



JÖNKÖPING UNIVERSITY

*School of Education and  
Communication*

**The effects of witnessing domestic  
violence  
on the daily functioning of children  
aged, 3 to 8 years**

**Lok Hei TAI**

One year master thesis 15 credits  
Interventions in Childhood

Spring Semester 2018

Supervisor  
Lena Olsson, PhD in  
Disability Research

Examinator  
Eva Björck

## Declaration of Authorship

**Title of the work:** The effects of witnessing domestic violence on the daily functioning of children, aged 3 to 8 years

TAI, Lok Hei

I hereby declare that the thesis submitted is my own unaided work. All direct or indirect sources used are acknowledged as references pursuant to APA-norm, as common for the *Master of Interventions in Childhood*.

Jönköping, Date: May, 2018

Signature:

A handwritten signature in black ink, consisting of stylized, overlapping letters that appear to be 'TAI' followed by a more complex, looped structure.

## **Acknowledgments**

I wish to express my sincere thanks to Dr. Lena Olsson, my supervisor in this thesis, for providing me with all the necessary facilities for the research and constant feedback.

I would also like to acknowledge Dr. Madeleine Sjöman, my course director, for the helpful course content and constructive criticism.

I am also grateful to Dr. Mats Granlund, Karin Bertills, Dr. Eva Björck-Åkesson, Dr. Margareta Adolfsson and every lecturer in this course. I am extremely thankful and indebted to them for sharing expertise, and sincere and valuable guidance and encouragement extended to me.

I also thank my family for the unceasing encouragement, support and attention. I am also grateful to my friends who supported me through this venture.

## ABSTRACT

Domestic violence, intimate partner violence, is a major social problem in the world. This systematic study will discuss the effects on children who witness domestic violence and how those effects can be coded in the ICF-CY coding system, Body functions and Activities and participation. The effects of witnessing domestic violence were categorized by the contexts of ICF-CY, Body function and Activities and participation. The result showed that there are negative impacts in mental function, immunological system functions, digestive system, communication and interpersonal interactions and relationships. All effects can be coded with ICF-CY Body functions and Activities and participation.

---

Author: Lok Hei, TAI

The effects of witnessing domestic violence on the daily functioning of children, aged 3 to 8 years.

Pages: 31

---

Keywords: Domestic violence, intimate partner violence, children, daily functioning, ICF-CY, impact

---

Postal address	Street address	Telephone	Fax
Högskolan för lärande och kommunikation (HLK) Box 1026 551 11 JÖNKÖPING	Gjuterigatan 5	036-101000	036162585

## Table of contents

1	Introduction.....	<b>Error! Bookmark not defined.</b>
2	Background .....	1
	2.1 Previous research.....	2
	2.2 Context-based theory.....	3
	2.2.1 Bronfenbrenner’s bioecological theory.....	3
	2.3 The International Classification of Functioning, Disability and Health (Children and Youth version) and daily functioning .....	4
	2.4 Rationale .....	6
3	Aim.....	7
4	Research questions.....	8
5	Method.....	8
	5.1 Search strategy.....	8
	5.2 Selection criteria .....	9
	5.3 Selection process .....	10
	5.3.1 Title and abstract screening .....	10
	5.3.2 Full text screening .....	10
	5.4 Quality assessment .....	13
	5.5 Data analysis .....	13
	5.6 Ethical issues .....	13
6	Results.....	14
	6.1 Body functions .....	14
	6.1.1 b1 Mental functions .....	14
	6.1.2 b4 Functions of the cardio-vascular, haematological, immunological and respiratory systems	15
	6.2 Activities and participation .....	16
	6.2.1 d3 Communication .....	16
	6.2.2 d7 Interpersonal interactions and relationships .....	16

7	Discussion.....	17
	7.1 Negative effects of domestic violence.....	17
	7.2 The implication of Bronfenbrenner’s bioecological theory.....	19
	7.3 The use of the ICF-CY .....	19
	7.4 Implications of the negative effects of witnessing domestic violence .....	19
	7.5 Further studies .....	20
8	Limitations.....	21
9	Conclusion.....	21
	References.....	23
	Appendix .....	31

## **List of Tables**

Table 1 Inclusion and exclusion criteria .....	10
Table 2 Categories of included articles .....	14

## **List of figures**

Figure 1 The ICF-CY model .....	5
Figure 2 Flowchart of Search Procedure .....	12

# **1 Introduction**

Domestic violence, which is also known as intimate partner violence, involves behaviours that cause physical, sexual or psychological harm. Thirty per cent of women worldwide have reported experiencing different forms of physical or sexual violence committed by their intimate partner at some point in their lifetime (WHO, 2018).

According to the Convention on the Rights of the Child, article 19 (United Nations General Assembly, 1989), children should be protected from all forms of physical and mental violence. However, about 176 million children under the age of five were exposed to domestic violence in 2017 (The United Nations Children's Fund, 2017).

Besides the harmful effects of domestic violence on adult victims, children who witness these violent events also suffer. Domestic violence is a risk factor that can affect a child's development through a negative impact on their cognitive and physical functioning (Holt, Buckley & Whelan, 2008).

# **2 Background**

Domestic violence has a long history and can be divided into four main categories: physical violence, psychological aggression, sexual violence and stalking (Black, Basile, Breiding, Smith, Walters, Merrick, Chen & Stevens, 2011). Domestic violence can also be explained from different perspectives. Domestic violence may be related to survival and reproductive goals from an evolutionary perspective, for example, preventing partners from defecting to other potential partners (Buss & Duntley, 2011; Chester & DeWall, 2018). Seen from a feminist perspective, domestic violence is related to the patriarchal system and male dominance (Renzetti, 2013). Socio-cultural factors, such as glorifying the act of violence, also provide an explanation for domestic violence (Chester & DeWall, 2018).

Interpersonal, intrapersonal and biological factors can be fundamental to explaining domestic violence (Chester & DeWall, 2018). Interpersonal factors are related to de-humanization, infidelity and rejection, while intrapersonal factors are related to psychopathology, self-control and substance abuse. Biological factors include genetic, neurological and neuroendocrine components (Chester & DeWall, 2018).

The effect of domestic violence on children who witness it can be severe, and research has shown that this is associated with numerous negative outcomes, including reduced cognitive ability, poor educational achievement, under-immunization, psychological problems and physical health problems (Latzman, Vivolo-Kantor, Clinton-Sherrod, Casanueva & Carr, 2017).

## **2.1 Previous research**

Research has found that domestic violence can lead to lower cognitive abilities in children (DePrince, Weinzierl & Combs, 2009; Katz, Hessler & Annett, 2007; Koenen, Moffitt, Caspi, Taylor & Purcell, 2003). An extreme stress environment, such as the one created by domestic violence, can affect children's neurocognitive development, which leads to lower intelligence (Koenen et al., 2003). Witnessing domestic violence is related to a deficit of executive functioning, which encompasses the cognitive skills responsible for tasks like planning and organizing (DePrince, Weinzierl & Combs, 2009). Children who witness domestic violence also exhibit poor emotion regulation and are less aware of their emotions (Katz, Hessler & Annett, 2007).

According Delaney-Black et al. (2002); Koenen et al (2003) and Peek-Asa, Maxwell, Stromquist, Whitten, Limbos and Merchant (2007), witnessing domestic violence is also related to lower academic achievement. This could be associated with the lower neurocognitive development attributed to children exposed to domestic violence, since it presents a disadvantage in terms of school performance (Koenen et al., 2003).

Children who witness domestic violence also usually have higher rates of internalizing and externalizing symptoms (Swartz, Graham-Bermann, Mogg, Bradley & Monk, 2011). In addition, research has shown that children who have witnessed domestic violence reported having more posttraumatic stress symptoms compared to those children who have no experience of domestic violence (Macmillan & Harpur, 2003).

Poor physical health and under-immunization can also be attributed to witnessing domestic violence (Bair-Merritt, Blackstone & Feudtner, 2006; Lamers-Winkelman, De Schipper & Oosterman, 2012). Research findings have shown that children who have witnessed domestic violence have a higher chance of being under-immunized compared to those who have not (Bair-Merritt, Blackstone & Feudtner, 2006). Children who witness domestic violence also

reported having more somatic complaints, eating complaints and sleep complaints (Lamers-Winkelman, De Schipper & Oosterman, 2012).

## **2.2 Context-based theory**

From the perspective of context-based theory, the development of a child is based on the interactions between the child and his or her surrounding context (Avan & Kirkwood, 2010). Context-based theory emphasises that children are the product of their social environment and the theory explains how children develop in relation to this context (Avan & Kirkwood, 2010). Bronfenbrenner's bioecological theory is one example of context-based theory (Avan & Kirkwood, 2010). Context-based theory, including Bronfenbrenner's bioecological theory, is relevant for all domains of a child's development. In addition, context-based theory provides advantages for policy and intervention planning to ensure the development of children, as the terms and definitions are easy to understand, yet the concepts are comprehensive (Avan & Kirkwood, 2010).

### **2.2.1 Bronfenbrenner's bioecological theory**

Bronfenbrenner's bioecological theory is an extension of sociocultural theory and social learning theory, and it presents a more structured description of an environment and surrounding social interactions (Avan & Kirkwood, 2010). This theory focuses on a child's complex reciprocal interaction with his or her immediate external environment on a regular basis over an extended period of time (Bronfenbrenner & Evans, 2000). The bioecological theory is a system theory that includes the microsystem, mesosystem, macrosystem, exosystem and proximal processes (Bronfenbrenner, 1977; Bronfenbrenner & Ceci, 1994).

The microsystem is located in the innermost concept of the model – most of the child's behaviours are learned in this system (Bronfenbrenner, 1977). According to Bronfenbrenner (1977), the microsystem is the complex of relations between the developing person and the environment of the immediate setting surrounding that person. The immediate settings for a child are his or her family and school. The health, emotions, brain functioning and cognitive system of a child are included in this system. The microsystem represents the pattern of activities, social roles and interpersonal relationships of a child, domestic violence affects the daily functioning of a child as the family setting is disrupted. (Ashiabi & O'Neal, 2015).

The mesosystem refers to the interrelations that exist in a person's primary setting at a particular point in his or her life. A general example might be the relationship between one's family and school, or between one's family and professionals (Bronfenbrenner, 1977). For children who have witnessed domestic violence, the communication between family and school is important because it can enhance development through interventions like group counselling (Thompson & Trice-Black, 2012).

The third context is the exosystem, which includes both formal and informal institutions in society that affect a child indirectly (Bronfenbrenner, 1977). This context is related to the surrounding community and the services provided to children affected by domestic violence. A community can prevent child abuse, such as witnessing domestic violence, through reducing parental stress, and trained professionals can improve the capacity of parents to take on parental roles (Daro & Dodge, 2009).

The fourth context, the macrosystem, is related to the influence of cultures and subcultures in a society, which influence a person indirectly (Bronfenbrenner, 1977). Culture is one of the causes of domestic violence, as some cultures glorify the act of domestic violence (Chester & DeWall, 2018).

According to Bronfenbrenner and Ceci (1994), proximal processes relate to which genetic potentials for effective psychological functioning are actualized. Children who witness domestic violence may not reach their full potential because they do not have meaningful interactions on a regular basis over a significant period of time.

This thesis focuses on the microsystem only, as it is the immediate setting surrounding a child. The reason for this focus is that the aim of this thesis is to examine and code the effect on children who have witnessed domestic violence on the daily functioning of children according to research literature.

### **2.3 The International Classification of Functioning, Disability and Health (Children and Youth version) and daily functioning**

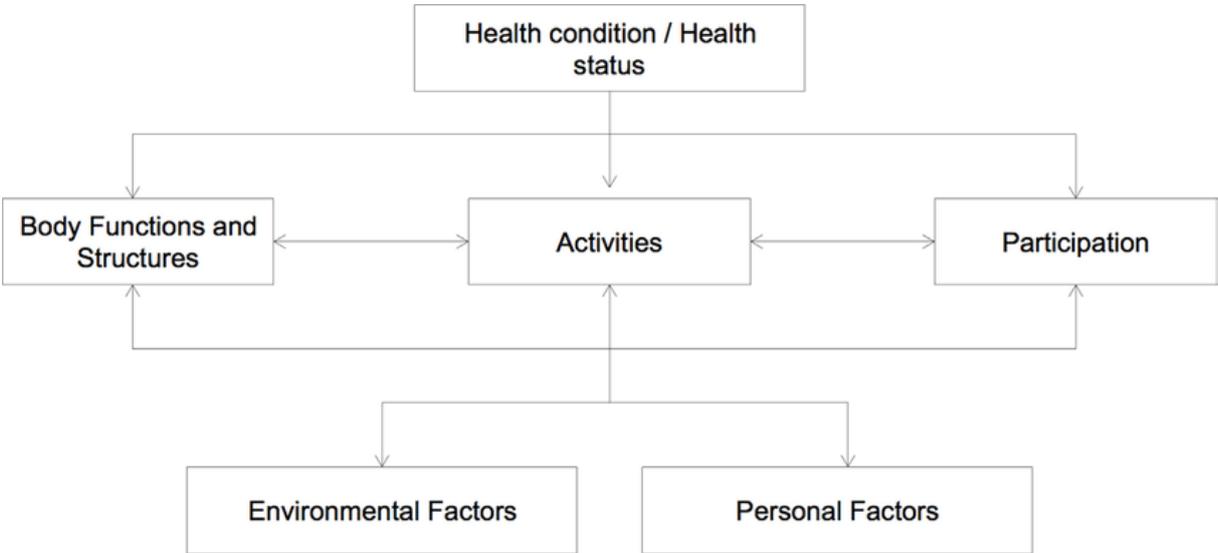
Previous research has found that witnessing domestic violence has a significant impact on a child's daily functioning. The International Classification of Functioning, Disability and Health (Children and Youth version) (ICF-CY) was proposed by the World Health Organization

(WHO, 2007) for a number of reasons. First, there was a need for a comprehensive classification of childhood disability that could be used across service systems (WHO, 2007). Second, it was essential to have a classification defining the health and functioning of children and youth that incorporated the fundamental human rights as defined by the UN Convention on the Rights of Persons with Disabilities (WHO, 2007). The ICF-CY is a framework that focuses on classifying health and functioning in daily life. According to the WHO (2007):

The ICF-CY offers a conceptual framework and a common language and terminology for recording problems manifested in infancy, childhood and adolescence involving functions and structures of the body, activity limitations and participation restrictions, and environmental factors important for children and youth. (page: xii)

Four key issues are addressed in the ICF-CY. These include the child in the context of the family, developmental delay, participation and environment. Within the ICF-CY, there are also four major components: body functions, activities and participation, environmental factors and body structures. Body function refers to the physiological functioning and mental functioning of a child (WHO, 2007). Activities and participation relate to what a child can do and actually does, including capacity and performance (WHO, 2007). Environmental factors are those that make up the physical, social and attitudinal environment in which people live and conduct their lives (WHO, 2007). Body structures relate to anatomic parts of the body, for example, the brain and organs (WHO, 2007).

Figure 1. The ICF-CY Model (WHO, 2007).



There are specific codes and information for the classification of the functional characteristics under each chapter (Darcy et al., 2014). For example, code b152 refers to emotional functions. The ICF-CY can provide a framework capable of classifying the effects on children of witnessing domestic violence. The coding of the ICF-CY can provide useful information regarding a child's interaction with his or her environment and the daily functioning of a child. The coding system can act as a common language that professionals in different specialties can use in collaboration. Besides functioning as a common language, the coding system of the ICF-CY can provide a general idea of planning and intervention suitable for a specific child, as the effects of domestic violence on children who witness it may vary.

A child's daily functioning is related to everyday activities and situations. According Trivers and Rebernik (2016), the activities of daily living include basic activities such as eating, bathing, dressing, using the toilet, transferring and mobility. Apart from the definitions provided by the activities of daily living, some researchers use the term "everyday life situation" to describe complex and frequently occurring routines or other activities. These include sequences of actions suitable in societal contexts that involve engagement and are directed towards meaningful goals (Adolfsson, Malmqvist, Pless & Granlund, 2011). While the ICF-CY does not explicitly outline the definition of "daily functioning" or "life situation," the concepts and coding from the ICF-CY can reflect the components of daily functioning (Adolfsson, Malmqvist, Pless & Granlund, 2011).

In this thesis, two components of the ICF-CY, body functions and activities and participation, are used to categorise the effects of witnessing domestic violence on children. These two components were chosen because they are related to the immediate effects on children who have witnessed domestic violence.

## **2.4 Rationale**

According to previous research, the effects on children who have witnessed domestic violence are negative. Witnessing domestic violence affects the daily functioning of a child. Despite the strong adverse outcomes for children, the lack of common terminology and definitions hinders further study in this field (Holden, 2003). The lack of a common language stems from the fact that each scientific background and profession has different concepts, definitions and

terminology (Øverlien, 2010). For example, even the terms used to describe domestic violence are widely different, such as witnessing domestic violence versus being exposed to domestic violence (Holden, 2003). The definitions of “witnessed” and “exposed to” also vary between different research articles (Holden, 2003). Without a common terminology and universal definitions, it is difficult for researchers and professionals to compare results. There is a critical need for a common language across different fields and backgrounds to classify and document the effects of domestic violence (Prinz & Feerick, 2003). With a better understanding of the effects on the daily functioning of a child who witnessed domestic violence, better intervention can be proposed to counter negative outcomes.

The ICF-CY is designed to record the development of a child and the influence of his or her surrounding environment (WHO, 2007). The framework of the ICF-CY can provide a system to record the effect on children who have witnessed domestic violence. The ICF-CY also aims to provide a common language and terminology for recoding the problems involving body functions and structures as well as activity limitation and participation restriction, which can be used across different sectors and national boundaries (WHO, 2007). In this case, the ICF-CY can provide universal understanding of definitions and terminology for the purpose of conducting research related to the effects on the daily functioning of a child who has witnessed domestic violence.

A number of literature reviews have been conducted on the effects on children of witnessing domestic violence, such as that published by Howell, Barnes, Miller and Graham-Bermann (2016). Their literature review categorized these effects according to different age groups, although it did not attempt to provide a common language for the effects on daily functioning.

### **3 Aim**

This systematic review aims to examine the effects on a child (between 3 and 8 years or age) of witnessing domestic violence and code these effects within the components of activities and participation and body functions in the ICF-CY. The range of 3 to 8 years of age was chosen because it belongs to the period of early childhood (Britto, Engle & Super, 2013). This period is an important stage of development in which children interact with their environment rapidly with greater frequency (Richter, 2010). Furthermore, research has shown that early childhood

is a key stage of child well-being, as well as social and emotional development. Ultimately, focus was placed on this specific age range because it represents an important period of a child's development.

## 4 Research questions

1. What are the effects of witnessing domestic violence on children's daily functioning?
2. How can these effects be coded in the ICF-CY coding system with a focus on body functions and activities and participation?

## 5 Method

The systematic review is used to examine the aims in this thesis. The inclusive criteria are shown in Table 1. The flow of the search strategy, selection criteria, data extraction and data analysis of this systematic review is shown in Figure 1.

### 5.1 Search strategy

A search of ProQuest Central, SAGE Journals Online, ScienceDirect, SpringerLink, Taylor & Francis Online and Wiley Online Library was performed. All six databases contain scholarly journals. The fields represented in these six databases include social science, humanities, psychology, the health and medical fields, education and economics. The search was performed in March, 2018.

Search words were chosen according to the aim of this paper. The thesaurus search function was used in the selected databases. While different search words were used in selected databases, all search words reflected the aim and the research questions of this systematic review.

The search string MAINSUBJECT.EXACT ("Domestic violence") AND "children functioning" AND "preschool" was used in ProQuest Central. The search string "Domestic violence" AND "children functioning" AND "preschool" was used in SAGE Journals and SpringerLink. The search string "domestic violence" AND "children function" AND limit to (contenttype,

“JL, BS”, Journal) AND limit to (cids, “271783”, “Child Abuse & Neglect”) was used for ScienceDirect. The search string “intimate partner violence” AND “children functioning” AND “preschool” was used in Taylor & Francis Online. The search string “intimate partner violence” AND limit to “journals” was used in Wiley Online Library.

The titles of the articles were used for preliminary screening, and abstracts were used for secondary screening before the full text review. After the two screening procedures described above, full text review was conducted. (see Figure 1).

Four of the included articles were selected for handsearching and their reference lists were examined. These four articles were all related to physical health and behaviour and were chosen for handsearching because a lack of articles related to those areas was identified. Five articles cited in the reference list of the handsearched articles were chosen for the title and abstract screening Two were chosen for full text screening. One article was included in the selected article, as it fit the inclusion criteria after the full text screening. The other was excluded because it was outside the age range of this study. The search and extraction protocols are shown below in Table 1.

## **5.2 Selection criteria**

All of the articles included were empirical studies that were peer reviewed and written in English. The research subject for all the articles was children between ages 3-8, which is the age range considered in this thesis. In addition, all of the articles focused on the effect of witnessing domestic violence for children within the age range noted above. No articles that studied the long-term effects of witnessing domestic violence in adulthood were included. Titles that were not related to children were excluded from abstract screening. Abstracts that mentioned the effect of witnessing domestic violence on children were chosen for full text screening. Articles were excluded if they were not empirical studies or did not focus on the effects of witnessing domestic violence. (instead, for example, focusing on the mediator on the effect of domestic violence).

Table 1.

*Inclusion and exclusion criteria*

Inclusion	Exclusion
<u>Publication type</u>	<u>Publication type</u>
-Article	-Book chapters, literature review and doctoral theses
-Peer-reviewed	-Not peer-reviewed
-Written in English	-Not written in English
<u>Participants</u>	<u>Participants</u>
-Children (3-8 years old)	- Children outside of the prescribed age
-Children who witness domestic violence	-Parents
<u>Focus</u>	<u>Focus</u>
-Effect of witnessing domestic violence on daily functioning	-Mediator of witnessing domestic violence
	-Longitudinal research focus on the effect of domestic violence on adulthood
<u>Study design</u>	<u>Study design</u>
-Empirical studies	- Literature review

### 5.3 Selection process

In the beginning of the search, 299 articles were found in ProQuest Central, 442 articles were found in SAGE Journals, 535 articles were found in ScienceDirect, 523 articles were found in SpringerLink, 395 articles were found in Taylor & Francis Online and 414 articles were found in Wiley Online Library.

#### 5.3.1 Title and abstract screening

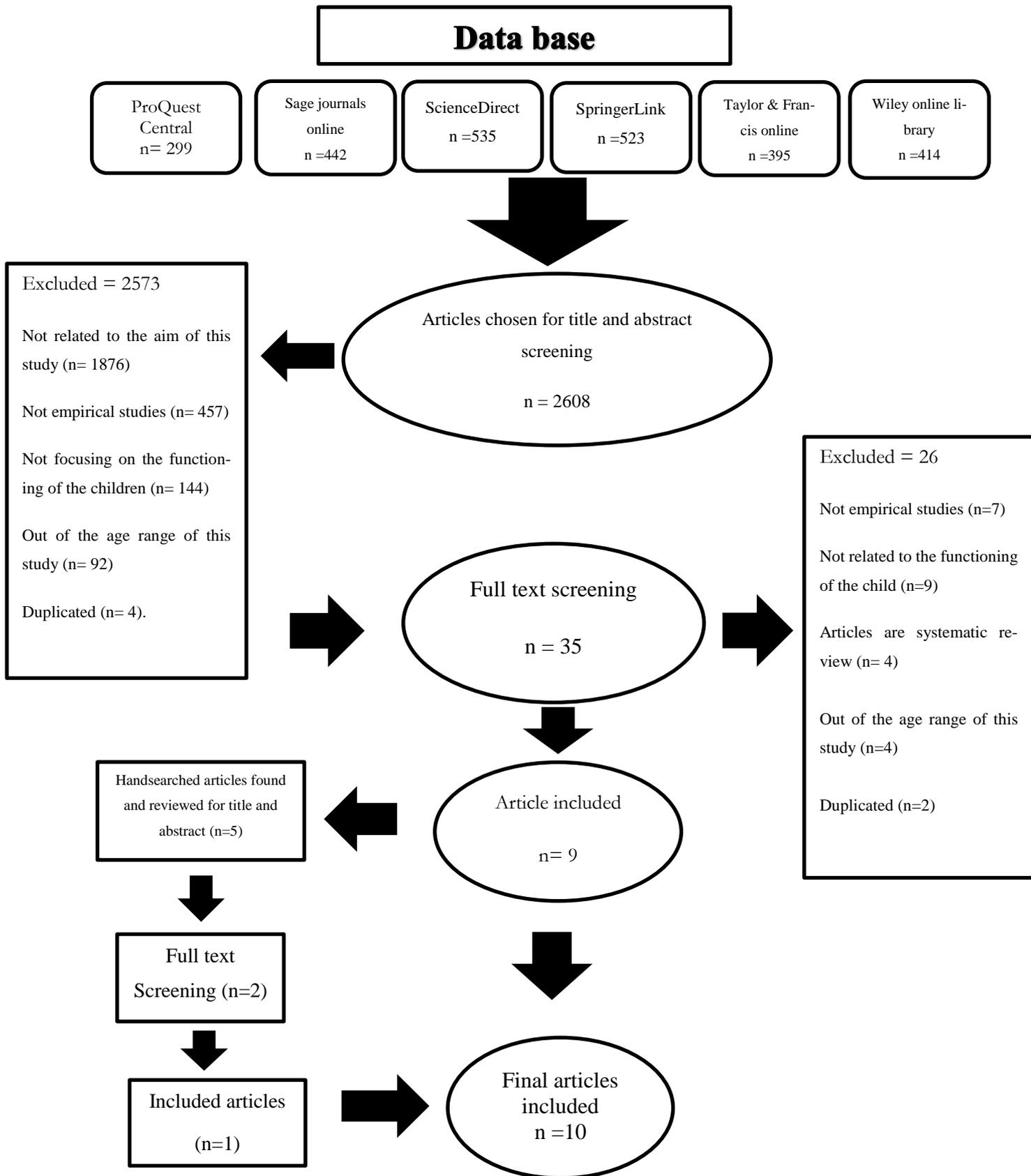
After the title and abstract screening, 2,573 articles were excluded. These articles were excluded because they were not related to the aim of this study (n=1876), were not empirical studies (n=457), did not focus on the functioning of children (n=144), used subjects outside the age range of this study (n=92) or were duplicates (n=4). The remaining articles were then subjected to abstract screening, after which 35 articles remained.

#### 5.3.2 Full text screening

After the first and second screening steps, full text screening was performed on all 35 articles. The aim of this step was to exclude those articles that did not meet the inclusion criteria. After

the full text screening, nine articles were chosen for this study. A total of 26 articles were excluded because they were not empirical studies (n=7), were not related to the functioning of children (n=9), were systematic reviews (n= 4), used subjects outside the age range for this study (n=4) or were duplicates (n=2).

Figure 2. Flowchart of Search Procedure



## **5.4 Quality assessment**

A five-point quality protocol modified from the Critical Appraisal Skills Programme (CASP, 2018) was used to assess the quality of the included articles. This modified quality protocol placed a high focus on two elements, the clarity of the article and whether the results agreed with other research. The assessment included the following five questions: 1) Did the study address a clearly focused issue? 2) Was the aim well described? 3) Were the outcome measures described, reliable and valid? 4) Are the results relevant to the aim of this study? and 5) Are the results of this study in line with other available evidence? The articles were rated out of a total score of 25. A score of 0-8 was rated as low quality, 9-17 was rated as medium quality and 18-25 was rated as high quality. An article could only be rated high quality if the aim, method and results were clearly described. The full version of the modified quality assessment tool can be found in the appendix.

## **5.5 Data analysis**

In order to fulfil the aim of this thesis and answer the research questions in this paper, several steps were included in the data analysis. All of the selected articles were separated into different folders according to the six databases that were used. First, all included articles were carefully read by the researcher. After this, the details of the articles were recorded in a Microsoft Excel spreadsheet. These details included, for example, the authors, the year of publication, the aim and the findings of the articles. In addition, the included articles were rated according to the five-point quality protocol modified from the Critical Appraisal Skills Programme. After a thorough examination, the articles were classified into one of two components of the ICF-CY, body functions or activities and participation. Finally, the included articles were carefully examined again according to the ICF-CY coding.

## **5.6 Ethical issues**

Ethical issues are an important concern for this thesis. Ethics concerns are important because the topic of this article is related to children. All included articles were verified as respecting the rights and dignity of children and any interviewees. For all the included articles, informed consent was obtained from the parent before any data collection from either the parent or the child/children occurred. Also, research conducted in some of the included articles was approved by university boards or institutional review boards to ensure the rights of the participants were

protected. Accuracy of this thesis was ensured throughout the data extraction and analysis processes. Finally, this thesis is not a duplication of other works and does not involve plagiarism in any way. References are used to acknowledge those authors whose work contributed to this thesis.

## 6 Results

Summaries of the 10 chosen articles are presented below according to the chapters of ICF-CY.

Table 2.

*Categories of included articles*

Articles	Year	Age range	Body functions	Activities and participation
Ybarra et al. (1)	2007	3-5 years old		X
Kuhlman et al. (2)	2012	4-6 years old	X	
Jouriles et al. (3)	2008	4-5 years old	X	
Miller et al. (4)	2014	4-6 years old	X	
Cipriano et al. (5)	2011	3-5 years old	X	
Holmes (6)	2013	3-8 years old		X
Graham-Bermann et al (7)	2010	4-6 years old		X
Huth-Bocks et al. (8)	2001	3-5 years old		X
Holmes (9)	2013	4-8 years old		X
Graham-Bermann et al. (10)	2005	4-6 years old		X

### 6.1 Body functions

#### 6.1.1 b1 Mental functions

*b144 Memory functions*

There is one article that studied the memory of children between 4 and 5 years of age who have witnessed domestic violence. This article studied explicit memory. Explicit memory is a part of memory functioning that is responsible for the task of capturing, processing and storing new

information (Schacter, 1987). This research tested children's explicit memory using three measurements, the visual reception scale, the receptive language scale and the memory for faces subtest. The results showed that the frequency of domestic violence was negatively related to all explicit memory measurement in the research (Jouriles, Brown, McDonald, Rosenfield, Leahy & Silver, 2008).

#### *b152 Emotional functions*

There is one article focused on the emotion regulation ability of children who witness domestic violence. This article used baseline vagal tone as a measurement of emotion regulation. Vagal tone is often used as an indicator for emotional adjustment, where higher vagal suppression is thought to indicate better emotional adjustment (Cipriano, Skowron, & Gatzke-Kopp, 2011). The findings suggested that for children in a less violent context, higher vagal suppression was associated with better emotional adjustment, while vagal suppression was not related to emotional adjustment for those children living in a more violent context, all of whom displayed poorer emotional adjustment (Cipriano, Skowron, & Gatzke-Kopp, 2011).

There is one article examining self-reported attributions of threat and self-blame in children who witness domestic violence under the age of 6. The attributions of threat are a child's report on their fearfulness and inability to cope with threatening stimuli, while self-blame relates to the extent to which children blame themselves for adverse experiences (Miller, Howell & Graham-Bermann, 2014). This article found that children's attributions of threat decrease with age, while self-blame increase over time (Miller, Howell & Graham-Bermann, 2014).

### **6.1.2 b4 Functions of the cardio-vascular, haematological, immunological and respiratory systems**

#### *b435 Immunological system functions*

There are two articles focusing on the effect of domestic violence on children's immune systems. These two studies explore the immediate relationship between domestic violence and children's physical health problems. The first article demonstrated that children exhibiting more traumatic stress symptoms displayed fewer total health problems and significantly fewer cold and flu symptoms than a nonviolence-exposed sample. However, pre-schoolers who have witnessed domestic violence also had more frequent specific problems, such as asthma, allergies and dizziness (Kuhlman & Howell & Graham-Bermann, 2012). The second article showed similar

results, and found domestic violence to be a predictor for asthma (Graham-Bermann & Seng, 2005).

#### *b535 Sensations associated with the digestive system*

Two articles demonstrated stress from witnessing domestic violence can be a predictor for gastrointestinal problems in children (Kuhlman & Howell & Graham-Bermann, 2012; Graham-Bermann & Seng, 2005). In addition, Kuhlman et al. (2012) suggested that girls have a higher risk for gastrointestinal problems than boys.

## **6.2 Activities and participation**

### **6.2.1 d3 Communication**

#### *d330 Speaking*

Of the ten included articles, there are three that relate to the verbal ability of children. Verbal ability is one of the measurements for intelligence quotient (IQ) and has a strong impact on academic performance (Graham-Bermann, Howell, Miller, Kwek & Lilly, 2010). Both articles suggested the same findings, i.e. children who witness domestic violence tend to have a lower verbal ability compared to non-exposed children (Graham-Bermann, Howell, Miller, Kwek & Lilly, 2010; Ybarra, Wilkens & Lieberman, 2007).

The third article addresses the intellectual functioning of children who witness domestic violence. It focused on the verbal abilities of children who witness domestic violence and found that children who have witnessed to domestic violence had significantly poorer verbal abilities than those who were not (Huth-Bocks, Levendosky & Semel, 2001).

### **6.2.2 d7 Interpersonal interactions and relationships**

#### *d720 Complex interpersonal interactions*

There are two articles relating to behavioural problems (6, 9). The first article suggests that domestic violence has an indirect influence on increasing aggressive behaviour from children (Holmes, 2013a). The second study, also conducted by Holmes (2013b), suggests that children who are exposed to domestic violence do not initially have significantly different aggressive behavioural problems compared to non-exposed children. However, the study does find that aggressive behaviour surfaces at the age of 8 for those children who witness domestic violence between birth and age 3.

## **7 Discussion**

The aim of the systematic review was to determine the effect on children who witness domestic violence and whether those effects can be coded using the ICF-CY. The results suggested that children who witness domestic violence experience a number of negative effects compared to those who do not witness this behaviour. The review also found that these effects can be coded using the ICF-CY.

### **7.1 Negative effects of domestic violence**

The results of this literature review demonstrate that domestic violence exerts harmful effects on the development of children. Those negative effects include poor explicit memory and emotional adjustment, higher levels of self-blame, higher risks for specific health problems, poor verbal ability and more aggressive behaviour.

Explicit memory is important for the daily functioning of a child because explicit memory is essential for daily activities such as problem solving, reasoning, comprehending instructions and decision making (Conway & Engle, 1994). One of the functions of explicit memory is storing information. When a child encounters new information, it must be kept in the temporary memory system before entering the long-term memory system, from where it can be retrieved at a later point in time (Jouriles, Brown, McDonald, Rosenfield, Leahy & Silver, 2008). As the results showed that children who witness domestic violence have poorer explicit memory, it can be concluded that witnessing domestic violence will affect their daily functioning.

The emotional functioning of a child is also important for daily functioning. As has been previously mentioned by various articles, children who witness domestic violence exhibit poorer emotional adjustment (Cipriano, Skowron, & Gatzke-Kopp, 2011; Miller, Howell & Graham-Bermann, 2014). The findings revealed that vagal suppression is not related to emotion regulation for those children who witness domestic violence, and the results of using vagal suppression for testing emotional adjustment are not consistent (Cipriano, Skowron, & Gatzke-Kopp, 2011). This could be due to vagal tone reflecting a general sensitivity to one's environmental context rather than indicating a specific predisposition (Cipriano, Skowron, & Gatzke-Kopp, 2011).

The higher levels of self-blame reported are another area of concern for emotional functioning. In the research, the results showed that the level of self-blame exhibited by children who witness domestic violence increases over time (Miller, Howell & Graham-Bermann, 2014). In addition, research showed that there is a trend for girls to report more self-blame than boys.

The results demonstrated that children who witness domestic violence have a higher risk of specific health problem like asthma and gastrointestinal problems (Kuhlman & Howell & Graham-Bermann, 2012; Graham-Bermann & Seng, 2005). This could affect children's daily functioning, as it could limit participation and engagement. Also, gender differences were observed in one of the included articles, which found that girls have a higher risk of health problem compared to boys (Kuhlman & Howell & Graham-Bermann, 2012).

Poorer verbal ability is another negative effect for children who witness domestic violence. As previously stated, verbal ability is one of the components of IQ, meaning poorer verbal ability outcomes indicate that domestic violence is a risk factor for children's intellectual functioning. Verbal ability is also important for the daily functioning of children, as poor verbal ability will limit the ability of a child to express him or herself.

Exhibiting aggressive behaviour is also a negative effect for children who witness domestic violence. Two of the articles included show that domestic violence has an indirect effect on increasing aggressive behaviour and manifests when a child reaches early childhood (Holmes 2013a; Holmes 2013b). This also affects children's daily functioning, as it influences interactions and relationships with others.

As previously mentioned, the family represents the child's immediate setting, and as such has great influence on the development of the child. According to Bronfenbrenner's bioecological theory (1977), the family setting is part of the microsystem, which is the most influential environment and affects the child directly. In order to minimize the negative effects of domestic violence, a number of aspects can be addressed within the framework of Bronfenbrenner's bioecological theory. On the microsystem level, the family can attend therapy or counselling sessions, which minimize the negative effects of witnessing domestic violence on children.

## **7.2 The implication of Bronfenbrenner's bioecological theory**

The findings of this article show that the effect on children who witness domestic violence is significant. Bronfenbrenner's bioecological theory places domestic violence inside the microsystem, as it is related to the family setting. As previously mentioned, most of the child's behaviours are learned in this system (Bronfenbrenner, 1977). The microsystem, represented by the family in this case, has the most direct influence on a child's development (Ku, Phillipson & Phillipson, 2015). Domestic violence disrupts the pattern of activities and daily routines in this microsystem, which hinders the development of a child.

## **7.3 The use of the ICF-CY**

The effects on children who witness domestic violence can be categorized into the ICF-CY components of body functions and activities and participation, and the results showed that these effects can also be coded according to the ICF-CY. This demonstrated that the ICF-CY could be a common language for studying the effects on children who witness domestic violence. This could help improve collaboration between different fields, as using the ICF-CY unifies definitions and terminology.

## **7.4 Implications of the negative effects of witnessing domestic violence**

Children who witness domestic violence are affected in different ways. Research has shown that explicit memory is an indicator that predicts academic success (Catroppa & Anderson, 2007), meaning that children who have witnessed domestic violence are at risk for poor academic performance at school since they exhibit lower functioning of memory.

Lower emotion regulation also affects academic performance, as research shows that poor emotion regulation is negatively associated with academic results (Graziano, Reavis, Keane & Calkins, 2007). Lower verbal ability also impacts performance at school, as verbal- and language-based activities are part of most schools' learning routines.

According to Fantuzzo, Bulotsky-Shearer, Fusco and McWayne (2005), children who exhibit aggressive behaviours in school have lower levels of cooperative, engaged and attentive learning behaviours within the classroom. These children also have lower competence motivation and worse attitudes toward learning.

For successful communication, proper use of language, which includes the ability for production and comprehension of said language, is needed (Capone and McGregor, 2004). Communication is a part of daily life, and poor verbal ability is an obstacle to efficient communication that could hinder a child's chance of making friends and expressing him or herself. In addition, poor health might also be a risk factor for lack of interaction with peers. Poor health hinders a child's participation at school or in other activities (Hanson, Austin, & Lee-Bayha, 2004). Emotion regulation is also important when interacting with others, as it related to the adjustment of behaviours to a specific environment. The ability of emotion regulation can alter the meaning of words and interpretation during interaction (Cole, Teti, & Zahn-Waxler, 2003). Research has shown that socially disconnected behaviours are related to lower levels of adaptive emotional interactions and awareness of the self and others (Fantuzzo, Bulotsky-Shearer, Fusco & McWayne, 2005).

Pre-schoolers with more internalization problems tend to initiate play with peers to a lower degree, although they do respond appropriately to positive, peer-directed initiations (Olson & Rosenblum, 1998). However, for these children aggressive behaviour is an obstacle to proper interactions with peers within an acceptable social context. Children with behavioural problems also tend to experience difficulties interacting with teachers and parents (Harden, Winslow, Kendziora, Shahinfar, Rubin, Fox, Crowley & Zahn-Waxler, 2000).

### **7.5 Further studies**

Besides the negative effects on children of witnessing domestic violence, there are other fields that require further study. While this systematic research provides insight into the effects of witnessing domestic violence for children, it is important to continue researching this topic, as it is related to child development in general.

Gender difference can help researchers understand whether there are any differences in how witnessing domestic violence impacts both boys and girls. This could help social workers or other related personnel develop specific intervention to reduce the negative impact of domestic violence on children.

Most of the research has focused on male to female violence. There is a lack of research on female to male violence. The impact of witnessing domestic violence could be different under these circumstances.

Research has also found that different socio-economic backgrounds may lead to different effects on a child. According to Yoo and Huang (2012), children with a lower socio-economic status were less affected by domestic violence compared to those with a higher socio-economic status.

## **8 Limitations**

A systematic review is a good approach for understanding what types of research have been conducted in the field, and on which aspects of the phenomenon this research has focused. A systematic review can help researchers identify which areas of the field require additional attention to support better general understanding. This review demonstrated that the effects on children who witness domestic abuse can be coded using the ICF-CY, and that the ICF-CY can function as a common language to bridge different fields of research and bring them together. One limitation of this research is that there is a lack of related research on this topic. This could be due to different factors. First, there is not much research on the impact of domestic violence on children who are very young. Second, the lack of related research could be the result of this study being limited to only six databases. It could also be the result of the search being limited to articles that are written in English. Finally, the search words selected could have played a role in the lack of related research that was found.

Another limitation is the use of different terms across different databases and articles, which may have limited the search in this study. As previously mentioned, different terms were used in relation to the topic of study. This could have hindered the effectiveness of searching for related articles in this study.

## **9 Conclusion**

Domestic violence is an enormous social problem throughout the world and its influence is significant for children living in these violent environments. This systematic research has provided insight into the effects of domestic violence on children. This study found that children

who witness domestic violence have poor explicit memory and emotional adjustment, higher levels of self-blame, are at higher risk for specific health problems, have poor verbal ability and exhibit more aggressive behaviour. This ultimately affects their daily functioning in everyday life. As different terminology and definitions from different research field may hinder the progress of research in this field, the use of the ICF-CY may be able to bridge the differences and act as a common language. More research can be done, and cooperation across different fields can be increased to improve the understanding of the effects on children who witness domestic violence.

## References

- Adolfsson, M., Malmqvist, J., Pless, M., & Granlund, M. (2011). Identifying child functioning from an ICF-CY perspective: Everyday life situations explored in measures of participation, *Disability and Rehabilitation*, *33*(13-14), 1230-1244, DOI:10.3109/09638288.2010.526163
- Ashiabi, G.S., & O'neal, K.K. (2015). Child Social Development in Context: An Examination of Some Propositions in Bronfenbrenner's Bioecological Theory. *SAGE Open*, 1-14. DOI: 10.1177/2158244015590840
- Avan, B. I., & Kirkwood, B. R. (2010). Review of the theoretical frameworks for the study of child development within public health and epidemiology. *J Epidemiol Community Health*, *64*, 388-393. doi:10.1136/jech.2008.084046
- Bair-Merritt, M.H., Blackstone, M., & Feudtner, C. (2006). Physical health outcomes of childhood exposure to intimate partner violence: a systematic review. *Pediatrics*, *117*(2), 278-290.
- Black, M.C., Basile, K.C., Breiding, M.J., Smith, S.G., Walters, M.L., Merrick, M.T., Chen, J., & Stevens, M.R. (2011). The National Intimate Partner and Sexual Violence Survey (NISVS): 2010 Summary Report. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.
- Britto, P.R., Engle, P.L., & Super, C.M. (2013). Early Childhood Development. Handbook of Early Childhood Development Research and Its Impact on Global Policy (pp. 5-20). NY: Oxford.
- Bronfenbrenner, U. (1977). Towards an experimental ecology of human development. *Am Psychol*, *(32)*, 513-531.
- Bronfenbrenner, U., & Ceci, S. J. (1994). Nature-nurture reconceptualized in developmental perspective: A bioecological model. *Psychological Review*, *101*(4), 568-58

- Bronfenbrenner, U., & Evans, G. W. (2000). Developmental science in the 21st century: Emerging questions, theoretical models, research designs and empirical findings. *Social Development, 9*(1), 115-125. <http://dx.doi.org/10.1111/1467-9507.00114>
- Buss, D.M., & Duntley, J.D. (2011). The evolution of intimate partner violence. *Aggression and Violent Behavior, 16*(1), 411-419.
- Capone, N. C., & McGregor, K. K. (2004). Gesture development: A review for clinical and research practices. *Journal of Speech, Language, and Hearing Research, 47*(1), 173-186.
- CASP. (2018) *Systematic Review checklist*. Retrieved from <https://casp-uk.net/casp-tools-checklists/>
- Catroppa, C., & Anderson, V. (2007). Recovery in Memory Function, and its Relationship to Academic Success, at 24 Months Following Pediatric TBI. *Child Neuropsychology, 13*(3), 240-261. doi:10.1080/09297040600837362
- Cipriano, E. A., Skowron, E. A., & Gatzke-Kopp, L. M. (2011). Preschool Children's Cardiac Reactivity Moderates Relations Between Exposure to Family Violence and Emotional Adjustment. *Child Maltreatment, 16*(3), 205-215. doi:10.1177/1077559511408887
- Chester, D.S., & Dewall, C.N. (2018). The roots of intimate partner violence. *Current Opinion in Psychology, 19*, 55-59.
- Cole, P. M., Teti, L. O., & Zahn-Waxler, C. (2003). Mutual emotion regulation and the stability of conduct problems between preschool and early school age. *Development and Psychopathology, 15*(1), 1-18.

- Conway, A. R., & Engle, R. W. (1994). Working Memory and Retrieval: A Resource-Dependent Inhibition Model. *Journal of Experimental Psychology: General*, 123(4), 354-373. doi:10.1037/0096-3445.123.4.354
- Darcy, L., Enskär, K., Granlund, M., Simeonsson, R.J., Peterson, C., & Björk, M. (2014) Health and functioning in the everyday lives of young children with cancer: documenting with the International Classification of Functioning, Disability and Health-Children and Youth (ICF-CY). *Child Care Health Dev*, 41, 475–482
- Daro, D., & Dodge, D. (2009). Creating Community Responsibility for Child Protection: Possibilities and Challenges. *The Future of Children*, 19(2), 67-93.
- Delaney-Black, V., Covington, C., Ondersma SJ., Nordstrom-Klee, B., Templin, T., Ager, J., ... Sokol, R.J. (2002). Violence Exposure, Trauma, and IQ and/or Reading Deficits Among Urban Children. *Arch Pediatr Adolesc Med*, 156(3), 280–285.  
doi:10.1001/archpedi.156.3.280
- DePrince, A.P., Weinzierl, K.M., & Combs, M.D. (2009). Executive function performance and trauma exposure in a community sample of children. *Child Abuse & Neglect*, 33(1), 353-361.
- Fantuzzo, J. W., Bulotsky-Shearer, R., Fusco, R. A., & McWayne, C. (2005). An investigation of preschool classroom behavioral adjustment problems and social-emotional school readiness competencies. *Early Childhood Research Quarterly*, 20(3), 259-275. DOI: 10.1016/j.ecresq.2005.07.001
- Graham-Bermann, S. A., Howell, K. H., Miller, L. E., Kwek, J. K., & Lilly, M. M. (2010). Traumatic Events and Maternal Education as Predictors of Verbal Ability for Preschool Children Exposed to Intimate Partner Violence (IPV). *Journal of Family Violence*, 25(4), 383-392. doi:10.1007/s10896-009-9299-3

- Graham-Bermann, S. A., & Seng, J. (2005). Violence exposure and traumatic stress symptoms as additional predictors of health problems in high-risk children. *The Journal of Pediatrics*, *146*(3), 349–354. doi:10.1016/j.jpeds.2004.10.065
- Graziano, P. A., Reavis, R. D., Keane, S. P., & Calkins, S. D. (2007). The Role of Emotion Regulation and Children's Early Academic Success. *Journal of School Psychology*, *45*(1), 3-19. doi:10.1016/j.jsp.2006.09.002
- Hanson, T. L., Austin, G., & Lee-Bayha, J. (2004). Ensuring that No Child is Left Behind. How are Student Health Risks & Resilience Related to the Academic Progress of Schools? *WestEd*, 1-16. Retrieved from <https://www.wested.org/resources/ensuring-that-no-child-is-left-behind-how-are-student-health-risks-resilience-related-to-the-academic-progress-of-schools/>.
- Harden, B. J., Winslow, M. B., Kendziora, K. T., Shahinfar, A., Rubin, K. H., Fox, N. A., . . . Zahn-Waxler, C. (2010). Externalizing Problems in Head Start Children: An Ecological Exploration. *Early Education and Development*, *11*(3), 357-385. doi:10.1207/s15566935eed1103\_8
- Holden, G.A. (2003) 'Children Exposed to Domestic Violence and Child Abuse: Terminology and Taxonomy', *Clinical Child and Family Psychology Review* *6*(3), 151–60
- Holmes, M. R. (2013a). The sleeper effect of intimate partner violence exposure: Long-term consequences on young children's aggressive behavior. *Journal of Child Psychology and Psychiatry*, *54*(9), 986-995. doi:10.1111/jcpp.12071
- Holmes, M. R. (2013b). Aggressive behavior of children exposed to intimate partner violence: An examination of maternal mental health, maternal warmth and child maltreatment. *Child Abuse & Neglect*, *37*, 520-530. doi:10.1016/j.chiabu.2012.12.006

- Holt, S., Buckley, H., & Whelan, S. (2008). The impact of exposure to domestic violence on children and young people: A review of the literature. *Child Abuse & Neglect*, 32(8), 797-810. doi: 10.1016/j.chiabu.2008.02.004
- Howell, K.H., Barnes, S.E., Miller, L.E., & Graham-Bermann, S.A. (2016). Developmental variations in the impact of intimate partner violence exposure during childhood. *J Inj-Violence Res*, 8(1), 43-57.
- Huth-Bocks, A. C., Levendosky, A. A., & Semel, M. A. (2001). The Direct and Indirect Effects of Domestic Violence on Young Children's Intellectual Functioning. *Journal of Family Violence*, 16(3), 269-290.
- Jouriles, E. N., Brown, A. S., McDonald, R., Rosenfield, D., Leahy, M. M., & Silver, C. (2008). Intimate Partner Violence and Preschoolers' Explicit Memory Functioning. *Journal of Family Psychology*, 22(3), 420-428. doi:10.1037/0893-3200.22.3.420
- Katz, L.F., Hessler, D.H., & Anest, A. (2007). Domestic violence, child emotional competence, and child adjustment. *Social Development*, 16(1), 513-538.
- Koenen, K.C., Moffitt, T.E., Caspi, A., Taylor, A., & Purcell, S. (2003). Domestic violence is associated with environmental suppression of IQ in young children. *Dev Psychopathol*, 15(2), 297-311.
- Ku, K.Y.L., Phillipson, S., & Phillipson, S. (2015). Educational Learning Theory. *International Encyclopedia of the Social & Behavioral Sciences* 2nd (pp. 238-245): Elsevier Ltd.
- Kuhlman, K., Howell, K., & Graham-Bermann, S. (2012). Physical Health in Preschool Children Exposed to Intimate Partner Violence. *Journal of Family Violence*, 27(6), 499-510. doi:10.1007/s10896-012-9444-2

- Latzman, N. E., Vivolo-Kantor, A., Clinton-Sherrod, A., Casanueva, C., & Carr, C. (2017). Children's exposure to intimate partner violence: A systematic review of measurement strategies. *Aggression and Violent Behavior, 37*, 220-235.  
DOI: 10.1016/j.avb.2017.10.009
- Lamers-winkelmann, F., De schipper, J.C., & Oosterman, M. (2012). Children's physical health complaints after exposure to intimate partner violence. *Br J Health Psychol, 17*(4), 771-784.
- Macmillan, K.M., & Harpur, L.L. (2003). An Examination of Children Exposed to Marital Violence Accessing a Treatment Intervention. *Journal of Emotional Abuse, 3*(3-4), 227-252.
- Miller, L. E., Howell, K. H., & Graham-Bermann, S. A. (2014). Developmental Changes in Threat and Self-Blame for Preschoolers Exposed to Intimate Partner Violence (IPV). *Journal of Interpersonal Violence, 29*(9), 1535-1553.  
doi:10.1177/0886260513511533
- National Research Council. (2000). In J. P. Shonkoff, & D. A. Phillips (Eds.), *From neurons to neighborhoods: the science of early childhood development*. Washington, D.C: National Academies Press.
- Olson, S. L., & Rosenblum, K. (1998). Preschool Antecedents of Internalizing Problems in Children Beginning School: The Role of Social Maladaptation. *Early Education and Development, 9*(2), 117-129. doi:10.1207/s15566935eed0902\_1
- Øverlien, C. (2010). Children Exposed to Domestic Violence Conclusions from the Literature and Challenges Ahead. *Journal of Social Work, 10*(1), 80-97.
- Peek-Asa, C., Maxwell, L., Stromquist, A., Whitten, P., Limbos, M.A., & Merchant J. (2007). Does parental physical violence reduce children's standardized test score performance? *Annals of Epidemiology, 17*, 847-53. PMID 17719240 DOI: 10.1016/j.annepidem.2007.06.004

- Prinz, R.J., & Feerick, M.M. (2003) 'Next Steps in Research on Children Exposed to Domestic Violence', *Clinical Child and Family Psychology Review* 6(3): 215–19.
- Renzetti, C.M. (2013). *Feminist Criminology*. (1st ed.). NY: Routledge.
- Richter L. (2010). An introduction to family-centred services for children affected by HIV and AIDS. *Journal of the International AIDS Society*,13(Suppl 2), S1.
- Schacter, D. L. (1987). Implicit Memory: History and Current Status. *Journal of Experimental Psychology: Learning, Memory, and Cognition*,13(3), 501-518.
- Swartz, J.R., Graham-bermann, S.A., Mogg, K., Bradley, B.P., & Monk, C.S. (2011). Attention Bias to Emotional Faces in Young Children Exposed to Intimate Partner Violence. *Journal of Child & Adolescent Trauma*, 4(2), 109–122.
- Thompson, E. H., & Trice-Black, S. (2012). School-based group interventions for children exposed to domestic violence. *Journal of Family Violence*, 27(3), 233-241.  
<http://dx.doi.org/10.1007/s10896-012-9416-6>
- Trivers, A., & Rebernik, D. (2016). CNA Training Advisor. *HCPPro a division of BLR*, 14(2), 1-5.
- The United Nations Children's Fund. (2017). *A familiar face - Violence in the lives of children and adolescents*. UNICEF, New York, 2017.
- United Nations General Assembly. (1989). *Convention on the Rights of the Child*. New York, NY: United Nations Retrieved from <http://www.ohchr.org/Documents/ProfessionalInterest/crc.pdf>

WHO. (2007). *International Classification of Functioning, Disability and Health Children & Youth Version*. (1 ed.). Switzerland: World Health Organization.

WHO. (2018). *Violence against women*. Retrived from

<http://www.who.int/en/news-room/fact-sheets/detail/violence-against-women>

Ybarra, G., Wilkens, S., & Lieberman, A. (2007). The Influence of Domestic Violence on Preschooler Behavior and Functioning. *Journal of Family Violence*, 22(1), 33-42.

doi:10.1007/s10896-006-9054-y

Yoo, J.A., & Huang, C.C. (2012). The effects of domestic violence on children's behavior problems: Assessing the moderating roles of poverty and marital status. *Children and Youth Services Review*, 34 (12), pp.2464-2473

## Appendix

### Appendix A

*The quality assessment tool used on the included articles*

Articles Number	Did the study address a clearly focused issue	Aim well described	outcome measures - described, reliable and valid	Can the results be applied to this result	Do the results of this study fit with other available evidence	Total scores
1	4	5	5	5	5	24
2	5	5	5	5	5	25
3	4	5	5	5	2	21
4	5	4	5	5	5	24
5	5	5	5	5	5	25
6	4	3	5	4	4	20
7	5	5	5	5	3	23
8	5	5	5	5	5	25
9	5	3	5	3	4	20
10	4	4	4	3	4	19

## Appendix B

*A table with a description of the included articles*

Articles	Aim	Method	Participant	Result
1. Ybarra, G., Wilkens, S., & Lieberman, A. (2007). The Influence of Domestic Violence on Preschooler Behavior and Functioning. <i>Journal of Family Violence</i> , 22(1), 33-42.	Investigate if the exposure to DV leads to deficits in functioning in children and their mothers that exceed the effects of other contextual variables often associated	Quantitative	N=62 Male =36 Female =26 Age mean = 52.8 months	1. DV-exposed children achieved lower Verbal Iqs 2. DV-exposed children achieved lower full scale IQ 3. No differences were found between groups on Performance IQ 4. All IQ means for the Exposed and Non-Exposed groups were within the Average range for cognitive functioning 5. Children exposed to DV displayed higher levels of internalizing Behaviors 6. no group differences were observed on externalizing behaviors. (both groups were within the normal range for severity level)
2. Kuhlman, K., Howell, K., & Graham-Bermann, S. (2012). Physical Health in Preschool Children Exposed to Intimate Partner Violence. <i>Journal of Family Violence</i> , 27(6), 499-510. doi:10.1007/s10896-012-9444-2	understand the immediate relationship between exposure to intimate partner violence (IPV) and physical health problems in young children	Quantitative	N=102 Male= 55 Female= 47 Age mean= 4.66	1. children exhibiting more traumatic stress symptoms displayed fewer total health problems 2. gastrointestinal problems and asthma were related to poor psychological adjustment 3. preschool-age girls were more likely to display health problems than boys
3. Jouriles, E. N., Brown, A. S., McDonald, R., Rosenfield, D., Leahy, M. M., & Silver, C. (2008). Intimate Partner Violence and Preschoolers' Explicit Memory Functioning. <i>Journal of Family Psychology</i> , 22(3), 420-428. doi:10.1037/0893-3200.22.3.420	parents' intimate partner physical violence (IPV) relates to their preschoolers' explicit memory functioning, whether children's symptoms of hyperarousal mediate this relation, and whether mothers' positive parenting moderates this relation.	Quantitative	N= 69 Male= 34 Female= 35 Age mean= 60 months	IPV was negatively correlated with scores on all three measures of explicit memory functioning (Visual Reception scale, Receptive Language scale, and Memory for Faces subtest), whereas parent-child aggression was negatively associated only with scores on the Visual Reception scale. Higher levels of mothers' positive parenting were associated with a weakened relation between IPV and preschoolers' explicit memory functioning

<p>4. Miller, L. E., Howell, K. H., &amp; Graham-Bermann, S. A. (2014). Developmental Changes in Threat and Self-Blame for Preschoolers Exposed to Intimate Partner Violence (IPV). <i>Journal of Interpersonal Violence</i>,29(9), 1535-1553. doi:10.1177/0886260513511533</p>	<p>The current study evaluated the developmental trajectories of appraisals of threat and self-blame in preschool-aged children recently exposed to intimate partner violence</p>	<p>Quantitative</p>	<p>N= 68 Male = 37 Female= 31</p>	<p>1. Children’s attributions of threat were stable over the course of 1 year, but greater child age was related to lower appraisals of threat. Children’s appraisals of self-blame increased over time 2. There was a trend for girls to report more self-blame than did boys</p>
<p>5. Cipriano, E. A., Skowron, E. A., &amp; Gatzke-Kopp, L. M. (2011). Preschool Children’s Cardiac Reactivity Moderates Relations Between Exposure to Family Violence and Emotional Adjustment. <i>Child Maltreatment</i>,16(3), 205-215. doi:10.1177/1077559511408887</p>	<p>This study examined relations between cardiac reactivity, family violence exposure</p>	<p>Quantitative</p>	<p>N= 92 families Age mean =3.75</p>	<p>Children’s vagal Suppression was shown to moderate relations between family violence exposure and emotional adjustment.</p>
<p>6. Holmes, M. R. (2013). Aggressive behavior of children exposed to intimate partner violence: An examination of maternal mental health, maternal warmth and child maltreatment. <i>Child Abuse &amp; Neglect</i>,37, 520-530. doi:10.1016/j.chiabu.2012.12.006</p>	<p>This study investigated the influence of IPV exposure on children’s aggressive behavior, and tested if this relation was mediated by poor maternal mental health, and, in turn, by maternal warmth and child maltreatment, and moderated by children’s age and gender.</p>	<p>Quantitative</p>	<p>N= 1161</p>	<p>The research findings highlight the indirect consequences of IPV in the home on children’s aggressive behavior.</p>
<p>7. Graham-Bermann, S. A., Howell, K. H., Miller, L. E., Kwek, J. K., &amp; Lilly, M. M. (2010). Traumatic Events and Maternal Education as Predictors of Verbal Ability for Preschool Children Exposed to Intimate Partner Violence (IPV). <i>Journal of Family Violence</i>,25(4), 383-392.</p>	<p>Despite research on the effects of intimate partner violence (IPV) on children, little is known about its impact on cognitive development.</p>	<p>Quantitative</p>	<p>N= 87 Male= 48 Female= 39 Age mean= 4.94</p>	<p>1. children exposed to IPV scored significantly lower on verbal ability 2.Both prior exposure to traumatic events and the level of mother’s education were significant predictors of verbal ability. 3. level of education mediated the relationship between traumatic events and the child’s verbal ability.</p>

<p>8. Huth-Bocks, A. C., Leventosky, A. A., &amp; Semel, M. A. (2001). The Direct and Indirect Effects of Domestic Violence on Young Children's Intellectual Functioning. <i>Journal of Family Violence</i>,16(3), 269-290.</p>	<p>This study examined the direct and indirect effects of domestic violence on preschoolers' intellectual functioning.</p>	<p>Quantitative</p>	<p>N= 100 Male= 44 Female= 56</p>	<p>1. children who witness domestic violence during the last year had poorer verbal abilities than nonwitnesses 2. domestic violence uniquely contributes to problems in intellectual functioning above and beyond other risk factors</p>
<p>9. Holmes, M. R. (2013). The sleeper effect of intimate partner violence exposure: Long-term consequences on young children's aggressive behavior. <i>Journal of Child Psychology and Psychiatry</i>,54(9), 986-995. doi:doi:10.1111/jcpp.12071</p>	<p>This study examines the effect of early IPV exposure on the development of aggressive behavior trajectories in a longitudinal national probability study of children investigated for child abuse and neglect</p>	<p>Quantitative</p>	<p>N= 446</p>	<p>1. Children who were exposed to more frequent early IPV did not have significantly different aggressive behavior problems initially than children who were never exposed 2. the more frequently children were exposed between birth and 3 years, the more aggressive behavior problems were exhibited by age eight.</p>
<p>10. Graham-Bermann, S. A., &amp; Seng, J. (2005). Violence exposure and traumatic stress symptoms as additional predictors of health problems in high-risk children. <i>The Journal of Pediatrics</i>, 146(3), 349-354. doi:10.1016/j.jpeds.2004.10.065</p>	<p>The aim of this study is to test the hypotheses that both violence and traumatic stress symptoms are associated with negative health status among poor preschool children.</p>	<p>Quantitative</p>	<p>N= 160 Male= 80 Female =80 Age mean= 4.62</p>	<p>children exposed to violence and those with high levels of traumatic stress had significantly worse outcomes, in a dose-response relation. Being abused, exposed to domestic violence, and having a mother using substances were associated with a higher number of health problems.</p>