EMPATHY: THE UNSPOKEN LANGUAGE OF HUMANITY: A SYSTEMATIC REVIEW PROTOCOL

by

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THESIS

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DEDICATION

It is with genuine gratitude that I dedicate this work to my family.

To my sweet parents, thank you for supporting me and cheering me on through the entire journey. Your endless love and encouragements always find me. To my amazing siblings, I have learned so much from each and every one of you. I love you all.

This is in loving memory of my beloved grandfather, Mohammad-Zacharia. You are with me always.

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LIST OF ABBREVIATIONS

ACE(s):	Adverse childhood experience(s)
CDC:	Centers for Disease Control and Prevention
FAME:	Feasibility, appropriateness, meaningfulness, and effectiveness
JBI:	Joanna Briggs Institute
PICO:	Patients/participants, intervention, comparison, and outcomes
PRISMA:	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PRIMSA-P:	Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols
RLVD:	Real-life violence desensitization
VD:	Violence desensitization

ABSTRACT

EMPATHY: THE UNSPOKEN LANGUAGE OF HUMANITY: A SYSTEMATIC REVIEW PROTOCOL

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Prolonged exposure to violence may result in habituation or desensitization, which has negative impacts. Desensitization to real-life violence is a reduced initial arousal response to real-life violence. Real-life violence includes physical abuse, sexual abuse, domestic violence, intimate partner violence, peer violence, and community violence. Children who have been exposed to violence-related adverse childhood experiences (ACEs) are more likely to achieve violence desensitization, by definition. As a result of ACEs, children are at risk of mental health complications, health-related problems, and risk for maladaptive behavior. Children who have reached violence desensitization are more likely to exhibit externalized symptoms such as aggression and criminal actions. In efforts to reverse the effects of real-life violence desensitization, this study proposes a systematic review to answer the following question: Is there any evidence of the effects of psychoeducation on empathy to reverse the impacts of real-life violence desensitization in children, aged 18 or younger, who are exhibiting aggressive behavior? To answer the research question, this systematic review will follow PRISMA and JBI guidelines to ensure research rigor in screening relevant studies and extracting pertinent data

before analysis. A comprehensive electronic search will be performed to identify eligible studies completed since 1995, and indexed in APA PsychINFO, CINAHL Complete, Psychology and Behavioral Sciences Collection, and Social Work Abstracts. The participants, intervention, comparison, outcomes inclusion criteria will be used to define inclusion and exclusion criteria in a known strategy for framing a clinically focused research question. Findings will be narratively synthesized and will not consist of any other analyses. This is the first known systematic review that examines the existence of the effects of empathy psychoeducation to reverse real-life violence desensitization effects. Results of the review are anticipated to inform mental health and healthcare practices to minimize externalized symptoms of violent-related ACEs and violence desensitization.

CHAPTER 1

INTRODUCTION

Preventing acts of violence has been a global challenge as rates of violence against children remain high, with over half of all children being exposed to violence every year (Centers for Disease Control and Prevention; CDC, 2018). According to the National Coalition Against Domestic Violence (NCADV, 2015), 1 in every 15 children is exposed to domestic violence annually, with an estimate of 90% of those children being witnesses to the reported violence. These numbers illustrate the severity of the problem of childhood exposure to violence.

The CDC outlines criteria for physical abuse, sexual abuse, emotional abuse, and neglect (2022). Since this review examines the impacts of violence, physical and sexual abuse will be the terms outlined within this study. As defined by the CDC, physical abuse is the purposeful use of physical force, such as hitting and kicking, that may lead to physical injury; sexual abuse is defined as coercing a child to engage in any form of sexual act such as fondling, penetration, and other sexual activities (CDC, 2022). For the purpose of this study, community violence will also be discussed and outlined. As defined by the CDC (2022), community violence is an assault or fight in public that occurs between individuals who are not related and may or may not be familiar with one another. Examples of community violence include public shootings, public fights, and school violence. Based on the definitions, domestic violence, intimate partner violence, childhood violence, community violence, and peer violence will be included in the exploration of the review.

The CDC (2022) states that child abuse can lead to long-term health impacts and overall wellbeing, such as physical injuries and psychological problems. Developing brains store and use first impressions and reoccurring events as a foundational guide on how they should interact with

and respond to stimuli, particularly within a social context (Raine, 2013). Without delving into the discussion of tabula rasa, undoubtedly, developing children must interact with their environments to better understand how the world works and how to best respond to it. Therefore, children who are exposed to violence will be at risk for experiences of poor mental health and wellbeing (Centers for Disease Control and Prevention, 2019; Felitti et al., 1998). Violence involves control and power injustice between involved parties; thus, outcomes of violence include cognitive impairments, emotional dysregulation, reduced self-worth, and permanent or impactful changes in the nervous system (Raine, 2013).

The term "desensitization" has been defined in the literature as a reduction in initial arousal response to a specific stimulus after prologued exposure of the stimuli (Krahé et al., 2011). To be more specific, desensitization to real-life violence is the consequence of prolonged exposure to real-life violence, resulting in stimuli response involving the following criteria: (1) increased aggressive behavior; (2) diminished physiological arousal to violence; (3) blunted affect to violence; (4) reduced probability of assisting "violence victims"; (5) decreased sympathetic emotions towards "violence victims"; (6) minimized perception in the severity of violent behavior and outcomes such as injuries; (7) reduced perception of guilt in relation to violence (Carnagey et al., 2007). This definition illustrates the impacts of desensitization to real-life violence by outlining the physiological, emotional, and behavioral elements to human functionality. Based on this definition, it is evident that individuals who have achieved desensitization or habituation to real-life violence promote maladaptive behavior, such as aggressive actions and minimal or lack of sympathy for those impacted by violence.

The result of ongoing exposure to violence leads to desensitization, thus damaging perceptions of adaptive interactions and relationships (Krahé et al., 2011; Plummer & Cossins,

2018). Desensitization to violence may lead to the "victim to offender cycle", particularly in children who have been introduced and exposed to high levels of violence at a young age.

Objective and Purpose of Review

The objective of this review is to investigate if a relationship between empathy and violence desensitization exists. Findings could aid in clinicians' efforts to create personalized clinical treatment and psychoeducation plans to reverse real-life violence desensitization in children of high-school age or younger (1-18 years) who are engaging in aggressive behaviors. The findings will inform social work and mental health clinical practice. To be more specific, this systematic review aims to answer the following question: Is there any evidence of the effect of psychoeducation of empathy to reverse the impacts of real-life violence desensitization in children aged 18 or younger exhibiting aggressive behavior?

CHAPTER 2

BACKGROUND

Real-Life Violence Desensitization

The current literature largely examines VD in relation to violence within the media, such as movies, television shows, and video games. Therefore, the literature investigating RLVD is limited. Individuals who become less sensitive to the demonstrated violence, experience a reduced physiological response (Raine, 2013). The known causes of VD explained in the literature consist of extended exposure to violence, such as playing violent video games over a long period of time or watching many violent films (Mrug et al., 2014; 2015).

To illustrate, Mrug et al. (2015) investigated RLVD following a community sample of children. Eligible participants were asked to report how often they were exposed to violence before obtaining information on their desensitization symptoms. The results revealed that children who had a higher level of violence exposure in early childhood corresponded to an increased level of aggressiveness and violent behavior before the age of 18 years (Mrug et al., 2015). This study suggests that exposure to violence in early life does, in fact, increase risk of engaging in violent behavior. Furthermore, research has suggested that emotional desensitization to RLV is most common in younger adolescents (13 years of age and younger) since they may not have properly developed coping skills due to limited resources (Mrug et al., 2014; 2015). Additionally, at least one study indicated children exposed to the high levels of violence exhibit high levels of aggression yet low levels of biological distress during a violent event (Mrug et al., 2016). In other words, VD yields aggressive behaviors yet minimal physiological responsivity, suggesting that violence is no longer perceived as a threat by the desensitized nervous system.

Another study conducted by Di Tella et al. (2019) examined crime and violence within a lab. A group of adult participants was tasked to watch videos of real crimes involving violence, while the

control group was shown videos without crime. After viewing the videos, the participants were examined to record changes in their cortisol levels, heart rate, galvanic skin response, and cognitive executive functioning. Findings indicated that participants who are survivors of violence and crime responded with no significance to examined measures. In fact, their biological reports were similar to the reports of the control group watching the non-crime-related videos, with a calm nervous system.

Additionally, desensitized participants did not sympathize with the individual subjected to the crimes in the video. Though this study examines desensitization among adults, the results still signify the importance of investigating desensitization, particularly in developing children. The results of this study confirm the conclusions of other experimentations, proposing that individuals who have been pre-exposed to violence have achieved habituation, or desensitization, to crime exposure, thereby showing less sympathy and exhibiting minimal physiological arousal (Di Tella et al., 2019; Mullin & Linz, 1995).

Violence-Based Childhood Adversities

The original adverse childhood experiences (ACE) study, led by Kaiser Permanente and conducted in 1995, was the first research project that investigated childhood abuse and other challenges within a household in relation to overall wellbeing and long-term effects (Felitti et al., 1998). To expand on the investigation of ACEs, the CDC has joined the examination by contributing to the research, producing one of the largest explorations of ACEs. The research efforts into ACEs taken by the CDC and other demonstrates the importance of discussing childhood adversities in studies examining outcomes specific to childhood violence exposure. ACEs are extremely common, with a report of 67% of individuals having experienced at least one ACE in their lifetime, and 1 out of 8 individuals experienced four or more ACEs (Felitti et al., 1998). The most alarming report by CDC (2019) is that if an individual has experienced six

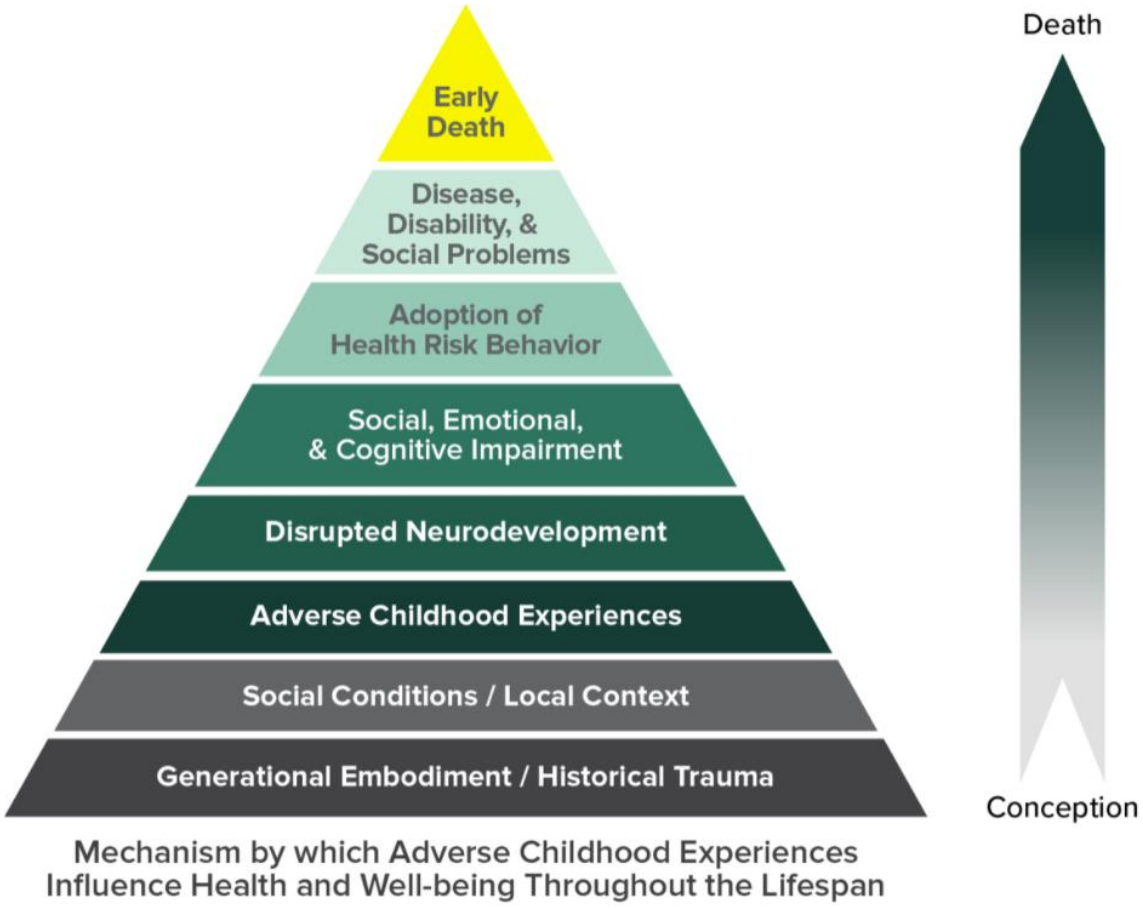
out of the 20 factors outlined by the ACEs study, 20 years are removed from overall life expectancy.

Adverse childhood experiences, or ACEs, are defined as experiences of violence, abuse, or neglect that are potentially traumatic, occurring in childhood (0-17 years) (CDC, 2021). ACEs are divided into three main categories: abuse, neglect, and household challenges. To remain consistent with the review's focus, only violence-based adversities will be examined in this paper. ACEs define childhood abuse as abusive experiences in the first 18 years of life involving emotional, physical, and sexual harm (Centers for Disease Control and Prevention, 2021). The definitions of the forms of abuse used by ACEs align with the CDC's definitions outlined earlier.

The impacts of ACEs range in severity depending on the type of adversity experienced. However, lasting impacts include physical injuries, development or exacerbation of mental health conditions such as depression and PTSD, unintended pregnancies or pregnancy complications, infectious diseases, chronic diseases such as cancer, increased chance of risky behaviors like substance misuse and unsafe sex, and limited opportunities to education, occupation, and income (Centers for Disease Control and Prevention, 2021). The ACE study created the ACE Pyramid, which represents ACEs' influence on health and wellbeing throughout the lifespan, beginning with generational traumas and going up to major problems and peaking at a potentially early death (Figure 1). The trauma outlined above resulted from abuse, neglect, and household challenges which can cause a physiological change impacting how DNA is read and transcribed (Felitti et al., 1998). In other words, gene modification has been observed because of ACEs, adapting to the experienced adversities yet negatively impacting health.

Figure 1

ACE Pyramid



To continue, ACEs have been found to alter brain architecture and functioning, such as a reduction in hippocampal volume (Calem et al., 2017). Changes associated with reduced hippocampal volume can lead to cognitive impairments such as visual and verbal memory deficits. Additionally, changes have been noted in the prefrontal cortex, which is responsible for memory, regulating behavior, impulse control, fear responses, reasoning, and logical thinking (Raine, 2013; Starr, 2022). Consequently, the neural networks between the hippocampus and the

prefrontal cortex are also affected; thus, increasing the risk for depression, anxiety, and mood disorders (Starr, 2022).

Furthermore, regulation of the amygdala decreases, affecting reactions to potential and real threats, limiting the ability to take precautions to protect the self (Miskolczi et al., 2018; 2019; Raine, 2013). The toxic stress of ACEs also causes disruptions to the neural pruning process. Neural pruning has been described as a "cleaning" process where the brain removes unused and excess neurons after a screening of which neurons are necessary to keep. When this process is interrupted, neurochemicals are formed, resulting in neuroinflammation, which leaves lasting effects on the brain (Starr, 2022).

The ACEs study also concluded that children with ACE factors have difficulties in stress management, especially in managing physiological responses (Felitti et al., 1998). As a result, responses work to compensate for the excess stress where gene methylation blocks genes from properly regulating the toxic stress. Individuals with ACEs lose the ability to manage stress and this inability may last for as long as 30 years after trauma exposure (Starr, 2022). Because of stress management deficits, risks for chronic illnesses and autoimmune diseases increase, such as heart disease and cancer (Felitti et al., 1998; Starr, 2022).

The Victim-Offender Overlap and Symptom Externalization

It is important to clearly state that being a survivor of any form of abuse does not cause individuals to offend in return. However, the literature indicates that there is an overlap between abusive experiences and future criminal offenses; thus, increasing risk factors of violent behavior by the survivor (Reckdenwald et al., 2013; Rivara et al., 1995). The "victim-offender overlap" or the "cycle of violence" has been defined as a connection between victimization and delinquent

offense, such as violent crimes, criminal behavior, sex offenses, and homicide (Reckdenwald et al., 2013).

Though the link between previous abuse experiences and the likelihood of criminal offense has been examined and confirmed by researchers before, the efforts to understand the reasons behind the link is a new research direction, and many questions remain unanswered. It is currently unknown why some abuse survivors exhibit violent behaviors and others do not. It is also unknown if different forms of abuse influence the type of offense behaviors, such as sexual offenses, and if there is an intervention that will "break the cycle" completely. Nonetheless, some theories aim to answer these questions in an effort to discontinue the cycle of violence.

There are reported gender differences in the likelihood of abuse survivor children becoming offenders. Children who identify as girls are more likely to experience child sexual abuse (CSA) than children who identify as boys, though most children, regardless of gender, are abused by men (Plummer & Cossins, 2018). Examining the victim-offender overlap theory raises a key question: if girls are more likely to experience CSA, then why are girls less likely to exhibit aggressive behaviors and other violent offenses in the future, despite being desensitized to violence?

The literature has suggested that girls are more likely to internalize their symptoms than boys; thus, girls are less likely to endorse violent and aggressive behavior (Lambert et al., 2012). To explain, internalization of symptoms includes isolation, being fearful, feeling nervous, feeling unloved, difficulties with concentration, and other anxious and depressive symptoms that are targeted towards the self. In contrast, externalization of symptoms involves impulsivity issues, verbal aggression, physical aggression, criminal acts, and misconduct behavior (Hicks et al.,

2020; 2021; Lambert et al., 2012). It is inferred that violence exposure mainly leads to externalized symptoms of aggression and maladaptive behavior.

Empathy and Violence

Empathy is defined as the ability to be aware of and understand others' mental states involving cognitive and emotional processes (Mrug et al., 2014; 2015). Like the current literature on RLVD, levels of empathy have not been thoroughly explored on this topic. Early studies have researched children aged one to five years old who have experienced or witnessed domestic violence and child abuse. Findings indicate the studied children had lower empathy levels than children who were not exposed to domestic violence (Hinchey & Gavelek, 1982).

There have been disagreements in the literature on the question of whether empathy is related to aggression; however, a general consensus has not been clearly identified by researchers. In reality, both sides of argument may be correct. To explain, the literature has examined empathy as a general concept but failed to examine the two different forms of empathy independently concerning aggression. The two main different categories to empathy are emotional empathy and cognitive empathy.

To be more specific, emotional empathy is a basic form of empathy that promotes emotional connection and empathic concern for others but does not engage critical self-reflection or flexible mentalizing (Gantiva et al., 2021; Smith, 2006). Cognitive empathy involves a more complex cognitive functionality and flexibility for empathic perspective-taking and mentalizing. Cognitive empathy consists of reflective thinking, communication skills, willingness to see a situation from the survivor's perspective on a critical level, and emotional regulation abilities to manage anger and aggressiveness (Gantiva et al., 2021). Gantiva et al. (2021) concluded that aggression is negatively linked with cognitive empathy. Results have not produced significant

findings to illustrate associations between aggression and affective or emotional empathy. Evidence supports the argument that exposure to violence is associated with high aggressive tendencies and lower empathy (Anderson et al., 2010; Gantiva et al., 2021).

Current Solutions and Interventions

At the moment, there are no known interventions to reverse VD resulting from real-life violence exposure. However, there are programs that aim to solve maladaptive behaviors that are associated with VD, such as increasing empathy and reducing aggressive conduct. Solutions include clinical therapy practices, doll play, empathy-building programs, and animal support programs.

To explain, clinical therapy interventions may address a variety of mental health conditions resulting from ACEs, such as cognitive behavioral therapy, psychotherapy, and general trauma-informed care (Centers for Disease Control and Prevention, 2019; Hashmi et al., 2020). In these settings, clinicians assist children in resolving depressive, anxious, and trauma symptoms developed from the experienced adversities. It has been found that cognitive behavioral therapy is the best form of therapy for children in building resiliency to ACEs (Hashmi et al., 2020).

Doll play and play therapy interventions have been explored through neuroscience to understand if children playing with dolls may help build empathy and resiliency to adversities. To explain, doll play is the simple act of playing with dolls with peers or alone. Doll play endorses the healthy development of social-emotional skills, such as empathy, and reduces misconduct behavior. Doll play programs have found that specific brain regions linked with social processing and empathy become activated upon play (Hashmi et al., 2020). Programs

endorsing doll play promote healthy social interactions with the use of empathy, significantly decreasing aggressive behaviors.

Moreover, the cognitive component of empathy has been defined as perspective-taking, while the affective aspect is mainly defined as an emotional response only. These two components have been the foundational basis of empathy-building programs. Roots of Empathy aims to fulfill the goal of promoting empathy as the program trains both cognitive and affective empathy systems. Roots of Empathy is a program that started in 1996 in Toronto before being introduced in U.S. schools in 2007. As part of the program, babies are brought into elementary classrooms, and children are taught how to care for the baby, with a trained professional onsite. The curriculum also includes teaching individuals the basics of empathy as well as hands-on learning activities. The Roots of Empathy program has indicated its effectiveness in decreasing aggressive behaviors among students, particularly minimizing cases of bullying (Roots of Empathy, n.d.).

Similarly, AnimalSmart is a humane education program that aims to use support animals as a means to build empathy (Ontario SPCA and Humane Society, 2020). The program was developed by the Ontario SPCA and Humane Society. Reports state that the program significantly changes students' initial beliefs about aggression, levels of empathy, and acts of violent and aggressive behaviors to a more adaptive manner (Ontario SPCA and Humane Society, 2020; Sprinkle, 2008). As a result, other programs are using dolls, babies, and animals to help children develop affective and cognitive empathy skills.

Gaps in the Literature

As mentioned earlier, since this is a new topic in social work, psychology, neuroscience, and even criminology, there are limited findings on interventions that specifically address the

problem of VD. No known study has documented findings effective in reversing the effects of habituation to violence in children or adults, regardless of the source of exposure (media vs. real-life). It is not known why gender differences exist in internalizing and externalizing ACEs symptoms. However, it has been speculated by researchers that society's influence on the different genders may be the reason that males are more likely to externalize symptoms while females are more likely to internalize symptoms (Lambert et al., 2012). For example, boys are more likely to be encouraged to engage in aggressiveness to solve problems, such as a conflict with a peer. In contrast, girls are more likely to be told to engage in gentler behavior, that is often seen as internalizing emotions (Lambert et al., 2012). In short, the review of the current literature illustrates a clear need to examine desensitization to real-life violence and whether psychoeducation of cognitive empathy may reduce the externalizing symptoms of desensitization.

CHAPTER 3

METHODOLOGY

This protocol was pre-registered prospectively in Open Science Framework (AlZubi, 2022) and was developed in adherence with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols (Moher et al., 2015). The PRISMA-P contains a checklist of key items which intends to create and report clear and vigorous systematic review protocols. Similarly, the systematic review will be completed with the guidance of the PRISMA guidelines for systematic reviews (Page et al., 2020).

This current protocol is not an update of a previous systematic review. In the event that amendments need to be completed, modifications will be made to the protocol to be submitted as an update. The update will be processed for a new review.

Information Sources

Studies will be searched and retrieved from four electronic databases: APA PsychINFO, CINAHL Complete, Psychology and Behavioral Sciences Collection, and Social Work Abstracts.

With the guidance of a multidisciplinary library scientist, a hand search for gray literature, or hidden web material, will also be conducted. Gray literature will contain relevant theses and dissertations, non-independent research, documents produced by government agencies, and documents by academic institutions that are not indicated in the electronic databases listed.

Search Strategy

To start, keywords relating to the research problem will be identified to perform an initial search from titles and abstracts only. For the purpose of this review, keywords will be defined

using the CDC definitions outlined earlier within the introduction and background chapters (Centers for Disease Control and Prevention, 2018; Centers for Disease Control and Prevention, 2022). Next, to build a clear and specific search strategy, the text words within the titles and abstracts of searched papers will be analyzed by the reviewer. The researcher will develop a comprehensive search strategy with the guidance of a multidisciplinary library scientist. The search strategy will aim to find relevant studies within the listed electronic databases. An initial search of PsychINFO has been carried out along with an analysis of the text terms included in the title and abstract, and of the index terms used to outline the article. A full search strategy is detailed in Appendix 1.

Additionally, as stated a hand search for gray literature. The hand search will ensure the systematic review is comprehensive in its examination but will limit inclusion to studies considered appropriate for the review's focus. Studies retrieved will report primary data on mental health treatment plans that include psychoeducation of empathy as a means to reverse the impacts of prolonged exposure to RLV among children aged 18 and younger.

Eligibility Criteria and Study Selection

The proposed study will systematically review published and unpublished quantitative literature reporting psychoeducation treatment plans that address the impact of RLVD in children aged 18 and younger. Study types to be included consist of analytical cross-sectional, quasi-experimental, and randomized controlled trials. The eligibility criteria will include terms appropriate to the topic of real-life violence in children, using the PICO (P= Patients/Participants, I= Intervention, C= Comparison, O= Outcomes) method to define major elements:

- P: The participant inclusion criteria will include children and adolescents ages 18 and younger of any gender and ethnic background who have been exposed to violence and have met requirements for clinical desensitization of violence. In this review, violence will be defined as:

  > the intentional use of physical force or power, threatened or actual, against oneself, against another person or against a group or community, which either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation. (World Health Organization, 2022)

- I: The interventions to be explored for this review will involve studies examining psychoeducation of empathy for the targeted population in efforts to reverse the effects of real-life violence desensitization. All related treatments will be included, regardless of the subject characteristics administrating the psychoeducation treatment (clinicians, nurses, teachers, etc.).
- C: The comparable criteria variables will include other treatment plans with general psychotherapy techniques and psychoeducation that does not involve empathy-specific teachings. Nonetheless, the population compared will remain the same: children of 18 years old or younger experiencing real-life violence desensitization.
- O: Outcome inclusion criteria will consist of findings that report changes in violence desensitization symptoms. The measurable characteristics will be quantitative yet will vary based on the type of symptoms examined, such as cognitive executive functioning changes (perspective on violence and violence

survivors), behavioral changes (aggressive actions and impulsivity), and physiological changes (cortisol levels, blood pressure, and galvanic skin response).

As stated before, the research focusing on VD resulting from real-life violence exposure is a relatively new research direction, therefore limited. However, as the Kaiser Permanente ACEs study is the first research project exploring the long-term impacts of childhood adversities, the review will consider the significance of this study regarding the search period. Since the study began in 1995, the search period will include studies written in English and completed between 1995 and 2022. This will ensure a comprehensive review of studies examining the impact of childhood adversities, intergenerational violence, domestic violence, intimate partner violence, and other real-life violence studies that have been conducted in relation to child mental health.

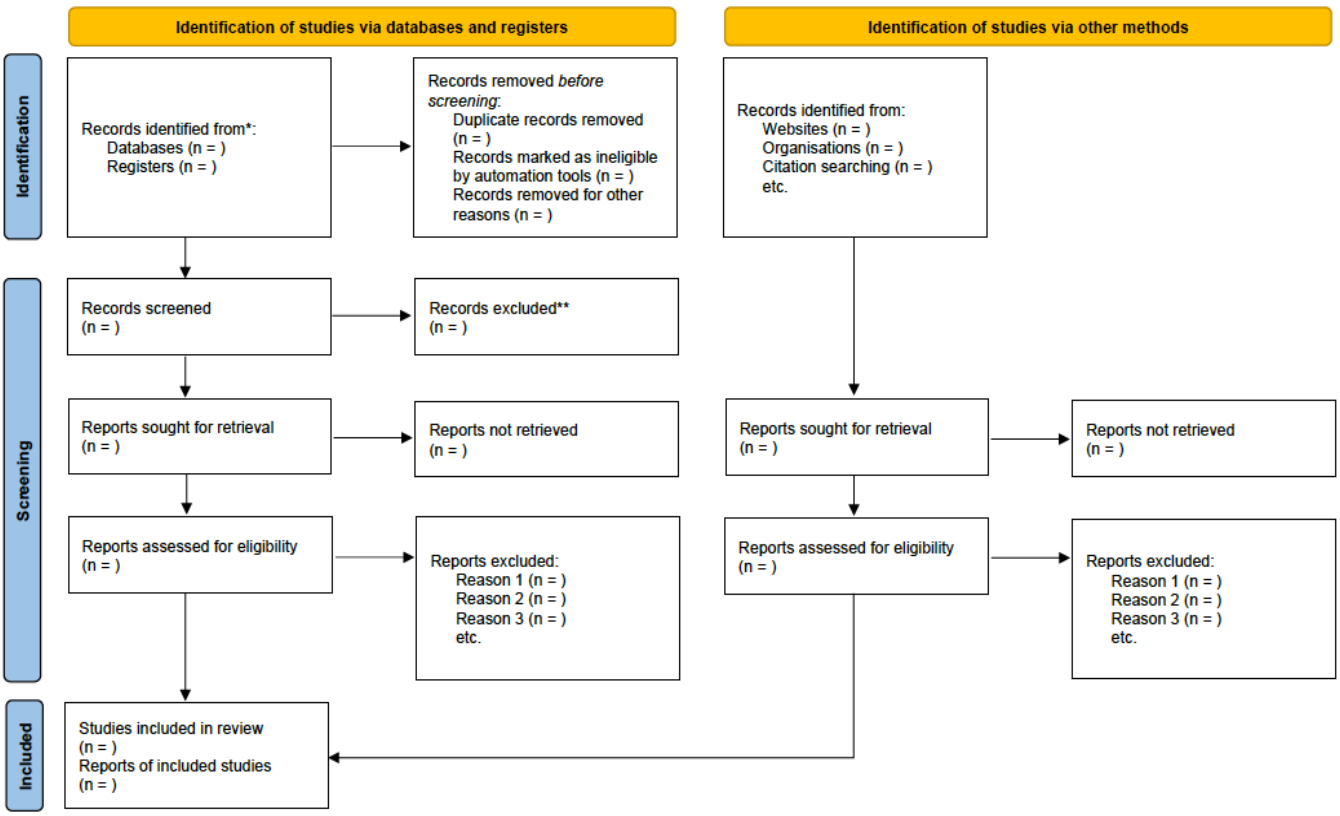
To ensure the focus of the review remains consistent, the review will exclude the following: non-English studies, studies completed prior to 1995, literature investigating VD from media and video games, studies examining pharmacological interventions, studies focusing on neglect only and other non-violence childhood adversities, studies exploring physical therapy treatments, studies with a target population of adults (older than 18 years of age) and elderly, animal studies, editorials, book chapters, reviews, and opinion pieces. Studies with insufficient results of data will not be included in the review, which will be identified in the data extraction. If additional information is required, the authors of the original articles will be contacted if possible.

Screening and Data Extraction

Using the search strategy, searches will be uploaded in electronic reference management tool, Zotero Software (2006) where duplicate articles that have been generated by different databases will be detected and resolved. After uploading in Zotero, searches will be downloaded to Rayyan Software (Ouzzani et al., 2016) and rechecked before screening. Data extraction will be completed via Rayyan software and Microsoft Excel. The screening process will begin with an initial review of article titles and abstracts. The screening will continue until the examination of the full article to ensure it fulfills the inclusion criteria. These processes will be guided by and recorded on the PRISMA flow diagram (Figure 2).

Figure 2

PRISMA Flow Diagram



The research team is composed of four researchers, two doctoral-level social workers and two master's level social workers. In each phase of the screening process, two researchers, (one doctoral-level social worker and one master's level social worker, will be involved in screening. Each researcher will do an independent selection and the disagreements will be discussed until a consensus has been reached. In the event that a consensus is not achieved, a third researcher from the team (doctoral-level social worker) will be included in the discussion until a consensus is attained. Only relevant information will be extracted from each study by two researchers independently, using a standard data extraction method of marking in Rayyan Software as well as recording in independent Excel spreadsheets before finalizing into one spreadsheet. Data items to be collected will include the following: (1) general information such as author, title, journal, year published, and setting; (2) characteristics of the study such as study design, aims of the study, participant characteristics, and data collection methods; (3) data analysis approach; (4) identified outcomes such as physiological (e.g., changes in cortisol levels, blood pressure, and galvanic skin response to violence), neurobiological (e.g., neuroimaging observations of changes in brain volume and neural connections), cognitive/affective (e.g., changes of attitudes towards violence) and/or behavioral outcomes (e.g., changes in behaviors such as aggressiveness and violence); (5) recommendations made by authors; (6) and general appraisal of the study quality (Appendix 2).

The outcomes to be recorded will consist of primary outcomes and secondary outcomes. The prioritized outcomes will specify results and conclusions developed by examined studies regarding the effectiveness of empathy psychoeducation for the target population. The secondary outcome will consist of all other conclusions that expand on reports of changes in desensitization impacts. Based on the primary outcome, a "golden standard" of primary outcome will be

developed based on the applicability, generalizability, and external validity of the screened studies. After discussion of recorded data, a final spreadsheet will be completed. If needed, a third researcher (doctoral-level social worker) will be included in the discussion process as needed to arrive at consensus.

Assessment of Methodological Quality

Biases to consider include selection (allocation) bias, performance bias, measurement bias, and attrition (exclusion) bias. As stated, two reviewers will independently check each selected article in Rayyan to minimize bias. All articles that meet the inclusion criteria and have been selected for inclusion in the systematic review will be subjected to rigorous appraisal, which will be conducted by two critical appraisers.

The appraisal tools to be used include the Checklist for Analytical Cross-Sectional Studies, Checklist for Quasi-Experimental Studies, and Checklist for Randomized Controlled Trials (Joanna Briggs Institute, 2017). The use of JBI Critical appraisal tools will minimize risk of bias as they have been developed and approved by the JBI Scientific Committee after extensive peer review. This process will be conducted independently between two reviewers before a discussion is held to resolve any discrepancies. Like the screening and extraction processes outlined, a third researcher may be included if disagreements between the two researchers are not resolved. The appraisal will be conducted on an individual study level.

To ensure confidence in the cumulative evidence, the FAME Scale will be used to assess evidence quality (Joanna Briggs Institute, 2013; 2014). The FAME grade scale was developed by JBI to assess for the following: (1) feasibility, (2) appropriateness, (3) meaningfulness, and (4) effectiveness by assigning levels of either “A”, strong, or “B”, weak. (Figure 3).

Figure 3

JBI FAME Grade Scale

JBI Grades of Recommendation	
Grade A	A 'strong' recommendation for a certain health management strategy where (1) it is clear that desirable effects outweigh undesirable effects of the strategy; (2) where there is evidence of adequate quality supporting its use; (3) there is a benefit or no impact on resource use, and (4) values, preferences and the patient experience have been taken into account.
Grade B	A 'weak' recommendation for a certain health management strategy where (1) desirable effects appear to outweigh undesirable effects of the strategy, although this is not as clear; (2) where there is evidence supporting its use, although this may not be of high quality; (3) there is a benefit, no impact or minimal impact on resource use, and (4) values, preferences and the patient experience may or may not have been taken into account.

The FAME (Feasibility, Appropriateness, Meaningfulness and Effectiveness) scale may help inform the wording and strength of a recommendation.

Data Analysis and Synthesis

Once the appraisal is completed, the results will inform the synthesis and interpretation of studies' conclusions. The analysis will examine the data extracted and recorded in the Excel spreadsheet. Due to the diversity and heterogeneity of study types, it may not be possible to calculate standardized effect sizes, which means a meta-analysis will not be conducted. To incorporate all available evidence, similarities and differences across included studies will be examined, and researchers will describe, explore, and incorporate the studies as a means of analysis. Findings will be narratively synthesized to determine the direction of effect. To minimize bias, the guidelines developed by Cochrane for systematic reviews without meta-analysis will be used (Higgins et al., 2022). No additional analyses will be conducted for this review. The narrative synthesis will answer if there is any evidence of an effect between psychoeducation of empathy for the targeted population and reduced symptoms of VD. Each

researcher will be assigned a role at each phase based on qualifications (doctoral-level social work and master's-level social work).

Patients and Public Involvement

Patients and the public will not be involved as the proposed study is a systematic review.

Dissemination of Findings

Results of this research will be disseminated in a peer-review journal. Findings will be presented within the research committee affiliated with the University of Texas at Arlington. The dissemination of these results will increase awareness of the impacts of desensitization to real-life violence and potentially guide preventative violence efforts by presenting findings from the existing literature on empathy psychoeducation in violence-affected children.

CHAPTER 4

EXPECTED OUTCOMES AND RESULTS

As of August 2022, the protocol has been pre-registered in Open Science Framework and is awaiting approval. The screening process has begun by two independent researchers. the screening and data extraction process is expected to be completed in 2023 to ensure sufficient time of appraising the data extracted.

The systematic review aims to answer the following research questions: Is there any evidence of the effects of psychoeducation on empathy to reverse impacts of real-life violence desensitization in children aged 18 or younger exhibiting aggressive behavior? Therefore, it is expected that outcomes will yield evidence of a clear direction of effect between psychoeducation of empathy in relation to minimizing externalized symptoms of real-life violence desensitization in children. The findings will be published regardless of the results to inform the literature if evidence of an effect exists between empathy psychoeducation and violence desensitization.

CHAPTER 5

DISCUSSION

Strengths and Potential Limitations

No other systematic reviews exploring the topic were found prior to proposing this review. The goal of this study is to apply a clear and reproducible procedure for review of the literature. Therefore, a strength of this review is that it is guided by a well-recognized approach for conducting and reporting systematic reviews (Joanna Briggs Institute, 2017). The guidance of JBI's approach has ensured this protocol clearly outlines the types of studies, participants, intervention, comparable variables, and outcomes to be considered in the review to answer the research question. Another strength of the review is that the guidance of JBI allows for a clear explanation of data sources, search strategy, data extraction procedure and instruments, and data synthesis plans. All recommended steps to minimize bias have been taken into consideration by the JBI critical appraisal tools. Additionally, the publication of the protocol will apply transparency of the research method, which will minimize risk of bias, specifically the selective outcome reporting bias. To our knowledge, this study will be the first to explore the relationship of empathy and psychoeducation and shed light on research on reversing real-life violence desensitization in children who are exhibiting aggressive behavior.

A potential limitation of the study may be the limited number and methodological quality of studies published on the topic, as well as the heterogeneity of studies, which might influence external validity. In an attempt to minimize such bias, the lead reviewer has decided to synthesize the data narratively due to the diversity of existing evidence and the inability to perform a valid meta-analysis. To further limit bias risks, the synthesis will be guided by Cochrane guidelines.

Relevance to Social Work Practice

As demonstrated in the background chapter, violence is especially relevant to the practice and profession of social work. Social work is the helping profession field charged with an ethical duty to promote justice. Childhood adversities related to violence exposure carry extreme risks, such as psychiatric disorders, neurological alterations, biological impacts, and cognitive impairments. Not only can prolonged violence exposure leads to externalized symptoms of maladaptive behavior, but the findings on violence show that risks can be fatal. In addition, physical conditions such as heart disease and cancer are possible outcomes of ACEs and violence desensitization. Social work professionals will be able to use findings from this systematic review to better understand the needs of their patients, clients, and community members.

Future Implications and Usefulness

Review findings will inform mental health and healthcare practices on how to properly intervene against externalized symptoms of violent-related ACEs and violence desensitization. Similarly, the findings will also inform professional fields tasked with the care of children, such as schools, childcare centers, child sports, child maltreatment prevention centers, adoption agencies, child welfare services, juvenile detention centers, family planning services, and other childcare clubs or agencies. As this is the first known systematic review that examines this topic, it is anticipated that this review will advance a diverse range of fields to expand the research efforts and further inform violence prevention/intervention practice.

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APPENDIX 1

SEARCH STRATEGY

Databases	Search Items
APA PsycInfo, CINAHL Complete, Psychology and Behavioral Sciences Collection, Social Work Abstracts	Line 1: (violence n3 expos*) OR (child* n3 abuse*) OR "Traumatic Experience*" OR BULLYING OR rape OR incest OR "School Shooting*" OR gang Line 2: desensiti* OR "neural rebuild*" OR "neural rewir*" OR "cognitive relearning" OR "social learning" Line 3: child* OR boys OR girls OR teen* OR youth OR "young adult*" OR kids OR "Young Men" OR "Young People" OR "Young Person*" OR "Young Women" OR juvenile OR pediatric OR YOUNGSTERS OR pediology

APPENDIX 2

DATA EXTRACTION CODEBOOK

Data Item	Data Extracted
General Information	Title, Author, Journal, Year, Setting
Study Characteristics	Study Design (cross-sectional, quasi-experimental, randomized controlled trial),
Aim of Study	Research questions and/or objectives
Data Analysis Approach	Method
Identified Outcomes	Outcomes of the study such as physiological (e.g., changes in cortisol levels, blood pressure, and galvanic skin response to violence), neurobiological (e.g., neuroimaging observations of changes in brain volume and neural connections), cognitive/affective (e.g., changes of attitudes towards violence) and/or behavioral outcomes (e.g., changes in behaviors such as aggressiveness and violence)
Recommendations Made	Conclusions and Implications
Study Quality	General appraisal of study

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