indian or Alaska Native Alone Asian Alone Black or African American Alone Native Hawaiian or other Pacific Islander Alone White Alone Other More than one race Ethnicity, n (%) Non-Hispanic Hispanic or Latino Current grade in school, n (%) 6 <sup>th</sup> 7 <sup>th</sup> 8 <sup>th</sup> 9 <sup>th</sup> 10 <sup>th</sup> 11 <sup>th</sup> 12 <sup>th</sup> Other Current living situation, n (%) Living with both parents Living with one parent Living with other relative besides parent Other Total household income during past 12 months, n (%)	5.84 (1.15)  0 (0%) 0 (0%) 36 (94.7%) 0 (0%) 0 (0%) 2 (5.3%)  38 (100%) 0 (0%) 0 (0%) 0 (0%) 1 (2.6%) 6 (15.8%)			
American Indian or Alaska Native Alone Asian Alone Black or African American Alone Native Hawaiian or other Pacific Islander Alone White Alone Other More than one race Ethnicity, n (%) Non-Hispanic Hispanic or Latino Current grade in school, n (%) 6 <sup>th</sup> 7 <sup>th</sup> 8 <sup>th</sup> 9 <sup>th</sup> 10 <sup>th</sup> 11 <sup>th</sup> 12 <sup>th</sup> Other Current living situation, n (%) Living with othe parents Living with other relative besides parent Other	0 (0%) 36 (94.7%) 0 (0%) 0 (0%) 0 (0%) 2 (5.3%)  38 (100%) 0 (0%) 0 (0%) 1 (2.6%)			
Asian Alone Black or African American Alone Native Hawaiian or other Pacific Islander Alone White Alone Other More than one race Ethnicity, n (%) Non-Hispanic Hispanic or Latino Current grade in school, n (%) 6 <sup>th</sup> 7 <sup>th</sup> 8 <sup>th</sup> 9 <sup>th</sup> 10 <sup>th</sup> 11 <sup>th</sup> 12 <sup>th</sup> Other Current living situation, n (%) Living with both parents Living with other relative besides parent Other	0 (0%) 36 (94.7%) 0 (0%) 0 (0%) 0 (0%) 2 (5.3%)  38 (100%) 0 (0%) 0 (0%) 1 (2.6%)			
Black or African American Alone Native Hawaiian or other Pacific Islander Alone White Alone Other More than one race Ethnicity, n (%) Non-Hispanic Hispanic or Latino Current grade in school, n (%) 6 <sup>th</sup> 7 <sup>th</sup> 8 <sup>th</sup> 9 <sup>th</sup> 10 <sup>th</sup> 11 <sup>th</sup> 12 <sup>th</sup> Other Current living situation, n (%) Living with one parent Living with other relative besides parent Other	36 (94.7%) 0 (0%) 0 (0%) 0 (0%) 2 (5.3%) 38 (100%) 0 (0%) 0 (0%) 1 (2.6%)			
Native Hawaiian or other Pacific Islander Alone White Alone Other More than one race Ethnicity, n (%) Non-Hispanic Hispanic or Latino Current grade in school, n (%) 6 <sup>th</sup> 7 <sup>th</sup> 8 <sup>th</sup> 9 <sup>th</sup> 10 <sup>th</sup> 11 <sup>th</sup> 12 <sup>th</sup> Other Current living situation, n (%) Living with one parent Living with other relative besides parent Other	0 (0%) 0 (0%) 0 (0%) 2 (5.3%) 38 (100%) 0 (0%) 0 (0%) 1 (2.6%)			
White Alone Other More than one race Ethnicity, n (%) Non-Hispanic Hispanic or Latino Current grade in school, n (%) 6 <sup>th</sup> 7 <sup>th</sup> 8 <sup>th</sup> 9 <sup>th</sup> 10 <sup>th</sup> 11 <sup>th</sup> 12 <sup>th</sup> Other Current living situation, n (%) Living with both parents Living with other relative besides parent Other	0 (0%) 0 (0%) 2 (5.3%) 38 (100%) 0 (0%) 0 (0%) 0 (0%) 1 (2.6%)			
Other More than one race  Ethnicity, n (%) Non-Hispanic Hispanic or Latino  Current grade in school, n (%) 6 <sup>th</sup> 7 <sup>th</sup> 8 <sup>th</sup> 9 <sup>th</sup> 10 <sup>th</sup> 11 <sup>th</sup> 12 <sup>th</sup> Other  Current living situation, n (%) Living with one parent Living with other relative besides parent Other	0 (0%) 2 (5.3%) 38 (100%) 0 (0%) 0 (0%) 0 (0%) 1 (2.6%)			
More than one race  Ethnicity, n (%)  Non-Hispanic  Hispanic or Latino  Current grade in school, n (%)  6 <sup>th</sup> 7 <sup>th</sup> 8 <sup>th</sup> 9 <sup>th</sup> 10 <sup>th</sup> 11 <sup>th</sup> 12 <sup>th</sup> Other  Current living situation, n (%)  Living with both parents Living with other relative besides parent Other	2 (5.3%) 38 (100%) 0 (0%) 0 (0%) 0 (0%) 1 (2.6%)			
Ethnicity, n (%) Non-Hispanic Hispanic or Latino  Current grade in school, n (%) 6 <sup>th</sup> 7 <sup>th</sup> 8 <sup>th</sup> 9 <sup>th</sup> 10 <sup>th</sup> 11 <sup>th</sup> 12 <sup>th</sup> Other  Current living situation, n (%) Living with both parents Living with other relative besides parent Other	38 (100%) 0 (0%) 0 (0%) 0 (0%) 1 (2.6%)			
Non-Hispanic Hispanic or Latino  Current grade in school, n (%) 6 <sup>th</sup> 7 <sup>th</sup> 8 <sup>th</sup> 9 <sup>th</sup> 10 <sup>th</sup> 11 <sup>th</sup> 12 <sup>th</sup> Other  Current living situation, n (%) Living with both parents Living with other relative besides parent Other	0 (0%) 0 (0%) 0 (0%) 1 (2.6%)			
Hispanic or Latino  Current grade in school, n (%) 6 <sup>th</sup> 7 <sup>th</sup> 8 <sup>th</sup> 9 <sup>th</sup> 10 <sup>th</sup> 11 <sup>th</sup> 12 <sup>th</sup> Other  Current living situation, n (%) Living with both parents Living with other relative besides parent Other	0 (0%) 0 (0%) 0 (0%) 1 (2.6%)			
Current grade in school, n (%) 6 <sup>th</sup> 7 <sup>th</sup> 8 <sup>th</sup> 9 <sup>th</sup> 10 <sup>th</sup> 11 <sup>th</sup> 12 <sup>th</sup> Other  Current living situation, n (%) Living with both parents Living with one parent Living with other relative besides parent Other	0 (0%) 0 (0%) 1 (2.6%)			
6 <sup>th</sup> 7 <sup>th</sup> 8 <sup>th</sup> 9 <sup>th</sup> 10 <sup>th</sup> 11 <sup>th</sup> 12 <sup>th</sup> Other  Current living situation, n (%) Living with both parents Living with one parent Living with other relative besides parent Other	0 (0%) 1 (2.6%)			
7 <sup>th</sup> 8 <sup>th</sup> 9 <sup>th</sup> 10 <sup>th</sup> 11 <sup>th</sup> 12 <sup>th</sup> Other  Current living situation, n (%) Living with both parents Living with one parent Living with other relative besides parent Other	0 (0%) 1 (2.6%)			
8 <sup>th</sup> 9 <sup>th</sup> 10 <sup>th</sup> 11 <sup>th</sup> 12 <sup>th</sup> Other  Current living situation, n (%) Living with both parents Living with one parent Living with other relative besides parent Other	1 (2.6%)			
9 <sup>th</sup> 10 <sup>th</sup> 11 <sup>th</sup> 12 <sup>th</sup> Other  Current living situation, n (%) Living with both parents Living with one parent Living with other relative besides parent Other				
10 <sup>th</sup> 11 <sup>th</sup> 12 <sup>th</sup> Other  Current living situation, n (%) Living with both parents Living with one parent Living with other relative besides parent Other	6 (15.8%)			
11 <sup>th</sup> 12 <sup>th</sup> Other  Current living situation, n (%) Living with both parents Living with one parent Living with other relative besides parent Other				
12 <sup>th</sup> Other  Current living situation, n (%) Living with both parents Living with one parent Living with other relative besides parent Other	11 (28.9%)			
Other  Current living situation, n (%)  Living with both parents  Living with one parent  Living with other relative besides parent  Other	9 (23.7%)			
Other  Current living situation, n (%)  Living with both parents  Living with one parent  Living with other relative besides parent  Other	8 (21.1%)			
Living with both parents Living with one parent Living with other relative besides parent Other	3 (7.9%)			
Living with both parents Living with one parent Living with other relative besides parent Other				
Living with other relative besides parent Other	8 (21.1%)			
Living with other relative besides parent Other	25 (65.8%)			
Other	3 (7.9%)			
Total household income during past 12 months, n (%)	2 (5.3%)			
	, ,			
Less than \$20,000	15 (39.5%)			
\$20,001 to \$40,000	11 (28.9%)			
\$40,001 to \$60,000	9 (23.7%)			
\$60,001 to \$80,000	3 (7.9%)			
\$80,001 and over	0 (0%)			
Last time had annual health exam with a physician or at a clinic, n (%				
In the past 0–12 months	27 (71.1%)			
In the past 13–24 months	4 (10.5%)			
More than 2 years ago	0 (0%)			
Never	1 (2.6%)			
Don't know	6 (15.8%)			
Last time had a dental exam, n (%)	0 (151070)			
In the past 0–12 months	22 (57.9%)			
In the past 13–24 months	6 (15.8%)			
More than 2 years ago	3 (7.9%)			
Never	0 (0%)			
Don't know	7 (18.4%)			
ACE Teen scores	7 (10.470)			
	3.62 (2.43)			
	2.26 (1.41)			
	5.84 (3.52)			
Combined ACEs $\geq$ 4, n (%)	27 (71%)			
The Brief Resilience Scale scores	27 (71/0)			
	3.34 (0.68)			
Social Capital Questionnaire for Adolescent Students subscale scores				
	9.63 (1.44)			
	7 113 11 441			
	7.89 (1.25)			
Trust: school / neighborhood, mean (SD)  Total Score, mean (SD) 2				

Note: Due to an administration error in which our electronic data collection system malfunctioned we are missing this demographic data from one participant who participated in the focus groups and therefore sociodemographic data for 38 participants is reported.

<sup>a</sup>One participant typed a double digit number out of range for the Original ACE Score—that respondent was omitted from those calculations marked.

identified as Black or African American (94.7%) or multiracial with Black or African American as one of the races (5.3%). The majority of participants (65.8%) reported living with one parent, and 39.5% reported an annual household income less than \$20,000.

Additionally, regarding engagement with health care, only 71.1% reported having had a physical exam, and only 57.9% reported having had a dental exam, in the past year. While our participants demonstrated high levels of exposure to Adverse Childhood Experiences (71.1% reported four or more), they also demonstrated moderate levels of resilience with an average of 3.34 (SD= 0.68) on the Brief Resilience Scale (BRS). Further, participants reported high levels of social capital, with a mean total score of 29.16 (SD = 3.48) out of 36.

#### Focus group results

Indicators of resilience were identified and included the ability to persevere, self-regulate, and change or improve to adapt (Table 2). Family, peer, and cultural contexts that promote or inhibit resilience were also described and unique aspects of those contexts that influence protective processes of social support and help-seeking were identified such as: perceived burdensomeness, mistrust, self-determination, connectedness and mental health stigma.

#### Indicators of resilience

Many participants defined resilience as the ability to persevere. For example, one youth expressed, "You can't let it affect who you is, so don't try to let that one situation hold you down, put you back." Another youth described this as "allow[ing] yourself to be happy." Youth also described this as being able to reclaim who they were before experiencing community violence. For example, one youth shared "I think [resilience is] just like being able to do what you did before, like, just operate on a normal level." Another youth described this relating to trust, "regaining trust again in people". Other youth described maintaining normalcy by "just going about they day."

Participants also defined resilience as the ability to self-regulate. For example, one youth shared, "I feel like a person bouncing back from [community violence], will mentally try to calm theirself down and think theyself out of stuff." Another youth described regulating reactivity and learning from adversity explaining, "how strongly you react to what happened, in a good way or a bad way ... if you don't react to it as much and you learn from it, then you have better resilience now for it." Finally, youth expressed resilience as changing to adapt, including "changing your ways" or working to "become a new person."

Throughout the focus groups youth shared numerous self-regulation strategies employed by youth after community violence exposure. For example, youth



Table 2. Participant descriptions of resilience.

Indicator of resilience	Exemplar quotes	Number of FGs <sup>a</sup>
Ability to persevere	"Just going about they day."  "Allow[ing] yourself to be happy."  "Regaining trust again in people".	4
	"Overcoming something."	
	"I think resilience is not being affected by it, right? Or ignoring it or stuff. I feel like it's, you know, realizing, hey, this thing happened, but like working through it anyway."	
	"Don't let it break you down. You got to just know that certain stuff happens for a reason. Sometimes you got to like just get past it."	
	"You can't let it affect who you is, so don't try to let that one situation hold you down, put you back."	
	"I think it's just like being able to do what you did before, like, just operate on a normal level."	
Ability to self-regulate	"You witness it, you see the police pull up, you know, all that other good stuff. I feel like a person bouncing back from that, will like, you know, like, mentally try to calm theirself down and think theyself out of stuff."	4
	"How strongly you like react to what happened, like in a good way or a bad way if you don't, like, react to it as much and you like, you learn from it, then you like, you have like better resilience now for it."	
	"And so, if I have stuff like that, It just makes me talk to myself like, 'You got this. It's okay.""	
	"It's like you have to tell yourself, like, 'okay, you know what the real is, so why you depressed like that?"	
Changing/Improving	"Changing your ways."	3
to adapt	"Become a new person."	
	"So I had to start going to therapy. I just started doing training. I had to do something – and I started going to the ring more often, because I needed something – to change my routine because just talking myself out didn't make it easier, seeing someone get killed."	
	"You see something that's going on and you be like, 'Oh, I want to be better than that. Oh, that's not what I want to do."	

<sup>&</sup>lt;sup>a</sup>Number of focus groups where indicator was referenced by participants.

described creative expression such as art, dance, and music as a self-regulation strategy: "I play an instrument, so when I play that, I calm down." Other participants described engaging in sports as an outlet for their emotions: "I went to a soccer field and played soccer." In addition, attending to basic needs, such as eating or sleeping, were also common self-regulatory strategies described by participants: "If I am affected by [violence], I will go to the kitchen, get something to eat, and you know, chill out and snack on it, or I just go to sleep."

#### Family and peer contexts

Participants also discussed how they used interpersonal relationships to promote resilience after experiencing community violence. Youth described seeking support after community violence exposure from their family members and close friends: "Depending on like what's going on, I'll talk to [my mom]. I need an adult, like- your kind of advice, or my best friend. I go to her and rant." However, many participants recalled barriers to accessing this social support. Some participants were hesitant to talk to peers due to a lack of trust: "Whether me and this person fall out, they can use this against me one day." For some, this lack of trust also extended to adults due to fear of repercussions: "Sometimes hard to tell everything because you feel like we going to get in trouble for it." Youth also described how the intensity of their emotions made it difficult at times to seek support: "You don't want to

talk about it all the time because you hurting so badly."

Youth also described family contexts with high levels of stress that related to perceived burdensomeness among youth. For example, one youth shared, "I'll talk to my mom about something... She comforts me and stuff, but you know, she going through stuff herself." Another youth described how the demands parents face made it difficult for them to devote time to address their child's challenges or concerns: "There's a lot of kids that go home, don't know what to do, because parents, they be working, doing this and that, they don't have time to really work with them because they trying to like work for a living." Youth also described how their concerns may be minimized, leading them to rely on themselves rather than bring it to their parents: "I'm my own support system because I don't like telling anybody, not even my mom and stuff because, you now, grown people like to say stuff like 'it's not your business' you know, 'you should stay out of it' 'don't worry about it."

#### **Cultural contexts**

Youth highlighted the importance of the cultural values of self-determination and communalism in promoting resilience. In relation to self-determination, a common sentiment expressed was the importance of relying on oneself to manage difficulties after traumatic experiences. Statements such as "I get myself out of problems" or "I support myself" were common

throughout the focus groups. Youth also described how self-determination was important to appearing less vulnerable: "You're tough and you don't want people to think, like, something got to you, you're sensitive, that you're weak." Youth expressed the value of communalism and connectedness after experiences of violence, however noted this value was not reflected in their social environments: "In like the ideal world, it would be cool to have people you know helping you out, but I mean, that's not how the world is." Youth identified a lack of safe spaces as a barrier to developing community connectedness: "Nobody goes to the park anymore because you only go to the park if you trying to fight, or like get shot or something." Youth also described fear resulting from traumatic experiences leading to isolation that hinders community connectedness: "I went to this party, and it was a shooting there. And I was just traumatized... But after that, I just went home, then I just been kind of iffy about leaving the house and going out to public places ever since."

Youth described experiences of mental health stigma at multiple levels (individual, interpersonal, and community) and indicated this is a barrier to accessing social and emotional support after community violence exposure. On an individual level, youth described reluctance to share emotional experiences with others: "I just don't like showing it in front of nobody. I don't like crying, no emotions, none of that." Interpersonally, youth described how stigma prevented youth from getting the support they needed from parents to access mental health services: "If you want to go into therapy or stuff like that, sometimes you need a parent's signature and there's a huge stigma around it." Finally, at the community level youth described stigma resulting in minimization of mental health concerns: "And especially like in the black community, mental health and things like that is not taken seriously. It's just, like they don't believe in it or they believe that they're wasting money to get you the help that you might need." Overall, youth described a complex influence of cultural factors on resilience that included both protective and risk components.

#### **Discussion**

This qualitative study explored the definition of resilience and experience of factors at multiple levels of the socioecological model that promote or inhibit resilience among urban African American youth exposed to community violence. The results of this study indicated that the youths' definition of resilience consistently included elements of perseverance, self-regulation, and changing to

adapt. Youth highlighted the importance of returning to normalcy, rebuilding trust in others, and progressing in the face of adversity. Consistent with the resilience definition provided by Aisenberg and Herrenkohl,4 the youths' operationalization of resilience aligned with being able to function well after exposure to traumatic circumstances. Youth shared numerous strategies they employ to enhance resilience including creative expression through dance, art, and music, along with sports participation to deal with trauma exposure. Past research has shown that engaging in physical activity, creative expression, and recreation can reduce stress and improve well-being.<sup>28</sup> These findings can guide measurement selection for resilience research with African American youth that is responsive to their lived experience and priorities. As we continue our CBPR study these youth-defined indicators of resilience have informed our selection of measures, such as the Short Grit Scale, <sup>29,30</sup> to measure perseverance and the inclusion of youth defined self-regulation strategies in our resilience intervention development process.

Consistent with the social-interpersonal model for trauma sequelae, participants consistently highlighted the critical role of social support, interpersonal relationships, and cultural factors in promoting resilience after trauma. 11,12 Specifically, youth described the importance of social support from friends and family, which is consistent with other studies.<sup>5</sup> However, they also described family contexts with high levels of stress that resulted in youth feeling they could not burden family members with concerns related to community violence exposure and peer contexts strained by a lack of trust. Perceived burdensomeness has been linked to negative outcomes like suicidal ideation<sup>31</sup> and mistrust is consistently associated with lower rates of help-seeking<sup>32</sup> highlighting the critical need to intervene at the interpersonal level to build the capacity of peers and family to provide positive social support to promote resilience after community violence. This is consistent with models of resilience after trauma<sup>33</sup> and recommendations for family-based interventions to promote resilience after community violence.34

Youth participants expressed several important cultural factors related to resilience after community violence. In particular, they discussed values of communalism and self-determination as key contributors to resilience as well as highlighted mental health stigma as a barrier. Youth described the importance of communalism and connectedness after community violence exposure. Communalistic coping is a culturally relevant coping strategy based on an Africentric worldview<sup>35</sup> that has been associated with resilience among African American youth.<sup>36</sup> The cultural value

of communalism emphasizes the importance of African Americans' shared responsibility for supporting each other and their community36 and could enhance resilience after community violence exposure through providing a "holistic system of support".7 Unfortunately, previous studies have found that connectedness tends to be low in communities that experience disproportionate amounts of violence.<sup>37</sup> The youth in the current study echoed this, but also expressed a desire for community connectedness, highlighting the importance of this culturally relevant coping strategy. Supporting culturally relevant coping strategies among African American youth exposed to violence is needed and requires a greater emphasis on building nurturing communities to promote resilience among trauma-exposed youth of color.<sup>34</sup>

Youth also expressed the importance of the cultural value of self-determination and shared examples of how this enhanced resilience after community violence. Selfdetermination emphasizes "defining, naming, and creating for oneself"38 and is an Africentric value associated with African American adolescent resilience.<sup>36</sup> Selfdetermination is also reflected in cultural constructs specific to dealing with chronic stressors and adversity like John Henryism Active Coping<sup>39</sup> and the Strong Black Woman Schema. 40 John Henryism Active Coping consists of cultural beliefs that self-determination and hard work are required to cope with chronic stressors and adversities disproportionately experienced by African Americans.<sup>39,41</sup> The Strong Black Woman Schema includes cultural beliefs and expectations of strength and "incessant resilience" among Black women again due to disproportionate exposure to adversity and stressors due to oppression. 42 While self-determination may promote resilience in some areas (e.g., achievement and adjustment) it may also compromise resilience in others (e.g., physical health).<sup>43</sup> Future research should examine if promoting the combination of the cultural values of self-determination along with the "holistic system of support" stipulated by communalism may provide optimal conditions for resilience across multiple areas.

Youth also shared numerous examples of mental health stigma at multiple levels (individual, interpersonal, and community) and indicated this is a barrier to accessing mental health supports. This is consistent with research that suggests mental health problems go untreated in communities of color where treatment is stigmatized<sup>34</sup> and highlights the need to address community norms and stigma regarding the use of mental health services to assist in promoting resilience. When addressing stigma it is important to acknowledge how mental health stigma in the Black community is influenced by historical and structural factors including persistent disparities in access to care, lower quality of treatment, misdiagnosis, and institutional racism and oppression. 32,44,45 The youth's description of cultural factors that influence resilience is consistent with previous research that suggests resilient coping techniques are influenced by cultural background<sup>46</sup> and are important to incorporate in interventions that promote resilience after trauma among African American youth.<sup>33</sup>

Finally, findings from the brief survey provide additional context for the youths' comments regarding their perceptions and experiences related to resilience. Over 70% of the youth had an ACE score of 4 or more, which exceeds ACE scores found in studies of general non-adult populations that reported one-third to one-half of children with one or no ACEs. 47-51 Also, a large proportion of youth who participated in our focus groups (39.5%) were from families living with low incomes, and many had not had a physical exam or a dental appointment in the past year. Taken together, these survey findings suggest that our youth sample may be particularly at risk for experiencing community violence and may have limited opportunities to access supportive health care services. Nonetheless, social capital scores were fairly high. Higher levels of social capital have been positively associated with physical and mental well-being,<sup>52</sup> and have been shown to have a protective effect against risk taking behavior and injury.<sup>53</sup> This suggests our sample demonstrated factors associated with positive outcomes despite their exposure to community violence and may have influenced their perceptions and experiences related to resilience.

Although focus groups were an appropriate method to gather rich information on youths' perceptions of resilience, the use of this qualitative strategy has limitations. First, the goal of focus groups is not to gather in-depth information on each individual's experience but to understand group norms and perceptions; therefore examination of the depth of individuals' experience of resilience is limited. Second, participants may have felt uncomfortable sharing opinions that contrast with the group, potentially limiting the range of responses and leaving important issues unaddressed. Finally, our convenience sample may be biased toward youth who have high social capital based on our survey results and that participants were recruited from a not-for-profit program that provides job skills training and access to resources for underserved urban youth. Youth self-selected into our study after being presented with what the study entailed, including the CBPR approach of the study and that



the data would be used for research and action. This may have led to a select sample of youth who prioritize civic engagement and have higher levels of social capital. Therefore, our sample may not represent the most vulnerable urban African American youth who do not have access to these community resources, which is a population that should be engaged in future research.

#### **Conclusions**

Findings from the current study highlight unique risk and protective factors as well as indicators of resilience among African American youth exposed to community violence based on the perspectives and lived experiences of these youth. Future research should examine the effectiveness of strategies that address family, peer, and community contexts and build upon African American cultural strengths to promote resilience (i.e., the ability to persevere, self-regulate, and change or improve to adapt) among African American youth exposed to community violence.

#### **Disclosure statement**

The authors declare that they have no conflict of interest.

#### **Funding**

This work was supported by the Robert Wood Johnson Foundation under Grant No. 76141

#### References

- Busby DR, Lambert SF, Ialongo NS. Psychological symptoms linking exposure to community violence and academic functioning in African American adolescents. J Youth Adolescence. 2013;42(2):250-262. doi: 10.1007/s10964-012-9895-z.
- Sheats KJ, Irving SM, Mercy JA, et al. Violencerelated disparities experienced by Black youth and young adults: Opportunities for prevention. Am J Prev Med. 2018;55(4):462-469. doi:10.1016/j.amepre. 2018.05.017.
- 3. Gorman-Smith D, Henry DB, Tolan PH. Exposure to community violence and violence perpetration: The protective effects of family functioning. J Clin Child Adolesc Psychol. 2004;33(3):439-449. doi:10.1207/ s15374424jccp3303\_2.
- 4. Aisenberg E, Herrenkohl T. Community violence in context: risk and resilience in children and families. J Interpers Violence. 2008;23(3):296-315. doi:10.1177/ 0886260507312287.
- Brookmeyer KA, Henrich CC, Schwab-Stone M. Adolescents who witness community violence: Can parent support and prosocial cognitions protect them

- from committing violence? Child Dev. 2005;76(4): 917-929. doi:10.1111/j.1467-8624.2005.00886.x.
- McDonald CC, Deatrick JA, Kassam-Adams N, et al. Community violence exposure and positive youth development in urban youth. J Community Health. 2011;36(6):925-932. doi:10.1007/s10900-011-9391-5.
- Jones JM. Exposure to chronic community violence: Resilience in African American children. J Black Psychol. 2007;33(2):125-149. doi:10.1177/0095798407299511.
- Ungar M, Ghazinour M, Richter J. Annual research review: What is resilience within the social ecology of human development? J Child Psychol Psychiatry. 2013; 54(4):348-366. doi:10.1111/jcpp.12025.
- Magruder KM, Kassam-Adams N, Thoresen S, et al. Prevention and public health approaches to trauma and traumatic stress: A rationale and a call to action. Eur J Psychotraumatol. 2016;7(1):29715. doi:10.3402/ ejpt.v7.29715.
- Brenner AB, Zimmerman MA, Bauermeister JA, Caldwell CH. Neighborhood context and perceptions of stress over time: an ecological model of neighborhood stressors and intrapersonal and interpersonal resources. Am J Community Psychol. 2013;51(3-4): 544-556. doi:10.1007/s10464-013-9571-9.
- Maercker A, Hecker T. Broadening perspectives on 11. trauma and recovery: A socio-interpersonal view of PTSD. Eur J Psychotraumatol. 2016;7(1):29303. doi:10. 3402/ejpt.v7.29303.
- 12. Maercker A, Horn AB. A socio-interpersonal perspective on PTSD: The case for environments and interpersonal processes. Clin Psychol Psychother. 2013; 20(6):465-481. doi:10.1002/cpp.1805.
- Masten AS, Burt KB, Roisman GI, et al. Resources 13. and resilience in the transition to adulthood: Continuity and change. Dev Psychopathol. 2004; 16(04):1071-1094. doi:10.1017/S0954579404040143.
- 14. American Psychological Association. The Road to Resilience. https://www.apa.org/helpcenter/road-resilience.aspx.
- Vanderbilt-Adriance E, Shaw DS. Conceptualizing and re-evaluating resilience across levels of risk, time, and domains of competence. Clin Child Fam Psychol Rev. 2008;11(1-2):30-58. doi:10.1007/s10567-008-0031-2.
- Luthar SS, Zelazo LB. Research on resilience: An integrative review. Resil Vulnerability: Adap Context *Childhood Advers.* 2003;2:510–549.
- Rich JA, Grey CM. Pathways to recurrent trauma among young black men: traumatic stress, substance use, and the "code of the street. Am J Public Health. 2005;95(5):816-824. doi:10.2105/AJPH.2004. 044560.
- Smith JR, Patton DU. Posttraumatic stress symptoms in context: Examining trauma responses to violent exposures and homicide death among Black males in urban neighborhoods. Am J Orthopsychiatry. 2016; 86(2):212-223. doi:10.1037/ort0000101.
- 19. Gaylord-Harden NK, Bai GJ, Simic D. Examining a dual-process model of desensitization and hypersensitization to community violence in African American male adolescents. J Traumatic Stress. 2017;30(5): 463-471. doi:10.1002/jts.22220.

- Phan J, So S, Sargent E, et al. Hyperarousal, Hypervigilance, and Exposure to Community Violence in African American Male Adolescents. 2019 Biennial Meeting of the Society for Community Research and Action; 2019. Chicago, IL.
- Child Traumatic National Stress Network. Community Violence 2017. https://www.nctsn.org/ what-is-child-trauma/trauma-types/community-violence. Accessed June 6, 2019.
- Mack N, Woodsong C, MacQueen KM, Guest G, 22. Namey E. Module 4: focus groups. In: Qualitative Research Methods: A Data Collector's Field Guide. Research Triangle Park, NC: Family Health International; 2005:51-82.
- Hennink M, Hutter I, Bailey A. Focus group discussions. In: Qualitative Research Methods. Los Angeles, CA: Sage; 2010:135-168.
- Harris NB, Renschler T. Center for youth wellness ACE-questionnaire (CYW ACE-Q Child, Teen, Teen SR). 2015.
- Smith BW, Dalen J, Wiggins K, et al. The brief 25. resilience scale: assessing the ability to bounce back. Int J Behav Med. 2008;15(3):194-200. doi:10.1080/ 10705500802222972.
- Paiva PCP, de Paiva HN, de Oliveira Filho PM, et al. Development and validation of a social capital questionnaire for adolescent students (SCQ-AS). PloS one. 2014;9(8):e103785. doi:10.1371/journal.pone.0103785.
- 27. Woods-Jaeger B, Berkley-Patton J, Piper KN, O'Connor P, Renfro TL, Christensen K. Mitigating negative consequences of community violence exposure: perspectives from African American youth. Health Aff (Millwood). 2019;38(10):1679-1686. doi:10. 1377/hlthaff.2019.00607.
- Walsh R. Lifestyle and mental health. Am Psychol. 2011;66(7):579-592. doi:10.1037/a0021769.
- 29. Duckworth AL, Peterson C, Matthews MD, et al. Grit: perseverance and passion for long-term goals. J Personality Soc Psychol. 2007;92(6):1087-1101. doi:10. 1037/0022-3514.92.6.1087.
- Duckworth AL, Quinn PD. Development and validation of the Short Grit Scale (GRIT-S). J Personality Assess. 2009;91(2):166-174. doi:10.1080/0022389080 2634290.
- Chu C, Buchman-Schmitt JM, Stanley IH, et al. The interpersonal theory of suicide: A systematic review and meta-analysis of a decade of cross-national research. Psychol Bull. 2017;143(12):1313-1345. doi:10. 1037/bul0000123.
- Whaley AL. Cultural mistrust and mental health services for African Americans: A review and meta-analysis. Counseling Psychol. 2001;29(4):513-531. doi:10.1177/ 0011000001294003.
- Burton MS, Cooper AA, Feeny NC, et al. The enhancement of natural resilience in trauma interventions. J Contemp Psychother. 2015;45(4):193-204. doi: 10.1007/s10879-015-9302-7.
- Graham PW, Yaros A, Lowe A, et al. Nurturing environments for boys and men of color with trauma exposure. Clin Child Fam Psychol Rev. 2017;20(2): 105-116. doi:10.1007/s10567-017-0241-6.

- Gaylord-Harden NK, Burrow AL, Cunningham JA. A cultural-asset framework for investigating successful adaptation to stress in African American youth. Child Dev Perspect. 2012;6(3):264-271. doi:10.1111/j.1750-8606.2012.00236.x.
- Constantine MG, Alleyne VL, Wallace BC, et al. Africentric cultural values: Their relation to positive mental health in African American adolescent girls. J Psychol. 2006;32(2):141–154. doi:10.1177/ 0095798406286801.
- Sampson RJ, Raudenbush SW, Earls Neighborhoods and violent crime: A multilevel study of collective efficacy. Science. 1997;277(5328):918-924. doi:10.1126/science.277.5328.918.
- Gilbert DJ, Harvey AR, Belgrave FZ. Advancing the Africentric paradigm shift discourse: Building toward evidence-based Africentric interventions in social work practice with African Americans. Social Work. 2009;54(3):243-252. doi:10.1093/sw/54.3.243.
- James SA, Hartnett SA, Kalsbeek WD. John Henryism and blood pressure differences among black men. J Behav Med. 1983;6(3):259-278. doi:10. 1007/BF01315113.
- Abrams JA, Maxwell M, Pope M, et al. Carrying the world with the grace of a lady and the grit of a warrior: Deepening our understanding of the "Strong Black Woman" schema. Psychol Women Q. 2014; 38(4):503-518. doi:10.1177/0361684314541418.
- Stevens-Watkins D, Allen K, Fisher S, et al. John Henryism active coping as a cultural correlate of substance abuse treatment participation among African American women. J Subst Abuse Treat. 2016;63:54-60. doi:10.1016/j.jsat.2016.01.004.
- Abrams JA, Hill A, Maxwell M. Underneath the mask of the Strong Black Woman Schema: Disentangling influences of strength and selfsilencing on depressive symptoms among US Black women. Sex Roles. 2019;80(9-10):517-526. doi:10. 1007/s11199-018-0956-y.
- Brody GH, Yu T, Chen E, et al. Is resilience only skin 43. deep? Rural African Americans' socioeconomic status-related risk and competence in preadolescence and psychological adjustment and allostatic load at age 19. Psychol Sci. 2013;24(7):1285-1293. doi:10. 1177/0956797612471954.
- Gómez JM. Microaggressions and the enduring mental health disparity: Black Americans at risk for institutional betrayal. J Black Psychol. 2015;41(2):121-143. doi:10.1177/0095798413514608.
- Snowden LR, Yamada A-M. Cultural differences in access to care. Annu Rev Clin Psychol. 2005; 1(1):143-166. doi:10.1146/annurev.clinpsy.1.10280 3.143846.
- Alim TN, Feder A, Graves RE, et al. Trauma, resilience, and recovery in a high-risk African-American population. AJP. 2008;165(12):1566-1575. doi:10.1176/ appi.ajp.2008.07121939.
- Bethell CD, Newacheck P, Hawes E, et al. Adverse childhood experiences: assessing the impact on health and school engagement and the mitigating role of resilience. Health Affairs. 2014;33(12):2106-2115. doi: 10.1377/hlthaff.2014.0914.



- Flaherty EG, Thompson R, Dubowitz H, et al. Adverse childhood experiences and child health in early adolescence. JAMA Pediatr. 2013;167(7): 622-629. doi:10.1001/jamapediatrics.2013.22.
- Bright MA, Alford SM, Hinojosa MS, et al. Adverse childhood experiences and dental health in children and adolescents. Community Dent Oral Epidemiol. 2015;43(3):193-199. doi:10.1111/cdoe.12137.
- Wing R, Gjelsvik A, Nocera M, et al. Association between adverse childhood experiences in the home and pediatric asthma. Ann Allergy Asthma Immunol. 2015;114(5):379-384. doi:10.1016/j.anai. 2015.02.019.
- Burke NJ, Hellman JL, Scott BG, et al. The impact of 51. adverse childhood experiences on an urban pediatric population. Child Abuse Neglect. 2011;35(6):408-413. doi:10.1016/j.chiabu.2011.02.006.
- 52. Nieminen T, Prättälä R, Martelin T, et al. Social capital, health behaviours and health: a population-based associational study. BMC Public Health. 2013;13(1): 613. doi:10.1186/1471-2458-13-613.
- 53. Pickett W, Dostaler S, Craig W, et al. Associations between risk behavior and injury and the protective roles of social environments: an analysis of 7235 Canadian school children. Injury Prev. 2006;12(2):87-92. doi:10.1136/ ip.2005.011106.