Developmental effects in children that are exposed to intimate partner violence

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Samenvatting

Blootstelling aan partnergeweld (intimate partner violence of IPV) tijdens de kindertijd wordt steeds vaker gezien als een risicofactor voor ontwikkelingsproblemen. Deze scoping review onderzoekt de impact van blootstelling aan IPV op de psychosociale en cognitieve ontwikkeling van kinderen. Aan de hand van de richtlijnen van de PRISMA-ScR zijn twaalf peer-reviewed studies geselecteerd, gepubliceerd tussen 2011 en 2023. De studies zijn afkomstig uit de databases PsycINFO en ERIC. De artikelen richten zich op kinderen van 0 tot 15 jaar en behandelen de psychosociale en cognitieve ontwikkeling. Deze review laat zien dat blootstelling aan IPV, met name tijdens de eerste levensjaren, samenhangt met een verhoogd risico op internaliserende en externaliserende gedragsproblemen, sociale problematiek en delinquent gedrag. Factoren zoals maternale sensitiviteit en depressieve symptomen van de moeder lijken belangrijke mediatoren. Daarnaast worden methodologische beperkingen in de bestaande literatuur besproken, zoals onduidelijke definities van psychosociale ontwikkeling, het gebruik van moederlijke zelfrapportage en een gebrek aan onderzoek naar cognitieve ontwikkeling bij kinderen ouder dan 10 jaar. Deze bevindingen benadrukken de kwetsbaarheid van kinderen die worden blootgesteld aan IPV en het belang van vroege signalering en interventie. Toekomstig onderzoek moet zich richten op langetermijneffecten, de rol van veerkracht, invloed van mediatoren en mogelijke bias.

Introduction

In the Netherlands, an estimated 63.800 cases of domestic violence were reported in the first half of 2024 alone (Centraal Bureau voor de Statistiek, 2024). All these cases are classified as interpersonal violence. In 23.750 cases, this violence can be classified as intimate partner violence (IPV), which can be defined as violence perpetrated by a current or former romantic partner. This violence can take a physical, sexual or psychological form (Smith, Zhang, Basile, Merrick & Wang, 2018). The World Health Organization (2012) adds to this definition with harassment, intimidation and financial control. A study from 2006 found that at least 25.000 children in the Netherlands have witnessed domestic violence in that year (NJI, n.d.). The prevalence of child exposure to IPV is likely underestimated, since not all cases of domestic violence are reported to the police.

For a long time, children that are exposed to domestic violence have been overlooked by researchers and professionals. Since the 1980's, researchers have shifted their attention to these victims. Researchers in the United States and Canada began recognizing that children can become victims of intimate partner violence (Edleson, 1999; Fantuzzo & Mohr, 1999). These studies were among the first to research the short- and long-term consequences for children (Edleson et al., 2007). The Netherlands followed this research trend later (Dijkstra, 2001). In 2001, the Ministry of Justice (Ministerie van Justitie) commissioned an exploration of their policies around domestic violence. The report resulting from this exploration identified these children as "a forgotten victim group" (Hakkert & Eijken, 2001; Ministerie van Justitie, 2002). These children are sometimes referred to in literature as the 'silent victims' (McIntosh, 2003).

Children can become victims through multiple pathways of exposure (Cunningham & Baker, 2004; Mullender et al., 2002; NJI, n.d.). Holden (2003) talks about ten different pathways

in which a child can be victimized. Firstly, a child can become a victim during pregnancy. If the mother is exposed to violence, this can cause her to experience stress which in turn can cause problems for the pregnancy. A recent study found that 22,2% of women in India experience domestic violence during their pregnancy (Khatoon et al., 2021). The second pathway involves children witnessing violence directly. Thirdly, if the child is not in the same room as the violence, they can become an earwitness. In this case, the children can hear the violence or fights happening, but they do not directly witness the events. The fourth way in which a child can become a victim of intimate partner violence is when they meddle in the fights. Children might feel the need to tell the aggressor to stop or to call the police. Research suggests that 30 percent of children attempt to intervene on behalf of the abused parent (Holden et al., 1998). Children can be victimized in a fifth way when the violence accidentally turns to them. One parent can accidentally strike the child, while intending to hit their partner. The sixth pathway for a child to get victimized, is when the child gets involved in the violence because the abuser forces them to watch. The seventh pathway is rare; this occurs when abusers coerce children into participating in the violence. The eighth way involves children experiencing the direct consequences of intimate partner violence. They may witness injuries or must accompany one of their guardians to the hospital. In some cases, police get involved and children are aware of the presence of the officers or of the arrest of a parent. The ninth category is linked with the direct consequences but has a bigger impact in the daily lives of the affected children. In some cases, children might need to move houses, or they must go into hiding. The last category is indirect exposure. This occurs when children overhear one of their parents discuss the violence after it has taken place. Although these children become aware of the violence, they might not experience the same level

of negative effects as a child who directly witnesses violent events (Geurts & Bakker, 2007). All these categories can occur simultaneously (Holden, 2003).

Being exposed to domestic violence can have effects on the development of the children, particularly on their psychosocial and cognitive development. Some of the developmental effects that are mentioned in literature are behavioural and emotional problems. Children exposed to IPV are more likely to experience issues with their mental health (Cale et al., 2017; Abordo et al., 2023). Examples of this are feelings of anxiety and depression (Dijkstra, 2001; Thackeray et al., 2023). Lundy and Grossman (2005), as well as Kiesel, Piescher and Edleson (2016) found that children exposed to IPV are also more likely to suffer academically. Some studies, including Koenen et al. (2003) and Platt et al. (2018), report lower IQ-scores for children exposed to IPV compared to their peers who are not exposed to IPV. More problematic consequences are perpetration or victimisation of violence in adolescence and adulthood (World Health Organization, 2017).

Psychosocial development can be defined as the development of the child in relation to its environment (Erikson, 1968; McLean et al., 2014). Children work toward several different developmental outcomes. These outcomes are important developmental tasks that you should normally complete in childhood (Bowker & Weingarten, 2022; Sullivan, 1953). The first developmental outcome is forming and maintaining friendships (Furman & Buhrmester, 1985; Güroğlu, 2022). This is related to the developmental outcome of well-being in social relationships, especially relationships with significant people in your life (such as partners and parents). Another developmental outcome that falls under the norm of psychosocial development is developing your identity (Erikson, 1968). This is related to developing autonomy (Beckert, 2016; Noom, Deković & Meeus, 2001) and acquiring self-esteem (Bachman et al., 2011;

Servidio, 2019; Orth & Robins, 2014). The last developmental outcome from psychosocial development is attachment (Bowlby, 1982), meaning the emotional bonds between a child and their caregiver.

Cognitive development, as defined by Leman et al. (2019), is a mental activity, used by humans to remember, collect and learn how to use knowledge. They mention that cognition includes several mental processes, for example memory, learning and reasoning. Cognitive development also includes capabilities such as intellect, executive functioning and language (Grantham-McGregor et al., 2007; Walker et al. 2011). Cognition develops in age-related increases (Ahun & Côté, 2018).

Gradually, more articles about the effects of exposure to domestic violence on children are being published. However, a thorough overview of the effects on a child's psychosocial and cognitive development does not exist. Such an overview is needed to help professionals recognise children that are exposed to intimate partner violence, so these children can be helped in early stages to minimize the developmental effects. This review will focus on the developmental effects of witnessing intimate partner violence in childhood.

The following research question will be answered: *What is known about the impact of witnessing intimate partner violence on a child's psychosocial and cognitive development?*

Method

To answer the research question, a scoping review was used. The aim of a scoping review is to assess the size and scope of existing literature (Grant & Booth, 2009). A scoping review is also used to summarize and circulate research findings (Antman et al., 1992). It aims to be systematic, transparent and replicable (Grant & Booth, 2009). In this study, the scoping methodology was used to explore the literature concerning developmental outcomes for children

exposed to intimate partner violence. To ensure transparency and replicability this scoping review was conducted in accordance with the framework as presented by Tricco et al. (2018), the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR). The review process followed the five-stage framework proposed by Arksey and O'Malley (2005), using the following steps: identifying the research question, identifying relevant studies, selecting and screening studies, mapping out the data and reporting the results. These steps are worked out in the paragraphs that follow.

In the Netherlands the term *domestic violence* is often used instead of *intimate partner violence*; in this review both terms are used interchangeably. This scoping review focuses on IPV in a context of heterosexual relationships, because existing research on same sex IPV does not include children yet.

Inclusion criteria

To make a selection out of articles, inclusion and exclusion criteria were set up. No restrictions were placed on the country of origin for the included articles. Articles pertaining to children from age 0-18 are included. Adolescent samples that included 19-year-olds or older were excluded, as well as college samples. Articles that research effects going into adulthood were excluded. Articles from before the year 2000 are excluded. Single case studies are excluded, due to limited generalisability. Articles that have a neurological or biological approach are excluded due to the researcher's lack of knowledge in that field. Examples of this are articles pertaining to hormones and changes in the brain on a cellular level.

Search strategy

For this review PsycINFO and ERIC were used to search for articles. The search string used is: *(witnessing OR exposure) AND (IPV OR intimate partner violence OR domestic abuse OR domestic violence)) AND (Development AND (behavio*r OR emotion* OR cogniti*)).*

This resulted in 1237 articles in PsycINFO. After adding the filters for age and language 1130 articles remain. The search string combined with filters resulted in 52 hits in ERIC.

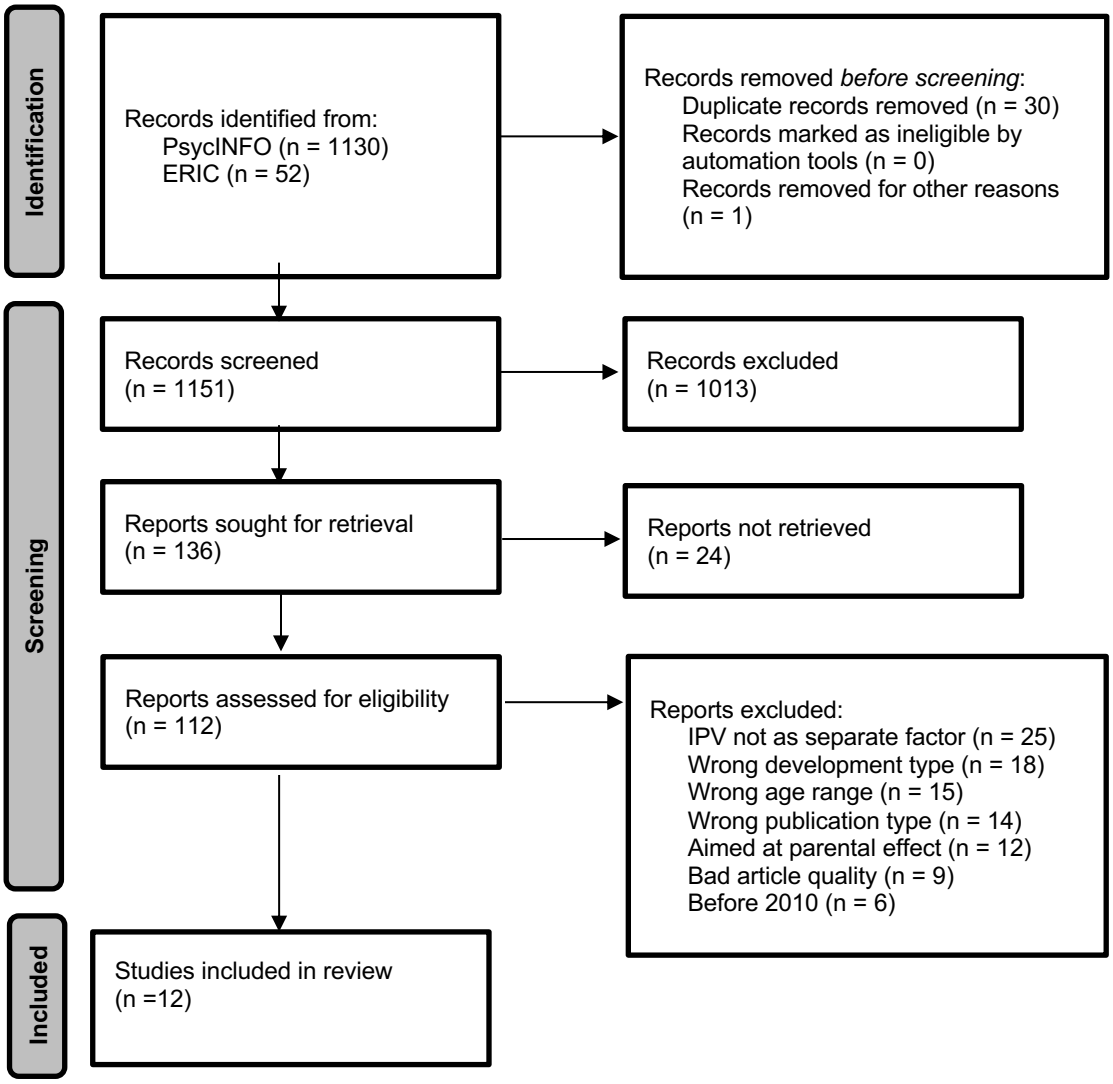
Selection procedure

To select the articles, Rayyan was used. Rayyan is a free web app that helps to speed up the process of screening articles (Ouzzani et al., 2016). The 1130 articles from PsycINFO and the 52 hits from ERIC were simultaneously uploaded into Rayyan. Rayyan identified 30 duplicates, which were deleted, and 1152 articles remained. One article was found to be written in Turkish, therefore it was deleted. The 1151 articles that were left were first screened based on their title, then on their abstract. This left 137 articles, which were scanned in their entirety. After this, 41 articles remained, which were reviewed in full.

Articles were deleted if they did not research exposure to IPV separate from exposure to other forms of violence. Articles were deleted if the method was unclear. For example, research studies that do not mention which database was used or how articles were selected. After this selection, 27 articles were included in the final review. Considering the given time frame for this assignment, literature reviews and articles published before or in 2010 were deleted, 12 articles remained. The selection procedure is shown in Figure 1 (Haddaway et al., 2022).

Figure 1

PRISMA-ScR Flowchart



Data extraction

The data was organized into two sets of categories. The first set is required to interpret the findings of the articles with the appropriate nuance, while the second set is used to answer the research question.

The first data element is the reference, which includes the name of the authors and the year of publication. The next category includes the country of origin. For the third category, data about the time period of the research was extracted or collected. The fourth category focused on the original goal the researchers intended to achieve with their study. The fifth category involved the type of research that was conducted. These categories are necessary for understanding the context of each article.

The final three categories were extracted to answer the research question, falling into the second set. For this purpose, the age group of the goal population of each article was extracted. Next, the type of development was extracted. This was split into the following subcategories: psychosocial and cognitive. Lastly, the key element of the articles was extracted, representing the most important findings from each article.

Analytic plan

The extracted data was analysed using content analysis. According to Harwood and Garry (2003), content analysis can be described as examining various types of data by organizing them into specific categories. This helps with analysis and interpretation of the results. Hsieh and Shannon (2005) expand on this idea by identifying three distinct approaches to content analysis. The first is *conventional content analysis*, in which coding categories are derived directly from the data during the analysis process. The second, which will be used in the current review, is *directed content analysis*. In this approach, coding is guided by existing theory or prior research, with codes set both before and during data analysis. The decision was made for the current review to extract all outcomes related to cognitive and psychosocial development. This was done before starting extraction of the data. The third approach is *summative content analysis*, which involves identifying and quantifying keywords or content, instead of using codes.

Results

Characteristics of included studies

A total of twelve studies met the inclusion criteria and were included in this scoping review. Six of these pertain to psychosocial development, while the other six researched cognitive development. The studies were published between 2011 and 2023. Most studies originated in the United States of America, with a total of six. Four of the articles are from Australia, and Spain and Iceland are both represented by one study. All the included studies are peer-reviewed journal articles.

Five studies used a quantitative approach, most of them using multiple questionnaires to gather their data. Seven studies used mixed methods for their approach. The key characteristics of the included studies are summarised in Table 1. This includes, amongst other aspects, the references, country of origin and the original goal of each study.

The largest sample used is 82.501 and the smallest sample used is 120. The age of the children researched in the articles ranges from 0 to 15 years old. No articles pertaining to 15–18-year-olds were found with the current inclusion criteria. It is worth noting that the ages in the samples used in the articles researching cognitive development do not exceed 10.

Table 1

Overview of included articles

Author/year	Country	Time period research	Goal of research	Method	Sample size	Age	Type of development	Important findings
Carracedo et al. (2018)	Spain	Unknown	To examine impact of exposure to gender violence can have in psychological development	Interviews and questionnaires	N = 132	6-12	Psychosocial	Children exhibit global psychological maladjustment, as well as emotional and social impairment Children have difficulties with empathy, interpreting social communication and articulating feelings
Conway et al. (2020)	Australia	Existing data 2003- 2005 until 2013-2015	To examine the relationship between early childhood exposure to IPV and language outcomes (receptive vocabulary, general language, pragmatic language)	Existing dataset: Interviews and questionnaires	N = 615	1,4 and 10	Cognitive	Early life exposure to IPV places children at risk of poorer later language outcomes. At age 10 receptive vocabulary, general language and pragmatic language inferior to non-exposed children
DeJonghe et al. (2011)	United States of America	Data collection span of three years	To examine whether witnessing IPV is a risk factor for externalizing and internalizing behaviour in very young children	Longitudinal study: interviews and questionnaires	N = 187	0-3	Psychosocial	Witnessing IPV at age two and three predicts externalizing behaviour
Gunnlaugsson et al. (2011)	Iceland	2003	To investigate association of witnessing IPV with variables that relate to mental health and well-being	Questionnaires	N = 3515	14-15	Psychosocial	Increased severity of exposure shows increased severity of feelings of depression, anxiety and anger

Author/year	Country	Time period research	Goal of research	Method	Sample size	Age	Type of development	Important findings
Gustafsson et al. (2013)	United States of America	30-month period	To investigate the extent to which IPV and children's memory are linked above and beyond other dimensions of cognition	Longitudinal study: Mixed methods	N = 140	30, 36 and 60 months	Cognitive	IPV exposure at 30 months of age predicted lower memory scores when 60 months old
Gustafsson et al. (2014)	United States of America	36-month period	To examine the association between IPV that occurs early in life and EF at school entry.	Longitudinal study: Mixed methods	N = 160	24, 30, 36 and 60 months	Cognitive	Exposure to IPV is negatively associated with children's EF
Holmes et al. (2014)	United States of America	5 data collection points over 8 years	To evaluate the influence of IPV exposure on young children's aggressive behaviour and prosocial skills	Longitudinal study: Questionnaires	N = 1125	3-7	Psychosocial	IPV exposure at age 3-7 predicts aggressive behaviour Aggressive behaviour stunts prosocial behaviour development in early school years
Huang et al. (2015)	United States of America	Sample between 1998 and 2000, followed for 9 years	To examine the effects of exposure to intimate partner violence in early childhood on delinquency at age nine	Existing dataset: Interviews and questionnaires	N = 2410	1, 3, 5, 9	Psychosocial	IPV exposure at age 1 to 5 predicts a tendency toward delinquent behaviour at age 9
Peterson et al. (2018)	United States of America	Data collection span of 3 years	To examine the effects of IPV and the quality of the home environment on children's language development at age 3 years	5-panel longitudinal Study: Mixed methods	N = 120	0-3	Cognitive	Exposure to IPV influenced expressive language
Savopoulos et al. (2022)	Australia	2004-2016	To examine the associations between IPV in infancy and cognition in middle childhood (at age 10)	Community-based longitudinal study: Questionnaires	N = 615	12 months and 10 years	Cognitive	IPV exposure leads to poorer executive attention skills, lower general cognitive ability and poorer executive skills

Author/year	Country	Time period research	Goal of research	Method	Sample size	Age	Type of development	Important findings
								IPV in middle childhood was not associated with cognition
Schulz et al. (2023)	Australia	Sample from 2003 and 2005	To examine the associations between IPV exposure during infancy and social development during middle childhood	Community-based longitudinal study: Questionnaires	N = 1507	12 months and 10 years	Psychosocial	Exposure to IPV has a negative effect on communication, cooperation, and responsibility IPV exposure leads to lower social skills, higher peer problems, and peer victimization Children exposed to IPV show less behaviours reflecting responsibility and cooperation Children exposed to IPV have a heightened awareness of threats in the environment
Whitten et al. (2022)	Australia	Birth cohort from 2002-2005	To examine the associations between early life exposure to DVA and early childhood developmental vulnerability	Longitudinal cohort study: Multiple quantitative measures	N = 82.501	5-14	Cognitive	Exposure to IPV results in vulnerability in language and cognitive skills (school-based)

Psychosocial development

The six articles regarding psychosocial development highlight the psychological and social difficulties experienced by children exposed to IPV. These difficulties manifest differently across ages.

Children who experience IPV in their first year are at a greater risk of showing externalising behaviour in their second and third year (DeJonghe et al., 2011). The likelihood of displaying externalising behaviour above a clinical cutoff at 2 years of age was found to be 2.72 times higher for children whose mothers are exposed to IPV than those whose mothers were not exposed to IPV (DeJonghe et al., 2011). The odds of displaying internalising behaviour above a clinical cutoff at 2 years of age was found to be 4.08 times higher for children whose mothers are exposed to IPV than those whose mothers were not exposed to IPV. The odds of displaying externalising behaviour above a clinical cutoff at age 3 was 3.48 times higher when children were exposed to IPV. The effects on externalising behaviour are only found for children who witness IPV directly at age 2 and 3 (DeJonghe et al., 2011).

Holmes, Voith and Gromoske (2014) found that exposure to IPV at preschool age (3-4 years old) can predict aggressive behaviour at early school age (5-7 years old). IPV exposure at preschool age is no indicator of deficits in prosocial skills, but IPV exposure at early school age does negatively impact prosocial skills for girls. For boys at early school age Holmes et al. (2014) found that exhibition of aggressive behaviour predicted reduced prosocial skills. This indirect effect was not found for girls. Examples of prosocial behaviour are being responsible, having self-control and showing empathy (Ladd, 1990; Ladd & Coleman, 1997; Ladd & Price, 1987). It is possible that the developmental issues existed before early school age, but don't become visible until children frequently interact with their peers. During preschool years,

teachers emphasise social development. This emphasis shifts to cognitive development in early school years (Holmes et al., 2014). This shift in attention is seen as challenging for the children (Love et al., 1992). It is important to note that, at the end of the study, data elements were missing for 30,6% of the children included in the sample.

Schulz et al. (2023) studies social skills by looking at the sub-scales communication, cooperation, responsibility and self-control in 10-year-olds. Exposure to IPV in the first year of life is significantly associated with poorer social skills, higher levels of peer problems and peer victimisation at age 10. There does not seem to be a significant association between exposure to IPV and bullying at age 10. The sample that Schulz et al. (2023) used was not representative of experiences of ethnic minority populations.

Huang et al. (2015) found that the presence of IPV in children's lives at ages 1 and 3 predicts delinquent behaviour at age 9. Examples of this behaviour are stealing, cheating on tests, fighting and substance use (Thornberry & Krohn, 2002). The chance of delinquent behaviour was 0.24 higher for children whose mothers experienced IPV than for children whose mothers did not experience IPV. Economic violence, or financial control, was found to have a stronger effect on delinquent behaviour than physical violence. More frequent exposure to intimate partner violence led to worse behavioural outcomes (Huang et al., 2015). The link between exposure to IPV and delinquent behaviour seems to be mediated by parenting behaviours. Intimate partner violence is expected to lead to lower parental involvement, which leads to higher rates of neglect and more physical punishment for the children, which in turn leads to an increased risk of delinquency. A gender difference was also found; boys showed a higher level of delinquency than girls (Huang et al., 2015).

By middle childhood (ages 6-12), children were found to show signs of psychological maladjustment, emotional and social impairments, and vulnerabilities in developing social competence (Carracedo, Fariña, & Seijo, 2018; Schulz et al., 2023). Examples of this are difficulty with interpreting communication and emotional cues, and problems with showing empathy (Carracedo et al., 2018). Some children may experience a sense of social inadequacy in middle childhood, and they may struggle to manage and maintain friendships (Carracedo et al., 2018).

By age 14 and 15 emotional distress can become more pronounced. Gunnlaugsson et al. (2011) found significantly higher scores for depression among children who report having experienced IPV during their lifetime than among children who do not have those same experiences. These differences were also found for experiences of anxiety, anger and issues with self-esteem (Gunnlaugsson et al., 2011). The cultural ideas regarding upbringing in Iceland are important for context for these findings. Until 1932 using violence in upbringing was considered a legal duty of parents (Gunnlaugsson et al., 2011).

Cognitive development

A growing body of research has highlighted the effects of exposure to IPV during childhood on various aspects of cognitive development. Results of these studies are sorted by specific developmental aspects.

General cognitive ability

Exposure to IPV during the first twelve months of life seems to be significantly associated with lower general cognitive abilities in middle childhood (Savopoulos et al., 2022; Whitten et al., 2022). In contrast, exposure to IPV occurring during middle childhood does not appear to be associated with later cognitive functioning (Savopoulos et al., 2022). Savopoulos et

al. (2022) argue that the timing of exposure may play a crucial role in determining cognitive outcomes. Exposed children can display IQ scores up to eight points lower than non-exposed children.

Executive functioning

Gustafsson, Coffman and Cox (2014) and Savopoulos et al. (2022) found that exposure to IPV in early childhood is associated with poorer executive functioning, specifically executive attention, at age five. Executive attention includes functions as inhibitory control, set-shifting and processing speed, specifically in children who are exposed in the first twelve months of their life (Savopoulos et al., 2022). Inhibitory control skills involve the ability to control and to sustain attentional focus. This also includes the ability to inhibit dominant responses when necessary (Anderson, 2002). Set-shifting is the skill that enables dividing and shifting attention. Children who possess this skill are able to easily switch between tasks and concepts (Miyake et al., 2000). Processing speed is described as how quickly information is processed (Anderson, 2002). These findings implicate that infancy is a critical period for development. Exposure to intimate partner violence is a stressor that has a negative impact on cognitive functioning (Savopoulos et al., 2022). The relationship between exposure to IPV and effect on executive functions seems mediated by maternal sensitivity, Gustafsson et al. (2014) found. They claim that IPV negatively impacts maternal sensitivity, which in turn positively impacts cognitive development in children. Higher levels of maternal depressive symptoms are associated with a stronger relation between IPV and working memory (Savopoulos et al., 2022).

Memory

Research indicates that children exposed to IPV demonstrate lower memory performance. At 60 months of age, children exposed to IPV scored lower on memory tasks, even when

controlling for harsh and intrusive parenting behaviours in their mothers (Gustafsson et al., 2013). This effect is seen for short-term memory, working memory and deliberate memory. Gustafsson et al. (2013) describes deliberate memory as the deliberate use of memory strategies for given tasks.

Language development

Exposure to IPV appears to negatively impact children's language development. Higher levels of IPV within the first year after birth have been found to predict poorer expressive and receptive language development by age three (Peterson et al., 2018). Expressive language refers to the means by which children communicate their intentions and needs to others around them, receptive language is their ability to comprehend the language that is directed towards them (Peterson et al., 2018)**.** Expressive language development is associated with parental responsivity, parental acceptance and learning materials (Peterson et al., 2018). One predictor of expressive language that Peterson et al. (2018) found, is maternal education. The quality of the home environment seems to also play a role in developing both receptive and expressive language. A positive and nurturing environment at age one can predict better receptive language at age three. Similar results were found for expressive language. However, this association does not moderate the effects of exposure to IPV on receptive and expressive language (Peterson et al., 2018).

At age 10, children who are exposed to IPV display difficulties across multiple language domains, including receptive vocabulary, general language, and pragmatic language (Conway et al., 2020). Deficits in receptive vocabulary may cause a child to experience difficulties following instructions in the classroom and understanding spatial and connective terms (Paul & Norbury, 2012). General language difficulties may include challenges such as remembering or

understanding words and grammar, as well as problems articulating speech or constructing coherent narratives of events (Paul & Norbury, 2012).

Violence in the home may limit the child's exposure to quality interactions and it may restrict the child's opportunities to practice their language. Moreover, children may learn negative interactive behaviours, such as not listening to the person talking to them or interrupting them (Conway et al., 2020). The relationship between IPV and general language skills appears to be more pronounced for boys than for girls (Conway et al., 2020). Difficulties in pragmatic language development can cause problems in social discourse, for example with taking turns in conversations or modifying language according to different social contexts (Paul & Norbury, 2012). Pragmatic language seems to be especially sensitive to exposure to IPV, maternal depressive symptoms are said to play a role in this (Conway et al., 2020).

Whitten et al. (2022) found a vulnerability in school-based language and cognitive skills between age 5 and 14. Few sex differences were found in this study.

Discussion

The purpose of this scoping review was to examine existing literature that described the developmental effects of exposure to IPV, specifically the psychosocial and cognitive development. The research question was "*What is known about the impact of witnessing intimate partner violence on a child's psychosocial and cognitive development?"*. To address this question, a scoping review was conducted, analysing a total of twelve articles.

Key findings

This review found that children, especially boys, who witness intimate partner violence often develop psychosocial difficulties such as aggression, emotional dysregulation, and social problems. These issues can appear as early as infancy and persist into middle childhood.

Exposure to IPV in the first year is linked to externalizing behaviour by age 3 (DeJonghe et al., 2011), while preschool exposure predicts aggression in early school years (Holmes et al., 2014). By age 10, children may show peer issues, poor social skills, and signs of psychological maladjustment (Schulz et al., 2023; Carracedo et al., 2018). Noonan & Pilkington (2020) hypothesize that early-life adversity, such as childhood exposure to intimate partner violence, can disrupt the attachment bonds between children and their caregivers. They argue that attachment is necessary for healthy stress responses and that attachment is supposed to form the foundation for later relationships. Problems with attachment can impact children's arousal and emotional reactivity in response to perceived stressors (Harding et al., 2013; Howell, 2011). This can lead to post-traumatic stress symptoms, as well as internalising and externalising behaviours (Boeckel, Wagner, & Grassi-Oliveira, 2015; Howell & Graham-Bermann, 2011). In addition to this, Corval et al. (2019) claim that attachment issues might cause difficulties with attaining key developmental milestones, such as emotion regulation and prosocial behaviour.

The frequency of IPV exposure influences the severity of the developmental outcomes (Huang et al., 2015). Garrido et al. (2011) corroborate these findings. They suggest that adolescents who are exposed to more frequent intimate partner violence seem to have the most difficulties in psychosocial development.

Huang et al. (2015) found evidence of delinquent behaviour at age 9, following exposure to intimate partner violence. However, Wilson, Stover and Berkowitz (2008) found that witnessing violence during childhood was not enough on its own to increase the risk of committing antisocial or violent acts later in life.

In adolescence, emotional distress becomes more apparent, with higher levels of anxiety, anger, and depression reported (Gunnlaugsson et al., 2011). Other studies have found the same

effect, with different mediators. One of the mediators is PTSD symptoms in the mother (Greene et al., 2018). In the current review, effects of maternal depression as a mediator were found regarding cognitive development (Gustafsson et al., 2013). The other mediators are adverse parenting and emotional dysregulation in the child (Ehrensaft & Cohen, 2012; Harding et al., 2013).

For cognitive development, impairments after IPV exposure are found as well. These impairments are primarily found in language development, memory and executive functioning. The age at which exposure first occurs appears to be critical in determining the outcome for the child's development. Early exposure, from birth to 3 years of age, seems to have the most pronounced effect (Savopoulos et al., 2022). IPV exposure during early childhood is also linked to lower cognitive abilities in middle childhood, while exposure later in life shows less impact (Savopoulos et al., 2022). Executive functioning, especially executive attention, is negatively affected, though maternal sensitivity can moderate this effect (Gustafsson et al., 2014; Savopoulos et al., 2022). Memory is also impacted, with 60-month-old children showing poor short-term memory, working memory and deliberate memory (Gustafsson et al., 2013). Multiple studies argue that children's concerns with their security in the family have been known to show problems with their attentional skills (Bray et al., 2018; Davies et al., 2008; Oliver et al., 2024). This is in line with the findings of Gustafsson et al. (2014) and Savopoulos et al. (2022). A study by Gustafsson et al. (2012) states that problems with attention regulation have implications for the child's memory functioning. This is because the ability to shift focus and attention is important for the performance of the working memory. In addition to this, attention regulation is needed for attending to relevant stimuli to encode the information. This relation may explain the results found by Gustafsson et al. (2013).

Language development suffers too; early-exposed children show delays in expressive language by age 3 (Peterson et al., 2018). By age 10, problems in receptive vocabulary and pragmatic language are observed (Conway et al., 2020). School-age children exposed to IPV also fall behind peers in school-based language and cognitive skills (Whitten et al., 2022). Noam Chomsky found that children learn a language perfectly by hearing it during their critical period (Barman, 2014). This period, he believes, falls between the ages of 2 and 7. If a child does not or not hear language often enough during this period, they will not acquire the skills to speak the language. It appears children who live in households where they are exposed to intimate partner violence, do not have enough exposure to the language they ought to acquire (Conway et al., 2020). This might explain the difficulties with language development later in their childhood.

It is crucial to note that many of the associations between IPV and child outcomes seem to be mediated, for instance, through maternal depression. When mothers suffer psychologically as a result of IPV, this can negatively affect their parenting behaviours and emotional availability, which in turn impacts the child. For example, Huang et al. (2015) found that mothers exposed to IPV were 27% more likely to neglect their children, more likely to use physical punishment, and less engaged in day-to-day activities with their children. These findings underscore the indirect pathways through which IPV affects child development, primarily via disrupted caregiving. Another relevant factor is resilience. Resilience does not fit in either the cognitive or psychosocial category, so it was not included in the results of this study, but this seems to be a mediating factor as well. Some children appear to function relatively well despite exposure to IPV due to their resilience (Fogarty et al., 2019).

They may not exhibit any overt signs of distress or developmental difficulties, making early identification of at-risk individuals particularly challenging (Howell, 2011; O'Brien et al.,

2013; Stark, 2009). However, resilience is highly individual and unpredictable and therefore difficult to measure.

Strengths and limitations

This study provides an overview of what is currently known in literature about psychosocial and cognitive developmental effects of exposure to IPV during childhood. The review has been done in a methodical way according to the PRISMA-ScR guidelines. This ensured that the review is reliable and that the validity is high (Brennan & Munn, 2021). The studies used in this review are all peer-reviewed to obtain a certain level of quality. Another strength of this review is the use of studies with relatively large sample sizes, validity calculations are the most stable for sample sizes over eighty (Hobart et al., 2012).

However, when interpreting the findings regarding the impact of intimate partner violence on children's psychosocial and cognitive development, several methodological and theoretical considerations must be considered.

There is no set definition of psychosocial development to be found in literature, which results in inconsistent interpretations. The definition that was used for this review is assembled from a variety of articles. This conceptual uncertainty poses a challenge to drawing consistent conclusions about the impact of IPV.

A second concern relates to potential biases. For example, there may be a publication bias and a bias in the search strategy. There is a risk that studies reporting null findings are underrepresented in the literature due to non-publication (Simmons, Nelson & Simonsohn, 2011; Sterling, 1959). Consequently, the literature may overstate the negative effects of IPV on child development. This highlights the need for cautious interpretation of the strength and direction of these associations. In addition to this, the search strategy may unintentionally leave relevant

articles out of the review which will skew the results. Another potential bias is found in the way of acquiring data in most studies. All studies except Gunnlaugsson et al. (2011) and Whitten et al. (2022) used some form of reporting by the children's mothers. In research regarding children's development the mother is often asked to report on their child's behaviour and their exposure rates. Research suggests that parents underreport the witnessing of IPV by their children (Jaffe, Wolfe & Wilson, 1990; O'Brien et al., 1994). Self-reports are expected to have a certain amount of bias, especially when reporting on negative experiences (Anvari et al., 2022). This is relevant for the questionnaires children fill in regarding their development, as well as the reports for mothers regarding for example their depressive symptoms.

In the current sample, a significant methodological limitation is the lack of data on cognitive development in children over the age of 10. As a result, potential long-term effects or late-emerging developmental delays remain unexamined.

Another important note is that research indicates that cognitive skills are interdependent. Problems in one area can have a negative effect on other developmental domains. This effect is especially prominent in childhood when cognitive abilities are less differentiated (Breit, Brummer & Preckel, 2021; Hülür, Wilhelm & Robitzsch, 2011). For example, problems in language development may influence memory, attention, or executive functioning. This interdependence complicates efforts to isolate the specific effects of IPV on cognitive developmental domains and points to the need for other methodological approaches.

Finally, the literature shows that chronic or life-course persistent exposure to IPV results in the most severe and enduring negative outcomes (Graham-Bermann & Perkins, 2010; Schnurr & Lohman, 2013). Children exposed to ongoing IPV are more likely to experience significant

cognitive, emotional, and social difficulties. Early identification and intervention in families affected by chronic IPV are therefore essential to mitigating long-term developmental harm.

Implications for practice, policy and future research

This review highlights the severe impact that exposure to intimate partner violence can have on child development. Early identification is a key factor in ensuring that affected children receive support as soon as possible. An important area to improve is the collaboration between police departments and professionals in youth care. For instance, Whitten et al. (2022) used police records to identify children potentially exposed to IPV for inclusion in their study. Such records could be used to identify and support potential victims, to provide timely intervention. To enable this collaboration, clear policies are required to ensure safe data exchange among youth care professionals or between youth care professionals and police departments. In addition, development of structured and standardized screening tools is essential to enhance early detection. These tools should be implemented in environments that children frequent, such as schools, general practitioners and the child healthcare centre (consultatiebureau).

Future research should focus on long-term development of children exposed to IPV, with particular attention to outcomes during adolescence. While the current evidence addressed early and middle childhood, relatively little was found about the effect of early exposure on psychosocial and cognitive functioning in later developmental stages. Cognitive development over the age of 10 is neglected in research.

In addition to this, resilience is a critical area for further investigation. It is necessary to learn how children's resilience impacts the way their circumstances impact them. In learning this, research can also investigate how to minimize developmental effects for children exposed to intimate partner violence.

Furthermore, it is important to rid research of as much bias as possible. This includes bias from informants. Current research often relies solely on maternal reports to portray the development of the children. It might be necessary to use multi-informant designs or to start using observational data, to enhance the validity and reliability of the research.

Conclusion

This scoping review has shown that exposure to intimate partner violence during childhood poses several risks to both the child's psychosocial and cognitive development. From a young age, children may exhibit behavioural difficulties, including aggression and emotional dysregulation. These symptoms can persist into later childhood and adolescence. Additionally, cognitive impairments have been identified in this review. Particularly in the areas of language development, memory, and executive functioning.

The severity of these developmental challenges is often associated with both the timing and frequency of IPV exposure. Exposure during infancy appears to be especially problematic, due to the critical developmental periods. Many of the outcomes are found to be mediated by factors such as maternal depression and compromised parenting practices. At the same time, several studies highlight the moderating role of resilience, suggesting that some children can maintain relatively healthy developmental paths despite exposure to IPV.

While this review offers valuable insights, it also highlights important gaps in the literature. In particular, the lack of research into the long-term cognitive consequences of IPV exposure beyond the age of 10, as well as an over-reliance on maternal self-reports, which may introduce bias. These limitations point to the need for more diverse methodologies and longitudinal research to capture the full scope of developmental outcomes.

In sum, the findings underscore the need for early identification and intervention in families affected by IPV. Recognising and supporting these children at an early stage may make it possible to prevent or lessen the long-term developmental harm and promote healthier psychosocial and cognitive developmental paths.

Literature

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