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Recommendations for Melding Life History Theory and  
Community Violence Exposure Methods: A Systemic Review

By

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## **Abstract**

The role of a violent environment coupled with poverty may have detrimental, long-lasting effects on children and adolescents, and a melding of Life History Theory (LHT) and Community Violence Exposure (CVE) research methods may enhance research into those topics. In the current article, we queried 21 empirical articles published between 2000 and 2023 to examine studies investigating CVE or environmental harshness/unpredictability to identify generalizable patterns across publications. There are several findings. First, the patterns recognized imply that socioeconomic status plays a crucial role in shaping an individual's environment and subsequent behavioral outcomes as a result of that environmental exposure. Second, there are several similarities in the results of the publications despite using different psychological concepts and methodologies. Third, measuring the effect the interaction of unpredictability and harshness has on CVE and any behavioral outcomes after exposure would enhance CVE research. These findings provide evidence that there may be an association between environmental harshness/unpredictability and CVE. A melding of CVE and LHT concepts is the most appropriate approach to future research. Overall, this review offers recommendations for journals and authors.

## **Introduction**

Childhood poverty and community violence are serious public health issues, and little progress has been achieved to address these issues successfully. The societal and cultural stigma surrounding poverty may contribute to the slow progress, and seeking further understanding of the effects of poverty may assist in creating successful interventions. In 2022, the Census Bureau released data on the child poverty rate, which claims the poverty rate for individuals under the age of 18 more than doubled from rates in 2021 (Shrider & Creamer, 2023). Youths raised in poverty experience the hardships and risks that are commonly associated with poverty through no fault of their own. More specifically, in the United States, the risk of youths exposed to community violence is high as community violence is commonplace in low socioeconomic status, urban, high crime, and predominantly non-white communities (Motley et al., 2017; Patchin et al., 2006; Selner-O'Hagan et al., 1998; Stein et al., 2003). In addition to this data, the CDC's 2021 Youth Risk Behavioral Surveillance report revealed that about 19% of high school students reported exposure to community violence, and 3.5% reported carrying a gun (Harper et al., 2023). These public health issues may have intense detrimental effects on the social, emotional, and psychological development of children who reside in low-income, high-risk areas plagued by community violence. They may be directly, intensively, and negatively influenced by their environment. In particular, the development of anti-social behaviors (ASB), which can include increased aggression, externalizing behaviors, and delinquency, in children and adolescents may have a direct connection to exposure to low-income environments riddled with community violence.

The effects of childhood poverty in conjunction with community violence require a vigorous examination of the mechanisms that may promote adverse developmental outcomes.

Different psychological perspectives should be combined to conduct the most effective and robust investigation of these mechanisms. Primarily, a melding of evolutionary, developmental, and social perspectives should be considered to obtain further understanding of adverse childhood developmental outcomes. The collaborative efforts and sharing of investigative techniques among researchers may have a crucial role in enhancing comprehension of the development of ASB in children.

### **A brief overview of Community Violence Exposure and Anti-Social Behaviors**

Community violence entails acts whose purpose is to inflict harm on individuals or groups within a community and most commonly occurs outside of the home (Cooley-Strickland et al., 2009). These acts consist of shootings, stabbings, and extreme physical assaults and are one of the most common forms of violence exposure during childhood compared to sexual abuse and domestic violence (Krug et al., 2002; Margolin & Gordis, 2000). Witnessing or victimization can expose individuals to community violence (Brennon et al., 2007; Fowler et al., 2009). However, children and adults are less at risk of exposure as CVE is most prevalent during adolescence (Baum, 2005; Finklehor et al., 2005; 2008). Additionally, the malignant effects of CVE can be critical during adolescence due to the various biological and social changes that occur during this period (Mrug et al., 2008).

Several studies have linked CVE to ASB outcomes, including higher levels of aggression, delinquency, and externalizing behaviors that are associated with either witnessing community violence or being directly victimized (Cooley-Quille et al., 2001; Fowler et al., 2009; Mrug & Windle, 2010). In their study, Lambert et al. found that witnessing community violence against a family member or friend had a substantial link to increased aggressive behavior than to anxiety or depression, which adolescents developed as a strategy to avoid victimization (2012). CVE

contributed to the disengagement of morality in adolescents and self-reports of victimizing others, demonstrating the cyclical nature of community violence (Phan & Gaylord-Harden, 2022).

Although researchers have agreed that CVE is common in low-SES communities, little research investigates the role poverty plays in promoting not only CVE but also the development of ASB in children and adolescents, which can be attributed to researchers' desire to steer away from essentialism. This suggests that employing measures that can delve into the nuanced effects of being raised in a low socioeconomic (SES) environment may assist researchers in examining the relationship between poverty and CVE.

### **A Brief Overview of Harshness, Unpredictability, and Anti-Social Behaviors**

Life history theory (LHT), an evolutionary perspective, posits that early life experiences and environments shape behaviors; these behaviors can also be called life history strategies (Ellis et al., 2009). According to Ellis et al. (2009), Life history (LH) strategies are believed to exist on a slow-fast spectrum. A fast LH strategy is characterized by higher levels of aggression, delinquency, externalizing behaviors, engagement in risky behaviors, and seeking immediate gratification. Conversely, a slow LH strategy is indicated by avoiding risky behaviors, lower levels of aggression, engaging in prosocial behaviors and investing in long-term goals (Ellis et al., 2009).

Environments that are marked by chronic and consistent stress can be characterized as harsh and unpredictable environments (Ellis et al., 2009). Environmental harshness and unpredictability have been recognized through many factors, including familial low SES (Belsky et al., 2012; Ellis et al., 2009), residing in high-risk and low-resource communities, and familial

turmoil (Chang & Lu, 2018), parental employment and residential changes (Doom et al., 2016), and exposure to violence and crime (Brumbach et al., 2009).

It must be noted that while low SES is designated as only a factor of environmental harshness and unpredictability, low SES can directly or indirectly affect the other factors listed, implying that SES has an intense influence on shaping environments. Previous research outside of the LHT concept provides such evidence: youths residing in public housing in low SES areas have worse educational outcomes (Martens et al., 2014), individuals from low SES families are less likely to attend college and graduate school (Walpole, 2003), and low SES individuals who relocated to low-poverty areas were less likely to be exposed to violence, experience health problems, abuse alcohol, receive cash assistance, and were more likely to report satisfaction with neighborhood resources, experience higher housing quality, and be employed, when compared with adults who remained in high-poverty neighborhoods (Fauth et al., 2004).

Research suggests that children who are raised in auspicious and stable environments, which include low crime and resource-abundant communities, may develop and employ a slow LH strategy; conversely, youths who are raised in environments with chronic stress may develop and engage in behaviors consistent with a fast LH strategy (Ellis et al., 2012). Essentially, individuals predict their most probable future environment based on circumstances in their early environment and adjust their behavior accordingly (Belsky et al., 2012).

Behaviors associated with fast life strategies tend to manifest in adolescence and early adulthood. For example, Chang et al.'s study revealed that children who experience harshness and unpredictability are directly linked to externalizing behaviors during adolescence (2019). Another study revealed that greater perceptions of an unpredictable environment are associated with conduct problems, increased aggression, and decreased prosociality among adolescents

(Dickerson et al., 2019). Wu et al. found that adolescents who experience unpredictability during childhood display decreased prosocial behavior due to lower levels of honesty, humility, and trust in others (2020).

### **Current Study**

Previous literature on LHT demonstrates that measuring environmental harshness and unpredictability may reveal the nuances of how living in poverty affects behavioral outcomes to a greater extent than only assessing participants' socioeconomic status. Studies investigating the development and engagement of ASB in youths could be enhanced if researchers included measures that evaluate the level of environmental harshness and unpredictability in addition to measures that record socioeconomic status. More specifically, researchers should consider measures of harshness and unpredictability when assessing the relationship between ASB in youths and CVE. A thorough investigation of earlier studies on these topics is essential to reveal research pathways pertinent to understanding the effects of an unpredictable, harsh, and violent environment during childhood on the expression of behaviors of adolescents. The concepts discussed carry implicit valuations, as they deal with behaviors that tend to be viewed as socially undesirable, i.e., “prosocial behavior and antisocial behavior” and their relationship to the environment. The findings of these investigations may further promote the stigma of poverty—suggesting that further research is needed to help dispel negative bias and debunk negative stereotypes associated with individuals living in poverty. Combining methods, techniques, and measures may be valuable in that endeavor.

This project aims to conduct a thorough and systemic review of scientific literature within 20 years that empirically evaluates the behavioral outcomes of youths who were raised in harsh and unpredictable environments or those exposed to community violence. This paper aims

to provide evidence that including environmental harshness/unpredictability measures when assessing the ASB outcomes of CVE during childhood/adolescence may further explain how ASB develops in youths exposed to community violence. This systemic review will investigate each empirical study, the variables evaluated, the effect size and direction, the characteristics of the samples, the research design, the measures and instruments utilized, and finally, the conclusions.

### **Method**

The review was developed following the guidelines provided by the PRISMA 2020 checklist for systematic reviews and meta-analysis (Page et al., 2021). Due to the non-interventional nature of this systemic review, ethical approval and an Institutional Review Board statement are not required.

### **Search Strategy**

A thorough search began on October 8, 2023, through February 2, 2024, in three databases for articles published between 2000 and 2023: Google Scholar, PubMed, and APA PsychNet. These databases were chosen to ensure a wide search area. The keywords utilized included; “community violence OR community violence exposure” AND “life history OR life history theory OR fast life history,” AND “unpredictable environments OR unpredictable harsh environments” AND “prosociality OR prosocial behaviors OR moral reasoning” AND “externalizing behaviors” AND “delinquency” AND “risky behaviors” AND “childhood OR adolescence” NOT “childhood abuse OR family violence OR domestic violence OR domestic abuse” NOT “game OR media.”

The years of search were filtered between 2000-2023 to narrow the search to the most current and relevant empirical studies. Using the articles recognized as pertinent, a search



through their references provided relevant articles missed by any database searches. The search results are as follows: 1,279 publications from PubMed, 1,658 publications from APA PsychNet, and 746 publications from Google Scholar for 3683 publications. After reviewing titles and abstracts, 3,626 articles were excluded according to the exclusion criteria. An additional Twenty-seven duplicate articles were removed. After thoroughly examining the texts, twenty-one publications met the inclusion criteria.

### **Inclusion and Exclusion Criteria**

The articles selected are based on the inclusion criteria: (1) Articles investigating the behavioral outcomes after CVE must include measures that directly assess participants' exposure to violence in the community, which includes witnessing community violence and/or being directly victimized; (2) All articles must include measures that assess ASB in children and adolescents in a cognitive, emotional, or behavioral dimension; (3) Participants must be between the ages of 0 years old to 23 years old. (4) All articles must have some measure of socioeconomic status.

The articles excluded are based on the exclusion criteria:(1) Studies evaluating the impact of other forms of violence, such as intrafamily and media violence; (2) Qualitative studies, reviews, and unpublished work.

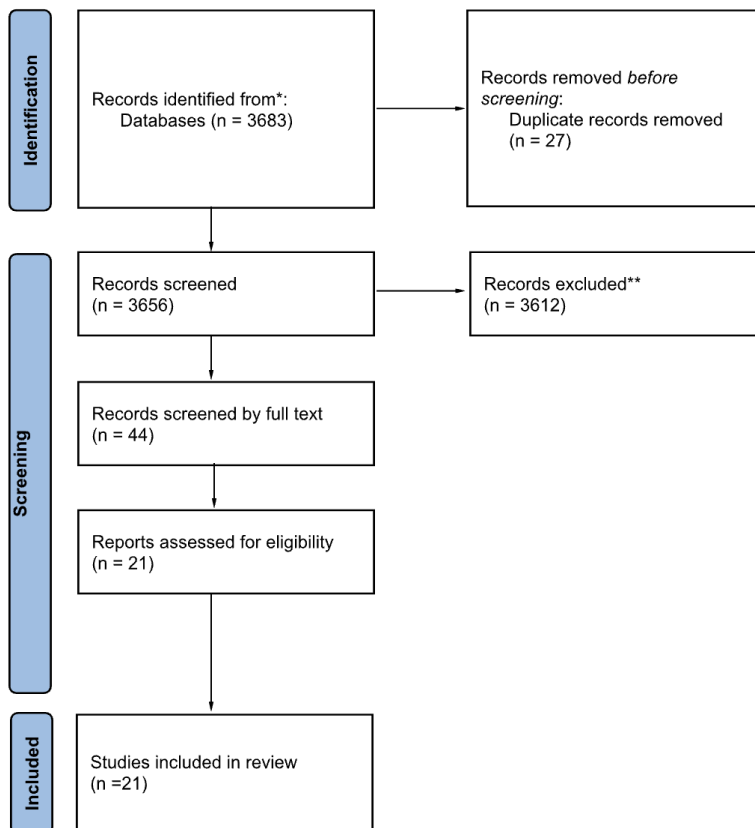
### **Study Selection**

Figure 1 shows the selection flow diagram using the PRISMA. A formal meta-analysis of the literature was not completed for various reasons. First, each study utilized a wide variety of assessments of antisocial behaviors. Second, little prior literature sets a precedent for using measures that evaluate the environmental harshness and unpredictability when assessing the behavioral outcomes of CVE, resulting in significant heterogeneity in the studies' results.

Subsequently, this review summarized patterns revealed across the antisocial behavioral outcomes.

## Data Extraction

The data that was collected included the following: (i) author(s), year of publication, title of publication, and journal; (ii) sample size, effect size, age, sex, country, region, and other relevant sociodemographic information; (iii) research design, analysis, and control group (if applicable); (iv) antisocial behavior addressed and the measures utilized; and (v) main findings.



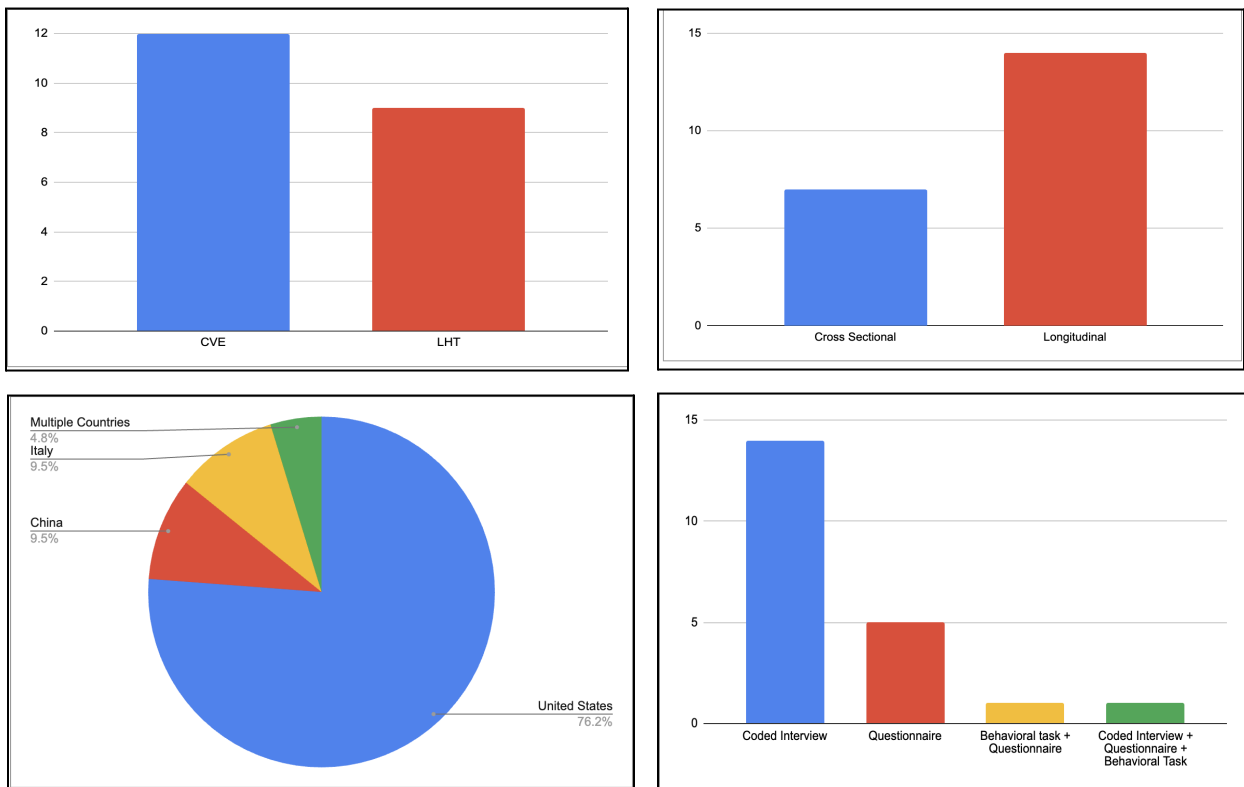
**Figure 1.** Selection of Studies

## Results

### Study Characteristics

After being thoroughly reviewed, twenty-one empirical studies are included in this systematic review. The characteristics of the studies included in this review are found in [Table 1](#)

and [Figure 2](#). Nine articles examined the outcomes of exposure to harsh and unpredictable environments during childhood and adolescence. Twelve of the publications investigated the effects of CVE during childhood and adolescence. The majority of the studies were conducted in the United States (76.2%), one was conducted in Italy (9.5%), and one study was conducted in China (9.5%). Only one publication included nine countries: China, Colombia, Italy, Jordan, Kenya, Philippines, Sweden, Thailand, and the United States (4.8%). Thus, the participants across all studies are ethnically and racially diverse. All of the studies were published between 2000-2023, with four published before 2010 and eighteen published after 2010. The publications' age samples range from 0 to 23, with most participants between 10 and 17. Of the twenty-one articles, 59.1% are longitudinal, and 40.9% are cross-sectional. Most of the studies utilized interviews that were later coded and scored in combination with questionnaires.



**Figure 2.** Characteristics of studies.

## **Melding Life History Theory and Community Violence Exposure Methods**

This review will analyze the findings of studies included to reveal patterns, associations, and generalizations of the behavioral outcomes resulting from exposure to community violence and environmental harshness/unpredictability. Identifying these patterns across studies will illustrate that investigations into the relationship between CVE and ASB will be enhanced by including LHT environmental harshness/unpredictability measures. 100% of the publications consistently show that both harsh and unpredictable environments, as well as exposure to community violence, have malignant effects on the prosocial behavior of children and adolescents. [Table 2](#) shows the effect sizes for the twenty-one publications in this review. Most studies used .001, .01, and .05 significance levels, and only two used .10 significance levels for some of their analyses.

## ***The Role of Socioeconomic Status in Shaping Environments***

The majority of the studies selected for this review involved participants from low socioeconomic backgrounds, implying that SES must be a crucial element in environments where CVE and environmental harshness/unpredictability are commonplace. As discussed in a previous section, low SES may directly or indirectly affect the other factors that indicate environmental harshness and unpredictability, implying that SES intensely influences shaping environments.

Several studies using the LHT concepts in this review revealed a significant relationship between participants who are low SES and have developed and engaged in antisocial behavior (Brumbach et al., 2009; Chang et al., 2019; Doom et al., 2016; Li et al., 2018). This consistent finding across studies underscores the pervasive impact of socioeconomic status on behavioral patterns. These patterns may be generalized in other social and environmental contexts, including

**Table 1.** Characteristics of the Studies.

Author (year)	Journal	Country	Sample Size	Age Sample	CVE/LHT
Bacchini et al., 2020	International Journal of Environmental Research and Public Health	Italy	817	12-18	CVE
Brumbach et al., 2009	Human Nature	United States	Random sampling*	11-20	LHT
Chang et al., 2019	Developmental Psychology	Nine countries**	1245	10-15	LHT
Chen et al., 2016	Youth & Society	United States	3350	10-15	CVE
Dickerson et al., 2019	Journal of Youth and Adolescence	United States	170	10-17	LHT
Dickerson & Quas, 2021	Journal of Applied Developmental Psychology	United States	1768	8-16	LHT
Doom et al., 2016	Development and Psychopathology	United States	220	16-23	LHT
Esposito et al., 2022	Journal of Interpersonal Violence	Italy	802	11-18	CVE
Lambert et al., 2012	American Journal of Orthopsychiatry	United States	501	15-17	CVE
Lambert et al., 2005	American Journal of Community Psychology	United States	582	10-13	CVE
Li et al., 2018	Developmental Psychology	United States	1356	5-15	LHT
Lin et al., 2020	Children and Youth Services Review	China	732	9-15	CVE
Linares et al., 2001	Child Development	United States	160	3-5	CVE
Lu & Chang, 2019	Developmental Science	China	198	10	LHT
Martinez et al., 2022	Development and Psychopathology	United States	522	***	LHT
Mrug & Windle, 2010	Journal of Child Psychology and Psychiatry	United States	603	11-13	CVE
Patchin et al., 2006	Crime & Delinquency	United States	187	9-15	CVE
Phan & Gaylord-Harden, 2022	Journal of Child & Adolescent Trauma	United States	1345	14-17	CVE
Rosario et al., 2003	Journal of Community Psychology	United States	667	11-14	CVE
Shulman et al., 2021	Journal of Clinical Child & Adolescent Psychology	United States	1216	13-17	CVE
Simpson et al., 2012	Developmental Psychology	United States	162	0-23	LHT

*Random sampling of 20,000 participants - 500-2000 per data subset\**

*China, Colombia, Italy, Jordan, Kenya, Philippines, Sweden, Thailand, and the United States\*\**

*Unreported\*\*\**

environments where community violence is commonplace. In fact, two LHT perspective studies, when assessing environmental harshness, utilized measures that examine neighborhood safety (Chang et al., 2019) and exposure to violence (Brumbach et al., 2009). Both studies reported that environmental harshness is significantly and positively associated with ASB. Although Chang et

al.'s (2019) measure only assessed participants' perceived feelings of neighborhood safety and Brumbach et al.'s (2009) does not include any specific questions about the type of violence exposure, these inclusions support the idea that these generalizations may apply to situations where CVE is relevant.

A few CVE studies included in this review primarily collected participant demographic data to determine SES, specifically those conducted outside the United States (Bacchini et al., 2020; Esposito et al., 2022; Lin et al., 2020). The CVE studies conducted in the United States only relied on caregiver reports (Mrug & Windle, 2010; Rosario et al., 2003; Shulman et al., 2021), self-reports (Shulman et al., 2021), census data (Patchin et al., 2006) and reports of participants receiving free or reduced lunch to determine the level of SES (Chen et al., 2016; Lambert et al., 2005, 2016). This is a huge limitation that may be mitigated by including environmental harshness and unpredictability measures. Not assessing the levels of harshness and unpredictability may have overlooked any patterns, relationships, confounding, mediating, or moderating variables.

Despite all CVE studies recruiting participants from primarily low SES areas, only one study (Linares et al., 2001) conducted an in-depth analysis of the participants' mothers' SES background and their effects on youths' behavioral outcomes, finding that maternal distress and maternal SES independently significantly mediate the relationship between CVE and externalizing behaviors (2001). This study's methods are extremely similar to LHT perspectives studies in their investigations. Linares et al.'s (2001) study, being the oldest study included in this review, may set the precedent for CVE studies using LHT methods. Later studies do not apply these techniques in their investigation, which may be attributed to SES not have any significant interactions in other studies. Despite this, Linares et al.'s findings are consistent with LHT

findings included in this review, providing evidence that LHT generalizations may apply to situations where CVE is relevant.

Although only one CVE study investigated the role of mothers' SES in exposure to community violence and any subsequent behavioral outcomes, other CVE studies did identify any interactions or impact SES may have on youths. School poverty and low SES are independently, significantly, and positively related to CVE and delinquent behaviors; youths exposed to high levels of community violence tend to engage in delinquent behaviors (Chen et al., 2016; Mrug & Windle, 2010). These findings reveal an indirect link between low SES and ASB. Conversely, Patchin et al. also examined how SES impacts delinquency; they reported they found no significant impact, which they attributed to the sample not having great diversity in SES (2006). Not only is this inconsistent with Linares et al. (2001), Mrug & Windle (2010), and Chen et al. (2016), but these findings are also inconsistent with the LHT approach studies, suggesting that more diverse samples are imperative to accurately measure SES's impact on youths' behavior. This publication is the second oldest CVE study, suggesting subsequent studies recruited more diverse samples to overcome this limitation. Another avenue to overcome the limitations of Patchin et al.'s (2006) study would be to include environmental harshness/unpredictability measures in their methods; using only Census data to determine neighborhood disadvantage may have removed some nuance harshness/unpredictability measures may have uncovered due to the measures being tailored to assess specific situations instead of demographic information as LHT studies with similar sample sizes have been able to identify relationships between unsafe environments and youth ASB.

**Table 2.** Effects of Harsh and Unpredictable Environments or CVE

Author (year)	RD	CG	Type of report	ABS				Effect Sizes	Moderators and Mediators
				AB	C	D	EB MD		
Bacchini et al., 2020	Cs	N	self				x	<p>CVE has a + DE on ABS:  <math>\beta = 0.15</math>, <math>p &lt; 0.001</math>            CVE has a +DE on YGM:  <math>\beta = 1.45</math>, <math>p &lt; .001</math>            CVE has a + DE on ABS through YGM:  <math>\beta = 0.13</math>, <math>p &lt; .01</math>            PDE of CVE on ABS:            estimate = 0.09 95% CI = 0.06 to 0.12, <math>p &lt; .001</math></p>	
Brumbach et al., 2009	Lg	N	parent, self				x	<p>EH has a + DE on adolescent SD:  <math>\beta = 0.61</math>, <math>p &lt; .05</math>            EU has a + DE on adolescent SD:  <math>\beta = 0.13</math>, <math>p &lt; .05</math></p>	Adolescent SD mediates the association between EH and SD during early adulthood: $\beta = 0.23$ , $p < .05$
Chang et al., 2019	Lg	N	parent, self,				x	<p>H&amp;U has a +DE on EB:  <math>\beta = 0.32</math>, <math>p &lt; .001</math>            H&amp;U has a - DE on:  <math>\beta = -0.47</math>, <math>p &lt; .001</math></p>	
Chen et al., 2016	Lg	N	self				x	<p>Model 2 School poverty has a + DE on D:  <math>B = 0.10</math>, <math>SE = 0.04</math>, <math>p &lt; .05</math>            CVE has a + DE on D:            Model 3 <math>B = 0.56</math>, <math>SE = 0.04</math>, <math>p &lt; .001</math>            Model 4 <math>B = 0.64</math>, <math>SE = 0.04</math>, <math>p &lt; .001</math>            Model 5 <math>B = 0.66</math>, <math>SE = 0.04</math>, <math>p &lt; .001</math></p>	FE - moderates the CVE and D: Model 4 $B = -.19$ , $SE = 0.06$ , $p < .01$ Model 5 $B = -0.21$ , $SE = 0.06$ , $p < .001$
Dickerson et al., 2019	Cs	N	interview, self				x	<p>Adolescent unpredictable reality perception:            Model 1            + effect on ABS: <math>B = 0.13</math> (<math>\beta = 0.30</math>), <math>SE = 0.03</math>, <math>t(165) = 4.07</math>, <math>p &lt; 0.001</math>, 95% CI [0.07, 0.20]            - effect on PSB: <math>B = -0.22</math> (<math>\beta = -0.36</math>), <math>SE = 0.04</math>, <math>t(165) = -4.91</math>, <math>p &lt; 0.001</math>, 95% CI [-0.30, -0.13]            Model 2            + effect on ABS: <math>B = 0.11</math> (<math>\beta = 0.26</math>), <math>SE = 0.05</math>, <math>t(165) = 2.17</math>, <math>p &lt; .05</math>            - effect on PSB: <math>B = -0.15</math> (<math>\beta = -0.25</math>), <math>SE = 0.07</math>, <math>t(165) = -2.07</math>, <math>p &lt; .05</math></p>	Wave 1 EU association with wave 4 ABS is mediated through wave 3 certainty in perceived life expectancy: $\beta = -0.36$ , $SE = 0.10$ , $p < .001$
Dickerson & Quas, 2021	Lg	N	self				x	<p>Wave 1 EU has a + effect on ABS in wave 4: <math>\beta = 0.95</math>, <math>SE = 0.45</math>, <math>p &lt; .05</math>            Wave 1 EU has a - effect on wave 3 certainty in perceived life expectancy:  <math>\beta = 0.42</math>, <math>SE = 0.13</math>, <math>p &lt; .01</math>            Indirect effects of EU on ABS:  <math>\beta = 0.15</math>, 95% CI [0.04, 0.29], <math>p &lt; .05</math></p>	
Doom et al., 2016	Lg	N	self				x x x	<p>Early EU x EH on age 16 EB:  <math>\beta = -0.18</math>, <math>p = .08</math>            Later EU on age 16 externalizing behaviors:  <math>\beta = -0.14</math>, <math>p = .09</math></p>	
Lambert et al., 2012	Lg	N	self, teacher				x	<p>CVE of family member + DE of AB:  <math>B = .11</math>, <math>t = 2.39</math>, <math>p &lt; .05</math>            CVE of close friend + DE of AB:  <math>B = .09</math>, <math>t = 1.90</math>, <math>p &lt; .10</math>            CVE of acquaintance + DE of AB:  <math>B = .11</math>, <math>t = 2.38</math>, <math>p &lt; .05</math>            CVE of stranger + DE of AB:  <math>B = .08</math>, <math>t = 1.73</math>, <math>p &lt; .10</math></p>	



Lambert et al., 2005	Lg	N	self, teacher	x		<p>Male witness of CVE:  + DE of AB: <math>B = 0.42, SE = 0.23, OR = 1.53, p &lt; .05</math></p>	<p>Interactions For males:  CVE, AB, and Anxiety: <math>B = -2.09, SE = 0.74, OR = 0.12, p &lt; .01</math>  CVE, AB, and DPA: <math>B = 0.11, SE = 0.07, OR = 0.76, p &gt; .05</math>  CVE, AB, Anxiety, and DPA: <math>B = -0.55, SE = 0.21, OR = 0.58, p &gt; .05</math>  CVE, AB, Depression, and DPA: <math>B = 0.58, SE = 0.26, OR = 1.78, p &gt; .05</math>  CVE, AB, Anxiety, and PM: <math>B = -0.32, SE = 0.14, OR = -0.73, p &gt; .05</math>  CVE, AB, Depression, and PM: <math>B = 0.38, SE = 0.16, OR = 1.47, p &gt; .05</math></p>
Li et al., 2018	Lg	N	parent, self, teacher	x		<p>Harshness:  +DE on Kindergarten BP <math>\beta = 4.08, SE = 0.84, p &lt; .01</math>  + DE on kindergarten Teacher-child conflicts <math>\beta = 1.42, SE = 0.47, p &lt; .01</math>  + DE on adolescence EB <math>\beta = 3.62, SE = 0.89, p &lt; .01</math>  Unpredictability:  + DE on adolescence EB <math>\beta = 2.01, SE = 1.12, p &lt; .1</math>  Harshness x Unpredictability:  - DE on Kindergarten BP <math>\beta = -2.45, SE = 0.93, p &lt; .01</math>  - DE on kindergarten Teacher-child conflicts <math>\beta = -0.87, SE = -1.67, p &lt; .1</math></p>	
Lin et al., 2020			self	x		<p>CVE x school engagement x deviant peer affiliation x AB  IDE = 0.004, 95% CI = 0.001 to 0.007</p> <p>+DE Maternal SES on child behavior problems <math>\beta = .21, p &lt; .05</math>,  CV, <math>\beta = .27, p &lt; .03</math>  maternal distress on child behavior problems;  <math>\beta = .67, p &lt; .001</math></p>	
Linares et al., 2001	Cs	N	Parent, self	x		<p>Extrinsic risk and unpredictability:  + DE on AB <math>\beta = 0.36, p &lt; .05</math>  - DE on SLHS <math>\beta = -0.52, p &lt; .01</math>  SLHS - DE on AB <math>\beta = -0.39, p &lt; .01</math></p>	
Lu & Chang, 2019	Lg	N	self, teacher, behavioral task	x		<p>Childhood EU mediates the association between Life Event Schedule and EB:  <math>B = 0.51, 95\% CI [0.40, 0.61]</math>  <math>B = 16.06, 95\% CI [11.17, 20.96]</math></p>	
Martiez et al., 2022	Cs	N	self	x			
Mrug & Windle, 2010	Lg	N	self	x	x	<p>CVE + DE on D <math>\beta = .08, p &lt; .05</math></p> <p>CVE + DE on peer D <math>B = 0.45, SE = 0.05, \beta = 0.56, p &lt; .05</math>  CVE + DE on committing personal assault:  Model 2 <math>\beta = 0.15, SE = 0.04, p &lt; .05</math>  Model 3 <math>\beta = 0.11, SE = 0.05, p &lt; .05</math>  CVE + DE on weapon possession:  Model 2 <math>\beta = 0.15, SE = 0.20, p &lt; .05</math>  Model 3 <math>\beta = 0.16, SE = 0.05, p &lt; .05</math></p>	<p>CVE association with Delinquency (<math>\beta = -0.13, p &lt; .001</math>) and Aggression (<math>\beta = -0.13, p &lt; .001</math>) is moderated by witnessing violence in the home</p>
Patchin et al., 2006	Cs	N	self	x			

Phan & Gaylord - Harden	Lg	N		x	x	<p>significant positive effect of baseline witnessing violence on self-reported offending at 12 months (<math>b = 0.01</math>, <math>SE = 0.002</math>, <math>p = 0.02</math>, 95% CI [0.001, 0.009])</p>	<p>moral disengagement <math>b = 0.03</math>, <math>SE = .0004</math> <math>p &lt; .05</math></p> <p>For Boys:. Peer support moderates D and CVE victimization (<math>\beta = 0.13</math>, <math>p &lt; .01</math>) and witnessing (<math>\beta = -0.11</math>, <math>p &lt; .05</math>) Avoidance moderates D and CVE victimization (<math>\beta = -0.10</math>, <math>p &lt; .05</math>) Confrontation moderates D and CVE victimization (<math>\beta = 0.12</math>, <math>p &lt; .05</math>) and witnessing (<math>\beta = 0.10</math>, <math>p &lt; .05</math>) For girls: Guardian support moderates D and CVE victimization (<math>\beta = -0.18</math>, <math>p &lt; .001</math>) Peer support moderates CVE victimization (<math>\beta = 0.11</math>, <math>p &lt; .01</math>) Avoidance moderated D and CVE witnessing (<math>\beta = 0.09</math>, <math>p &lt; .05</math>) Confrontation moderates D and CVE victimization (<math>\beta = 0.13</math>, <math>p &lt; .05</math>)</p>
Rosario et al., 2003	Cs	N	self		x	<p>For boys: CVE victimization + DE on D <math>\beta = 0.18</math>, <math>p &lt; .001</math> CVE witness + DE on D <math>\beta = 0.15</math>, <math>p &lt; .01</math> Coping with CVE by being confrontational has a + DE on D <math>\beta = 0.27</math>, <math>p &lt; .001</math> For girls: CVE victimization + DE on D <math>\beta = 0.21</math>, <math>p &lt; .001</math> Coping with CVE by being confrontational has a + DE on D <math>\beta = 0.22</math>, <math>p &lt; .001</math></p>	<p>Unconditional within-person effects: Gun CVE + DE AB <math>\beta = 0.47</math>, 95% CI [0.39, 0.54], <math>p &lt; .001</math> CVE + DE AB <math>\beta = 0.37</math>, 95% CI [0.32, 0.42], <math>p &lt; .001</math> Model 1 Gun CVE + DE AB <math>\beta = 0.37</math>, 95% CI [0.29, 0.45], <math>p &lt; .001</math> CVE + DE AB <math>\beta = 0.32</math>, 95% CI [0.26, 0.37], <math>p &lt; .001</math> Model 2 Gun CVE + DE AB <math>\beta = 0.38</math>, 95% CI [0.29, 0.47], <math>p &lt; .001</math> CVE + DE AB <math>\beta = 0.32</math>, 95% CI [0.24, 0.36], <math>p &lt; .001</math> Model 3 Gun CVE + DE AB <math>\beta = 0.24</math>, 95% CI [0.15, 0.32], <math>p &lt; .001</math> Gun CVE + DE Reactive AB <math>\beta = 0.27</math>, 95% CI [0.18, 0.36], <math>p &lt; .001</math> CVE + DE Reactive AB <math>\beta = 0.20</math>, 95% CI [0.14, 0.26], <math>p &lt; .001</math></p>
Shulman et al., 2021	Cs	N	interview, self		x	<p>Unpredictability during early childhood + DE AB <math>B = 0.57</math>, <math>SE = 0.27</math>, <math>\beta = 0.19</math>, <math>p &lt; .05</math> Unpredictability during early childhood + DE D <math>B = 0.45</math>, <math>SE = 0.19</math>, <math>\beta = 0.22</math>, <math>p &lt; .05</math></p>	
Simpson et al., 2012	Lg	N	self	x	x		

*Abbreviations:* “ABS” Antisocial behaviors, “AB” aggressive behaviors, “BP” behavioral problems, “CG” control group, “C” Criminology, “Cs” cross-sectional, “D” Delinquency, “DE” for direct effect, “DPA” deviant peer affiliation, “EB” externalizing behaviors, “EH” environmental harshness, “EU” environmental unpredictability, “H&U” harshness and unpredictability, “IDE” indirect effects “Lg” longitudinal, “MD” Moral Disengagement, “N” no to control group, “PDE” pure direct effects, “PM” parental monitoring, “PSB” prosocial behaviors, “RD” research design, “SD” social deviance, “SLHS” slow life history strategies, “x” denoting what antisocial behaviors were measured, “Y” yes to control group, “YGM” youth gang membership, “+” positive, “-” negative

## ***Similarities of the Effects of Harsh and Unpredictable Environments or CVE on Antisocial Behaviors***

Community violence exposure (CVE) and fast life history strategies (LHS) have similar outcomes in terms of behavioral outcomes among youths. Although the outcomes are similar, there is little evidence in the previous research that identifies and elucidates these similarities. As discussed in the last section, Linares et al. (2001) is the only CVE study that applies methods similar to LHT to reveal any interactions between CVE, SES, and ASB. Due to CVE studies forgoing in-depth measures and analyses of SES, there is little room for a one-to-one comparison. Instead, this section aims to identify patterns that can be generalized across both LHT and CVE studies. These similarities suggest that combining methods from LHT and CVE may optimize future research.

The impact of environmental harshness/unpredictability and CVE on individuals' behavioral outcomes implies an inherent cyclical nature. The combined effects of environmental harshness and unpredictability during early childhood predicted adolescent ASB and are indirectly linked to early adulthood ASB (Doom et al., 2016). Early unpredictability is significantly related to ASB during adolescence and indirectly associated with early adulthood ASB, more so than early harshness (Simpson et al. 2012), suggesting the interaction of these factors plays a significant role in behavioral outcomes. These findings also imply that individuals who engage in risky and criminal behaviors in adolescence are more likely to continue and increase those behaviors as young adults, which may lead to continued environmental harshness and unpredictability. Furthermore, youths who are victimized or witnessed CV are more likely to victimize their peers and engage in delinquent/criminal behaviors later in adolescence (Esposito et al., 2022; Phan & Gaylord-Harden, 2022; Rosario et al., 2003). More specifically, youths

exposed to community violence, including gun violence, are more likely to engage in aggressive, violent behaviors and seek gang membership, which subsequently leads to those youths engaging in higher levels of delinquent, violent, and criminal behavior (Bacchini et al., 2020; Shulman et al., 2021). Both these findings indicate children and adolescents employ antisocial behaviors as protective measures from the unpredictability of CVE. However, these behaviors fail to act as protection and lead to further CVE through victimization and perpetration.

Considering all these findings together, the implication is that CVE and environmental harshness/unpredictability during childhood and early adolescence predict the likelihood of individuals engaging in ASB during adolescence, and those behaviors are more likely to be carried into early adulthood. Research outside of these concepts reports relocation from low SES communities to moderate to high SES communities leads to higher quality-of-life outcomes (Fauth et al., 2004), implying that environment and SES are indeed crucial in the shaping of behavioral outcomes and delving deeper into those combined factors would contribute to more robust findings.

### ***Feelings of unpredictability and harshness***

CVE studies should include measures of the current level of environmental harshness/unpredictability and measures that assess youths' feelings towards future unpredictability and life expectancy. Youths' perceptions of their future based on their current environment impact their behavior, as unpredictability is significantly associated with higher levels of aggression and antisocial behavior in general, as well as lower levels of life expectancy (Dickerson et al., 2019; Dickerson & Quas, 2021). Future expectations have a considerable impact on the association between CVE and delinquency; the higher the levels of positive future expectations, the less they engage in delinquent behaviors (Chen et al., 2016). In the same tone,

young adults' perceived unpredictability during childhood is significantly associated with externalizing behaviors during early adulthood (Martinez et al., 2022). This further supports the idea that early exposure to environmental unpredictability has long-lasting effects. There also seems to be a connection between unpredictability and CVE, suggesting the melding of methods may help to unravel how these factors interact.

### ***Protective and Risk Factors: Parental and Peer Relationships***

Several CVE studies in this review investigated protective and risk factors that interact with the association between CVE and ASB in youths. Their results invoke some intriguing questions, and due to the limitations of the methods, they were speculated upon. Parental rejection predicts youths engaging in ASB, while guardian support, parental monitoring, and family warmth hinder youths' engagement in delinquent behaviors (Bacchini et al., 2020; Chen et al., 2016; Lambert et al., 2005; Rosario et al., 2003). Despite the protective nature of family warmth, this factor does not protect individuals from CVE (Chen et al., 2016); conversely, parental monitoring and guardian support were reported as a significant deterrent to CVE (Lambert et al., 2005; Rosario et al., 2003).

Youths with high depressive symptoms tend to display aggressive behaviors after CVE, and deviant peer affiliation tends to increase aggression behaviors after CVE (Lambert et al., 2005; Lin et al., 2020). Conversely, peer support hinders youths' exposure to community violence and engaging in delinquent behaviors (Rosario et al., 2003). Witnessing CVE against friends, acquaintances, and strangers predicts youths' engaging in aggressive behaviors, with witnessing acquaintances' and strangers' victimization carrying a heavier impact than witnessing community violence against family members or friends (Lambert et al., 2012). Similar to the findings of Bacchini et al. (2020) and Shulman et al. (2021), there are implications that

adolescents engage in ASB as protective measures from the unpredictability of CVE. These findings raise more questions: How much is peer influence affected by an individual's exposure to harshness and unpredictability? Does unpredictability and harshness predict seeking deviant peer affiliation?

Interestingly, all the studies discussed in this subsection sample populations are derived from individuals from low SES families. There is a broad connotation that the interaction of environmental harshness/unpredictability and CVE may be relevant in these contexts. Are the interactions between ASB, CVE, guardian and peer support, parental monitoring, and family warmth affected by unpredictability and harshness? What about deviant peer association and peer support? Are those factors impacted as well? These questions could be answered by applying an LHT perspective. Although there are no LHT studies featured in this subsection, considering patterns identified in previous sections, implementing LHT methods may parse out how these factors interact with each other and their effect on youths not recognized in previous literature.

### **Harshness, Unpredictability or Both**

LHT framework publications in this review lack homogeneity in methodology, especially in measuring and analyzing variables. Some current LHT publications fail to include environmental harshness measures in their studies (Dickerson et al., 2019; Dickerson & Quas, 2021; Lu & Chang; 2019), while other current studies do include those measures (Chang et al., 2018; Li et al., 2018; Martinez et al., 2022), suggesting the need for a more systematic methodology. Conversely, the oldest studies include measures of harshness and unpredictability (Doom et al., Brumbach et al., 2009; Simpson et al., 2012) but failed to find any significant associations between environmental harshness and youth development of ASB, which is the

reason Dickerson et al. (2019), Dickerson & Quas (2021), and Lu & Chang (2019) forgo any measures of harshness.

Chang et al. (2019) combined harshness and unpredictability in their analyses, thus making it difficult to parse out whether harshness or unpredictability had a more significant effect on youths' behaviors, but Simpson et al. (2012) found that the interaction of harshness and unpredictability has a significant relationship to ASB found in children and teens. As stated previously, Linares et al. (2001) used similar methods in their study, and the results are similar to those found in LHT studies. More specifically, the results are very similar to those of Chang et al., providing evidence that the LHT method framework may be a successful tool for CVE research. Specifically, measuring how the interaction between unpredictability and harshness impacts not only exposure to community violence but subsequent behavioral outcomes as a result of the exposure.

### **Discussion**

This review indicates the importance of understanding the magnitude of environmental harshness/unpredictability and CVE's impact on children and adolescent behaviors. Examining the impact of harsh and unpredictable environments and CVE on various behavioral outcomes, particularly ASB, reveals nuanced relationships between environmental factors and youth development. This systemic review aimed to dissect the findings, evaluate methodological approaches, discuss theoretical implications, and suggest avenues for further research.

LHT perspective studies reviewed consistently demonstrate a positive association between exposure to unpredictable environments during childhood and heightened levels of ASB in adolescence and adulthood. While there is consensus on the detrimental impact of unpredictability, the role of harshness needs to be more conclusive. Notably, the age of the

studies influences the homogeneity of findings, with older publications suggesting a lesser significance of harshness in predicting ASB.

Not explicitly discussed in the previous sections of this review, CVE studies have a similar lack of homogeneity in their methods. Some studies only measured the effects of witnessing CVE, while others assessed the effects of seeing and/or being victimized by CVE. Indicating that the idea of what constitutes CVE differs from publication to publication. To further our understanding of how the social environment, with the addition of community violence, impacts children and adolescents, some standardization methodologies must be used to facilitate comparability and generalizability of findings.

The similarities in outcomes between CVE, environmental harshness, and unpredictability suggest that there may be an underlying mechanism linking these factors. For example, exposure to an unstable and unpredictable environment may increase the likelihood of exposure to community violence, which in turn exacerbates the adverse effects of both violence and environmental stressors.

In a few CVE studies, ASB acted as a protective factors against CVE (Lambert et al., 2005; 2012; Mung & Windle, 201; Shulman et al., 2021). The unpredictable nature of witnessing violence against a stranger impacting youths is no surprise. In addition, the results of the LHT approach publications have revealed that unpredictability is significantly associated with antisocial behaviors. Implying children and adolescents may apply ASB as a protective measure from the unpredictability of their environment. Demonstrating the need for more research to uncover any underlying relationship between unpredictability, CVE, and ASB.

Other CVE studies underscore the moderating effects of factors like poverty, parental monitoring, and peer affiliation; these findings underscore the complexity of environmental



influences on delinquent behaviors and advocate for a comprehensive understanding that accounts for individual and contextual variables. In addition, these findings also demonstrate that employing the LHT framework when assessing the impact of CVE could assist in finding those underlying mechanisms that contribute to the development of antisocial behaviors in youths. For example, exposure to an unstable and unpredictable environment may increase the likelihood of exposure to community violence, which in turn exacerbates the adverse effects of both violence and environmental stressors. Linares et al. (2001) and Liu et al. (2017) concluded that prolonged exposure to poverty significantly impacts the outcomes of behaviors in children and adolescents, consistent with the findings of the LHT publications in this review.

The evidence presented in this review suggests that exposure to harsh and unpredictable environments, alongside CVE, has a demonstrably detrimental effect on young people's behavior. The studies included in this review have consistently shown that exposure to violence and adversity during childhood can lead to a range of malignant outcomes, including poor mental and physical health, impaired social and cognitive development, and increased risk-taking behaviors.

Overall, this review's findings highlight the importance of considering environmental factors in addition to CVE when assessing the impact of adversity on children and adolescents; by better understanding the role that environmental harshness and unpredictability play in exacerbating adverse outcomes, we can develop more effective interventions to support young people facing adversity.

### **Future Recommendations**

The following recommendations must be considered for any forthcoming research. First, it is imperative to incorporate some indicators of community violence in future LHT investigations. When evaluating CVE, it is also vital to include measurements of environmental

unpredictability and harshness. The similarity in outcomes demonstrated throughout this review should be considered and addressed.

Furthermore, future studies should continue to measure behavioral outcomes quantitatively and consistently to allow comparisons across studies due to the generalizability of the results. Despite this, qualitative measures should be considered as well. Although qualitative studies were excluded in this review to recognize patterns that have validity and can be generalized across different social contexts, qualitative methods further humanize participants and can help researchers identify other factors that tend to be overlooked when assessing factors quantitatively. Multi-methods measures and behavioral tasks should be employed when assessing behavioral outcomes to cease the reliance on self-report measures.

Additional socio-environmental measures should be included. For example, across the publications included in this review, the majority of the participants were Black Americans or non-white Hispanics, indicating the need to unpack further the effect and interaction racial and ethnic oppression has on CVE and environmental unpredictability and harshness. Race and ethnicity based discrimination has been associated with detrimental mental and physical health effects as well as social stigma. Discrimination's seemingly inescapable nature in modern American society, including perceived feelings of discrimination in measures of environmental harshness/unpredictability when assessing ASB in youths could further unpack how ASBs are developed. Based on the findings that perception facilitates antisocial behaviors, neuroimaging should be incorporated into studies to understand the mechanisms contributing to antisocial behavior in children and adolescents.

More diversity in the samples recruited for LHT and CVE studies is desperately needed. Most of the studies included in this review were conducted in the United States, and most studies

that examine CVE or LHT are conducted with United States citizens overall. Different cultural contexts could reveal what interventions work best for specific communities. To gain a full understanding of the impact of unpredictable and harsh environments, more countries should be included in future research in addition to CVE. This would also make CVE concepts globally generalizable.

Future research design should continue to focus on longitudinal studies, especially if researchers want to identify mechanisms and pathways. Due to the extreme intricacy of all the interconnected variables that are assessed when examining the outcomes of CVE and harsh/unpredictable environments, longitudinal studies are the most suited to uncover the relationship between these variables.

Furthering understanding is not the only outcome of expanding and continuing this research; political and social policies across the globe could benefit. Based on the prevalence of violence and poverty in the inner cities of the United States, youths in those environments could directly benefit from any interventions that this research can reveal. Finding avenues to improve societal factors is directly tied to CVE, and harsh/unpredictable environments can contribute to ceasing community violence and the underlying causes.

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