CHALLENGING CHILDHOODS

Childhood adversity and its path to sexual exploitation

Gabriëlle Mercera

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ISBN	978-94-6510-465-2
Cover concept and layout	Gabriëlle Mercera
Cover design	Stefanie van den Herik | HerikMedia | www.herikmedia.nl
Printing	ProefschriftMaken | www.proefschriftmaken.nl

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PROEFSCHRIFT

voor het behalen van de graad van Doctor aan de Universiteit Maastricht,
onder gezag van Rector Magnificus,

Prof. dr. Pamela Habibović,

overeenkomstig met het besluit van het College van Decanen,
te verdedigen in het openbaar op

woensdag 12 februari 2025
om 16:00 uur

door
Gabriëlle Elizabeth Mercera
Geboren op 9 juni 1993 te Drachten

Promotor
Prof. dr. Thérèse van Amelsvoort

Copromotoren
Dr. Evelyn Heynen (Open Universiteit)
Dr. Sophie Leijdesdorff

Beoordelingscommissie
Prof. dr. Bart Rutten (voorzitter)
Prof. dr. Xavier Moonen Em. (Universiteit van Amsterdam)
Dr. Claudia Vingerhoets
Dr. Irma Hein (Amsterdam UMC)

The Dutch Ministry of Health, Welfare and Sport has financially contributed to the study in Chapter 3 (grant number: 328604).

When you come out of the storm, you won't be the same person who walked in. That's what this storm's all about.

Haruki Murakami

Paranimfen

Hanneke Ruiter

Roel Kooijmans

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Chapter 1

General introduction

Part I: Childhood adversity

Adverse childhood experiences (ACEs) have a cumulative and substantial negative impact on a wide range of health outcomes throughout the lifespan (Afifi et al., 2020; Hamby et al., 2021; Massetti et al., 2020). Due to the developmental vulnerabilities of youth, they are particularly endangered to the harmful effects of ACEs (Barrero-Castillero et al., 2022; Bundy et al., 2018). The World Health Organization defines youth as individuals between the ages of 15 and 24 (United Nations, s.d.; World Health Organization, 2006). In research and practice, the applied age range can vary from adolescence (10 years old) to young adulthood (up to 29). Addressing ACEs early in youth is crucial for promoting healthy development and preventing long-term negative health outcomes (Barnová & Tamásová, 2018).

Originally ACEs were defined as 10 experiences of early exposure before the age of 18 to maltreatment and household dysfunction: physical abuse and neglect, emotional abuse and neglect, sexual abuse, parental separation or divorce, domestic violence, mental illness in the household, household substance abuse, and criminal household member (Anda et al., 2009; Felitti et al., 1998). In recent years, social and environmental adversities have been found to be relevant in the ACEs concept as well, such as bullying, social rejection, poverty, growing up in unsafe communities, out of home placements and experiencing violence outside the family (Afifi et al., 2020; Cronholm et al., 2015; Hawes & Allen, 2023; Karatekin & Hill, 2019). Before moving on to the impact of ACEs on youth's overall health, it is important to explain how the overlapping concepts 'ACEs' and 'trauma' relate to one another. While the concept of 'trauma' in youth has been widely studied, research in the context of the ACEs framework has only emerged in the last three decades for adults (Karatekin et al., 2023) and the last 15 years for children (Struck et al., 2021). In the DSM-5 a traumatic event is defined in the context of Post-traumatic stress disorder (PTSD) as one that is associated with "actual or threatened death, serious injury, or sexual violence" and is mainly conceptualized in relation to a single event (American Psychiatric Association, 2013). Trauma research in children and youth has focused mainly on the specific experiences in line with this definition, in part because many instruments that measure traumatic events are based on the criteria in the DSM-5 (Eklund et al., 2018). This definition does not apply to many ACEs on household dysfunction or adversities in the community (e.g. parental mental health problems, divorce, living with a household member with substance abuse and poverty). The ACE framework emphasizes the importance of prevention by addressing the broader conditions that give rise to ACEs, such as parent-child relationship problems or societal inequalities (Karatekin et al., 2022). In this dissertation we use the commonly investigated operationalization of the original ACEs on abuse, neglect and household dysfunction as a foundation (Felitti et al., 1998).

The mechanisms by which ACEs exert negative consequences on health have found to be dynamic and cumulative, and can be explained by the conceptual model of the ACE pyramid (Centers for Disease Control and Prevention, 2021; Felitti et al., 1998). This model demonstrates how ACEs can lead to severe and prolonged stress, which impairs children's brain development and stress-response systems. These changes can subsequently result in cognitive, social and emotional delays, especially when safe, stable and nurturing relationships in the family or community are absent (Centers for Disease Control and Prevention, 2021; Felitti et al., 1998; Schofield et al., 2013). This can lead to problems with attention, emotion regulation, decision making, coping, learning and attachment, all of which set the stage for behavioral problems, school problems, and health risk behavior, such as substance abuse (Hays-Grudo et al., 2021). Numerous mental and physical health problems are likely to occur as a result of an accumulation of these risks (Centers for Disease Control and Prevention, 2021; Felitti et al., 1998). ACEs also increase the risk of experiencing future adversities. For example, the ACE childhood sexual abuse strongly predicts adult sexual abuse and exploitation (Lalor & McElvaney, 2010; Laird et al., 2020; Ports et al., 2016), with multiple ACEs increasing the risk of revictimization (Ports et al., 2016).

The above illustrates that ACEs can invoke a chain of risk factors, that increases the likelihood of negative outcomes across various domains of a person's life. Studies primarily have focused on these negative effects of ACEs, but it is increasingly recommended to focus on protective factors and preventive interventions as well (Karatekin et al., 2022). In summary, ACEs are a global health concern and societal challenge; without adequate prevention at the population level, ACEs will keep driving up costs for social and healthcare systems (Hughes et al., 2021; Karatekin et al., 2022) and youth will remain at risk for negative health outcomes, retraumatization and ongoing adversities throughout their life-span (Fagan, 2022; Hamby et al., 2021; Wolfe, 2018). Early identification of ACEs is therefore crucial on behalf of youth and their future health.

Identifying ACEs in at-risk youth with special educational and care needs

Certain youth are more vulnerable to ACEs and their consequences, making it essential to pay attention to these at-risk youth. Experiencing socio-economic disadvantages, family instability, involvement in child protection services, emotional and behavioral problems, educational challenges and intellectual disabilities have found to heighten the chances of encountering ACEs (Jones et al., 2012; Madigan et al., 2023; Mersky et al., 2021; Wissink et al., 2015). We refer to at-risk youth, meaning youth who grow up with these experiences or in these environments that can make them more susceptible to ACEs. The challenges that at-risk youth face, often necessitate ongoing interactions with special education and health care institutions. Accordingly, research has demonstrated that ACEs increase the likelihood of special educational and care needs (Kan et al., 2020).

The systematic review of Hughes et al. (2017) demonstrated that research on the prevalence of childhood adversity using the ACE framework has mainly focused on children and adults in the general population, with limited attention to at-risk youth who experience more ACEs (Jones et al., 2012). One of the few examples is a nationally representative longitudinal study on children involved with child protection services in the United States. This study demonstrated that by age 6, approximately 95% of the children experienced at least 1 ACE from the original framework (Clarkson Freeman, 2014). Also, in a study on children aged 8-18 with severe social-emotional and behavioral problems in special education schools in The Netherlands (Offerman et al., 2022) found that 80% experienced at least 1 ACE out of 10 ACEs from the original framework. These prevalences are substantial compared to the general population of school-aged youth, in which the percentage of youth experiencing at least 1 ACE varied from 45% - 66% (Bright et al., 2016; Carlson et al., 2020; Meeker et al., 2021; Turney, 2020; Vink et al., 2019). These percentages illustrate that ACEs are common in the general population of school-aged youth as well (Portwood et al., 2023). Comparisons between studies on ACE prevalence should be done with caution due to variations in study populations, applied age ranges, ACE frameworks, instruments and small sample sizes (Madigan et al., 2023; Massetti et al., 2020). Nevertheless the relatively high numbers implicate that health care and educational professionals who interact with at-risk youth can have an important role in the recognition of ACEs.

Research has demonstrated that professionals not always ask about or assess the presence of ACEs (Jones et al., 2022). This is for example due to a lack of specific knowledge and training on how to adopt trauma-informed care practices or due to experienced time constraints during client contact (Bora et al., 2021; Esden, 2018; Kerker et al., 2016; Sherfinski et al., 2021). Moreover, diagnostic systems in practice still rely upon presenting classifications, problems and symptoms (Bokhour et al., 2018; Van Os, 2018). As a result, healthcare providers may focus on managing symptoms, without exploring the underlying ACEs that could drive these behaviors. This poses a risk for treating symptoms instead of underlying root causes. More knowledge on ACEs in at-risk youth is needed to raise ACE awareness in professionals working with these youth, and to further develop and implement trauma-informed practices that provide guidance for them to address ACEs.

An intergenerational perspective on ACEs and mental health problems

In the identification of ACEs, an intergenerational perspective should be included. Research on intergenerational trauma is emerging in the past decade and has revealed a generational continuity in the number and type of ACEs and mental health problems in parents and their children (Narayan et al., 2017; Schofield et al., 2018). Relationships have been found between the presence of ACEs in mothers and their children, and children's developmental problems, physical health problems, behavioral problems and academic performance (Rowell & Barnett, 2022; Zhang et al., 2022). If parents'

psychological functioning is compromised by either their history of ACEs or ongoing exposure to stress, their capacity to provide their children a nurturing environment may be compromised (Narayan et al., 2023). A dysfunctional family context can exacerbate the impact of ACEs and increase the risk of adverse outcomes, such as mental health problems (Merrick et al., 2020). So ACEs seem to be an important target for intervention, as they appear to be intergenerationally transmitted and may contribute to the development of mental health problems in future generations (Bolhuis et al., 2022). One specific mental health problem that may be the consequence of intergenerational ACE and that is highlighted in this dissertation are psychotic experiences.

The clinical presentations of psychotic disorders vary widely and psychotic symptoms are the most obvious manifestations (Moura et al., 2021). Psychotic experiences include positive symptoms (e.g. hallucinations, delusions), negative symptoms (e.g. emotional withdrawal, difficulty in abstract thinking) and general psychopathology (e.g. anxiety and depression; Moura et al., 2021). Gaining insight into possible underlying causes of this symptomatology may lead to the improvement of prevention strategies, better symptom management and ultimately enhancement of overall health. ACEs have been found to be an underlying risk factor in the development of psychotic experiences in youth and adults (Bailey et al., 2018; Fusar-Poli et al., 2017; McKay et al., 2022; Trotta et al., 2015; Varese et al., 2012). The influence of parental ACEs on the relationship between ACEs and psychotic experiences and disorders has received limited attention. A study of Bolhuis et al. (2022) in the general adolescent population is the first to shed more light on this relationship. ACEs in mothers were associated with more psychopathology in mothers and more ACEs and psychotic experiences in offspring. A better understanding of intergenerational pathways to psychotic experiences and disorders is needed to inform future research and early interventions that address the negative consequences of both parental and children's ACEs.

From the first part of the introduction it can be concluded that the identification of ACEs in youth is vital to recognize at-risk youth, and to understand possible underlying factors for their special educational or health care needs. By addressing intergenerational ACE patterns early, it may be possible to prevent or reduce the severity of mental health problems, including psychotic disorders. This not only helps the individual but can also have positive effects on future generations, contributing to a healthier, more resilient community. Without adequate attention to ACEs, youth remain vulnerable for negative health outcomes, re-traumatization and ongoing adversities. One such adversity is sexual exploitation. In this dissertation a specific focus on sexual exploitation was chosen because it is a major societal and hidden problem, that has received too little attention in research, policy and practice. Sexual exploitation has a profound impact on youth mental health. There is considerable evidence that ACEs are one of the many risk factors for sexual exploitation. Yet, further research is needed on both risk and protective factors to better understand potential pathways to sexual exploitation in youth.

Part II: Sexual exploitation

Sexual exploitation of youth is a global human rights issue. It has profound and enduring effects on the psychological and physical health of youth worldwide (Barnert et al., 2017; Benavente et al., 2022; Moss et al., 2023; UNODC, 2022). Sexual exploitation is a form of human trafficking and involves the use of force, threat, fraud, abduction, the abuse of power or coercion by a human trafficker, aiming to control and exploit individuals for purposes of sexual exploitation (Office of the United Nations High Commissioner for Human Rights, 2000). Any minor induced into commercial sex is a victim of sexual exploitation, regardless of whether the trafficker used force, fraud or coercion (Office of the United Nations High Commissioner for Human Rights, 2000). Sexual exploitation often involves (sexual) violence and abuse, and therefore it can be considered as an ACE itself when experienced as minor. Yet, in research and practice it is mostly considered as a separate concept for which ACEs are a risk factor. Sexual exploitation involves complex dynamics of coercion and abuse, often by perpetrators in organized crime (Hopkins et al., 2023). These factors go beyond the scope of what is originally captured in the ACEs framework. Moreover, an approach in which ACEs are treated as risk factors for sexual exploitation, can contribute to more knowledge to identify at-risk youth and to implement preventive efforts before exploitation occurs. Dutch data on sexual exploitation demonstrated that most victims in The Netherlands are minors, adolescents and young adults up to 29 years old with a mean age of 26 (Nationaal Rapporteur Mensenhandel en Seksueel Geweld tegen Kinderen, 2022). Youth are particularly vulnerable to sexual exploitation due to a combination of developmental, social and environmental factors that perpetrators often exploit (Shepherd & Lewis, 2017).

According to a survey in 2017 it was estimated that 3.8 million adults and one million children worldwide were victims of sexual exploitation (The International Labor Organization, 2017). Nevertheless, data from 148 countries worldwide shows that only 25.000 victims – of whom one-third were minors – were formally reported (The United Nations Office on Drugs and Crime, 2020). The large gap between the estimated and actual reported numbers of victims illustrates that there is a significant challenge in victim identification. Therefore, reliable prevalence data on sexual exploitation is lacking. Identifying victims of sexual exploitation presents multiple challenges. Human traffickers often use covert methods to recruit and exploit their victims. The internet, for instance, facilitates human traffickers to identify, control and groom victims (Kloes et al., 2014; Moss et al., 2023; O'Brien & Li, 2020). Additionally, victims are often reluctant to disclose their experiences of exploitation. This reluctance is driven by feelings of shame and self-blame, fear of their traffickers, concerns about not being believed, and an inability to fully recognize or understand their exploitative situation (Andretta et al., 2016; De Vries et al., 2020; McClain & Garrity, 2011; O'Brien & Li, 2020). This difficulty in recognizing exploitation is particularly evident in youth with intellectual disabilities (Reid, 2018). Moreover, health care professionals often fail to identify victimization due to a lack of sufficient

knowledge and training on sexual exploitation (Chaffee & English, 2015; De Vries et al., 2020). The challenge to identify youth victims of sexual exploitation hampers the possibilities to provide timely and adequate care and support (Baldwin et al., 2011). This is concerning as sexual exploitation can have tremendous and long-term effects on psychological and physical health across the lifespan (Hurst, 2021; Laird et al., 2020). In 2018 the Dutch government launched the program 'Together against human trafficking'. One of its three central aims is the prevention of individuals from becoming victims of human trafficking and to provide victims with the care and support they need – especially those who are at-risk (Rijksoverheid, 2018). Understanding and identifying risk and protective factors for sexual exploitation in youth can inform targeted prevention and intervention efforts, which is crucial in the context of youth mental health.

Risk and protective factors for sexual exploitation in youth

Numerous risk factors for sexual exploitation in youth have been identified in research, with most studies including solely sexually exploited girls and young women. Individual level risk factors involve mental health problems, a history of abuse and neglect, sexual abuse, criminal activities, youth identifying as LGBTQ+ or intellectual disabilities (Barnert et al., 2017; Franchino-Olsen, 2019). At the family level, domestic violence, conflicts with parents and other types of family dysfunction heightening the risk for sexual exploitation (Barnert et al., 2017; Laird t al., 2020). Risks in the community and society involve peer victimisation, poverty, neighbourhood violence, discrimination and limitation in financial resources (Barnert et al., 2017; Laird t al., 2020). ACEs have been found to be a common risk factor for sexual exploitation. According to a meta-analysis in children worldwide, child sexual abuse increases the odds for sexual exploitation by nearly four times, and neglect and physical and emotional abuse doubled the odds (Laird et al., 2020). Moreover, PTSD was associated with a 5-fold increase of the odds for sexual exploitation. A growing body of evidence illustrates that risk factors are often part of a downstream cycle of adversity (Franchino-Olsen, 2019). For instance, parental substance abuse, physical, emotional and sexual abuse could harm a child's mental health, coping skills and relationship with their parents. This in turn may lead youth to risky behavior such as running away which makes them easier to become targets for human traffickers (Franchino-Olsen, 2019; Laird et al., 2020; Reid & Piquero, 2016). Still, most studies on sexual exploitation have focused on single risk factors and their unilateral association with sexual exploitation (Laird et al., 2020). A better understanding is needed on risk patterns to sexual exploitation in youth.

Protective factors can mitigate the effects of risk factors (Crandall et al., 2019; Hays-Grudo et al., 2021) and play an important role in reducing the likelihood of sexual exploitation (Landers et al., 2020). The limited availability of studies on protective factors for sexual exploitation identified that positive experiences such as positive and supporting relationships, parental supervision, family

connectedness, higher school grades or school completion may lower the risk for sexual exploitation (Adjei & Saewyc, 2017; Cluver et al., 2020; Franchino-Olsen et al., 2021; Franchino-Olsen & Martin, 2022; Homma et al., 2012; Laird et al., 2020; McNeal & Walker, 2016; Reid, 2014; Reid & Piquero, 2014). More research is needed on the nature of protective factors for sexual exploitation, as this knowledge can inform interventions that help to prevent or overcome adverse experiences and build resilience (Landers et al., 2020).

Youth who are underrepresented in research on sexual exploitation

There are indications that some youth are at increased risk to encounter risk factors for sexual exploitation and have fewer protective factors, for example youth with intellectual disabilities. Youth with intellectual disabilities are at a higher risk of experiencing both ACEs and sexual exploitation compared to their peers without disabilities (Hassiotis et al., 2019; Reid, 2018; Wissink et al., 2015). Intellectual disabilities can range from mild to profound and are characterized by significant limitations in cognitive and adaptive functioning (American Psychiatric Association, 2013). Cognitive functioning includes intellectual abilities such as learning, reasoning, problem-solving, and abstract thinking, while adaptive functioning refers to a person's social skills, conceptual abilities, and practical daily living skills (Schalock et al., 2021). Youth with intellectual disabilities are underrepresented in research on sexual exploitation, the limited available research demonstrated that girls with intellectual disabilities were 5 times more likely to become victims of sexual exploitation compared to girls without intellectual disabilities (Reid, 2018). Human traffickers take advantage of the vulnerabilities and lack of protective factors of youth with intellectual disabilities, such as difficulties in understanding cause and effect, assessing risky situations, setting (sexual) boundaries, communicating or disclosing the assault, a greater dependency on others or a limited social network (Franchino-Olsen et al., 2020; Franklin & Smeaton, 2017; Reid et al., 2018; Wissink et al., 2015). In spite of these vulnerabilities, awareness in health care professionals and educators on sexual exploitation in youth with intellectual disabilities is still sparse. There is a gap in professional's knowledge how to meet these children and families' needs (Frankin & Smeaton, 2017). A better understanding of sexual exploitation among youth with intellectual disabilities can provide more insights into prevention of victimization and support recovery and resilience.

Every young person, regardless of gender, sexual, cultural, social, ethnic or religious background, can become a victim of sexual exploitation (Hill & Diaz, 2021). It is important to acknowledge that young men become victims of sexual exploitation too, though it is often underreported. Societal expectations often dictate that men should be strong, self-reliant, and invulnerable. Such dominant gender norms result in feelings of shame, guilt and self-blame or not seeing themselves as victims (Alaggia, 2005; Edinburgh et al., 2015; Hounmenou, 2017; Josenhans et

al., 2020). Also, professionals tend to view young men as less vulnerable than cisgender young women (Hill & Diaz, 2021; McNaughton Nicholls et al., 2014). These factors make it harder for young men to seek help and to be identified by professionals. Research on sexually exploited young men is essential for addressing their possible unique challenges and needs. By expanding our understanding of their risk factors and needs for more effective prevention and intervention strategies can be developed to ensure that all victims, regardless of gender, receive the support and protection they deserve. There is a need to include these underrepresented youth with intellectual disabilities and young men in research on sexual exploitation, as they may require different approaches to prevention and intervention compared to respectively their peers without intellectual disabilities and female peers (Mitchell et al., 2017; Reid, 2018).

Aim and outline of the dissertation

The overall aim of this dissertation was to advance knowledge on (intergenerational) childhood adversity, and specifically its pathways to sexual exploitation in youth. Insight into ACEs is essential to prevent ongoing adversities, such as for example sexual exploitation (Ports et al., 2016). This dissertation has a specific focus on sexual exploitation because it is a major societal and hidden problem. By shedding light on sexual exploitation, this dissertation can raise more awareness on this public issue that has detrimental effects on youth's overall health and well-being. Comprehensive studies on risk and protective factors for sexual exploitation in at-risk and underrepresented youth are critically needed to develop more targeted prevention and interventions that address their needs effectively. Thereby the part of this dissertation examines the risk and protective factors for sexual exploitation in young men and in young women, including those with intellectual disabilities. As ACEs have found to significantly increase the vulnerability to sexual exploitation, this dissertation specifically explores the prevalence and role of ACEs in the pathway to sexual exploitation.

Despite increased attention to ACEs in research, policy and practice, ACEs continue to be a global health concern that drive up societal costs. More insight into the number and type of ACEs in at-risk youth is needed as it helps to identify the specific adversities these young people face, which is critical for tailoring prevention and intervention strategies. Additionally, there is still limited knowledge about the role of intergenerational ACEs in the onset of mental health problems, for example psychotic disorders. Therefore, the second part of this dissertation aims to deepen our understanding of the prevalence of ACEs in youth with special educational and care needs, as well as the intergenerational effects of ACEs in patients with psychotic disorders.

By conducting a systematic review, **Chapter 2** identifies which risk and protective factors have been associated with sexual exploitation in young women and men worldwide. These insights will identify knowledge gaps and contribute to more targeted prevention and intervention strategies.

The qualitative interview study in **Chapter 3** investigates the background characteristics of sexually exploited and at-risk young men form a life-course perspective. This chapter explores which factors may contribute to the onset of sexual exploitation and other forms of sexual violence, from the perspectives of young men themselves. Additionally, insight is gained into their care and support needs.

Chapter 4 aims to gain insight into the background characteristics and health care needs of sexually exploited and at-risk girls and young women with mild intellectual disabilities or borderline intellectual functioning. By conducting a clinical records study, prevalences of individual, family and environmental vulnerabilities and protective factors are described.

Chapter 5 advances knowledge on ACE prevalence and family risk factors in youth with special educational and care needs. A clinical record study is conducted in three special educational and care settings for vulnerable youth with emotional, behavioral and learning problems.

The quantitative study in **Chapter 6** provides more insight into the intergenerational transmission of ACEs. Using data from a longitudinal multicenter study, the associations between parental ACEs and psychotic experiences and ACEs and psychotic experiences in their offspring are investigated.

The General Discussion in **Chapter 7** will present the main findings and conclusions of this dissertation. Directions for further research as well as implications for practice will be discussed.

References

Adjei, J. K., & Saewyc, E. M. (2017). Boys are not exempt: Sexual exploitation of adolescents in sub-Saharan Africa. Child Abuse & Neglect, 65, 14-23. https://doi.org/10.1016/j.chiabu.2017.01.001

Afifi, T. O., Salmon, S., Garcés, I., Struck, S., Fortier, J., Taillieu, T., Stewart-Tufescu, A., Asmundson, G. J. G., Sareen, J., & MacMillan, H. L. (2020). Confirmatory factor analysis of adverse childhood experiences (ACEs) among a community-based sample of parents and adolescents. BMC Pediatrics, 20(1). https://doi.org/10.1186/s12887-020-02063-3

Alaggia, R., Collin-Vézina, D., & Lateef, R. (2017). Facilitators and Barriers to Child Sexual Abuse (CSA) Disclosures: A Research Update (2000–2016). Trauma, Violence & Abuse, 20(2), 1–24. https://doi.org/10.1177/1524838017697312

Anda, R. F., Dong, M., Brown, D. W., Felitti, V. J., Giles, W. H., Perry, G. S., Valerie, E. J., & Dube, S. R. (2009). The relationship of adverse childhood experiences to a history of premature death of family members. BMC Public Health. http://doi.org/10.1186/1471-2458-9-106

Andretta, J. R., Woodland, M. H., Watkins, K. M., & Barnes, M. E. (2016). Towards the discreet identification of Commercial Sexual Exploitation of Children (CSEC) victims and individualized interventions: Science to practice. Psychology, Public Policy, and Law, 22(3), 260. https://psycnet.apa.org/doi/10.1037/law0000087

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). American Psychiatric Publishing.

Bailey, T., Alvarez-Jimenez, M., Garcia-Sanchez, A. M., Hulbert, C., Barlow, E., & Bendall, S. (2018). Childhood trauma is associated with severity of hallucinations and delusions in psychotic disorders: a systematic review and meta-analysis. Schizophrenia bulletin, 44(5), 1111-1122. https://doi.org/10.1093/schbul/sbx161

Baldwin, S.B., Eisenman, D.P., Sayles, J.N., Ryan, G., & Chuang, K.S. (2011). Identification of human trafficking victims in health care settings. Health and Human Rights, 13(1), 36-49.

Barnert, E., Iqbal, Z., Bruce, J., Anoshiravani, A., Kolhatkar, G., & Greenbaum, J. (2017). Commercial sexual exploitation and sex trafficking of children and adolescents: A narrative review. Academic pediatrics, 17(8), 825-829. https://doi.org/10.1016/j.acap.2017.07.009

Barnová, S., & Tamášová, V. (2018). Risk and protective factors in the life of youth in relation to resilience. Psychology and pathopsychology of child, 52(1), 50-59.

Barrero-Castillero, A., Pierce, L. J., Urbina-Johanson, S. A., Pirazzoli, L., Burris, H. H., & Nelson, C. A. (2022). Perinatal and early childhood biomarkers of psychosocial stress and adverse experiences. Pediatric research, 92(4), 956-965. https://doi.org/10.1038/s41390-022-01933-z

Benavente, B., Díaz-Faes, D. A., Ballester, L., & Pereda, N. (2022). Commercial sexual exploitation of children and adolescents in Europe: A systematic review. Trauma, Violence, & Abuse, 23(5), 1529-1548. https://doi.org/10.1177/1524838021999378

Bora, N., Jones, T. R., Salada, K., & Brummel, M. (2021). Inter-clinician variability in primary care providers' adverse childhood experience knowledge, training, screening practices, and perceived

intervention barri-ers: An exploratory cross-sectional study. Journal of Child & Adolescent Trauma, 15(2), 285–296. https://doi.org/10.1007/s40653-021-00365-x

Bokhour, B. G., Fix, G. M., Mueller, N. M., Barker, A. M., Lavela, S. L., Hill, J. N., Solomon, J. L., & Lukas, C. V. (2018). How can healthcare organizations implement patient-centered care? Examining a large-scale cultural transformation. BMC health services research, 18(1), 1-11. https://doi.org/10.1186/s12913-018-2949-5

Bolhuis, K., Steenkamp, L. R., Tiemeier, H., Blanken, L., Pingault, J. B., Cecil, C. A., & El Marroun, H. (2023). A prospective cohort study on the intergenerational transmission of childhood adversity and subsequent risk of psychotic experiences in adolescence. Schizophrenia bulletin, 49(3), 799-808. https://doi.org/10.1093/schbul/sbac195

Bright, M. A., Knapp, C., Hinojosa, M. S., Alford, S., & Bonner, B. (2016). The comorbidity of physical, mental, and developmental conditions associated with childhood adversity: a population based study. Maternal and Child Health Journal, 20(4), 843-853. https://doi.org/10.1007/s10995-015-1915-7

Bundy, D. A., de Silva, N., Horton, S., Patton, G. C., Schultz, L., Jamison, D. T., & Sawyer, S. M. (2018). Investment in child and adolescent health and development: Key messages from Disease Control priorities. The Lancet, 391(10121), 687–699. https://doi.org/10.1016/S0140-6736(17)32417-0

Carlson, J. S., Yohannan, J., Darr, C. L., Turley, M. R., Larez, N. A., & Perfect, M. M. (2020). Prevalence of adverse childhood experiences in school-aged youth: A systematic review (1990–2015). International Journal of School & Educational Psychology, 8(sup1), 2-23. https://doi.org/10.1080/21683603.2018.1548397

Centers for Disease Control and Prevention. (2021). The ACE Pyramid. Retrieved July 9, 2024, from https://www.cdc.gov/violenceprevention/aces/about.html

Chaffee, T., & English, A. (2015). Sex trafficking of adolescents and young adults in the United States: healthcare provider's role. Current opinion in obstetrics and gynecology, 27(5), 339-344. https://doi.org/10.1097/gco.0000000000000198

Clarkson Freeman, P. A. (2014). Prevalence and relationship between adverse childhood experiences and child behavior among young children. Infant Mental Health Journal, 35(6), 544-554. https://doi.org/10.1002/imhj.21460

Cluver, L., Orkin, M., Boyes, M., Gardner, F., & Meinck, F. (2011). Transactional sex amongst AIDS-orphaned and AIDS-affected adolescents predicted by abuse and extreme poverty. JAIDS Journal of Acquired Immune Deficiency Syndromes, 58(3), 336-343. https://doi.org/10.1097/qai.0b013e31822f0d82

Crandall, A., Miller, J. R., Cheung, A., Novilla, L. K., Glade, R., Novilla, M. L. B., Glade, R., Lelinneth, M., Novilla, B., Magnusson, B. M., Leavitt, B. L., Barnes, M. D., & Hanson, C. L. (2019). ACEs and counter-ACEs: How positive and negative childhood experiences influence adult health. Child Abuse & Neglect, 96, 104089. https://doi.org/10.1016/j.chiabu.2019.104089

Cronholm, P. F., Forke, C. M., Wade, R., Bair-Merritt, M. H., Davis, M., Harkins-Schwarz, M., Pachter, L. M., & Fein, J. A. (2015). Adverse Childhood Experiences: Expanding the Concept of Adversity. American Journal of Preventive Medicine, 49(3). https://doi.org/10.1016/j.amepre.2015.02.001

De Vries, I., Kafafian, M., Goggin, K., Bouchard, E., Goldfarb, S., & Farrell, A. (2020). Enhancing the identification of commercial sexual exploitation among a population of high-risk youths using predictive regularization models. Child maltreatment, 25(3), 318-327. https://doi.org/10.1177/1077559519889178

Edinburgh, L., Pape-Blabolil, J., Harpin, S. B., & Saewyc, E. (2015). Assessing exploitation experiences of girls and boys seen at a child advocacy center. Child Abuse & Neglect, 46, 47–59. https://doi.org/10.1016/j.chiabu.2015.04.016

Eklund, K., Rossen, E., Koriakin, T., Chafouleas, S. M., & Resnick, C. (2018). A systematic review of trauma screening measures for children and adolescents. School Psychology Quarterly, 33(1), 30–43. https://doi.org/10.1037/spq0000244

Esden, J. L. (2018). Adverse childhood experiences and implementing trauma-informed primary care. The Nurse Practitioner, 43(12), 10-21. https://doi.org/10.1097/01.npr.0000547550.48517.e9

Fagan, A. A. (2022). Adverse childhood experiences and adolescent exposure to violence. Journal of interpersonal violence, 37(3-4), 1708-1731. https://doi.org/10.1177/0886260520926310

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ACE) study. American Journal of Preventive Medicine, 14(4), 245–258. https://doi.org/10.1016/s0749-3797(98)00017-8

Franchino-Olsen, H. (2019). Vulnerabilities relevant for commercial sexual exploitation of children/domestic minor sex trafficking: A systematic review of risk factors. Trauma, Violence, & Abuse, 22(1), 99-111. https://doi.org/10.1177/1524838018821956

Franchino-Olsen, H., Silverstein, H. A., Kahn, N. F., & Martin, S. L. (2020). Minor sex trafficking of girls with disabilities. International journal of human rights in healthcare, 13(2), 97-108. https://doi.org/10.1108/IJHRH-07-2019-0055

Franchino-Olsen, H. (2021). Frameworks and theories relevant for organizing commercial sexual exploitation of children/domestic minor sex trafficking risk factors: A systematic review of proposed frameworks to conceptualize vulnerabilities. Trauma, Violence, & Abuse, 22(2), 306-317. https://doi.org/10.1177/1524838019849575

Franchino-Olsen, H., & Martin, S. L. (2022). The associations between gang membership and domestic minor sex trafficking (DMST): findings from a nationally representative study. Violence and victims, 37(4), 479. https://doi.org/10.1891/VV-2021-0070

Franklin, A., & Smeaton, E. (2017). Recognising and responding to young people with learning disabilities who experience, or are at risk of, child sexual exploitation in the UK. Children and Youth Services Review, 73, 474-481. https://doi.org/10.1016/j.childyouth.2016.11.009

Fusar-Poli, P., Tantardini, M., De Simone, S., Ramella-Cravaro, V., Oliver, D., Kingdon, J., ... & McGuire, P. (2017). Deconstructing vulnerability for psychosis: meta-analysis of environmental risk factors for psychosis in subjects at ultra high-risk. European Psychiatry, 40, 65-75. https://doi.org/10.1016/j.eurpsy.2016.09.003

Hamby, S., Elm, J. H. L., Howell, K. H., & Merrick, M. T. (2021). Recognizing the cumulative burden of childhood adversities transforms science and practice for trauma and resilience. The American Psychologist, 76(2), 230-242. https://doi.org/10.1037/amp0000763

Hassiotis, A., Brown, E., Harris, J., Helm, D., Munir, K., Salvador-Carulla, L., et al. (2019). Association of Borderline Intellectual Functioning and Adverse Childhood Experience with adult psychiatric morbidity. Findings from a British birth cohort. BMC Psychiatry, 19(1). https://doi.org/10.1186/s12888-019-2376-0

Hays-Grudo, J., Morris, A. S., Beasley, L., Ciciolla, L., Shreffler, K., & Croff, J. (2021). Integrating and synthesizing adversity and resilience knowledge and action: The ICARE model. American Psychologist, 76(2), 203–215. https://doi.org/10.1037/amp0000766

Hawes, D. J., & Allen, J. L. (2023). A Developmental Psychopathology Perspective on Adverse Childhood Experiences (ACEs): Introduction to the Special Issue. In Research on Child and Adolescent Psychopathology. https://doi.org/10.1007/s10802-023-01100-w

Hill, L., & Diaz, C. (2021). An exploration of how gender stereotypes influence how practitioners identify and respond to victims (or those at risk) of child sexual exploitation. Child & Family Social Work, 26(4), 642-651. https://doi.org/10.1111/cfs.12845

Homma, Y., Nicholson, D., & Saewyc, E. M. (2012). A profile of high school students in rural Canada who exchange sex for substances. The Canadian journal of human sexuality, 21(1), 29.

Hopkins, M., Keighley, R., & Sanders, T. (2024). Organised Crime and the ecosystems of sexual exploitation in the United Kingdom: How supply and demand generate sexual exploitation and protection from prosecution. Trends in Organized Crime, 27(1), 56-76. http://doi.org/10.1007/s12117-023-09517-x

Hounmenou, C. (2017). An initial exploration of prostitution of boys in the West African region. Child Abuse & Neglect, 69, 188–200. https://doi.org/10.1016/j.chiabu.2017.04.027

Hughes, K., Ford, K., Bellis, M. A., Glendinning, F., Harrison, E., & Passmore, J. (2021). Health and financial costs of adverse childhood experiences in 28 European countries: a systematic review and meta-analysis. The Lancet Public Health, 6(11), e848-e857. https://doi.org/10.1016/s2468-2667(21)00232-2

Hurst, T. E. (2021). Prevention of child sexual exploitation: insights from adult survivors. Journal of interpersonal violence, 36, 13-14. https://doi.org/10.1177/0886260519825881

International Labour Organization. (2017). Global estimates of modern slavery: forced labour and forced marriage. Retrieved July 12, 2024, from https://www.ilo.org/publications/global-estimates-modern-slavery-forced-labour-and-forced-marriage

Jones, L., Bellis, M. A., Wood, S., Hughes, K., McCoy, E., Eckley, L., Bates, G., Mikton, C., Shakespeare, T., & Officer, A. (2012). Prevalence and risk of violence against children with disabilities: A systematic review and meta-analysis of observational studies. The Lancet, 380(9845), 899-907. https://doi.org/10.1016/s0140-6736(12)60692-8

Jones, C. M., Merrick, M. T., & Houry, D. E. (2020). Identifying and preventing adverse childhood experiences: implications for clinical practice. *Jama, 323*(1), 25-26.

Josenhans, V., Kavenagh, M., Smith, S., & Wekerle, C. (2020). Gender, rights and responsibilities: The need for a global analysis of the sexual exploitation of boys. Child Abuse & Neglect, 110, 104291. https://doi.org/10.1016/j.chiabu.2019.104291

Kan, K., Gupta, R., Davis, M. M., Heard-Garris, N., & Garfield, C. (2020). Adverse Experiences and Special Health Care Needs Among Children. Maternal and Child Health Journal, 24(5), 552-560. https://doi.org/10.1007/s10995-020-02874-x

Karatekin, C., & Hill, M. (2019). Expanding the Original Definition of Adverse Childhood Experiences (ACEs). Journal of Child and Adolescent Trauma, 12, 289-306. https://doi.org/10.1007/s40653-018-0237-5

Karatekin, C., Mason, S. M., Riegelman, A., Bakker, C., Hunt, S., Gresham, B., Corcoran, F., & Barnes, A. (2023). Adverse Childhood Experiences (ACEs): An Overview of Definitions, Measures, and Methods. In Handbook of Adverse Childhood Experiences: A Framework for Collaborative Health Promotion, 31-45.

Karatekin, C., Mason, S. M., Riegelman, A., Bakker, C., Hunt, S., Gresham, B., Corcoran, F., & Barnes, A. (2022). Adverse childhood experiences: A scoping review of measures and methods. Children and youth services review, 136, 106425. https://doi.org/10.1016/j.childyouth.2022.106425

Kerker, B. D., Storfer-Isser, A., Szilagyi, M., Stein, R. E., Garner, A. S., O'Connor, K. G., Hoagwood, K. E., & Horwitz, S. M. (2016). Do pediatricians ask about adverse childhood experiences in pediatric primary care?. Academic pediatrics, 16(2), 154-160. https://doi.org/10.1016/j.acap.2015.08.002

Kloess, J. A., Beech, A. R., & Harkins, L. (2014). Online Child Sexual Exploitation. Trauma, Violence, & Abuse, 15(2), 126–139. https://doi.org/10.1177/1524838013511543

Laird, J. J., Klettke, B., Hall, K., Clancy, E., & Hallford, D. (2020). Demographic and psychosocial factors associated with child sexual exploitation: A systematic review and meta-analysis. JAMA network open, 3(9). http://doi.org/10.1001/jamanetworkopen.2020.17682

Lalor, K., & McElvaney, R. (2010). Child sexual abuse, links to later sexual exploitation/high-risk sexual behavior, and prevention/treatment programs. Trauma, Violence, & Abuse, 11(4), 159-177. https://doi.org/10.1177/1524838010378299

Landers, M., Johnson, M. H., Armstrong, M. I., McGrath, K., & Dollard, N. (2020). Exploring relationships as mediators of treatment outcomes among commercially sexually exploited youth. Child Abuse & Neglect, 100, 104095. https://doi.org/10.1016/j.chiabu.2019.104095

Madigan, S., Deneault, A.-A., Racine, N., Park, J., Thiemann, R., Zhu, J., Dimitropoulos, G., Williamson, T., Fearon, P., Cénat, J. M., Mcdonald, S., Devereux, C., & Neville, R. D. (2023). Adverse childhood experiences: a meta-analysis of prevalence and moderators among half a million adults in 206 studies. World psychiatry, 22(3), 463-471. https://doi.org/10.1002/wps.21122

Massetti, G. M., Hughes, K., Bellis, M. A., & Mercy, J. (2020). Global perspective on ACEs. In G. J. G. Asmundson, & T. O. Afifi (Eds.), Adverse Childhood Experiences (pp. 209-231). Academic Press.

McClain, N. M., & Garrity, S. E. (2011). Sex trafficking and the exploitation of adolescents. Journal of Obstetric, Gynecologic & Neonatal Nursing, 40(2), 243-252. https://doi.org/10.1111/j.1552-6909.2011.01221.x

McKay, M. T., Kilmartin, L., Meagher, A., Cannon, M., Healy, C., & Clarke, M. C. (2022). A revised and extended systematic review and meta-analysis of the relationship between childhood adversity and adult psychiatric disorder. Journal of Psychiatric Research, 156, 268-283. https://doi.org/10.1016/j.jpsychires.2022.10.015

McNaughton Nicholls, C., Cockbain, E., Brayley, H., Harvey S., Fox, C., Paskell, C., Ashby, M., Gibson, K., & Jago, N. (2014). Research on the sexual exploitation of boys and young men. A UK scoping study Summary of findings. Retrieved July 12, 2024, from https://www.nuffieldfoundation.org/sites/default/files/files/cse_young_boys_summary_report.pdf

McNeal, B. A., & Walker, J. T. (2016). Parental effects on the exchange of sex for drugs or money in adolescents. American Journal of Criminal Justice, 41(4), 710-731. http://dx.doi.org/10.1007/s12103-015-9313-7

Mitchell, K., Moynihan, M., Pitcher, C., Francis, A., English, A., & Saewyc, E. (2017). Rethinking research on sexual exploitation of boys: Methodological challenges and recommendations to optimize future knowledge generation. Child abuse & neglect, 66, 142-151. https://doi.org/10.1016/j.chiabu.2017.01.019

Meeker, E. C., O'Connor, B. C., Kelly, L. M., Hodgeman, D. D., Scheel-Jones, A. H., & Berbary, C. (2021). The impact of adverse childhood experiences on adolescent health risk indicators in a community sample. Psychological Trauma: Theory, Research, Practice, and Policy, 13(3), 302–312. https://doi.org/10.1037/tra0001004

Merrick, M. T., Ports, K. A., Guinn, A. S., & Ford, D. C. (2020). Safe, stable, nurturing environments for children. In Adverse childhood experiences (pp. 329-347). Academic Press.

Mersky, J. P., Choi, C., Lee, C. P., & Janczewski, C. E. (2021). Disparities in adverse childhood experiences by race/ethnicity, gender, and economic status: Intersectional analysis of a nationally representative sample. Child Abuse & Neglect, 117, 105066. https://doi.org/10.1016/j.chiabu.2021.105066

Moss, C., Smith, S. J., Kim, K., Hua, N., Noronha, N., Kavenagh, M., & Wekerle, C. (2023). A global systematic scoping review of literature on the sexual exploitation of boys. Child Abuse & Neglect, 142, 106244. https://doi.org/10.1016/j.chiabu.2023.106244

Moura, B. M., van Rooijen, G., Schirmbeck, F., Wigman, J. T., Genetic Risk and Outcome of Psychosis (GROUP) investigators. (2021). A network of psychopathological, cognitive, and motor symptoms in schizophrenia spectrum disorders. Schizophrenia bulletin, 47(4), 915-926. https://doi.org/10.1093/schbul/sbab141

Narayan, A. J., Kalstabakken, A. W., Labella, M. H., Nerenberg, L. S., Monn, A. R., & Masten, A. S. (2017). Intergenerational continuity of adverse childhood experiences: Unpacking exposure to maltreatment versus family dysfunction. American Journal of Orthopsychiatry, 87, 3–14. https://doi.org/10.1037/ort0000133

Narayan, A. J. (2023). Intergenerational resilience in the context of Adverse Childhood Experiences (ACEs). In Handbook of Adverse Childhood Experiences: A framework for collaborative health promotion (pp. 13-27). Cham: Springer International Publishing.

Nationaal Rapporteur Mensenhandel en Seksueel Geweld tegen Kinderen. (2022). Jaarcijfers Mensenhandel 2022. Nationaal Rapporteur. Retrieved July 10, 2024, from https://www.nationaalrapporteur.nl/binaries/nationaalrapporteur/documenten/rapporten/2023/10/

18/jaarcijfers-slachtoffers-en-potentiele-daders-van-mensenhandel-in-nederland-bekend/Nationaal+Rapporteur+Jaarcijfers+Mensenhandel+2022.pdf

O'Brien, J. E., & Li, W. (2020). The role of the internet in the grooming, exploitation, and exit of United States domestic minor sex trafficking victims. Journal of children and media, 14(2), 187-203. https://doi.org/10.1080/17482798.2019.1688668

Offerman, E. C.P., Asselman, M. W., Bolling, F., Helmond, P., Stams, G. J. J., & Lindauer, R. J. (2022). Prevalence of adverse childhood experiences in students with emotional and behavioral disorders in special education schools from a multi-informant perspective. International journal of environmental research and public health, 19(6), 3411. https://doi.org/10.3390/ijerph19063411

Office of the United Nations High Commissioner for Human Rights. (2000). Protocol to prevent, suppress and punish trafficking in persons especially women and children, supplementing the united nations convention against transnational organized crime. Geneva Switzerland: United.

Ports, K. A., Ford, D. C., & Merrick, M. T. (2016). Adverse childhood experiences and sexual victimization in adulthood. Child Abuse & Neglect, 51, 313-322. https://doi.org/10.1016/j.chiabu.2015.08.017

Portwood, S. G., Lawler, M. J., & Roberts, M. C. (2023). The Past, Present, and Promise of Adverse Childhood Experiences (ACEs) Science. In Handbook of Adverse Childhood Experiences: A Framework for Collaborative Health Promotion (pp. 3-11). Cham: Springer International Publishing.

Reid, J. A. (2014). Risk and resiliency factors influencing onset and adolescence-limited commercial sexual exploitation of disadvantaged girls. Criminal Behaviour and Mental Health, 24(5), 332-344. https://doi.org/10.1002/cbm.1903

Reid, J. A. (2018). Sex trafficking of girls with intellectual disabilities: An exploratory mixed methods study. Sexual Abuse, 30(2), 107-131. https://doi.org/10.1002/cbm.1903

Reid, J. A., & Piquero, A. R. (2014). Age-graded risks for commercial sexual exploitation of male and female youth. Journal of interpersonal violence, 29(9), 1747-1777. https://doi.org/10.1177/0886260513511535

Reid, J. A., & Piquero, A. R. (2016). Applying general strain theory to youth commercial sexual exploitation. Crime & Delinquency, 62, 341–367. https://doi.org/10.1177/0011128713498213

Reid, J. A., Strauss, J., & Haskell, R. A. (2018). Clinical practice with commercially sexually exploited girls with intellectual disabilities. In Social work practice with survivors of sex trafficking and commercial sexual exploitation (pp. 218-238). Columbia University Press.

Rijksoverheid. (2024). Versterkt actieplan programma samen tegen mensenhandel. Retrieved July 12, 2024, from https://open.overheid.nl/documenten/dpc-dbc75b290ab2d3a36255af5676304bdca5065ab7/pdf

Rowell, T., & Neal-Barnett, A. (2022). A systematic review of the effect of parental adverse childhood experiences on parenting and child psychopathology. Journal of Child & Adolescent Trauma, 15(1), 167-180. https://doi.org/10.1007/s40653-021-00400-x

Schalock, R., Luckasson, R., & Tassé, M. (2021). Twenty questions and answers regarding the 12th edition of the AAIDD manual: Intellectual disability: definition, diagnosis, classification, and systems of

supports. Retrieved July 12, 2024, from https://www.aaidd.org/docs/default-source/intellectualdisability/12th-ed-twenty-questions-faq.pdf?sfvrsn=a6403421_8

Schofield, T. J., Donnellan, M. B., Merrick, M. T., Ports, K. A., Klevens, J., & Leeb, R. (2018). Intergenerational continuity in adverse childhood experiences and rural community environments. American journal of public health, 108(9), 1148-1152. https://doi.org/10.2105/ajph.2018.304598

Schofield, T. J., Lee, R. D., & Merrick, M. T. (2013). Safe, stable, nurturing relationships as a moderator of intergenerational continuity of child maltreatment: A meta-analysis. Journal of Adolescent Health, 53(4), S32-S38. https://doi.org/10.1016/j.jadohealth.2013.05.004

Shepherd, W., & Lewis, B. (2017). Working with children who are victims or at risk of sexual exploitation: Barnardo's model of practice. Barnardo's. Retrieved July 10, from, https://www.tusla.ie/uploads/content/Barnardos_Practice_Model_for_working_with_children_who_are_victims_or_at_risk_of_CSE.pdf

Sherfinski, H. T., Condit, P. E., Williams Al-Kharusy, S. S., & Moreno, M. A. (2021). Adverse childhood experiences: perceptions, practices, and possibilities. Wmj, 120(3), 209-217.

Struck, S., Stewart-Tufescu, A., Asmundson, A. J., Asmundson, G. G., & Afifi, T. O. (2021). Adverse childhood experiences (ACEs) research: A bibliometric analysis of publication trends over the first 20 years. Child Abuse & Neglect, 112, 104895. https://doi.org/10.1016/j.chiabu.2020.104895

Trotta, A., Murray, R. M., & Fisher, H. L. (2015). The impact of childhood adversity on the persistence of psychotic symptoms: a systematic review and meta-analysis. Psychological medicine, 45(12), 2481-2498. https://doi.org/10.1017/s0033291715000574

Turney, K. (2020). Cumulative adverse childhood experiences and children's health. Children and Youth Services Review, 119, 105538. https://doi.org/10.1016/j.childyouth.2020.105538

United Nations. (s.d.). Definition of youth. Retrieved 8 July, 2024, from https://www.un.org/esa/socdev/documents/youth/fact-sheets/youth-definition.pdf

United Nations Office on Drugs and Crime, UNODC. (2020). Global report on trafficking in persons. Retrieved July 12, 2024, from https://www.unodc.org/documents/data-and-analysis/tip/2021/GLOTiP_2020_15jan_web.pdf

United Nations Office on Drugs and Crime, UNODC. (2022). Global report on trafficking in persons. Retrieved July 12, 2024, from https://www.unodc.org/documents/data-and-analysis/glotip/2022/GLOTiP_2022_web.pdf

Van Os, J. (2018). De DSM-5 voorbij!: persoonlijke diagnostiek in een nieuwe ggz. Springer.

Varese, F., Smeets, F., Drukker, M., Lieverse, R., Lataster, T., Viechtbauer, W., ... & Bentall, R. P. (2012). Childhood adversities increase the risk of psychosis: a meta-analysis of patient-control, prospective- and cross-sectional cohort studies. Schizophrenia bulletin, 38(4), 661-671. https://doi.org/10.1093/schbul/sbs050

Vink, R. M., van Dommelen, P., van der Pal, S. M., Eekhout, I., Pannebakker, F. D., Velderman, M. K., ... & Dekker, M. (2019). Self-reported adverse childhood experiences and quality of life among children in the two last grades of Dutch elementary education. Child Abuse & Neglect, 95, 104051. https://doi.org/10.1016/j.chiabu.2019.104051

Wissink, I. B., Van Vugt, E., Moonen, X., Stams, G. J. J., & Hendriks, J. (2015). Sexual abuse involving children with an intellectual disability (ID): A narrative review. Research in developmental disabilities, 36, 20-35. https://doi.org/10.1016/j.ridd.2014.09.007

Wolfe, D. A. (2018). Why Polyvictimization Matters. Journal of Interpersonal Violence, 33(5), 832–83. https://doi.org/10.1177/0886260517752215

World Health Organization. (2006). Orientation programme on adolescent health for health care providers. Definition of youth. Retrieved July 8, 2024, from https://iris.who.int/bitstream/handle/10665/42868/9241591269_Guide_eng.pdf?sequence=1

Zhang, L., Mersky, J. P., Gruber, A. M. H., & Kim, J. Y. (2023). Intergenerational transmission of parental adverse childhood experiences and children's outcomes: A scoping review. Trauma, Violence, & Abuse, 24(5), 3251-3264. https://doi.org/10.1177/15248380221126186

Chapter 2

Risk and protective factors for sexual exploitation in male and female youth from a cross cultural perspective: a systematic review

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Trauma, Violence, & Abuse, (2024). 1966-1984.

Abstract

Background

Sexual exploitation is a global problem that has a detrimental impact on the physical, psychological and socio-emotional wellbeing of victims. Youth are at elevated risk to become victims of sexual exploitation. Understanding factors associated with sexual exploitation is key in prevention efforts and adequate and timely treatment. Therefore this systematic review sets more light on both risk and protective factors for sexual exploitation in male and female youth from a cross-cultural perspective.

Methods

66 studies were selected meeting the following inclusion criteria: original qualitative or quantitative peer-reviewed studies in English, Dutch or German with findings on risk and protective factors associated with sexual exploitation in youth up to 24 years old.

Results

Results show that besides common risk and protective factors in male and female youth worldwide (e.g. adverse childhood experiences, lack of a social network, substance use, running away, positive and supporting relationships), geographical differences were found. In non-Western continents, relatively more environmental factors related to economic vulnerabilities or residential instability were cited. Research on risk and protective factors in countries outside North-America is still limited and protective factors and male youth are underexamined.

Conclusions

In order to fully understand vulnerabilities in youth and address the needs of diverse populations it is important to gain more insight into the broader range of risk and protective factors for sexual exploitation worldwide. Ultimately this will enhance our understanding of the pathways to sexual exploitation, the important role of protective factors to mitigate the risks and identify areas where prevention efforts should be targeted.

Introduction

Sexual exploitation is a global human rights problem and has a detrimental impact on the physical, psychological and socio-emotional wellbeing of victims. It is a form of human trafficking and defined as: 'an actual or attempted abuse of someone's position of vulnerability, differential power or trust, to obtain sexual favours, including but not only, by offering money or other social, economic or political advantages' (UN Secretary-General, 2003). Over the last few decades sexual exploitation has increasingly been recognized as a public health concern (De Vries et al., 2020), although the true scale remains unknown (Chang, et al., 2015; Gerassi, 2015; Ijadi-Maghsoodi et al., 2016). Based on an international survey of the International Labor Organization (2017), it was estimated that globally 3.8 million adults and 1 million children were victims of sexual exploitation. Data from 148 countries over the world however, showed that in 2018 almost 25.000 victims of sexual exploitation were reported, of which one third were children (The United Nations Office on Drugs and Crime, 2020). There appears to be a large gap between estimated and actual reported number of victims, which illustrates the challenge of victim identification. This finally hampers the possibilities to provide appropriate (preventive) care and support (Baldwin et al., 2011). Sexual exploitation is an important concern in youth to proactively address, as they are at elevated risk to become victims and for whom the adverse effects of sexual exploitation on both mental and physical health are tremendous (Hurst, 2021).

There is empirical evidence for a wide range of health consequences of sexual exploitation in youth (Zimmerman & Kiss, 2017; Varma, et al., 2015). Human traffickers often use extreme violence, threat and manipulation to control their victims, creating an environment in which sexually exploited youth are at elevated risk for the development of several mental health issues (Ijadi-Maghsoodi et al., 2016; Wood, 2020) such as post-traumatic stress disorder (PTSD), depression, anxiety, substance abuse, attachment problems, emotion regulation problems and anti-social behaviors (Basson et al., 2012; Clawson et al., 2009; Hossain et al., 2010; Ijadi-Maghsoodi et al., 2016). The frequent combination of physical and sexual abuse and being isolated from their support system may lead to complex trauma (Landers et al., 2017), but also emotional and behavioral difficulties such as interpersonal difficulties, marginalization and criminalization (Gerassi, 2015; Varma, et.al, 2015). Furthermore it may result in physical and sexual health consequences including sexually transmitted infections (STIs), pregnancies, miscarriages, abortions, urinary tract infections, multiple injuries from physical abuse and several undiagnosed chronic medical conditions (Chaffee & English, 2015; Cole et al., 2016). The impact on both mental and physical health of youth victims underlines the importance of appropriate and timely health care and support. However, many victims are still unidentified and thus untreated.

There are a number of barriers which may hamper the identification of victims. For example, internet facilitates the covert non-traceable social nature of contacts (Kloess et al., 2014). Youth often fail to recognize and understand that they are exploited (Baldwin et al., 2011; McClain & Garrity, 2011;

Macy, 2018). For youth with cognitive and adaptive disabilities it is even more difficult to recognize victimization (Reid et al., 2018). They often do not understand what is happening during sexual abuse, may not distinguish a boyfriend from a sex trafficker, may be confused about which sexual behaviors are legal or illegal, are less able to use their right to say no or to communicate about the exploitative situation and are sometimes viewed as less credible by law enforcement (Wissink et al., 2015; Reid et al., 2018). Furthermore, victims who do understand their exploitation are often reluctant to disclose victimization as a result of experiences of self-blame, shame, emotional attachments to the perpetrator or fear of facing charges for criminal activities related to their victimization (Andretta et al., 2016; De Vries et al., 2020). A lack of knowledge on accessible care or cultural and language barriers further limits access to support services (Andretta et al., 2016). Studies have shown that victims of sexual exploitation often interact with health care providers while they are being trafficked (e.g. for the purposes of routine health care, child protection investigations or homelessness services; Baldwin et al., 2011; Chaffee & English, 2015). However, health care providers often fail to identify victimization of sexual exploitation, which is mainly a consequence of insufficient training (Chaffee & English, 2015; De Vries et al., 2020).

An important way of preventing sexual exploitation in youth and its severe consequences is to identify early risk factors (Landers et al., 2020). A systematic review (Franchino-Olsen, 2019) gave insight into a wide range of risk factors for sexual exploitation in children in the United States (e.g. adverse childhood experiences, conflicts with parents, running away, substance use, peer influence, poverty, difficulty in school, poor mental health). Adverse Childhood Experiences (ACEs) are frequently cited risk factors and encompass experiences of physical and emotional abuse and neglect, sexual abuse or household dysfunction (parental substance abuse, mental health problems, incarceration, separation and domestic violence; Felitti et al., 2019). Also, many victims report a long history of out-of-home placement, foster care, involvement in child welfare and juvenile detention (Chohaney, 2016; Landers et al., 2017; Macy, 2018). Youth from poor socio-economical background are especially vulnerable, and countries in West Africa, South Asia, Central America and the Caribbean report higher rates of youth victimization (United Nations Office on Drugs and Crime, 2020). Yet, there is a knowledge gap in regard to the role of protective factors (e.g. having peer relationships, unconditional love of a parent, living in a clean and safe home and opportunities to learn) in vulnerabilities for sexual exploitation (Crandall et al., 2019; Landers et al., 2020; Morris et al., 2021). In addition, much of what is currently known about risk and protective factors for sexual exploitation is based on studies conducted in Western countries, especially in the United States. Such a monocultural perspective can be problematic when applied to the context of non-Western cultures (Gopalkrishnan, 2018; Dalla et al., 2022). Finally, the stereotypical victim of sexual exploitation tends to be female, while victims also include male youth (Choi, 2015). The role of gender in the understanding of risks and protective factors

for sexual exploitation is still limited (Franchino-Olsen, 2019). To date, there is no systematic overview of the literature on research into risk and protective factors against the background of gender and culture. Therefore the current systematic review aims to contribute to prevention efforts, and adequate and timely treatment by providing more insights into the risk and protective factors for sexual exploitation in male and female youth from a cross-cultural perspective.

Method

To conduct and report the current review, the 2020 Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) guidelines were followed (Page et al., 2020). The protocol for study screening and selection was registered in PROSPERO (registration number: CRD42022310197, access via: https://www.crd.york.ac.uk/PROSPEROFILES/310197_STRATEGY_20220211.pdf).

Eligibility Criteria

Inclusion criteria were: original peer-reviewed studies with qualitative or quantitative data and analysis; reported outcomes were risk and/or protective factors associated with sexual exploitation; outcomes were antecedents and not consequences of sexual exploitation, studies had to report on children and youth (up to 24 years old) and were written in English, Dutch or German. To make sure factors regarding mental and emotional health states were not consequences of sexual exploitation, an inclusion criteria was that it must be clear that these factors were present prior to victimization. Secondary data (e.g. systematic reviews), opinion pieces and single case-studies were excluded, as well as studies that did not distinguish between sexual exploitation and other forms of human trafficking, studies that included youth and adults but failed to separate results between the groups, and studies that identified characteristics of sexually exploited youth, but from which it was not clear if these heightened or decreased the chances of sexual exploitation. There was no restriction in publication period, but records had to be available electronically for practical purposes.

Information Sources and Search

First, the Cochrane Database of Systematic Reviews, the Database of Abstracts of Reviews, and the International Register of Prospective Systematic Reviews (PROSPERO) were searched to identify if any reviews on the understanding of risk and protective factors in sexually exploited male and female youth from a worldwide perspective had recently been planned or carried out. Second, a systematic search of the PsycInfo, PubMed, Medline, ERIC, Psychology and behavioural sciences collection and Web of Science databases was performed by the first author, with support of an information specialist at Maastricht University. Additionally, the first 100 records of a Google Scholar search were scanned.

These databases were selected to maximize the reach across disciplines. Search terms included three concepts: “sexual exploitation”, “youth” and “risk and protective factors”. The last search was performed on the 10th of October 2022.

Study Selection

Figure 1 shows the PRISMA flow chart. The articles that remained after deduplication (n = 987) were double screened independently by the first and second author for relevance on the basis of titles and abstracts. The remaining articles were screened full-text by two researchers independently, of which 50% double. Discrepancies between them were resolved through the involvement of the other authors until consensus was reached. Additional records were retrieved through forward and backward citation searching. The Rayyan software tool (Ouzzani et al., 2016) was used for study selection and assessment of interrater agreement. The interrater reliability for title and abstract screening was calculated by Cohen’s kappa with a level of agreement of 0.847, which is considered as strong. All steps were guided by the screening and selection protocol.

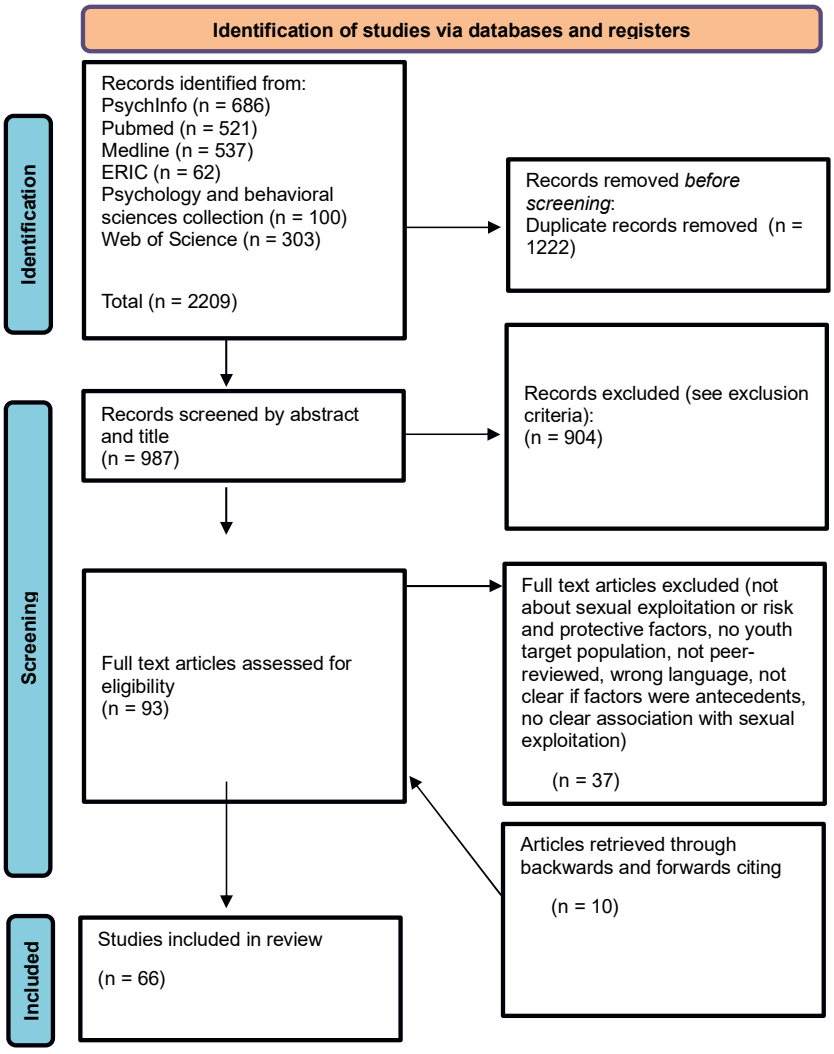

Figure 1. PRISMA diagram summary of the number of found, reviewed, and included studies in this review.

Quality Appraisal

Included studies showed a diversity in designs, ranging from small-scale qualitative designs to quantitative cross-sectional observational, descriptive and mixed methods studies. The Mixed Methods Appraisal Tool (Hong et al., 2018) was used to appraise the methodological quality of the included studies. The MMAT is found to be a reliable and efficient tool to concurrently evaluate the quality of studies with varying designs in a review (Pace et al., 2012). The appraisal was carried out by the first author. When the outcome of the two screening questions was negative ('are there clear research questions?'; 'do the data allow to address the research questions?') the studies were excluded. The outcomes of the further appraisal were used to address limitations in the strength of the evidence of the results.

Synthesis of Results

The primary outcome variables consisted of risk and protective factors for sexual exploitation derived from the quantitative and qualitative results from the included studies. The risk and protective factors found in the quantitative studies were reported as significant to sexual exploitation. In the qualitative studies, the risk and protective factors were drawn from the themes in the data that contributed to youth entering sexual exploitation. Secondary data were the gender and country for which the risk and protective factors were found. To structure the primary outcomes, a framework synthesis approach was used (Caroll et al., 2013). Pre-existing models that were found relevant for understanding the risk for sexual exploitation were the General strain theory (Agnew, 2006; Reid & Piquero, 2016), the multilevel framework (Gerassi, 2015), the ecological framework (Edwards & Mika, 2017) and the ICARE model (Hays-Grudo et al., 2021; Franchino-Olsen, 2021). These models were integrated into the a priori framework (see Table 1). This framework was used to code the results from the included studies against. It organized risk factors in sub-categories of strains, the negative emotional states often caused by strains and the subsequent poor coping behaviors, which all contribute to sexual exploitation (Agnew, 2006; Reid & Piquero, 2016). Given the broad range of cited strains, they were categorized at the individual/family (micro), community (meso) and societal (macro) level (Edwards & Mika, 2017; Gerassi, 2015). The positive counterparts are the sub-categories of protective factors mitigating the risks for sexual exploitation. In subsequent steps, the results were axially coded against the framework, and new codes were created by performing thematic analysis on any evidence that could not be coded against the framework.

Table 1. A priori framework used to code the risk and protective factors

Risk factors		
Strains Negative events at the individual/family (micro), community (meso) and societal level (macro), which increase the likelihood of sexual exploitation.	**Negative affect states** Experiences of negative emotional states, often caused by strains, increasing the likelihood of sexual exploitation.	**Poor coping behavior** Maladaptive, unhealthy and destructive behavior, not resolving the problem and actually increasing harm and the likelihood of sexual exploitation.
Protective factors		
Positive experiences Positive events at the individual/family (micro), social (meso) and societal (macro) level that decrease the likelihood of sexual exploitation.	**Positive affect states** Experiences of positive emotional states that serve as protective factors for sexual exploitation.	**Healthy coping behavior** Adaptive, healthy and constructive behavior, decreasing the likelihood of sexual exploitation.

Results

Study characteristics

A total of 66 studies were included, of which 39 had a quantitative cross-sectional (59%), 22 a qualitative (33%), and five a mixed-method (8%) design. As shown in Table 2 which summarizes the main findings, there was a diversity in the extent to which male and/or female youth were represented. In total, 36 studies (55%) included data on both male and female youth, of which 21 conducted an analysis on gender differences in risk and/or protective factors. Transgender youth were not included in these analyses. In the other 15 studies no comparison was made between male and female youth (e.g. as a result of small sample sizes or no focus on gender differences). A total of 27 studies (41%) solely focused on female youth and only 3 studies (5%) focused on male youth. The countries in which the studies were conducted were categorized by continent. Most risk and protective factors were cited in studies in North America (n = 38; 60%), of which two studies in Canada and the others in the United States. Risk factors and protective factors cited in Central America (n = 6; Mexico, Haiti), Europe (n = 9; United Kingdom, Spain and Greece), Africa (n = 13; Ethiopia, Uganda, Nigeria, Rwanda, South Africa, Sub-Saharan Africa) and Asia (n = 6; India and the Phillipines) were found less frequently. See Figure 1 for an overview.

In general, the methodological quality of included studies derived from the quality appraisal was adequate, but not flawless. Two studies were excluded on the basis of the screening questions. Many studies reported on male and female youth, with the proportion of males being very small. Therefore results on gender differences were only reported in this study if there had actually been an analysis by gender. For many studies that used qualitative methods, the process of data synthesis was

not (clearly) described. Also, the interpretation of results was not always supported by the data collected such as quotes. Regarding quantitative studies, some didn't account for confounders, which made it hard to draw conclusions on the associations. Especially given that often heterogeneous populations with multiple vulnerabilities were studied. These limitations were taken into account when describing the results. When a study cited for a risk or protective factor had a relatively low appraisal score, in most cases there were multiple studies with adequate appraisal scores that supported the evidence as well.

Figure 1**.** Overview of the proportion of included studies per country (N = 66)

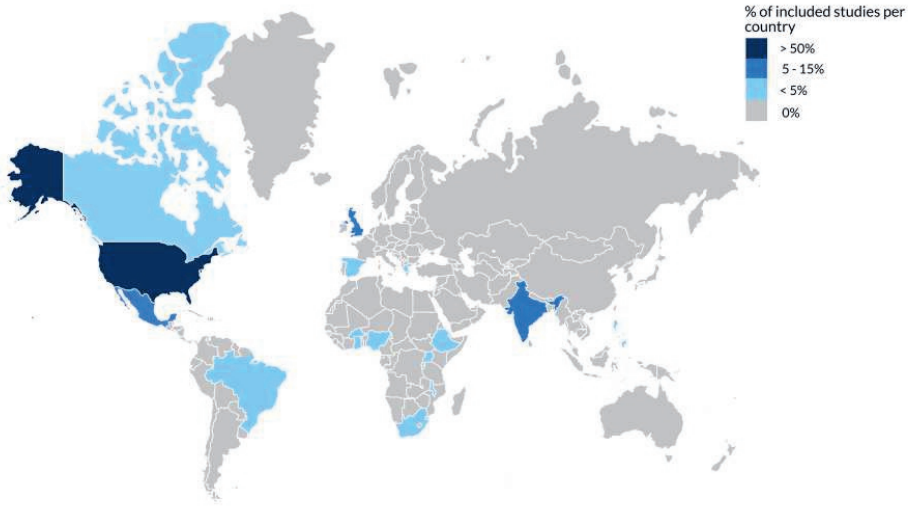

Table 2. Main findings: Revised framework of risk and protective factors and the number of studies and continents in which these factors were identified

Risk factors					
Strains	**Continents**	**Negative affect states**	**Continents**	**Poor coping and risk behavior**	**Continents**
Individual/family level					
• Physical/emotional abuse and neglect (n = 24)	na, ca, af, as	• Social emotional problems (n = 7)	na, ca, af, as, eu	• Substance use (n = 20)	na, af, eu
• Sexual abuse (n = 22)	na, ca, af, as, eu	• Self image / need for affection (n = 6)	na, ca, af, as, eu	• Running away (n = 16)	na, ca, eu
• Compromised parenting / family functioning (n = 18	na, ca, af, as, eu	• Mental health problems (n = 5)	na	• Sexual (risk) behavior (n = 15)	na, af
• Household dysfunction (n = 12)	na, ca, af, as, eu			• Criminal behavior and justice system involvement (n = 6)	na
• Intellectual disabilities (n = 2)	na			• Internet and social media (n = 5)	na, af, eu
• (Child) marriage or pregnancy (n = 1)	ca				
• AIDS (n = 1)	af				
Social level					
• (Lack of a) social network (n = 14)	na, ca, af, eu				
• Residential instability (n = 12)	na, ca, af, eu				
• Problems related to school (n = 12)	na, ca, af, as, eu				
• Child welfare or services involvement (n = 6)	na				
• Exposure to violence (outside the home) (n = 4)	na, af				
Societal level					
• Economic vulnerabilities (n = 17)	na, ca, af, as, eu				
• Gender, social and cultural inequalities (n = 5)	ca, af, as				
• Normalization of sex trade in environment (n = 3)	as				
• Failing legal system (n = 2)	eu				
• Terrorism (n = 1)	af				
Protective factors					
Protective and compensatory experiences	**Continents**	**Positive affect states**	**Continents**	**Healthy coping and behavior**	**Continents**
• Positive and supporting relationships (n = 9)	na, eu, af	• Self worth and setting boundaries (n = 1)	na	• Higher age at first sex (n = 1)	na
• School grades and completion (n = 2)	na				
• Parental education (n = 1)	na				
• Security of basic needs (n = 1);	af				
• Leisure activities (n = 1)	na				
Demographic factors					
Other risk factors	**Continents**				
• Ethnicity (n = 10)	na				
• Gender (n = 7)	na, eu, af, as				
• LGBTQ+ (n = 4)	na				

na = North America; ca = Central America; af = Africa; eu = Europe; as = Asia
Number of studies reporting on the risk/protective factor and corresponding color: red = n ≥15; purple = n = 5-14; blue = n < 5.

Table 2 presents the revised framework composed of a priori and novel themes about risk and protective factors. A total of 17 categories of risk factors regarding strains were found, 3 negative affect states, 5 poor coping and risk behaviors and 3 demographic variables, adding up to 28 different categories of risk factors. Protective factors in contrast, were cited less frequently: 5 protective and compensatory experiences were found, 1 positive affect state and 1 on healthy coping and behavior, adding up to 7 different categories of protective factors. The risk and protective factors for sexual exploitation by the categorization are presented in Table 2 and show to what extent these factors were present in male and/or female youth of different countries worldwide.

Risk factors

Strains at the individual/family level. A substantial body of research worldwide has linked sexual exploitation to the three categories of ACEs: 1. physical/emotional abuse and neglect, 2. sexual abuse and 3. household dysfunction. Two studies examined the number of ACEs by screening them in a sample of predominantly female victims of sexually exploitation (Kennedy et al., 2021) and a sample of adjudicated male youth (O'Brien et al., 2017). Both studies showed higher overall numbers of ACEs among youth who were sexually exploited in comparison to those who were not.

A history of *physical/emotional abuse or neglect* (n = 24) was the most cited risk factor and was found to contribute to the vulnerability for sexual exploitation in both male and female youth (Adjei & Saewyc, 2017; Barnert et al., 2022; Cimino et al., 2017; Cluver et al., 2011; De Vries et al., 2020; Fedina et al., 2019a; Fedina et al., 2019b; Fraley & Aronowitz, 2021; Goldenberg et al., 2015; Greeson et al., 2019; Kennedy et al., 2012; Kennedy et al., 2021; Kiss et al., 2022; Macias Konstantopoulos et al., 2015; O'Brien et al., 2017; O'Brien, 2018; Panlilio et al., 2019; Perkins & Ruiz, 2017; Reid, 2011; Reid, 2018; Roe-Sepowitz, 2012; Servin et al., 2015; Silverman et al., 2007; Varma et al., 2015). There were different results concerning gender differences in the association between physical/emotional abuse and sexual exploitation. In a sample of Sub-sahara African adolescents males were found to report more physical abuse than females (Adjei & Saewyc, 2017). In line with this, in a study on American youth involved in child welfare, males who experienced physical abuse were at higher risk for sexual exploitation (Panlilio et al., 2019). However, two studies on individuals involved in the commercial sex industry, found no significant differences between male and female youth who experienced physical/emotional abuse and neglect and their risk for sexual exploitation (Fedina et al., 2019a; Fedina et al., 2019b).

Sexual abuse (n = 22) was a risk factor for both male and female youth worldwide (Adjei & Saewyc, 2017; Boyce et al., 2018; Cimino et al., 2017; Cyders et al., 2021; De Vries et al., 2020; Fedina et al., 2019a; Goldenberg et al., 2015; Kennedy et al., 2021; Kiss et al., 2022; Louie, 2018; Macias Konstantopoulos et al., 2013; Macias Konstantopoulos et al., 2015; O'Brien et al., 2017; O'Brien, 2018; Perkins & Ruiz, 2017; Reid, 2014; Reid & Piquero 2014; Reid, 2018; Self-Brown et al., 2021; Servin et

al., 2015; Silverman et al., 2007; Varma et al., 2015). Overall, sexually abused male and female youth were both at risk for sexual exploitation. However, two studies reported sexually abused males to be more vulnerable. Higher odds for sexual exploitation in male youth who experienced sexual abuse were found among youth in Sub-saharan Africa (Adjei & Saewyc, 2017) and in a sample of youth offenders in the United States an association between sexual abuse and early age of onset for sexual exploitation was found in males and not in females (Reid & Piquero, 2014).

Household dysfunction (n = 12; parental substance misuse, domestic violence and parental arrests) was a risk factor in male and female youth and was cited worldwide (Cole, 2018; Kennedy et al., 2012; Kennedy et al., 2021; Kiss et al., 2022; Louie, 2018; Macias Konstantopoulos et al., 2013; O'Brien et al., 2017; Panlilio et al., 2019; Reid, 2011; Reid & Piquero, 2014; Reid & Piquero, 2016; Servin et al., 2015). Three studies analyzed gender differences regarding parental substance abuse, but no significant differences between male and female youth were found (Cole, 2018; Reid & Piquero, 2014; Reid & Piquero, 2016). One study conducted in the United States among a sample of youth involved in the child welfare system found that males had a higher risk for exposure to severe violence in the household prior to sexual exploitation compared to females (Panlilio et al., 2019). In the study of Reid and Piquero (2016) among youth offenders in the United States, no gender differences were found regarding caregiver strain among which domestic violence and parental arreststs.

Multiple studies (n = 18), from all continents in the world found a connection between *compromised parenting and family functioning* and sexual exploitation. This risk factor was captured in the literature via different measures (e.g. poor nurturing, conflicts between child and parents, unhealthy family relationships, parental attachment and caregiver absence) and was found in both male and female youth (Acharya & Bryson Clark, 2003; Alderson et al., 2021; Barnert et al., 2022; Chohaney, 2016; Cole, 2018; Fraley & Aronowitz, 2021; Helpingstine et al., 2021; Homma et al., 2012; Hornor et al., 2022; Louie, 2018; Macias Konstantopoulos et al., 2013; Macias Konstantopoulos et al., 2015; McNeal & Walker, 2016; O'Brien, 2018; Reid & Piquero, 2016; Self-Brown et al., 2021; Silverman et al., 2007; Williams et al., 2012). A study with a sample of adolescents living in the slums in Uganda found a gender difference in vulnerability: a negative parental attitude towards sexual engagement of their child was associated with higher risk for sexual exploitation in females but not in males (Self-Brown et al., 2021).

Only two studies, both conducted in North America and in a sample of females, found an association between *intellectual and/or physical disabilities* and sexual exploitation. Franchino-Olsen et al. (2020) found higher odds for sexual exploitation for minors with severe physical disabilities and low cognitive abilities compared to peers without these respective disabilities. In line with this, Reid (2018) revealed that for girls with intellectual disabilities, endangering circumstances such as lack of

awareness, inability to self-identify and a vulnerability for manipulation, contributed to a disproportionate risk for sexual exploitation.

Other strains at the micro level were found in two studies conducted in Central America and Africa and concerned *child marriage and/or pregnancy* and *AIDS,* respectively. Boyce et al. (2018) revealed that there were higher proportions of sexual exploitation among female sex workers who were pregnant or married before the age of 16 years old. In a sample of adolecents in deprived South-African communities, Cluver et al. (2011) found that AIDS illness in caregivers and resulting orhpanhood predicted sexual exploitation in males and females.

Strains at the community level. Multiple studies (n = 14) found that the *(lack of a) social network* of youth appeared to play an important role in the risk for sexual exploitation. The risks related to the social network could be divided into a lack of a social or support network, exposure to sex trade through friends and family, and peer influences. The lack of a social network or social support was qualitatively studied among predominantly females (one study included one male) in different counties (Canada, United Kingdom, Mexico, Uganda and Nigeria; Acharya & Bryson Clark, 2003; Hallet, 2016; Louie, 2018; Kiss et al., 2022; Servin et al., 2015). When facing adversity such as violence or migration, these youth had no one to rely on which rendered them to be more vulnerable for sexual exploitation. Having friends or family who were involved in sex trade by selling or buying sex was found to be a risk factor for sexual exploitation in both male and female youth in the United States, United Kingdom and Canada (Chohaney, 2016; De Vries et al., 2020; Fedina et al., 2019a; Fedina et al., 2019b; Kennedy et al., 2012; Louie, 2018; Klatt et al., 2014; Macias Konstantopoulos et al., 2015). Two cross-sectional analytic studies included gender as covariate, however they found no significant differences between male and female youth regarding the association between exposure to sex trade and sexual exploitation (Fedina et al., 2019a; Fedina et al., 2019b). Lastly, negative peer influence was found to be associated with sexual exploitation in male and female youth in two studies conducted in the United States, for instance if youths are encouraged by peers in law-breaking behavior, gang involvement or other activities that increased vulnerability (Franchino-Olsen & Martin, 2022; Helpingstine et al., 2021).

Problems related to school were found among both males and females from different countries as a risk factor for sexual exploitation (n = 12). However, the nature of school problems differed between countries. In non-western regions such as India and Africa, studies among females showed that limited access to education heightened their vulnerability for sexual exploitation (Dalla et al., 2020; Kiss et al., 2022; Macias Konstantopoulos et al., 2013; Silverman et al., 2007; Williams et al., 2012). The lack of education was attributed to family poverty, limited economic opportunities in the community or the distance to schools. While in other studies, mainly conducted in the United States, male and female youth did have access to education, but problems such as dropping out of school, lack of

education about sexual exploitation and low grades were associated with sexual exploitation (Adjei & Saewyc, 2017; Chohaney, 2016; Fedina et al., 2019a; Greeson et al., 2019; Hurst, 2021; Hornor et al., 2022; Servin et al., 2015).

Residential instability as a result of homelessness, multiple out-of-home placements and migration, was found to be a risk factor for sexual exploitation, leading to risky (sexual) behaviors to survive (n = 12). It was found to be a risk factor in multiple countries (United States, United Kingdom, Mexico, Greece, Uganda, Nigeria and Spain) in both male and female youth (Chimdessa & Cheire, 2018; Coy, 2009; Digidiki & Bhabha, 2018; Greeson et al., 2019; Fedina et al., 2019a; Hornor et al., 2022; Kiss et al., 2022; Macias Konstantopoulos et al., 2015; Pereda et al., 2022; Rocha-Jimenez et al., 2018; Self-Brown et al., 2021; Servin et al., 2015). Residential instability as a result of migration was particularly found for unaccompanied minors in refugee camps in Greece (Digidiki & Bhabha, 2018) and girls in Mexico, Uganda and Nigeria (Kiss et al., 2022; Rocha-Jimenez et al., 2018). Three quantitative cross-sectional studies analyzed possible gender differences but no significant differences between male and female youth were found (Fedina et al., 2019a; Pereda et al., 2022; Self-Brown et al., 2021).

Six studies, conducted in the United States and Canada, identified *child welfare involvement* as a risk factor for sexual exploitation. Risks included (family) involvement in foster care, residential care, child protection services and poor relationship with services (Fraley & Aronowitz, 2021; Greeson et al., 2019; Hornor et al., 2022; Louie, 2018; Varma et al., 2015; Wright et al., 2021). Four studies included boys and girls, however only one study conducted analyses between gender in which no significant difference between male and female youth was found. In a sample of youth experiencing homelessness, Wright et al., (2021) found that the likelihood of experiencing sexual exploitation in both boys and girls was twice as likely for youth with prior child welfare and justice involvement.

Exposure to violence (such as community and dating violence, being shot, cut or stabbed) was found as a risk factor for sexual exploitation in both male and female youth (n = 4). Three studies were conducted in the United States and one in Uganda. Three studies included male and female youth and overall some mixed results were found regarding gender. Franchino-Olsen et al. (2021) found an association between experiencing violence and increased odds for sexual exploitation in both male and female youth. However experiencing community violence was more common for males than for females. Violence victimization was significantly associated with sexual exploitation for females (Franchino-Olsen & Martin, 2022). Likewise, Self-Brown et al. (2021) only found significant associations between physical dating violence and sexual exploitation in females.

Strains at the societal level. In both male and female youth, a substantional body of research worldwide has linked sexual exploitation to *economic vulnerabilities*, such as poverty, low parental education, debts, financial insequrity, material need and lack of economic opportunities (Acharya &

Bryson Clark, 2003; Barnert et al., 2022; Cole, 2018; Dalla et al., 2020; Dalla et al., 2022; Franchino-Olsen & Martin, 2022; Goldenberg et al., 2015; Klatt et al., 2014; Kiss et al., 2022; Louie, 2018; Macias Konstantopoulos et al., 2013; Macias Konstantopoulos et al., 2015; Njoku et al., 2022; Rocha-Jimenez et al., 2018; Silverman et al., 2007; Williams et al., 2012; Williams et al., 2018). In non-western continents (Africa, Asia, Central America), economic vulnerabilities were more often characterized as environmental factors such as a lack of educational or labor opportunities in the environment and a lack of resources due to migration or living in refugee camps, whereas in western continents, economic vulnerabilities more often stemmed from family factors such as low parental education and family poverty. Overall there were no significant differences between gender.

Other strains at the societal level concerned *gender, social and cultural inequalities* (n = 5), *normalization of sex trade in the environment* (n = 3), *a failing legal system* (n = 2) and *terrorism* (n = 1) and were mainly found to be risk factors in the non-Western continents Asia and Africa (Dalla et al., 2020; Dalla et al., 2022; Digidiki & Bhabha, 2018; Jani & Felke, 2017; Macias Konstantopoulos et al., 2013; Njoku et al., 2022; Silverman et al., 2007; Williams et al., 2012). These studies predominantly involved females and found gender specific vulnerabilities, such as the sexual objectification of women, gender based mistreatment in family, sex work among girls and selling daughters being seen as normative.

Negative affect states. *Mental health problems* (e.g. mental health problems in general, suicidal ideation and psychoticism) as a risk factor for sexual exploitation were found in five studies, all conducted in the United States (n = 5; Cole, 2018; De Vries et al., 2020; Panlilio et al., 2019; Reid & Piquero, 2014; Reid & Piquero, 2016). One of the four studies that analyzed possible gender differences in a nationally respesentive sample of youth involved in child welfare found that sexually exploited males had a higher risk for suicidal ideation compared to females (Panlilio et al., 2019).

Seven studies, conducted in North America and Europe, found risk factors regarding *social and emotional* problems in male and female youth, such as difficulty forming healthy relationships, interpersonal problems and negative emotions and affect states (Coy, 2009; Digidiki & Bhabha, 2018; Homma et al., 2012; Macias Konstantopoulos et al., 2013; Macias Konstantopoulos et al., 2015; Reid et al., 2021; Reid & Piquero, 2016). Two studies analyzed gender differences. In a sample of high school students, Homma et al. (2012) found that there were no significant differences in gender regarding the risk factor feelings of hopelessness and impulsivity. Among a sample of male and female youth offenders, Reid and Piquero (2016) found negative emotions only to be associated with sexual exploitation in males and not in females.

Negative self image and the need for affection was found to be a risk factor for sexual exploitation in six studies conducted in the United States and the United Kingdom (Cole, 2018; Coy,

2009; Fogel et al., 2017; Macias Konstantopoulos et al., 2013; Macias Konstantopoulos et al., 2015; Perkins & Ruiz, 2017). The need for affection was only found in studies involving female youth. One study among professionals working with high risk youth, analyzed possible gender differences from the professional's perspective and no differences in gender regarding negative self image as a risk factor for sexual exploitation was found (Cole, 2018).

Poor coping and risk behavior. Multiple studies among both male and female youth showed that *substance use* (drug and alcohol use/dependency, early initiation of substance use), increased the risk for sexual exploitation (n = 20). Two were conducted in Africa (Adjei & Saewyc, 2017; Self-Brown et al., 2021) and one in Europe (Klatt et al., 2014), but most studies were conducted in The United States (Cole, 2018; Cyders et al., 2021; Fedina et al., 2019a; Franchino-Olsen et al., 2021; Homma et al., 2012; Hornor et al., 2022; Louie, 2018; Macias Konstantopoulos et al., 2015; McNeal & Walker, 2016; O'Brien, 2018; Panlilio et al., 2019; Perkins & Ruiz, 2017; Reid, 2011; Reid, 2014; Reid & Piquero, 2014; Reid & Piquero, 2016; Self-Brown et al., 2021; Varma et al., 2015). Of the ten studies that analyzed substance use by gender, only two studies found significant differences between males and females. In a nationally representative sample of youth involved in child welfare in the United States, Panlilio et al. (2019) found that substance use was a risk factor for both males and females, but being male increased the probability of drug and alcohol use. Self-Brown et al. (2021) found an association between alcohol use and sexual exploitation in females who were living in the slums of Uganda.

Running away from home or residential care was cited as a risk factor for sexual exploitation in both male and female youth by a substantial body of research (n = 15), conducted in Europe (Biehal & Wade, 2000; Pereda et al., 2022), Mexico (Servin et al., 2015) and mainly in the United States (Barnertt et al., 2022; Chohaney, 2016; Cimino et al., 2017; Fedina et al., 2019b; Franchino-Olsen et al., 2021; Hornor et al., 2022; Panlilio et al., 2019; Pereda et al., 2022; Reid, 2011; Reid, 2018; Reid & Piquero, 2016; Roe-Sepowitz, 2012; Varma et al., 2015). In general no significant differences in gender were found with the exception of the study of Panlilio et al. (2019) among youth involved in child welfare in the United States, which found that being male increased the probability of running away. Additionally, in one study running away was a predictor in the opposite direction: Klatt et al. (2014) found that running away significantly decreased a person's risk of being sexually exploited.

Sexual (risk) behavior as risk factor for sexual exploitation (n = 15) could encompass age-related risks (a younger age at first sex, having an older boy or girlfriend), survival sex, multiple sexual partners, prior STIs, normalization of unwanted sex or getting into cars with strangers. Risks regarding sexual behavior were found in both male and female youth. Two studies were conducted in Africa (Adjei & Saewyc, 2017; Chimdessa & Cheire, 2018) and the others in the United States (Chohaney, 2016; De Vries et al., 2020; Fedina et al., 2019a; Hornor et al., 2022; O'Brien et al., 2017; O'Brien, 2018; Panlilio

et al., 2019; Reid, 2011; Reid, 2018; Reid & Piquero, 2014; Reid & Piquero, 2016; Roe-Sepowitz, 2012; Varma et al., 2015). Of the five studies that compared male and female youth, only one study found gender differences. Among male and female youth offenders in the United States, Reid and Piquero (2016) found that age at first sexual experience had a significant negative relationship with sexual exploitation for males, while no association was found for females.

Risks regarding the *problematic use of internet and social media* were prevalent among male and female youth in studies conducted in the United States, Spain and Uganda (Fraley & Aronowitz, 2021; O'Brien, 2018; Pereda et al., 2022; Reid, 2018; Self-Brown et al., 2021). Risks included unsupervised access to social media, chatting and forming interpersonal relationship via the internet and sharing sexually explicit personal material (sexting). Two studies compared risk factors between gender. While Pereda et al. (2022) found no significant differences between gender for sharing sexually explicit personal material, Self-Brown et al. (2021) found that among adolescents living in the slums of Uganda, social media use was only associated with sexual exploitation for females.

Six studies (n = 6), all conducted in the United States and involving both male and female youth, found that risks regarding criminal behavior and justice system involvement, such as property crime, crimes against persons, involvement with law enforcement and juvenile detention, were associated with sexual exploitation (Chohaney, 2016; Franchino-Olsen & Martin, 2022; Hornor et al., 2022; McNeal & Walker, 2016; Varma et al., 2015; Wright et al., 2021). Three studies analyzed gender differences, and found that the risk of criminal behavior and justice system involvement for sexual exploitation was significant for both genders (Franchino-Olsen & Martin, McNeal & Walker, 2016; Wright et al., 2021).

Protective factors

Protective and compensatory experiences. Positive and supporting relationships were found to be a protective and compensatory experience among male and femaly youth, lowering the risk for sexual exploitation in studies conducted in the United States, Europe and Africa (n = 9). These positive and supporting relationships could involve parents (parental monitoring and supervision, a two parent family structure, family connectedness; Adjei & Saewyc, 2017; Cluver et al., 2020; Franchino-Olsen et al., 2021; Franchino-Olsen & Martin, 2022; Homma et al., 2012; McNeal & Walker, 2016), but also relationships outside the family (a positive relationship with substitute carers and teachers or having in general at least one person who provides emotional support and trust; Biehal & Wade, 2000; Helpingstine et al., 2021; O'Brien, 2018). Seven studies investigated gender differences, but no significant differences were found in the association between positive and supporting relationships and a reduced chance for victimization.

Five other and less studied protective and compensatory experiences were found. Studies among disadvantaged girls by Reid (2014) and American male and female youth offenders (Reid &

Piquero, 2014) associated a *higher school grade or school completion* with declined chances of sexual exploitation for both genders. Level of parental education was a protective factor for both male and female youth in a population based study by Franchino-Olsen et al., 2021, conducted in the United States. Among Canadian high school students, Homma et al. (2012) found that *involvement in clubs* (e.g. sports) decreased chances for sexual exploitation. However, associations were only significant for females and not for males. Lastly, Cluver et al. (2020) found that *food security* was a protective and compensatory experience among female youth in deprived South-African communities, but no significant association was found for males.

Positive affect states and healthy coping and behavior. Regarding the last two categories of protective factors in the a priori model (positive affect states and healthy coping and behavior), only two studies were detected. Among a sample of system involved survivors of sexual exploitation in the United States (male and female), learning and *being taught self-worth, interpersonal boundaries and sexual limit setting* were found to be important factors mitigating the risk for sexual exploitation (O'Brien, 2018). Regarding behavior as a protective factor, Reid & Piquero (2014) found that American males and females having *first sex at a higher age* reduced the likelihood of initial involvement in sexual exploitation before the age of 17.

Demographics as risk factors

Although the current review investigates whether there are differences between male and female youth with respect to risk and protective factors for sexual exploitation, results indicate that in seven studies *gender* was associated with sexual exploitation as a risk factor itself (n = 7), although results were ambiguous. A study of Wright et al. (2021) showed that females had a higher likelihood of experiencing sexual exploitation and among a sample of homeless and runaway youth in the United States, Greeson et al. (2019) found that those who were sexually exploited were more likely to be female. Among a sample of youth in the slums of Uganda, sexual exploitation was associated with being female as well (Self-Brown et al., 2021). Two qualitative studies indicated a greater risk for females than for males (Biehal & Wade, 2000; Dalla et al., 2022). However, findings from a nationally representative study in the United States revealed lower odds for females experiencing sexual exploitation compared to males (Franchino-Olsen & Martin, 2022). And in another population based study in the United States, McNeal & Walker (2016) found male adolescents to be significantly more likely to experience sexual exploitation by exchanging sex for drugs or money.

Ten studies which were all conducted in the United States found *ethnicity* to be associated with sexual exploitation. Victims were more often from a ethnic or cultural minority compared to youth who were not sexually exploited (Barnert et al., 2022; Fedina et al., 2019b; Reid et al., 2021), such as African

American (Franchino-Olsen et al., 2021; Franchino-Olsen & Martin, 2022; Hornor et al., 2022; O'Brien et al., 2017; Reid & Piquero, 2014), Latino (Greeson et al., 2019) or multiracial (Chohaney, 2016).

According to four studies which were all conducted in the United States, *LGBTQ+* youth had a higher risk for sexual exploitation. Among a sample of homeless youth the odds of being LGBTQ+ and sexually exploited were two times higher compared to being heterosexual (Hogan & Roe-Sepowitz, 2020). Among samples of homeless youth as well, transgender youth had a higher likelihood of experiencing sexual exploitation (Greeson et al., 2019; Wright et al., 2021). Barnert et al. (2022) found that same sex romantic attraction was significantly associated with exposure to sexual exploitation.

Discussion

This systematic review provides more insight into both risk and protective factors for sexual exploitation in male and female youth from a cross-cultural perspective. A better understanding of these factors is a crucial step towards prevention and adequate and timely treatment. Four main findings are discussed below, pertaining to: 1. common risk factors for sexual exploitation worldwide; 2. underexamined protective factors for sexual exploitation; 3. differences in risk and protective factors between continents; 4. the role of gender in risk and protective factors.

First, the results show common risk factors preceding victimization in both male and female youth worldwide (e.g. physical/emotional abuse and neglect, sexual abuse, compromised parenting and family functioning, (lack of a) social network, economic vulnerabilities, substance use, running away). It is known that different combinations of these risk factors can underlie a youth's vulnerability and that multiple pathways into sexual exploitation exist (Choi, 2015; Reid & Piquero, 2016). By theoretical frameworks, we are able to explain the cumulation of risk factors in which strains (e.g. abuse, family dysfunction and poverty) often result in negative affect states (e.g. mental health and emotional problems) which induce maladaptive coping strategies and risk behavior (e.g. running away, substance use or survival sex) placing youth in vulnerable positions for sexual exploitation (Agnew, 2006; Edwards & Mika, 2017; Franchino-Olsen, 2021; Gerassi, 2015; Reid, 2011, Reid, 2014; Reid & Piquero, 2014; Wilson & Wisdom, 2010). There are some limitations regarding these frameworks. Not one of them is exhaustive because research into vulnerabilities for sexual exploitation often takes Western society and risk factors as a starting point. This systematic review presents a broader overview of both risk and protective factors for sexual exploitation by using a cross-cultural perspective. This is a first step towards a better understanding of vulnerabilities in youth worldwide. Follow-up research should gain more insight into how these risk and protective factors interact against the background of cultural and societal issues, which is key in prevention efforts and timely treatment (Franchino-Olsen, 2019).

Second, protective factors are underexamined. This may reflect a greater focus in research on factors that contribute to victimization than factors that prevent victimization. Yet, one common factor was found in male and female youth worldwide: positive and supporting relationships. This is in line with literature, emphasizing that social support and meaningful relationships are crucial in the context of resilience. They can reduce the impact of adversity, prevent revictimization and promote mental health and positive development (Barnová & Tamášová, 2018; Scoglio, et al., 2022). It is therefore important to learn more about protective factors and their interconnectedness with risk factors for sexual exploitation. Though never applied to sexual exploitation, a framework that captures both risk and protective factors and the effects on development is the intergenerational and cumulative adverse and resilient experiences (ICARE) model (Hays-Grud et al., 2021). Future research should shed more light on the applicability of such a framework for a broader understanding of vulnerability and resilience with regard to sexual exploitation.

Third, besides commonalities in risk and protective factors worldwide, geographical differences were found. Especially for the nature of strains at the community and societal level, which seemed to differ between Western and non-Western continents. In non-Western continents, relatively more environmental factors related to economic vulnerabilities or residential instability were cited (e.g. forced migration, limited access to school or the labor market and lack of basic needs). In Mexico for example, forced migration due to drug violence resulted in a lack of a social network and labor market opportunities, which made youth more vulnerable to sexual exploitation (Acharya & Clark, 2021; Rocha-Jimenez, 2017). In India, prostitution was one of the few viable options for females to provide a family income as a result of a normalization of sex trade in the family or environment in combination with poverty (Dalla, 2020; Dalla, 2020; Macias Konstantopoulos, 2013; Silverman, 2007). This is in line with the knowledge that youth living in poor environments are especially vulnerable for sexual exploitation and that low income non-Western countries report much higher numbers of youth victims (United Nations Office on Drugs and Crime, 2020). This also endorses the need of a cross-cultural perspective on risk and protective factors for sexual exploitation, as the extent to which factors are common and contribute to vulnerabilities may differ between continents. Another difference between continents was that some risk factors were only cited in non-Western continents (e.g. terrorism; child marriage or pregnancy; AIDS) and others only in North-America (e.g. child welfare involvement, intellectual disabilities, mental health problems). This may reflect that the prioritization of research topics differs between continents. For example, intellectual disabilities are present in youth worldwide, but have only been studies in the United States as a risk factor for sexual exploitation. On the contrary, risks such as AIDS that are only studied in Africa, may not be relevant cross-culturally. In order to fully understand such geographical differences, an important next step for future research is to gain more insight into the broader range of possible risk and protective factors for sexual exploitation worldwide.

Finally, results indicate that male youth are underrepresented in the literature on risk and protective factors for sexual exploitation. This while a systematic review by Moynihan et al. (2018) showed that sexual exploitation is a global issue in male youth, in both high and low income countries. The fact that the stereotype victim of sexual exploitation tends to be female is worrying. Especially given that the present findings demonstrate that there are both studies that found a higher likelihood for sexual exploitation in females and studies that found a higher likelihood for sexual exploitation in males. There are still blind spots when it comes to the role of gender in risk and protective factors for sexual exploitation. This is in line with the systematic review on vulnerabilities for sexual exploitation of Franchino-Olsen (2019) and prevent any definitive statements about the risks tied to gender in this review. However we did find some indications that gender may predispose males to encounter some risk factors more frequently than females. For example, running away, experiencing violence in the community and substance abuse were risk factors in both genders, but male youth had higher odds to experience these risk factors (Franchino-Olsen et al, 2021; Panlilio et al., 2019). Gender may indirectly contribute to the association between certain risk and protective factors and sexual exploitation. The same might be the case with LGBTQ+ youth, youth with intellectual disabilities and youth from ethnic minorities, who may have a predisposition to encounter risks such as homelessness or engagement in survival sex more often (Fedina et al., 2019b; Franchino-Olsen et al., 2019). More consideration should be given to these diverse and marginalized populations and their possible additional vulnerabilities. Only then prevention and timely treatment efforts can be tailored to the unique needs of the heterogeneous population of sexually exploited youth.

Strengths and limitations

Research on risk and protective factors for sexual exploitation in male and female youth is still limited. This study is a unique contribution to the understanding of vulnerabilities for sexual exploitation because it adds a cross-cultural perspective. Also, to date there was no overview of protective factors associated with sexual exploitation. The present review underlines the importance and relevance of a strengths-based perpective in youth care and contributes to clarifying prevention efforts and timely treatment for sexual exploitation from a cross-cultural perspective. Additionally, the overview of risk and protective factors is not just an enumeration of the wide range of factors. By categorizing them based on a theoretically based a priori framework, it was possible gain an better understanding of the possible cumulation of common risk factors. Even though we found that such theoretical frameworks are not yet exhaustive with regard to a world wide perspective and protective factors, we were able to make recommendations on what is needed to fill these knowledge gaps. Another strength was that the methodology of this systematic review was accurate and structured. This was reflected in the strong

inter-rater reliability, the followed PRISMA guidelines and the quality appraisal of the included studies, which is not common in research on sexual exploitation.

Several limitations have to be considered. Sexually exploited youth are a heterogeneous group and no single risk factor can determine youth's vulnerability (Choi, 2015). As this review did not address the relationships between factors that were cited in the included studies, no definitive statements on interconnectedness could be made. Future research will generate more knowledge about the interconnectedness between risk and protective factors. Also only peer reviewed articles were included, while there may be grey literature (e.g. policy documents or reports from organizations such as the United Nations and ECPAT International which study and combat sexual exploitation) that contribute to a fuller picture of risk and protective factors worldwide. Regardless of these limitations and the fact that knowledge gaps still exist, this systematic review is unique in presenting a broader overview of both risk and protective factors for sexual exploitation. This is an important first step towards a better understanding of vulnerabilities in youth worldwide.

Table 3. Clinical implications for practice, policy and research

Practice	• Increase awareness and knowledge among professionals working with vulnerable children and youth about risk and protective factors for sexual exploitation in male and female youth. • Early interventions in vulnerable children and youth and their families to intercept the often present negative cycle of adversity are urgently needed. • Enhance social networks of children and youth.
Policy	• Structurally address the issue of poverty and social inequalities to enhance economic opportunities in all levels of society. • Strengthen policies around vulnerable youth by investing in positive and supportive relationships.
Research	• Investigate protective factors for sexual exploitation and their interaction with risk factors to gain a better understanding of pathways into victimization. • Include male youth in research to gain a better understanding of their specific vulnerabilities and possible gender differences. • Gain more insight into sexual exploitation worldwide to be able to match the needs of culturally diverse populations. • Focus on diverse and marginalized populations to be able to match practice and policy to everyone's unique needs.

Conclusions and next steps

Sexual exploitation is an important growing concern in youth to proactively address, as they are at elevated risk to become victims. This systematic review makes a unique contribution to the understanding of vulnerabilities in youth by providing a first overview of both risk and protective factors from a cross-cultural perspective. A deeper understanding of the broader range of risk and protective

factors for sexual exploitation in female and male youth worldwide will enhance our understanding of the different pathways to sexual exploitation, the important role of protective factors and identification of areas where prevention efforts and (early) treatment should be targeted.

Acknowledgements

We would like to express our special thanks of gratitude to Loïs de Rooij, Renske Mennen, and Coco Collé for their assistance in the data collection and synthesis process.

References

Acharya, A. K., & Bryson Clark, J. (2021). Narco-violence, forced displacement, and sex trafficking: a qualitative study in Mexico. *Global Crime*, *22*(3), 205-221. https://doi.org/10.1080/17440572.2021.1915142

Adjei, J. K., & Saewyc, E. M. (2017). Boys are not exempt: Sexual exploitation of adolescents in sub-Saharan Africa. *Child Abuse & Neglect*, *65*, 14-23. https://doi.org/10.1016/j.chiabu.2017.01.001

Alderson, K., Ireland, C. A., Khan, R., Ireland, J. L., & Lewis, M. (2021). Child sexual exploitation, poly-victimisation and resilience. *Journal of Criminological Research, Policy and Practice*.

Agnew, R. (2006). Pressured into crime: An overview of general strain theory (1st ed.). Los Angeles, CA: Claude Teweles.

Andretta, J. R., Woodland, M. H., Watkins, K. M., & Barnes, M. E. (2016). Towards the discreet identification of Commercial Sexual Exploitation of Children (CSEC) victims and individualized interventions: Science to practice. *Psychology, Public Policy, and Law,* 22(3), 260. http://dx.doi.org/10.1037/law0000087

Baldwin, S.B., Eisenman, D.P., Sayles, J.N., Ryan, G., & Chuang, K.S. (2011). Identification of human trafficking victims in health care settings. *Health and Human Rights, 13*(1), 36-49.

Barnert, E. S., Bath, E., Heard-Garris, N., Lee, J., Guerrero, A., Biely, C., ... & Dudovitz, R. (2022). Commercial sexual exploitation during adolescence: A US-Based national study of adolescent to adult health. *Public Health Reports*, *137*. https://doi.org/10.1177/00333549211054082

Barnová, S., & Tamášová, V. (2018). Risk and protective factors in the life of youth in relation to resilience. *Psychology and pathopsychology of child*, *52*(1), 50-59. http://dx.doi.org/10.2478/papd-2018-0001

Basson, D., Rosenblatt, E., & Haley, H. (2012). *Research to action: Sexually exploited minors (SEM) needs and strengths.* Oakland, CA: WestCoast Children's Clinic. Available at: https://www.westcoastcc.org/WCC_SEM_Needs-and-Strengths_FINAL.pdf

Biehal, N., & Wade, J. (1999). Taking a chance? The risks associated with going missing from substitute care. *Child Abuse Review*, *8*(6), 366-376. https://doi.org/10.1002/(SICI)1099-0852(199911/12)8:6%3C366::AID-CAR582%3E3.0.CO;2-G

Boyce, S. C., Brouwer, K. C., Triplett, D., Servin, A. E., Magis-Rodriguez, C., & Silverman, J. G. (2018). Childhood experiences of sexual violence, pregnancy, and marriage associated with child sex trafficking among female sex workers in two US–Mexico border cities. *American journal of public health*, *108*(8), 1049-1054. https://doi.org/10.2105%2FAJPH.2018.304455

Carroll, C., Booth, A., Leaviss, J., & Rick, J. (2013). "Best fit" framework synthesis: Refining the method. *BMC Medical Research Methodology, 13*(1), 37. https://doi.org/10.1186/1471-2288-13-37

Chaffee, T., & English, A. (2015). Sex trafficking of adolescents and young adults in the United States: healthcare provider's role. *Current opinion in obstetrics and gynecology*, *27*(5), 339-344. https://doi.org/10.1097/gco.0000000000000198

Chang, K. S., Lee, K., Park, T., Sy, E., & Quach, T. (2015). Using a clinic-based screening tool for primary care providers to identify commercially sexually exploited children. *Journal of Applied Research on Children*, *6*(1), 6.

Choi K. R. (2015). Risk factors for domestic minor sex trafficking in the United States. *Journal of Forensic Nursing*, 11, 66–76. https://doi.org/10.1097/jfn.0000000000000072

Chohaney, M. L. (2016). Minor and adult domestic sex trafficking risk factors in Ohio. *Journal of the Society for Social Work and Research*, *7*(1), 117-141.

Cimino, A. N., Madden, E. E., Hohn, K., Cronley, C. M., Davis, J. B., Magruder, K., & Kennedy, M. A. (2017). Childhood maltreatment and child protective services involvement among the commercially sexually exploited: A comparison of women who enter as juveniles or as adults. *Journal of child sexual abuse*, *26*(3), 352-371. http://dx.doi.org/10.1080/10538712.2017.1282575

Clawson, H. J., Dutch, M., Solomon, A., & Grace, L. G. (2009). *Human trafficking into and within the United States: A review of the literature.* Washington, DC: Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services. Available at: https://aspe.hhs.gov/reports/human-trafficking-within-united-states-review-literature-0

Cluver, L., Orkin, M., Boyes, M., Gardner, F., & Meinck, F. (2011). Transactional sex amongst AIDS-orphaned and AIDS-affected adolescents predicted by abuse and extreme poverty. *JAIDS Journal of Acquired Immune Deficiency Syndromes*, *58*(3), 336-343. https://doi.org/10.1097/qai.0b013e31822f0d82

Cluver, L. D., Rudgard, W. E., Toska, E., Zhou, S., Campeau, L., Shenderovich, Y., ... & Sherr, L. (2020). Violence prevention accelerators for children and adolescents in South Africa: A path analysis using two pooled cohorts. *PLoS medicine*, *17*(11). https://doi.org/10.1371/journal.pmed.1003383

Chimdessa, A., & Cheire, A. (2018). Sexual and physical abuse and its determinants among street children in Addis Ababa, Ethiopia 2016. *BMC pediatrics*, *18*(1), 1-8.

Chohaney, M. L. (2016). Minor and adult domestic sex trafficking risk factors in Ohio. *Journal of the Society for Social Work and Research, 7*, 117–141. https://doi.org/10.1086/685108

Cole, J. (2018). Service providers' perspectives on sex trafficking of male minors: Comparing background and trafficking situations of male and female victims. *Child and adolescent social work journal*, *35*(4), 423-433.

Cole, J., Sprang, G., Lee, R., & Cohen, J. (2016). The trauma of commercial sexual exploitation of youth: A comparison of CSE victims to sexual abuse victims in a clinical sample. *Journal of interpersonal violence*, *31*(1), 122-146. https://doi.org/10.1177/0886260514555133

Coy, M. (2009). 'Moved around like bags of rubbish nobody wants': how multiple placement moves can make young women vulnerable to sexual exploitation. *Child Abuse Review: Journal of the British Association for the Study and Prevention of Child Abuse and Neglect*, *18*(4), 254-266. https://doi.org/10.1002/car.1064

Crandall, A., Miller, J. R., Cheung, A., Novilla, L. K., Glade, R., Novilla, M. L. B., … & Hanson, C. L. (2019). ACEs and counter-ACEs: How positive and negative childhood experiences influence adult health. *Child Abuse & Neglect, 96*, 104089. https://doi.org/10.1016/j.chiabu.2019.104089

Cyders, M. A., Hunton, T., & Hershberger, A. R. (2021). Substance Use and Childhood Sexual Abuse among Girls Who Are Victims of Commercial Sexual Exploitation. *Substance Use & Misuse*, *56*(9), 1339-1345. https://doi.org/10.1080/10826084.2021.1922453

Dalla, R. L., Panchal, T. J., Erwin, S., Peter, J., Roselius, K., Ranjan, R., ... & Sahu, S. (2020). Structural vulnerabilities, personal agency, and caste: An exploration of child sex trafficking in rural India. *Violence and victims*, *35*(3), 307-330. https://doi.org/10.1891/vv-d-19-00048

Dalla, R. L., Roselius, K., Erwin, S., Peter, J., Panchal, T. J., Ranjan, R., ... & Sahu, S. (2022). Family sex trafficking among the Bedia caste of India: defying the dominant human trafficking discourse. *Journal of interpersonal violence.* https://doi.org/10.1177/08862605211073104

Digidiki, V., & Bhabha, J. (2018). Sexual abuse and exploitation of unaccompanied migrant children in Greece: Identifying risk factors and gaps in services during the European migration crisis. *Children and Youth Services Review*, *92*, 114-121. https://doi.org/10.1016/j.childyouth.2018.02.040

Edwards, L., & Mika, K. M. (2017). Advancing the efforts of the macro-level social work response against sex trafficking. *International Social Work, 60*, 695–706. https://doi.org/10.1177/0020872815617992

Fedina, L., Williamson, C., & Perdue, T. (2019). Risk factors for domestic child sex trafficking in the United States. *Journal of interpersonal violence*, *34*(13), 2653-2673. https://doi.org/10.1177/0886260516662306

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., … & Marks, J. S. (2019). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ACE) study. *American Journal of Preventive Medicine, 56*(6). https://doi.org/10.1016/j.amepre.2019.04.001

Fogel, K. F., Martin, L., Nelson, B., Thomas, M., & Porta, C. M. (2017). "We're automatically sex in men's eyes, we're nothing but sex…": Homeless young adult perceptions of sexual exploitation. *Journal of Child & Adolescent Trauma*, *10*(2), 151-160.

Ford, D. C., Merrick, M. T., Parks, S. E., Breiding, M. J., Gilbert, L. K., Edwards, V. J., et al. (2014). Examination of the factorial structure of adverse childhood experiences and recommendations for three subscale scores. Psychology of Violence, 4(4). https://doi.org/10.1037/a0037723

Franchino-Olsen, H. (2019). Vulnerabilities relevant for commercial sexual exploitation of children/domestic minor sex trafficking: A systematic review of risk factors. *Trauma, Violence, & Abuse, 22*(1), 99-111. https://doi.org/10.1177/1524838018821956

Franchino-Olsen, H. (2021). Frameworks and theories relevant for organizing commercial sexual exploitation of children/domestic minor sex trafficking risk factors: A systematic review of proposed frameworks to conceptualize vulnerabilities. *Trauma, Violence, & Abuse, 22*(2), 306-317. https://doi.org/10.1177/1524838019849575

Franchino-Olsen, H., & Martin, S. L. (2022). The associations between gang membership and domestic minor sex trafficking (DMST): findings from a nationally representative study. *Violence and victims*. https://doi.org/10.1891/vv-2021-0070

Franchino-Olsen, H., Silverstein, H. A., Kahn, N. F., & Martin, S. L. (2020). Minor sex trafficking of girls with disabilities. *International journal of human rights in healthcare*.

Fraley, H. E., & Aronowitz, T. (2021). Obtaining exposure and depth of field: School nurses "seeing" youth vulnerability to trafficking. *Journal of interpersonal violence*, *36*(15-16), 7547-7573. https://doi.org/10.1177/0886260519836779

Gerassi, L. (2015). From exploitation to industry: Definitions, risks, and consequences of domestic sexual exploitation and sex work among women and girls. *Journal of Human Behavior in the Social Environment*, *25*(6), 591-605. https://doi.org/10.1080%2F10911359.2014.991055

Goldenberg, S. M., Silverman, J. G., Engstrom, D., Bojorquez-Chapela, I., Usita, P., Rolón, M. L., & Strathdee, S. A. (2015). Exploring the context of trafficking and adolescent sex industry involvement in Tijuana, Mexico: consequences for HIV risk and prevention. *Violence Against Women*, *21*(4), 478-499. https://doi.org/10.1177/1077801215569079

Gopalkrishnan, N. (2018). Cultural diversity and mental health: Considerations for policy and practice. *Frontiers in public health*, *6*, 179. https://doi.org/10.3389%2Ffpubh.2018.00179

Greeson, J. K., Treglia, D., Wolfe, D. S., & Wasch, S. (2019a). Prevalence and correlates of sex trafficking among homeless and runaway youths presenting for shelter services. *Social Work Research*, *43*(2), 91-100. https://doi.org/10.1093/swr/svz001

Greeson, J. K., Treglia, D., Wolfe, D. S., Wasch, S., & Gelles, R. J. (2019b). Child welfare characteristics in a sample of youth involved in commercial sex: An exploratory study. *Child abuse & neglect*, *94*, 104038. https://doi.org/10.1016/j.chiabu.2019.104038

Hallett, S. (2016). 'An uncomfortable comfortableness':'Care', child protection and child sexual exploitation. *British Journal of Social Work*, *46*(7), 2137-2152. https://doi.org/10.1093/bjsw/bcv136

Hays-Grudo, J., Morris, A. S., Beasley, L., Ciciolla, L., Shreffler, K., & Croff, J. (2021). Integrating and synthesizing adversity and resilience knowledge and action: The ICARE model. *American Psychologist*, *76*(2), 203. https://doi.org/10.1037/amp0000766

Helpingstine, C. E., Stephens, D. P., Kenny, M. C., & Eaton, A. A. (2021). Adolescent girls with a history of Commercial Sexual Exploitation (CSE): perceptions and characteristics of social networks. *Child Abuse & Neglect*, *115*, 105015. https://doi.org/10.1016/j.chiabu.2021.105015

Hogan, K. A., & Roe-Sepowitz, D. (2020). LGBTQ+ homeless young adults and sex trafficking vulnerability. *Journal of Human Trafficking*, 1-16. https://doi.org/10.1080/23322705.2020.1841985

Homma, Y., Nicholson, D., & Saewyc, E. M. (2012). A profile of high school students in rural Canada who exchange sex for substances. *The Canadian journal of human sexuality*, *21*(1), 29.

Hong, Q. N., Fàbregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P., ... & Pluye, P. (2018). The Mixed Methods Appraisal Tool (MMAT) version 2018 for information professionals and researchers. *Education for information*, *34*(4), 285-291.

Hornor, G., Hollar, J., Landers, T., & Sherfield, J. (2022). Healthcare use and case characteristics of commercial sexual exploitation of children: teen victims versus high-risk teens. *Journal of forensic nursing*, 10-1097. https://doi.org/10.1097/jfn.0000000000000402

Hossain, M., Zimmerman, C., Abas, M., Light, M., & Watts, C. (2010). The relationship of trauma to mental disorders among trafficked and sexually exploited girls and women. *American journal of public health*, *100*(12), 2442-2449. https://doi.org/10.2105%2FAJPH.2009.173229

Hurst, T. E. (2021). Prevention of child sexual exploitation: insights from adult survivors. *Journal of interpersonal violence*, *36,* 13-14. https://doi.org/10.1177/0886260519825

Ijadi-Maghsoodi, R., Cook, M., Barnert, E. S., Gaboian, S., & Bath, E. (2016). Understanding and responding to the needs of commercially sexually exploited youth: Recommendations for the mental health provider. *Child and Adolescent Psychiatric Clinics*, *25*(1), 107-122. https://doi.org/10.1016%2Fj.chc.2015.08.007

International Labour Organization. (2017). *Global estimates of modern slavery: forced labour and forced marriage.* Available at: https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/publication/wcms_575479.pdf

International Labour Organization. (s.d.). *HIV/AIDS in Africa.* Available at: https://www.ilo.org/africa/areas-of-work/hiv-aids/lang--en/index.htm

Jani, N., & Felke, T. P. (2017). Gender bias and sex-trafficking in Indian society. *International Social Work*, *60*(4), 831-846. https://doi.org/10.1177/0020872815580040

Kennedy, A. C., Bybee, D., Kulkarni, S. J., & Archer, G. (2012). Sexual victimization and family violence among urban African American adolescent women: do violence cluster profiles predict partner violence

victimization and sex trade exposure?. *Violence against women*, *18*(11), 1319-1338. https://doi.org/10.1177/1077801212470544

Kennedy, M. A., Arebalos, M. R., Ekroos, R. A., & Cimino, A. N. (2021). Sex Trafficking Red Flags:: Confirming Presentation Patterns and Childhood Adversity Risk Factors. *Nurse Leader*, *19*(5), 516-520. https://doi.org/10.1016/j.mnl.2021.01.007

Kiss, L., Fotheringhame, D., Kyegombe, N., McAlpine, A., Abilio, L., Kyamulabi, A., ... & Tanton, C. (2022). Violence, abuse and exploitation among trafficked women and girls: a mixed-methods study in Nigeria and Uganda. *BMC public health*, *22*(1), 1-15.

Klatt, T., Cavner, D., & Egan, V. (2014). Rationalising predictors of child sexual exploitation and sex-trading. *Child Abuse & Neglect*, *38*(2), 252-260. https://doi.org/10.1016/j.chiabu.2013.08.019

Kloess, J. A., Beech, A. R., & Harkins, L. (2014). Online Child Sexual Exploitation. Trauma, Violence, & Abuse, 15(2), 126–139. http://dx.doi.org/10.1177/1524838013511543

Landers, M., McGrath, K., Johnson, M. H., Armstrong, M. I., & Dollard, N. (2017). Baseline characteristics of dependent youth who have been commercially sexually exploited: Findings from a specialized treatment program. *Journal of child sexual abuse*, *26*(6), 692-709. https://doi.org/10.1080/10538712.2017.1323814

Landers, M., Johnson, M. H., Armstrong, M. I., McGrath, K., & Dollard, N. (2020). Exploring relationships as mediators of treatment outcomes among commercially sexually exploited youth. *Child Abuse & Neglect*, *100*. https://doi.org/10.1016/j.chiabu.2019.104095

Louie, D. (2018). Sexual exploitation prevention education for indigenous girls. *Canadian Journal of Education/Revue canadienne de l'éducation*, *41*(2), 633-663.

Macias-Konstantopoulos, W. L., Munroe, D., Purcell, G., Tester, K., Burke, T. F., & Ahn, R. (2015). The commercial sexual exploitation and sex trafficking of minors in the Boston metropolitan area: experiences and challenges faced by front-line providers and other stakeholders. *Journal of Applied Research on Children*, *6*(1).

Macias Konstantopoulos, W., Ahn, R., Alpert, E. J., Cafferty, E., McGahan, A., Williams, T. P., ... & Burke, T. F. (2013). An international comparative public health analysis of sex trafficking of women and girls in eight cities: achieving a more effective health sector response. *Journal of Urban Health*, *90*(6), 1194-1204. https://doi.org/10.1007/s11524-013-9837-4

Macy, R. J. (2018). Identification, Assessment, and Outreach. In A. J. Nichols, T. Edmond, & E. C. Heil (Eds.), *Social work practice with survivors of sex trafficking and commercial sexual exploitation* (pp. 18-32). Columbia University Press.

McClain, N. M., & Garrity, S. E. (2011). Sex trafficking and the exploitation of adolescents. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, *40*(2), 243-252.

McNeal, B. A., & Walker, J. T. (2016). Parental effects on the exchange of sex for drugs or money in adolescents. *American Journal of Criminal Justice*, *41*(4), 710-731.

Mitchell, K., Moynihan, M., Pitcher, C., Francis, A., English, A., & Saewyc, E. (2017). Rethinking research on sexual exploitation of boys: Methodological challenges and recommendations to optimize future knowledge generation. *Child abuse & neglect*, *66*, 142-151. https://doi.org/10.1016/j.chiabu.2017.01.019

Morris, A. S., Hays-Grudo, J., Zapata, M. I., Treat, A., & Kerr, K. L. (2021). Adverse and Protective Childhood Experiences and Parenting Attitudes: the Role of Cumulative Protection in Understanding Resilience. *Adversity and Resilience Science,* 1-12.

Moynihan, M., Mitchell, K., Pitcher, C., Havaei, F., Ferguson, M., & Saewyc, E. (2018). A systematic review of the state of the literature on sexually exploited boys internationally. *Child Abuse & Neglect*, *76*, 440-451.

Musicaro, R. M., Spinazzola, J., Arvidson, J., Swaroop, S. R., Goldblatt Grace, L., Yarrow, A., ... & Ford, J. D. (2019). The complexity of adaptation to childhood polyvictimization in youth and young adults: Recommendations for multidisciplinary responders. *Trauma, Violence, & Abuse*, *20*(1), 81-98.

Njoku, E. T., Akintayo, J., & Mohammed, I. (2022). Sex trafficking and sex-for-food/money: terrorism and conflict-related sexual violence against men in the Lake Chad region. *Conflict, Security & Development*, *22*(1), 79-95. https://doi.org/10.1080/14678802.2022.2034369

O'Brien, J. E. (2018). "Sometimes, Somebody Just Needs Somebody–Anybody–to Care:" The power of interpersonal relationships in the lives of domestic minor sex trafficking survivors. *Child abuse & neglect*, *81*, 1-11. https://doi.org/10.1016/j.chiabu.2018.04.010

O'Brien, J. E., Li, W., Givens, A., & Leibowitz, G. S. (2017). Domestic minor sex trafficking among adjudicated male youth: Prevalence and links to treatment. *Children and Youth Services Review*, *82*, 392-399.

Ouzzani, M., Hammady, H., Fedorowicz, Z., & Elmagarmid, A. (2016). Rayyan-a web and mobile app for systematic reviews. *Systematic Reviews, 5*(1), 210. https://doi.org/10.1186/s13643-016-0384-4

Pace, R., Pluye, P., Bartlett, G., Macaulay, A. C., Salsberg, J., Jagosh, J., & Seller, R. (2012). Testing the reliability and efficiency of the pilot Mixed Methods Appraisal Tool (MMAT) for systematic mixed studies review. *International Journal of Nursing Studies, 49*(1), 47–53. https://doi.org/10.1016/j.ijnurstu.2011.07.002

Page, M. J., Moher, D., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., … & McKenzie, J. E. (2020). PRISMA 2020 explanation and elaboration: Updated guidance and exemplars for reporting systematic reviews. *bmj*, *372*. https://doi.org/10.31222/osf.io/gwdhk

Panlilio, C. C., Miyamoto, S., Font, S. A., & Schreier, H. M. (2019). Assessing risk of commercial sexual exploitation among children involved in the child welfare system. *Child abuse & neglect*, *87*, 88-99.

Pereda, N., Codina, M., Díaz-Faes, D. A., & Kanter, B. (2022). Giving a voice to adolescents in residential care: Knowledge and perceptions of commercial sexual exploitation and runaway behavior. *Children and Youth Services Review*, *141*, 106612. https://doi.org/10.1016/j.childyouth.2022.106612

Perkins, E. B., & Ruiz, C. (2017). Domestic minor sex trafficking in a rural state: Interviews with adjudicated female juveniles. *Child and adolescent social work journal*, *34*(2), 171-180.

Reid, J. A. (2011). An exploratory model of girl's vulnerability to commercial sexual exploitation in prostitution. *Child maltreatment*, *16*(2), 146-157. http://dx.doi.org/10.1177/1077559511404700

Reid, J. A. (2018). Sex trafficking of girls with intellectual disabilities: An exploratory mixed methods study. *Sexual Abuse*, *30*(2), 107-131. https://doi.org/10.1177/1079063216630981

Reid, J. A. (2014). Risk and resiliency factors influencing onset and adolescence-limited commercial sexual exploitation of disadvantaged girls. *Criminal Behaviour and Mental Health*, *24*(5), 332-344.

Reid, J. A., Fox, B., Bilali, K., & Diaz, J. (2021). Personality traits and male vulnerability to commercial sexual exploitation victimisation. *Criminal behaviour and mental health*, *31*(2), 120-130.

Reid, J. A., & Piquero, A. R. (2014). Age-graded risks for commercial sexual exploitation of male and female youth. *Journal of interpersonal violence*, *29*(9), 1747-1777. https://doi.org/10.1177/0886260513511535

Reid, J. A., & Piquero, A. R. (2016). Applying general strain theory to youth commercial sexual exploitation. *Crime & Delinquency*, 62, 341–367. doi:10.1177/0011128713498213

Reid, J. A., Strauss, J., & Haskell, R. A. (2018). Clinical practice with commercially sexually exploited girls with intellectual disabilities. In A. J. Nichols, T. Edmond, & E. C. Heil (Eds.), *Social work practice with survivors of sex trafficking and commercial sexual exploitation* (pp. 316-332). Columbia University Press.

Rocha-Jimenez, T., Brouwer, K. C., Salazar, M., Boyce, S. C., Servin, A. E., Goldenberg, S. M., ... & Silverman, J. G. (2018). "He invited me and didn't ask anything in return" Migration and Mobility as Vulnerabilities for Sexual Exploitation among Female Adolescents in Mexico. *International migration*, *56*(2), 5-17.

Roe-Sepowitz, D. E. (2012). Juvenile entry into prostitution: The role of emotional abuse. *Violence against women*, *18*(5), 562-579. https://psycnet.apa.org/doi/10.1177/1077801212453140

Scoglio, A. A., Kraus, S. W., Saczynski, J., Jooma, S., & Molnar, B. E. (2021). Systematic review of risk and protective factors for revictimization after child sexual abuse. *Trauma, Violence, & Abuse*, *22*(1), 41-53.

Self-Brown, S., Culbreth, R., Wilson, R., Armistead, L., Kasirye, R., & Swahn, M. H. (2021). Individual and parental risk factors for sexual exploitation among high-risk youth in Uganda. *Journal of interpersonal violence*, *36*(5-6). https://doi.org/10.1177/0886260518771685

Servin, A. E., Brouwer, K. C., Gordon, L., Rocha-Jimenez, T., Staines, H., Vera-Monroy, R. B., ... & Silverman, J. G. (2015). Vulnerability factors and pathways leading to underage entry into sex work in two Mexican-US border cities. *The journal of applied research on children: informing policy for children at risk*, *6*(1).

Silverman, J. G., Decker, M. R., Gupta, J., Maheshwari, A., Patel, V., Willis, B. M., & Raj, A. (2007). Experiences of sex trafficking victims in Mumbai, India. *International Journal of Gynecology & Obstetrics*, *97*(3), 221-226.

UN Secretary-General. (2003, p. 1). *Secretary-General's bulletin: Special measures for protection from sexual exploitation and sexual abuse.* UN Doc ST/SGB/2003/13. Available at: https://www.unhcr.org/media/secretary-generals-bulletin-special-measures-protection-sexual-exploitation-and-sexual-abuse

United Nations Office on Drugs and Crime, UNODC. (2020). *Global report on trafficking in persons.* Available at: https://www.unodc.org/documents/data-and-analysis/tip/2021/GLOTiP_2020_15jan_web.pdf

Varma, S., Gillespie, S., McCracken, C., & Greenbaum, V. J. (2015). Characteristics of child commercial sexual exploitation and sex trafficking victims presenting for medical care in the United States. *Child Abuse & Neglect, 44*, 98-105. https://doi.org/10.1016/j.chiabu.2015.04.004

De Vries, I., Kafafian, M., Goggin, K., Bouchard, E., Goldfarb, S., & Farrell, A. (2020). Enhancing the identification of commercial sexual exploitation among a population of high-risk youths using predictive regularization models. *Child maltreatment*, *25*(3), 318-327. https://doi.org/10.1177/1077559519889178

Williams, T. P., Binagwaho, A., & Betancourt, T. S. (2012). Transactional sex as a form of child sexual exploitation and abuse in Rwanda: Implications for child security and protection. *Child abuse & neglect*, *36*(4), 354-361. https://doi.org/10.1016/j.chiabu.2011.11.006

Williams, T. P., Chopra, V., & Chikanya, S. R. (2018). " It isn't that we're prostitutes": Child protection and sexual exploitation of adolescent girls within and beyond refugee camps in Rwanda. *Child Abuse & Neglect*, *86*, 158-166. https://doi.org/10.1016/j.chiabu.2018.09.015

Wilson, H. W., & Widom, C. S. (2010). The role of youth problem behaviors in the path from child abuse and neglect to prostitution: A prospective examination. *Journal of Research on Adolescence, 20*, 210–236.

Wissink, I. B., Vugt, E. van, Moonen, X., Stams, G.-J. J. M., & Hendriks, J. (2015). Sexual abuse involving children with an intellectual disability (ID): A narrative review. *Research in Developmental Disabilities.*

Wood, L. C. (2020). Child modern slavery, trafficking and health: A practical review of factors contributing to children's vulnerability and the potential impacts of severe exploitation on health. *BMJ Paediatrics Open, 4*(1). https://doi.org/10.1136/bmjpo-2018-000327

Wright, E. R., LaBoy, A., Tsukerman, K., Forge, N., Ruel, E., Shelby, R., ... & Wallace, C. (2021). The prevalence and correlates of labor and sex trafficking in a community sample of youth experiencing homelessness in Metro-Atlanta. *Social Sciences*, *10*(2), 32. https://doi.org/10.3390/socsci10020032

Zimmerman, C., & Kiss, L. (2017). Human trafficking and exploitation: A global health concern. *PLoS medicine*, *14*(11). https://doi.org/10.1371/journal.pmed.1002437

Chapter 3

Sexual exploitation of young men: Background characteristics and needs from a life course perspective

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Child Abuse & Neglect 2024. 152 , 106794.

This research was a cooperation between organizations Koraal, Fier, Sterk Huis, Expertisecentrum Mensenhandel en (jeugd)Prostitutie of Lumens and Pretty Woman/Best man, from a grant project by the Dutch Ministry of Health, Welfare and Sport (grant number: 328604).

Abstract

Background

Sexually exploited young men are prevalent, yet underrepresented in clinical practice, policy and research. There are multiple barriers that often prevent young men to disclose and to seek or receive support, such as gender norms, limited awareness of victimization and feelings of guilt and shame.
Objective: By gaining more insight into the background characteristics of young men who experienced sexual exploitation and their needs, this study aims to raise awareness and to better inform policymakers, care- and educational professionals on adequate prevention and intervention efforts.

Methods

Twenty-six young men (age 14-32) who experienced sexual exploitation or other forms of sexual violence in their youth or were at high-risk, participated in this qualitative study that was conducted in The Netherlands. By means of semi-structured interviews and case-file analyses, data was collected to identify risk and protective factors in their life-course and support needs.

Results

Several vulnerabilities (e.g. previous experiences of abuse and neglect, household dysfunction, social rejection, running away, substance use) and a lack of positive and supportive relationships led young men into high-risk situations. Among these were involvement in pay dates, criminality and having to survive from day to day, which contributed to victimization. Prevailing gender norms and experiences of stigmatization were often a barrier to express vulnerabilities and to disclose victimization. There was a wide variety in support needs, including peer-to-peer support, therapy, support with day-to-day practices and anonymous support.

Conclusions

These results will contribute to adequate prevention and trauma-informed intervention strategies that meet the unique needs of young men at risk for, or victim of sexual exploitation.

Introduction

Sexual exploitation is a human rights violation that has a detrimental impact on the psychological, physical and social well-being of victims (Mitchell et al., 2017; Moynihan et al., 2018). It is a form of human trafficking and defined by the 'Protocol to Prevent, Supress and Punish Trafficking in Persons Especially Women and Children, supplementing the UN Convention against Transnational Organized Crime', commonly known as 'Palermo Protocol' (Office of the United Nations High Commissioner for Human Rights, 2000). The protocol provides a globally accepted definition of the components of human trafficking: 'act', 'means' and 'purpose'. The 'act' component is met when a trafficker recruits, transports, transfers, harbours or receipts another person. 'Means' refers to the use of force, threat, fraud, abduction, the abuse of power or other forms of coercion. The exploitation is the 'purpose' component. The current study focuses on sexual exploitation, a specific form of human trafficking (therefore hereafter using the term sexual exploitation). According to the protocol this involves the use of force, threat, fraud, abduction, the abuse of power or coercion to control and exploit individuals for purposes of prostitution or other sexual acts (Office of the United Nations High Commissioner for Human Rights, 2000). This definition applies to children differently. In the protocol the 'means' component is irrelevant for minors: any child under the age of 18 that is recruited, transported, transferred or harboured for the purpose of exploitation falls under the definition of human trafficking. The Palermo Protocol is recognized worldwide to operationalize sexual exploitation. Yet, there are still differences in national, legal and governmental terminologies which results in challenges for policy development, legislation development and research (Interagency Working Group on Sexual Exploitation of Children, 2016; Mitchell et al., 2017). This creates difficulties for interpreting and comparing research findings (Mitchell et al., 2017). Some researchers for example use broader terminology than others when discussing the nature of commercial sex acts. The current study uses the operationalization of the 'Palermo protocol' to identify sexually exploited young men. With 'young men' we mean adolescents from 12 years of age and young adults unto their early thirties, who identify as men. In line with the protocol, force, threat, fraud, abduction, the abuse of power or coercion did not have to be present in young men who are minors in order to speak about sexual exploitation. This study is conducted in The Netherlands, a European country generally considered to be a wealthy and high-income country (World Bank Group, s.d.).

Every young person, regardless of gender, sexual-, cultural-, social-, ethnic- or religious background, can become a victim of sexual exploitation (Hill & Diaz, 2021). Although sexually exploited young men are prevalent, they are unrecognized and underrepresented in practice (e.g. care, education and law enforcement), policy and research (Hill & Diaz, 2021; Josenhans et al., 2020; Mercera et al., 2023; Mitchell et al., 2017). According to prevalence data from school population studies, less than 5% of the young men self-reported that they had experienced sexual exploitation (Moynihan et al., 2018;

Moss et al., 2023). This proportion was higher according to survey studies in vulnerable populations, such as transgender youth (10%) and street connected young men (26%; Moss et al., 2023). Prevalence estimates based on self-report questionnaires and surveys should be taken with caution, due to a high likelihood of under-reporting. Also comparisons between prevalences should be taking into caution, given the diversity in samples, differences in operationalisations, the inclusion of a limited number of countries in the world and the fact that they rely on accessible populations (Moynihan et al., 2018).

Multiple barriers contribute to the underreporting of sexual exploitation, regardless of gender or gender identity. These barriers include the hidden nature of the crime, the hardship for victims to recognize victimization and the large threshold to disclose victimization, for example because of fear for being blamed, being disbelieved, criminal offences, dependency on the perpetrator or shame and self-blame (Andretta et al., 2016; Covers et al., 2022; De Vries et al., 2020; O'Brien & Wen Li, 2020). Additional barriers have been found for young men in particular. Research has shown that dominant gender norms and taboos resulted in feelings of shame, guilt and self-blame (Alaggia, 2005; Josenhans et al., 2020; Ricardo & Barker, 2008) or not seeing themselves as victims (Edinburgh et al., 2015; Hounmenou, 2017). This prevents young men from disclosing and seeking or receiving support (Josenhans et al., 2020). Based on such gender norms professionals tend to view young men as less vulnerable than cisgender young women (Hill & Diaz, 2021; McNaughton Nicholls et al., 2014). Relatedly, young men are frequently first identified by services for acting-out behaviors, and thus seen as criminal offenders rather than recognized as victims who might need help (Josenhans et al., 2020). What further hampers the identification and treatment of this vulnerable group of young men, is a worldwide lack of evidence-based screening tools, specialized prevention and care programs, and training for professionals to identify and treat sexually exploited young men (Greenbaum, 2014).

Actual research on sexual exploitation in young men has shown that a wide range of individual, family and environmental risk factors is associated with sexual exploitation (Moss et al., 2023). At the individual level, victims are known to frequently be underaged and appear to be sexually active at a relatively young age (ECPAT International, 2021; Moss et al., 2023; Simons et al., 2021). A low-risk awareness and being easily influenced or manipulated (e.g. as a result of psychological problems or intellectual disabilities) are seen as important risk factors (Cockbain et al., 2017; McNaughton Nicholls et al., 2014; Reid & Piquero, 2016). Moreover, sexually exploited young men showed conduct problems and criminal involvement more often than non-exploited peers (Moynihan et al., 2018). A lack of resources is associated with sexual exploitation in young men as well. A consistent finding in multiple studies was that being homeless or street-connected was an important risk factor for sexual exploitation (Josenhans et al., 2020). In a study on human trafficking among homeless youth, Schilling et al. (2018) found that many were offered money for sex on their first night of experiencing homelessness. Young men surviving from day to day due to a lack of housing, a support network,

financial resources, or substance dependencies more often seem to engage in sexual exchanges for money, food or shelter and be exploited (Josenhans et al., 2020).

A systematic review on risk and protective factors for sexual exploitation in youth showed that the most common family and environmental risk factors associated with sexual exploitation in young men are experiences of physical/emotional abuse and neglect, sexual abuse, compromised parenting, household dysfunction and economic vulnerabilities (Mercera et al., 2023). These risk factors correspond to the construct of adverse childhood experiences (ACEs), which are potentially traumatic events increasing the likelihood of negative psychosocial and physical health outcomes across the lifespan (Petruccelli et al., 2019). Originally, ACEs encompass experiences of physical and emotional abuse and neglect, sexual abuse or household dysfunction; Felitti et al., 2019). Later, other experiences that relate more to the environment were recommended to include in the ACE concept as well, such as peer victimization, social rejection, poverty, growing up in unsafe communities, out of home placements and experiencing violence outside the family (Afifi et al., 2020). Especially the ACE sexual abuse is found to be an important risk factor for sexual exploitation in young men (Ahrens et al., 2012; Josenhans et al., 2020; Silverman et al., 2022). It increases the likelihood of recurring patterns of sexual violence, which are rather common in young men who are sexually exploited. (Simons et al., 2021).

Cultural risk factors include young men's migration background and certain cultures' traditional ideas about masculinity and homosexuality (ECPAT International, 2021). Moreover, although evidence is scarce, a relatively high exposure to sexual exploitation has been demonstrated in LGBTQ youth (Greeson et al., 2019; Hogan & Roe-Sepowitz, 2020; Josenhans et al., 2020). Two Dutch studies provided more insight into possible underlying reasons (Van Gelder et al., 2017; Van Went & Castelijns, 2018): young men who grow up in a social or cultural context where gender diversity or sexuality is less accepted, have been found to explore their sexuality more often in secret and online environments where supervision is limited and there is a risk for grooming. Moreover, family rejection frequently resulted in homelessness, which is a risk for sexual exploitation.

Although underexamined, protective and compensatory experiences (protective factors that can mitigate the effect of ACEs) play an important role in reducing the likelihood of sexual exploitation (Crandall et al., 2019; Hays-Grudo et al., 2021; Landers et al., 2020; Mercera et al., 2023). Several studies on sexual exploitation indicated that young men who grew up with biological parents and experienced parental support and involvement, were less often sexually exploited than peers without these protective factors (Cluver et al., 2020; Franchino-Olsen et al., 2021). In addition, Reid and Piquero (2014) demonstrated that completing school reduces the likelihood of sexual exploitation in both young men and women.

A more comprehensive understanding of the factors that play a role in the likelihood of sexual exploitation in young men and their care and support needs is required to address knowledge gaps. In

their systematic review, Moynihan et al. (2018) recommend future research to address care and support needs of this population. Then, prevention and intervention efforts can be better accommodated to their unique needs. The use of more qualitative designs is recommended to integrate the time span of the life-course and the voice of young men themselves (Cockbain et al., 2017; Moynihan et al., 2018; Selvius et al., 2018). Therefore, the present qualitative study aimed to gain insight into background characteristics and care and support needs of young men who experienced sexual exploitation or other forms of sexual violence from a life course perspective. Actual victims of sexual exploitation and victims of other forms of sexual violence (e.g. sexual abuse and rape), as well as young men at-risk were included to gain a better understanding of critical life points that may prevent or contribute to sexual exploitation. Possible differences and commonalities between subgroups were explored.

Methods

This qualitative study was a collaboration within a consortium, existing of five organizations in The Netherlands. All organizations provide care and support to youth and young adults who experienced sexual exploitation or other forms of sexual violence. This study was approved by the medical ethics review committee (METC) of Maastricht UMC+ and Maastricht University (METC 2020-2295).

Participants

Participants were recruited within the five involved organizations, through other collaborative organizations, the professional network of the researchers and via peer-support platforms. The following inclusion criteria were used: 1. adolescents and young adults unto their early thirties who identify as men; 2. experiences of sexual exploitation or other forms of sexual violence in their youth (before age 23); participants that were identified by care professionals as 'high-risk' for victimization of sexual exploitation or other forms of sexual violence; 3. willingness to participate by interview or by making their clinical records available for research.

For the operationalization of sexual exploitation, the Palermo protocol was used as outlined in the introduction (Office of the United Nations High Commissioner for Human Rights, 2000). For participants who were victims under the age of 18, the component 'means' was irrelevant to speak of sexual exploitation. In the context of this study, the exploitation component that was present in the experiences of sexually exploited participants, set them apart from participants who experienced other forms of sexual violence (Interagency Working Group on Sexual Exploitation of Children, 2016). Other forms of sexual violence included rape, sexual abuse and sexual assault (United Nations, 2017). High-risk participants were identified by professionals as 'high risk' during their youth (before 23 years old) and elevated vulnerability concerns. Concerns were based on (sexual) risky situations (e.g. having been

in contact with sex offenders or human traffickers without being victimized, having witnessed peers being recruited for exploitation, having risky sexual encounters characterized by a power differential. To ensure their safety, participants with unsafe living environments or at risk of negative consequences when talking about their life courses were excluded. This was explicitly discussed with the participants during the informed consent procedure and with an involved professional in case they received care. Ultimately, in none of the participants was this was not the case for any of the participants, allowing the participation of all participants that the organizations connected the researchers with.

Procedure

In the set-up of this study, the researchers cooperated with an advisory board of professionals working at the five organizations of the consortium in the field of policy, research and practice. Aim of this board was to monitor the process and to ensure objectivity, clinical relevance and safety of the participants. The board, for example, ensured that relevant topics were included in the interview guide, that questions were formulated in a trauma-informed manner and advised researchers on how to approach participants.

Organizations were approached by the researchers with the study information and inclusion criteria and were asked if they had potential participants in their case load. If that was the case, the involved professional informed the potential participant about the research. The researchers contacted the potential participant when: 1) the participant expressed interest in participation and 2) gave permission to their professional to provide contact information to the researchers. The researchers contacted these potential participants to inform them about the study aims, procedure, expectations, privacy, data processing and study output. All participants gave written informed consent following this procedure. For participants under the age of 18, parents also gave consent. Three researchers of the consortium conducted the interviews and the clinical record analysis. In no case did they have an existing professional relationship with any of the participants. The analysis of the clinical records took place via access to the electronic patient database without further involvement of the participants. Interviews were conducted in person at a location familiar to the participants, with the exception of three interviews being held via video call due to practical considerations (e.g. distance or participant preference). Arrangements were made about where and to whom they could turn during or after the interview if negative feelings would arise. The informed consent letter explicitly stated that with participants' consent the interview audio would be recorded for the purpose of transcription. At the start, the researcher explained the interview structure and introduced the interview topics. Although there were five main topics, the researchers let the participants control the direction and pace of the interview within these five main topics (see the next paragraph). This resulted in a variation of interview duration between 40 minutes and 2.5 hours. The participants received a monetary voucher of 15 euros

for their time and effort. The researcher travelled to the participants, so the participants had no travel expenses.

Measures

Qualitative data were collected through individual semi-structured interviews and clinical record analysis. Interviews were conducted using an interview guide. Participants' life stories, experiences, feelings, behavior and critical points in their lives were collected. The interview guide consisted of several topics and was developed by consulting the literature on sexual exploitation in young men and the work of Bodden and Dekovic (2010) and Dekovic and Bodden (2019) on factors that characterize children and families with multiple and complex problems. For the interview script, the research design of the Dutch study 'Ketenbreed Leren' was consulted with approval of the authors (Spijk-de Jonge et al., 2022). The topics of the semi-structured interview included: family context, social network, school and work, relationships and sexuality, history of health care and support needs. Narrative interview techniques were used for the initial exploration of a main topic (e.g. 'Can you tell me what your family looked like when you grew up?'). These open-ended questions were meant to invite the participant to share experiences relevant to him within that topic. The participant controlled the direction, meaning that he decided what experiences were important to share and how much he was willing to share in relation to the discussed topic. The researcher had an interested and non-directive attitude and asked probing questions to explore the shared experiences in depth (e.g. 'can you name an example?', 'what were positive/negative experiences?', 'how did that affect you?'). For each topic, the topic list contained some questions that were asked, if the participant had not already addressed these subtopics himself (e.g. how was your relationship with your parents?; did anything unpleasant ever happened at home?). The experiences were linked to the participant's age, to be able to put them chronologically in time. If desired, the lifeline of the participant was drawn on a sheet of paper, using post-its and markers to visualize the experiences. The clinical records contained reports from former and current (youth) care, diagnostics, treatment, and education. The information in the reports was anonymized and analyzed with the topics from the interview guide as a codebook. New themes could emerge and were added to the codebook.

Data analysis

The data consisted of the anonymized transcripts of the interviews and the clinical records. Clinical records concerned indirect information about the life course and support needs of the participants to describe background characteristics. In the present analysis a distinction is made between the three subgroups of participants, as to date data on sexually exploited young men is still sparse (Kavenagh et

al., 2023) and because of the potential value of these specific data for targeted prevention and treatment strategies on sexual exploitation and other forms of sexual violence (Interagency Working Group on Sexual Exploitation of Children, 2016). Interview data were coded through open, axial and selective coding, structuring the data into themes using thematic analysis (Baarda et al., 2013). The software program Atlas.ti (version 9) was used to code and analyse the data. A social constructionist approach to grounded theory was used to analyze the data (Charmaz, 2006). In order to deal with personal subjectivity due to researchers' own experiences, a reflective, interpretative approach was conducted throughout the analysis process. Therefore, researchers repeatedly reflected on the data, their own coding and each other's coding through mutual discussion. Three transcripts were coded by two different researchers after which these researchers reviewed each other's coded transcripts. Coding discrepancies among the researchers were resolved through mutual discussion, initial codes were revised and new codes were created. By this process, an initial coding scheme developed. The researchers continued coding their own assigned transcripts following this coding scheme. During regular project staff meetings, the researchers reviewed and discussed each other's coding repeatedly to gain deeper insights into overarching themes within participants' life courses. The open and axial coding was done using an inductive approach, in which the constructs (themes) were determined by the data, emphasizing the importance of the participants' narratives of their experiences (Charmaz, 2006). Then, the main researcher used selective coding with a deductive approach to organize and structure the data by existing theoretical knowledge. For this purpose, the Intergenerational and Cumulative Adverse and Resilient Experiences (ICARE) model was used (Hays-Grudo et al., 2021). This model provides an integrative synthesis of ACEs, protective and compensatory experiences (PACEs) and environmental stressors on various life outcomes regarding development, (risky) behavior and social, mental and physical health problems. The resulting code tree, with associated themes, subthemes and quotes was discussed and finalized with a second researcher. The codebook resulting from the analysis of the interviews was then applied to the clinical records. Ultimately, four main themes emerged from the interviews and clinical records. The underlying code tree and quotes were used to describe the results. Quotes were translated from Dutch to English by the researchers.

Results

Twenty-six participants were included, of which twenty-one agreed to be interviewed and five made their clinical record available. Table 1 demonstrates the demographic information of the participants. Eleven sexually exploited participants were included, seven participants who experienced other forms of sexual violence and eight participants at high-risk. Four overarching themes emerged which were chronologically structured by the ICARE model in accordance with participant's life courses: Participants shared that ACEs and a lack of protective and compensatory experiences (theme 1)

impacted their emotions, coping and risky behavior in childhood and adolescence (theme 2) and how this contributed to victimization of sexual exploitation, other forms of sexual violence or to high-risk situations (theme 3). Additionally, participants shared barriers they experienced in access to and during (health) care and their care and support needs (theme 4). The main themes, underlying subthemes and differences and commonalities between subgroups are described below.

Table 1. Basic demographics of the participants

Participant code	Age during interview	Gender identity	Categorization
R1	18	Transgender*	High-risk
R2	25	Cisgender man	Sexual exploitation
R3	18	Cisgender man	High-risk
R4	20	Cisgender man	Sexual violence
R5	22	Cisgender man	High-risk
R6	19	Cisgender man	High-risk
R7	24	Cisgender man	Sexual violence
R8	15	Cisgender man	Sexual violence
R9	32	Cisgender man	Sexual violence
R10	17	Cisgender man	Sexual exploitation
R11	22	Cisgender man	Sexual exploitation
R12	27	Transgender**	Sexual exploitation
R13	20	Cisgender man	Sexual exploitation
R14	20	Cisgender man	Sexual exploitation
R15	14	Cisgender man	High-risk
R16	17	Cisgender man	Sexual violence
R17	23	Cisgender man	Sexual exploitation
R18	19	Non-binary***	Sexual violence
R19	17	Cisgender man	High-risk
R20	20	Cisgender man	High-risk
R21	16	Cisgender man	High-risk
R22	24	Cisgender man	Sexual exploitation
R23	25	Cisgender man	Sexual exploitation
R24	18	Cisgender man	Sexual exploitation
R25	27	Cisgender man	Sexual exploitation
R26	24	Cisgender man	Sexual violence

* Participant born as male and identified as a woman in late adolescence. Shared life story from the perspective of both gender identities and therefore included.
** Participant born as female. He identified himself as man and completed his transition.
*** Participant who identified as a man when he experienced sexual violence and identified as non-binary during the interview.

Adverse Childhood Experiences

ACEs were a major theme in the interviews and clinical records. All participants, independent of their subgroups, experienced at least one ACE. These experiences were categorized in two subthemes: 1.

ACEs in the home environment, including physical/emotional abuse and neglect, sexual abuse, domestic violence, parental separation and parental mental health problems or parental substance abuse; 2. experiences of social rejection, including being bullied or excluded by peers.

Adverse childhood experiences in the home environment. Approximately three quarter of the participants experienced ACEs in the home environment. Participants for example witnessed violence between parents, did not feel taken care of or supported by their parents and/or were beaten or scolded. Parents themselves were struggling with problems, such as depression, Post Traumatic Stress Disorder (PTSD) or substance dependence. Often there was an accumulation of family problems:

'I have a mother and three brothers of whom one was placed out of home at that time. The other two stayed at home. I had an alcoholic stepfather who abused me. My own father who abused me at home. […] Yeah, what did my childhood look like? Yes, difficult to explain. Messy.' - R5

A quarter of the participants experienced sexual abuse in childhood. Three of them were revictimized in later life by sexual exploitation or other forms of sexual violence. Awareness of the abuse often did not come until later in life. Participants explained they had suppressed the experience, they thought it was normal or they thought it was their fault.

'When something like this happens, you have to imagine your body reacts too, so then it's easy to blame yourself. Since my body is reacting, I wanted it. But that's not the case at all.' - R9

Participants often did not disclose these adversities. They explained that they were used to violence at home, did not (want to) feel like a victim or did not want to bother others with their problems. Participants who experienced an accumulation of ACEs in the home environment (half of the participants) often lacked protective and compensatory experiences, such as being able to fall back on their parents or families for support.

'And then it happened [the rape], and after that I just ran away. I just carried on as if nothing was wrong. Ideally, I would have had parents I could tell that this happened.' - R18

Experiences of Social rejection. Experiences of social rejection was a second subtheme regarding ACEs. More than half of the participants had been bullied, were rejected or felt like an outcast (e.g. due to gender identity or sexual orientation, being raised by people other than their parents, or their behavior such as hyperactivity and difficulties to connect with peers). LGBTQ+ participants shared that their coming-out was a difficult phase. Exploring their (sexual) identity and coping with negative reactions and judgments was challenging:

'It's not that they [parents] don't accept me for who I am, but they are very afraid of the reactions from the world outside.' - R7

Moreover, participants with behavioral problems often experienced stigmatization. They explained that their social environment mainly looked at their problems instead of them as an individual. Hence, they felt rejected, as the following quote illustrates:

'You are the child who is placed out of home because you are a problematic child. That gives you the impression that there is something wrong with you.' - R4

Protective and compensatory experiences. Although limited compared to ACEs, participants reported on protective and compensatory experiences as well, such as parental support, support from friends and positive school experiences or leisure activities. In participants who did not experience an accumulation of ACEs, parents were more often a protective factor and had a supportive role.

'Whether it's stealing, drugs, or talking about sex, I tell my parents everything. Even if they don't always want to hear it. Because I know that my parents can give me the best advice. They can really talk to me about it [...]. They judge [my behavior], but can also help me.' - R17

As can be expected from our inclusion criteria, protective and compensatory experiences did not prevent participants from being in situations of sexual exploitation, other forms of sexual violence or high-risk situations. Yet, for many participants these experiences did help them to deal with challenges in their life-course and to feel like they have a future perspective again. In the case of participant R17, for example, parental support helped him to disclose his negative sexual experiences to his parents, after which he sought treatment to process this. Another participant who is a drag performer, experienced social rejection and stigma in adolescence. His leisure activity, joining theatre, helped him to express himself and to meet people that made him feel understood.

'And then I got involved in theatre, which I really enjoyed. In society and especially in school, you have hierarchies or something. You have the popular people, you have the people who are less social. In theatre it's all the same. I thought that was a nice development.' – R7

In summary, this paragraph showed that a large proportion of the participants experienced ACEs and a lack of protective and compensatory experiences. They had missed sufficient stability, support, attention, and recognition in their childhood. They explained that ACEs highly affected them and made them increasingly vulnerable for developing problems in later life, which contributed to high-risk situations and experiences with sexual exploitation and other forms of sexual violence, which is further described in the following paragraphs:

'So that's where [youth] it started. Because I lived everywhere and I was being raised by social services, I never really had stability with people around me and no permanent place to stay. That caused my addiction, looking for excitement and sex work. Because sex work is also acceptance. The fact that those people come to you can mean something. A kind of fake love of course.' - R24

'Experiences in your life and the people around you have a very big influence on the choices you make. They shape you. That's why it's important that a child is raised well, isn't it?' - R26

Emotions, coping and risky behavior

Theme 2 encompassed emotional and behavioral problems in childhood and adolescence. Subsequently, unhealthy coping mechanisms and risky behaviors paved the way for involvement in high-risk situations which increased the likelihood of victimization of sexual exploitation and other forms of sexual violence. As with theme 1, theme 2 revealed no differences between subgroups.

Internalizing and externalizing behavioral problems. Three-quarters of the participants talked about emotional and behavioral problems in childhood and adolescence. Half of them experienced internalizing problems, such as identity problems, low self-esteem, loneliness, depression, and suicidal behavior. Many participants linked these problems to ACEs or complex family situations. Identity problems were especially prevalent among LGBTQ+ participants, who all had struggled with their sexual orientation, gender identification and coming-out.

'I was very tired of life because I no longer knew who I was. I thought that nobody cared about me or anything. Everybody else had somebody and I had nobody.' - R1

For most participants, internalizing problems remained invisible for the people around them because they did not talk about their feelings. Some of them compensated for their negative feelings with unhealthy coping strategies such as drug and alcohol use. The other half of participants with emotional and behavioral problems experienced externalizing problems, such as aggression and conduct problems. All of them were involved in (residential) youth care and/or special education since childhood and had experienced an accumulation of ACEs. Many of them linked their behavioral problems to past experiences.

'It [aggression problems] arose out of trauma, because as a child you experience things. And unconsciously you start to develop problems and adopt certain habits. [You] find things normal, that are actually not normal at all.' - R4

Instead of expressing their underlying feelings, their behavior was more prominent:

'I never really cried when things went shitty [at home], but I was always angry.' – R10

Externalizing problems often evoked negative reactions from the social environment, such as being rejected and having arguments. This in turn resulted in additional problems such as parent-child relationship problems, school problems and out-of-home placements.

'In high school things went downhill. That's when my parents divorced. That did have an impact on me […]. I started bullshitting in class, breaking things, came into contact with police. [...]. I was also placed out of home because of drug use and stuff.' – R6

Coping and high-risk behavior. Participants showed some tendency to engage in risky behaviors. This meant they were at higher risk of adult perpetrators making contact with and exploiting them. Over half of the participants reported excessive alcohol and drug use, nearly half of them reported risky sexual behavior and a third ran away and/or were involved in criminal activities. Three functions of high-risk behavior could be distinguished: 1. As a coping mechanism; 2. For the purpose of experimenting; 3. As a result of group influence.

First, three quarter of the participants described risky behavior as a coping mechanism to deal with negative emotions and environmental stressors. Substance use was mentioned most often. Participants indicated that drugs helped them to numb their feelings.

'Especially when you're in such a shitty situation at home. That's when you start smoking [weed] and drink.' - R13

LGBTQ+ participants described risky sexual behavior as a coping mechanism, including dating strangers and having multiple partners. Due to a lack of love and affection or as a way to make up for unpleasant past sexual experiences, they deliberately looked for boundaries when it came to their sexual behavior. Furthermore, participants who showed multiple types of risky behaviors, more often had substance dependencies, financial problems and unstable living situations. This particularly concerned participants with poor relationships with parents, multiple ACEs and externalizing behavioral problems. They often went from institution to institution, dropped out of school and explained they were 'surviving':

I had to survive. I came from a closed group home. I had no one around me, no mother, no father, no one. When I got out, my little brother didn't want to have contact with me either [...]. I did everything to survive.' - R3

This survival behavior arose from circumstances in their lives that they did not choose for themselves. It did increase their dependency on substances and/or other people who could provide them money

or shelter. Hence, several participants felt no other way out than engagement in criminal activities or sex work to generate income. This put them into vulnerable positions, of which human traffickers and perpetrators of other forms of sexual violence took advantage.

Second, risky behavior was described as a way to experiment, particularly risky sexual behavior to discover one's sexual orientation and gender identity. Sexting, sex dates with strangers and paydates, were ways to explore sexuality. Often their social environment was not aware of this, especially in LGBTQ+ participants who were in their coming-out phase or who experienced acceptance problems. Lastly, group influence was reported as a reason for risky behavior. In their social environment, alcohol and drug use was normalized, as well as hanging out on the streets and conducting petty crimes. Group norms especially contributed to risky behavior in institutionalized participants:

'Many youth [in the institution] were in contact with police, and had a weakness for listening to people they shouldn't listen to […]. That's kind of compelling and stuff.' - R5

Risky sexual and transgressive behavior was prominent among participants who functioned at the level of mild intellectual disabilities to borderline intellectual functioning. According to their clinical records, what contributed to this was a combination of cognitive, adaptive and social-emotional delays, comorbid psychiatric disorders and subsequent difficulties in overseeing dangerous situations and impulsive behavior.

Sexual exploitation and other forms of sexual violence

The previous two themes showed parallels in the lives of the subgroups regarding ACEs and challenges in emotions, coping and (risky) behavior. This third theme explains different pathways, namely how victimization of sexual exploitation and other forms of sexual violence emerged, and in the case of high-risk participants, what factors were present that may have prevented victimization.

Sexual exploitation. Two pathways to sexual exploitation were found, which could partially overlap: 1. Young men surviving from day to day, as a result of a lack of financial resources, shelter, a supportive network or substance dependencies; 2. Young men engaged in pay dates and sex work. Participants who were surviving from day to day commonly reported difficult or no contact with parents, substance use, criminal activities, dropping out of school, multiple out-of-home placements, residential instability, financial problems and runaway behavior. Human traffickers took advantage of their vulnerable positions by giving them shelter, money or the attention and affection lacking in their lives:

'Just literally a man offering youth money for sexual acts. And who knows about vulnerable young men, who knows you're homeless, who knows you have no money and you have no food.' - R5

In half of these participants, the exploitative situation started by carrying out criminal activities for the trafficker. Consecutively, they were manipulated, forced into sexual activities and/or or in recruiting others to be exploited.

'Well I owed them 15.000 euros and then I had to put up a [weed] plantation upstairs. In the beginning I was like well okay let's do it. After two or three weeks I wasn't allowed to leave his house [...]. I didn't know [what to do] anymore. And I said well, if I have to, I'll go after women. Because I didn't know what else to do. Well, I did and he wanted me to keep doing that.' -R2

Several participants knew the trafficker before they were exploited. They were a friend of the family, a neighbour or a cousin, which caused loyalty conflicts or normalization of being part of the trafficking network.

'In the end, it's very hard to explain, but that person becomes like a friend of yours or something […]. In the end, we also brought people there, with whom the same thing would happen.' – R13

Participants who were victimized by engagement in pay dates and sex work, were often LGBTQ+ participants in young adulthood. Sex work was a way for them to experiment with their sexuality. Some participants indicated they liked the attention and the feeling of belonging, which they had missed in their lives. Some participants experimented in secret, due to acceptance problems of their gender identity or sexual orientation in their environment. This pathway partially overlapped with participants surviving from day to day, as pay dates could be a way to obtain money.

'I found it very exciting, I didn't know very much about it. I thought it was easy, making money. And then I belonged somewhere. I also saw other children of my age who were there. Then I thought, I'm not the only one, so it's not so strange what I'm doing.' -R24
During the interview the same participant (R24) mentioned that he now looks back on this differently. As a child he did not realize it was an exploitative situation, which was true for other participants as well. Via sex work they came in contact with a pimp who turned out to be a human trafficker. Human traffickers promised them clients and money, but turned out to be taking control through manipulation, coercion and by raping them. For many participants it was difficult to get out of the situation. This was due to coercion, manipulation and violence, but some participants also normalized the situation as they had gotten used to violence:

'When you know too many people in those things […], making that step to normal is really hard. I try to stay out of it now, but it's not just that man, it's a whole network all over the country. Eventually you automatically belong, become like them, and can't just get out anymore.' - R10

Other forms of sexual violence. Seven participants experienced other forms of sexual violence: 1. half of them were victims of rape or sexual assault during dating; 2. the other half experienced sexual abuse by a person they knew from their own or from family's social network.

The first group mainly concerned participants who were discovering their sexual orientation or gender identity. Gender beliefs in their environment caused that they experienced acceptance problems and wanted to experiment secretly, which overlaps with the pathway of sexually exploited participants who engaged in sex work to experiment with their sexuality. Then they got involved in risky sexual encounters with older men or strangers:

'I was quite depressed at that time and I was also gay. So that was not a helpful combination. I had a dating app, where I met a guy and he said 'oh I'll show you how the gay scene works. Everyone feels lonely that's normal, if you meet nice people then it will all work out'.' - R7

The distinction between victimization of sexual exploitation and other forms of sexual violence is thin, as illustrated by the quote below. Both subgroups have similar vulnerabilities and seek sexual contacts by the same means. However, they come in contact with different types of perpetrators:

'Look, I fell into that trap of a guy who was actually married and who was living a double life. And that father figure, that love of a man, because you miss that, you actually get from him. But it could have also been a pimp'. - R26

The other four participants experienced sexual violence by someone they knew, e.g. a stepfather, brother or employee of their father's company. Two of them had experienced sexual abuse as a child as well, and thus experienced revictimization. The participants explained they often did not realize they were victims of sexual abuse, as the perpetrator was someone they knew and trusted.

'When you grow up as a child with parents you have no connection with, that [fact that] you are abused, that was actually the first moment I felt love or closeness with someone, so you get confused.' - R9

Young men at high-risk. Eight participants did not experience sexual exploitation or other forms of sexual violence, but had similar backgrounds as the other two subgroups. Half of them did come in contact with a perpetrator. Two participants explained that they had no place to stay and encountered a man who asked them to engage in sexual acts. One of the participants ran out of the situation and the other one expressed his boundaries after which the man stopped his attempts:

'At 17, I was put on the streets. I started wandering all the time until I was 19. Then I came to [name], […] who put me with a gay man at a camping. The first night I slept there, he said you should sleep in the same bed. I thought that was weird. And I tried to sleep, and all of a sudden he puts his arm across my belly. I thought, fuck off. I'm not going to participate in that.' – R5

Another participant, with intellectual disabilities, used the internet to meet with worrisome strangers. His care providers were aware and taught him how to make safe and healthy choices. The other half of the participants at high-risk did not experience high-risk sexual situations; other problems were more central. Two participants were involved in dealing drugs and two participants showed sexually transgressive behavior themselves. Although all participants had similar vulnerable backgrounds, there were different life outcomes, such as victimization of sexual exploitation, other forms of sexual violence but also involvement in criminality or other risky behavior.

Perceptions on victimization and the role of gender norms. How victimization was experienced differed between participants. A quarter of them realized to a greater or lesser extent that they were involved in a situation of sexual exploitation or other forms of sexual violence. However, because of coercion, manipulation and dependencies (such as debts or residential instability) they could not escape their situation**.** Other participants did not realize they were exploited or were in a situation of sexual violence. They thought (sexual) violence was normal, for example because of their histories of violence in childhood, or they thought they had opted for it themselves by choosing for sex work.

'Almost no one in the trial feels like a victim. And that's because everyone is like, we voluntarily chose to do the work ourselves. That sexual assault and rape, we just didn't choose that. And the coercion, we didn't choose that. But the work we did choose voluntarily, so that's why we feel not quite victimized I guess.' - R22

An important finding was that relatively many participants did not want to feel victimized or to be perceived as victims because they saw this as an unwanted vulnerability. Gender norms had a prominent role in this taboo. Participants explained that it is hard to talk about vulnerabilities as a man. They for example did not dare to tell someone about it because they felt ashamed to have experienced sexual exploitation or other forms of sexual violence. Others explained that as men they thought they had to be 'tough'.

'Not many [men] dare to talk about it. I also kept it quiet for a very long time. And it was difficult. And I think there are many more men who have a hard time with that.' - R8

'A lot of guys don't want to be a victim, because then you feel at your most vulnerable […]. At that moment, you want to be that tough guy right? You have to prove yourself.' – R3

Another participant explained that people do not realize that men can become victims as well.

'I even read books about it, about loverboys, but it was only about girl [victims] and a boy. So everybody gets that perception. – R26

Such gender norms and beliefs resulted in the fact that many participants did not disclose victimization for a long time. Another reason why participants did not disclose victimization was because they had no supportive relationships in their family or social network to open up about it. Others had no confidence in health care professionals or the police, so they did not speak out.

Barriers in health care and care needs

The fourth theme demonstrates the barriers in health care that the participants experienced and their care and support needs. Overall, participants experienced several forms of (health)care and support for different reasons at different timepoints in their lives. It was found that the perceived barriers and care and support needs varied. Three quarter of the participants received professional healthcare during childhood and adolescence prior to victimization (e.g. for behavioral or family problems). Health care varied from outpatient family support and therapy, to open and closed residential placements and juvenile detention. A quarter of the participants received professional health care for the first time after victimization (e.g. trauma treatment, outpatient counselling or practical support). It often took a long time for them before they talked about victimization and received help. Moreover, not all participants wanted help with regard to sexual victimization, but they preferred (practical) support for other challenges in their lives, for example regarding finances or housing.

Barriers. It emerged that many participants experienced care and support as impersonal. They reported that they were not seen as individuals, they were not listened to and experienced little voice over their own lives, especially those who received residential health care. This impersonal treatment reportedly resulted in a lack of confidence in healthcare professionals, little motivation to work on goals and not sharing the adversities they had experienced. Furthermore, the majority noted there was too much focus on diagnoses and problems. Participants experienced that healthcare gave them the feeling of being the problem because of acting-out behaviors, while there were many problems in their (family) environment. This encouraged self-labelling:

'Well, then ODD came out [of diagnostics]. And from that point the trajectory started. With millions of agencies around me. And of course that has partly shaped me, of course, as a child... then you start living by that. You feel limited. - R11

[I was approached] as a perpetrator. As kind of a suspect, that's the feeling you have then. You come in there [an institution] and you feel like you are there for punishment. And then you [behave] just so. – R5

Moreover, they explained that healthcare did not match their needs and the underlying causes of their behavior. For example, drug use was often a coping mechanism for underlying trauma but healthcare contra-indicated addiction for trauma treatment.

'I do understand that I have an addiction, but there are all kinds of things underneath, you know? That's where the help should focus on. Because then they would also have understood why I have an addiction and why I have certain patterns in my behavior.'- R9

For some participants, gender norms were a barrier in health care as well, which prevented them receiving the help they needed.

[With girls, care workers were like] I'd like to help you. And to guys: 'would you like to go away, I'm busy with her right now'. It's just hard to explain. If you are a girl, of 15, you are even more vulnerable than a boy. They think. But you're just as vulnerable. – R3

In addition, installing young men with similar problems in group homes was at the expense of individual needs and encouraged negative peer influence. Some participants felt that the authorities did not believe them once they shared their story, including one participant who was a victim of sexual exploitation to whom the police and justice department dismissed the sexual violence as 'rough sex among homosexual men'.

Finally, many participants who experienced sexual exploitation or other forms of sexual violence experienced a lack of knowledge and education regarding relationships and sexuality, as well as gender identity. They explained that this contributed to their vulnerability because they were unaware of possible dangers and had difficulties recognizing it as victimization:

'Well if I knew for example what I went through was rape, I might have sought help sooner. I thought I just went through something that was shit and that nobody knew. If I knew gender fluidity existed, I would have felt normal a lot sooner. That there are others like me too. [I would have felt] less lonely, yes.' - R18

Care and support needs. A variety of care and support needs emerged from the life stories of the participants. A first major subtheme was that healthcare should be more personal and match individual needs:

'Every person needs a different approach and in youth care that doesn't happen.' - R11

Taking the time to establish trust and a connection was considered an important first step in providing care and support:

'Yes, by really connecting to what really bothers someone you know. And if someone is not yet ready to tell his story, then please don't put all kinds of other things [diagnoses] on him hoping it will help. Just support them and keep up the client's pace. Don't go too fast. - R9

As the step to therapy was often too big, many participants explained the need for easily accessible care. They mentioned anonymous online chat platforms and peer-to-peer contact groups.

'That it says 'click here if you want to talk' and that it's inconspicuous. Because as a boy, you just don't dare to talk about that.' - R8

Another important need was care that is not based on taboos. These taboos prevented them from expressing their vulnerabilities and disclosing victimization. To address this problem, participants indicated that these topics should be talked about more openly in healthcare, school, and society in general. A number of participants mentioned that media such as influencers and advertising campaigns could play a role in this.

'Because even in health care and school, a student never really talks about sex, only during biology. That it's for the purpose of reproduction. But never about how a child feels about it, or what a child has experienced'. - R24

Therefore, an important need regarding prevention was sex education. Some participants knew the concept of 'loverboys' but were unaware that men were also targeted. Suggested themes for sex education were victimization, (gender)identity, do's and don'ts regarding sexuality and relationships and practical knowledge with regard to money.

'It was my choice, so to speak, to start [sex work], but because I knew very little about it and because I was still a child, you don't really know the dangers of the outside world.' - R24

'I can imagine that for a lot of men it [becoming a victim of sexual violence] is still a women's issue. And [that it is important] to find your masculinity again. Like, I am a man, why did this happen to me?'- R12

Some participants were in need of more parental involvement and support. Healthcare often focused on the participant's problems and less on family problems:

'I think it [healthcare] should have looked at everyone and not have focused on one person. Just have looked at the whole family. In the end they did. But that was too late [...]. In the end I didn't need youth care after all. I just needed more love in the family I think.' - R13

Some participants needed support with practical day-to-day challenges, to get their lives back on track on themes such as housing, school, work and their future focus. Some participants for example needed social work to help them find a job or help dealing with financial responsibilities.

Discussion

This qualitative study provided a more comprehensive understanding of the background characteristics that can play a role in the onset of sexual exploitation and other forms of sexual violence in young men from a life-course perspective. Additionally, we gave insight into the care and support needs of this population. Four main results will be discussed: 1. The background of sexually exploited young men, young men who experienced other forms of sexual violence and young men at high-risk is characterized by a an accumulation of risk factors and absence of positive and supportive relationships; 2. Two pathways to sexual exploitation are young men having to survive and young men involved in online dating and pay dates; 3. Gender norms, experiences of taboo and stigma were highly prevalent and created barriers to disclose victimization; 4. Young men who experienced sexual exploitation or other forms of sexual violence have a variety of care and support needs.

First, the background of the participants was characterized by a broad range of early age vulnerabilities at the individual, family and/or environmental level, independent of the subgroup. Especially ACEs were highly present, as well as a lack of protective and compensatory experiences such as parental or social support. This study adds to the existing body of knowledge (Mercera et al., 2023; Moynihan et al., 2018; Reid & Piquero, 2014) on how an accumulation of these risk factors combined with an absence of protective factors contributes to victimization or high-risk situations from the perspective of young men themselves. Participants in the present study explained that ACEs highly affected their lives and often led to emotional and/or behavioral problems. Subsequently, risky and health compromising behavior followed, in order to cope with their complex life situations, accumulating to high-risk situations or actual victimization of sexual exploitation or other forms of sexual violence. These findings enrich the knowledge from the very few quantitative studies regarding pathways of young men into sexual exploitation. For example, Reid and Piquero (2016) found a link between caregiver strain (e.g. caregiver arrests, substance use, relationship problems), poor nurturing, psychosocial problems and risky behavior in young men, of which psychosocial problems and earlier initiation of sexual relationships were significantly related to sexual exploitation. Moreover, Fedina et al. (2019) demonstrated that child abuse, insufficient basic needs and substance use are underlying risk factors for runaway behavior among youth who were involved in the commercial sex industry. Since

factors that could represent traumatic events seem to be central in these pathways, theoretical models that consider complex trauma in this population and its impact are needed (Moss et al., 2023). By analyzing the present results with such a trauma-informed model (ICARE model), we were able to explain that ACEs, a lack of protective and compensatory experiences, subsequent emotional and behavioral problems and successive risky behavior play important roles in these pathways to negative life outcomes, among which sexual exploitation and other forms of sexual violence (Felitti et al., 1998; Hays-Grudo et al., 2021). This is in line with Lalor and McElvaney (2010), who explain that the same underlying accumulation of vulnerabilities (e.g. abuse, disturbed family environments, poor parental attachment, psychological disorders and substance use) can mediate the likelihood of risky sexual behavior and different types of sexual victimization. In order to prevent sexual victimization and/or other negative life outcomes, care and support should focus on reducing risk factors and strengthening protective and compensatory experiences. Early interventions with a family-oriented and trauma-informed approach are important to promote resilience and recovery and to prevent (re)victimization (Hays-Grudo et al., 2021; Moss et al., 2023).

Second, although the participants all had unique life stories with different combinations of risk factors, two pathways to victimization stood out, namely victimization of sexual exploitation through 1. a survival mode; 2. online dating and pay dates. In participants who were in a survival mode, a lack of financial and/or relational basic needs was present, due to the combination of ACEs, parent-child relationship problems, out of home placements, school-dropout, substance use and runaway and/or criminal behavior. This is in line with previous research, which showed that young men who reported to survive from day to day had higher risks to engage in sex in exchange for money, food or shelter and to be sexually exploited (Josenhans et al., 2020). Moreover, sex offenders report that they typically target youth with family problems, without supervision, on the streets and in need of help (Beauregard et al., 2007).

The pathway of online dating and pay dates was particularly present in LGBTQ+ participants who were sexually exploited. Moreover, online dating was also present in participants who experienced other forms of sexual violence. These participants had often experienced social rejection caused by their gender identity or sexual orientation and a difficult coming-out phase. Other vulnerabilities included ACEs, unstable family environments and internalizing behavioral problems. The internet is known to facilitate several aspects of sexual violence, including victim identification, grooming, exploitation, and control tactics (Moss et al., 2023; O'Brien & Wen Li, 2020). Online dating and pay dates were ways for the participants to secretly experiment with sexual activities or to look for the affection they lacked in life. For sexually exploited participants another reason was to gain financial resources, which overlaps with the pathway of young men in survival mode. Although participants

initiated the contact through social media and dating apps, human traffickers quickly knew how to convert this contact to involuntary, by manipulation and coercion.

What these pathways have in common is that participants who were sexually exploited or experienced other forms of sexual violence often experienced a lack of protective and compensatory experiences, such as stability, support figures and experiencing love and attention. This important role of interpersonal relationships in promoting or hindering a youth's risk for sexual exploitation or other forms of sexual violence aligns with previous findings. For instance, young men who experienced negative early interpersonal relationships are more likely to seek out others to fulfil their needs, which makes them more vulnerable for exploitation (O'Brien, 2018; Reid & Piquero, 2014).When support figures are not available as protective factors, it is more likely that vulnerable youth turn to drugs, alcohol, smoking, sexual risky situations, criminal activities or other risky behaviors (Bath, 2008). In contrast, positive interpersonal relationships could be protective by helping young men to recognize unhealthy relationships, whilst fostering trust and secure attachment (O'Brien, 2018). A remarkable finding in the current study was that for participants who did have protective and compensatory experiences (e.g. having a supportive network, a school career or positive leisure activities), these experiences helped them to deal with the challenges in their life-course and to feel like they have a future perspective again. This underlines that protective and compensatory experiences are important in the context of resilience, as they can mitigate the impact of ACEs, sexual exploitation and other forms of sexual violence and can contribute to positive development (Hays-Grudo et al., 2021; Morris et al., 2021; Mercera et al., 2023). Therefore future research should address protective and compensatory experiences and how these factors can be integrated into (preventive) interventions for young men who experienced sexual exploitation, other forms of sexual violence or young men at-risk.

Third, in line with previous studies, experiences of taboo and stigma regarding victimization in men, bi- or homosexuality and sex work were highly prevalent and were primary barriers to disclose victimization (Alaggia, 2005; Hounmenou, 2017; Josenhans et al., 2020; Kavenagh et al., 2023; Ricardo & Barker, 2008). The current study showed that gender norms had a prominent role in this, which resulted in young men feeling ashamed, feeling they had to act tough and not expressing themselves. Literature underlines that the perceptions of men on gender norms and masculinity can lead to a more negative attitude towards asking for and seeking help (Donne et al., 2018; Josenhans et al., 2020; Wong et al., 2017). This is worrying, because the longer a person waits with disclosing experiences of violence and abuse, the more impact traumatic experiences can have on their well-being (Easton, 2012; Romano et al., 2019). Although there has been growing awareness, gendered assumptions among professionals working in the field of sexual exploitation and other forms of sexual violence still exist. There are professionals in practice, for example, who have the believe that the majority of those experiencing sexual exploitation are girls and women, while there are indications that young men in certain settings

are particularly vulnerable (e.g. young men in foster or residential care or living on the streets; Nodzenski & Davis, 2023). Young men still go unrecognized and receive relatively little attention in practice research, legislation and policy (Josenhans et al., 2020; Moynihan et al., 2018). More gender sensitivity is needed in all these fields in order to properly address sexual exploitation in young men, reach (potential) victims and to provide adequate care and support. Research, for example, should proactively recognize all genders and use gender inclusive language in order to gain knowledge on experiences and health care needs of young men and how compares to other genders (Moynihan et al., 2018).

Fourth, there was a wide variety in care and support needs of the participants, regardless of the subgroup, but often the received care and support did not match these needs. Participants experienced a lack of specialized healthcare or easily accessible and anonymous support. Unfortunately (specialized) care and support for young men who experienced sexual exploitation or other forms of sexual violence is still limitedly available (Pacheco et al., 2022). In order to support young men in their recovery process, further development of both easily accessible, practical and specialized care for young men and gender-diverse youth is of great importance. For instance, (anonymous) online assistance, peer-to-peer support or trauma and family treatment.

Moreover, during their life-course, many participants noted that healthcare excessively focused on their mental health and behavioral problems, rather than their (family) context or personal needs, such as keeping up with the client's pace and just being listened to. Furthermore, classifications of psychopathology led to feelings of stigma and being misunderstood. It is known that underlying signals of exploitation or other trauma in young men (e.g. anger, aggression) are often overlooked and attributed to other causes (Kavenagh et al., 2023; Pacheco et al., 2022). Acting-out behavior of young men for example is more often perceived as a characteristic of criminal behavior rather than characteristics of victimization (Josenhans et al., 2020) and research shows that justice-based rather than social-based responses dominate in care for young men (Nodzenski & Davis, 2023; Kavenagh et al., 2023). This is a consequence of not disclosing victimization in young men combined with professional's hardship in victim identification and their responses that may be negatively influenced by dominant gender norms. The above illustrates that many responses in health care received by the participants have not been trauma-informed. To adequately respond to the needs of these young men, trauma-informed care is needed (Moss et al., 2023), in which past and present positive and adverse experiences are included to understand trauma-related behavior (Thirkle et al., 2021). Six key principles are fundamental in such an approach, which can promote recovery and resilience to individuals impacted by trauma: safety; trustworthiness and transparency; peer support; mutuality; empowerment, voice and choice and cultural, historical and gender issues (Substance Abuse and Mental Health Services Administration, 2014). Conceptual refinement of trauma-informed care in the

context of sexual exploitation is recommended (Moss et al., 2023; Moynihan et al., 2018) to better address the needs of young men and to provide professionals guidance in care and support.

Limitations and strengths

Our study has several strengths. It provides a unique and in-depth insight into the background characteristics and needs of an underrepresented study population. Thereby it addresses multiple knowledge gaps, as the perspectives of young men themselves from a life course approach were previously underreported. The deeper understanding of factors that potentially play a role in the onset of sexual exploitation and other forms of sexual violence, as well as care and support needs, are important contributions to prevention efforts, adequate treatment, and future research. Another strength is the use of an interview approach in which participants were asked to reflect on a wide range of life domains (family, school, friends, and positive and negative experiences) without directing them. Participants could choose to elaborate on what was most relevant to them, which contributed to the richness of the results and a better understanding of the interrelatedness of experiences and possible consequences. Lastly, in the set-up of this study, the researchers cooperated with an advisory board of professionals in the field of policy, research and practice, aiming to ensure objectivity, clinical relevance and safety of the participants.

Several limitations should be considered. First, in the current study one method of data collection was used instead of triangulation. The voice of the family, social network or the involved health care or educational professionals – who according to the participants played important roles in their lives – are lacking which prevents us to cross-validate pathways to sexual exploitation from multiple perspectives. Future research involving perspectives of all involved should shed more light into this. Secondly, although parallels were found in the participants regarding vulnerabilities, different combinations of these vulnerabilities could contribute to victimization or high-risk situations on different time points in their lives. This is in line with literature (Reid and Piquero, 2016) and stresses the importance to approach young men experiencing sexual exploitation or other forms of sexual violence as unique individuals with their own life stories instead of 'risk profiles'. Thirdly, participants were mainly approached through healthcare organizations. Their perspectives might differ from young men who are still in exploitative situations but remain under the radar, or from other known vulnerable subpopulations, like youth in juvenile detention, ethnic minorities, or homeless youth. Fourthly, this qualitative study does not demonstrate causal relationships between background characteristics and victimization. It does provide an understanding of factors that could play a role in victimization, providing direction for future quantitative research to investigate associations in their pathways. Fifthly, five clinical records were included which concern indirect and static information from the professional's point of view. To ensure that the participant's perspectives on their life course remained central, the

information from the clinical records was only used to identify vulnerabilities. No statements were made on how these vulnerabilities led to victimization, as the perspectives of the participants were missing. Finally, the results section indicated the approximate number of participants who reported certain vulnerabilities or experiences (e.g. three-quarter). A conscious decision was made not to give specific numbers, since the quantity does not indicate the importance for or impact on an individual participant. The approximate numbers do teach us about background characteristics that are relatively common in young men who experiences sexual exploitation and other forms of sexual violence and this provides useful insights for risk assessment and screening purposes.

Conclusion

This study made an important contribution to the limited available knowledge on sexually exploited young men. The findings aligned with previous research on risk factors, provided new insights into their accumulation and the role of protective and compensatory experiences. The broad range of individual-, family- and environmental risk factors underlined that sexual exploitation is a complex phenomenon. It is a detrimental outcome of multiple possible underlying risks and pathways. Early interventions are needed in young men at high-risk in order to interrupt the often present negative cycle of adversity and thereby preventing victimization. These should integrate a family oriented and trauma-informed approach, in which past and present positive and adverse experiences are included, aiming to understand behavior and address underlying causes. This study also made clear that a major challenge in protecting sexually exploited young men and also young men who experienced other forms of sexual violence are prevailing gender norms. Creating more awareness among young men about victimization, ways to talk about it and forms of (anonymous) more personalized support is crucial, in order to lower the threshold to seek and receive help. As a precondition, professionals (e.g. in practice, education, care and law enforcement) should become more aware of victimization in young men to enhance (early) detection and intervention in a gender sensitive way. Moreover, the identified care and support needs could inform further development of health care and support opportunities to better match the needs of this population. Our study has addressed multiple knowledge gaps, but future research should shed more light on the pathways to sexual exploitation in young men. We recommend clarifying underlying mechanisms between ACEs, protective and compensatory experiences, emotional and behavioral problems, risky behavior and victimization with the purpose to identify critical points to intervene in this negative cycle of adversity. Overall, this study made an important first step to provide practice, policy and research guidance in the establishment of more targeted prevention, adequate interventions, and future research.

Acknowledgements

We would like to express our special thanks of gratitude to all the participants who took the time and effort to share their life stories with us. We would also like to thank Loïs de Rooij, Ferdi Bekken and Diede Croes for their assistance in the data collection and synthesis process. Many thanks to the advisory board, consisting of professionals from the organizations Koraal, Fier, Sterk Huis, Expertisecentrum Mensenhandel en (jeugd)Prostitutie of Lumens and Pretty Woman/Best man.

References

Ahrens, K. R., Katon, W., McCarty, C., Richardson, L. P., & Courtney, M. E. (2012). Association between childhood sexual abuse and transactional sex in youth aging out of foster care. *Child Abuse & Neglect, 36*(1), 75–80. https://doi.org/10.1016/j.chiabu.2011.07.009

Afifi, T. O., Salmon, S., Garcés, I., Struck, S., Fortier, J., Taillieu, T., Stewart-Tufescu, A., Asmundson, G. J. G., Sareen, J., & MacMillan, H. L. (2020). Confirmatory factor analysis of adverse childhood experiences (ACEs) among a community-based sample of parents and adolescents. *BMC Pediatrics*, *20*(1). https://doi.org/10.1186/s12887-020-02063-3

Alaggia, R., Collin-Vézina, D., & Lateef, R. (2017). Facilitators and Barriers to Child Sexual Abuse (CSA) Disclosures: A Research Update (2000–2016). *Trauma, Violence & Abuse, 20*(2), 1–24. https://doi.org/10.1177/1524838017697312

Andretta, J. R., Woodland, M. H., Watkins, K. M., & Barnes, M. E. (2016). Towards the discreet identification of Commercial Sexual Exploitation of Children (CSEC) victims and individualized interventions: Science to practice. *Psychology, Public Policy, and Law, 22*(3), 260. http://dx.doi.org/10.1037/law0000087

Baarda, B. & Bakker, E. (2013). *Basisboek voor kwalitatief onderzoek.* Groningen: Noordhoff Uitgevers.

Bath, H. (2008). The three pillars of trauma-informed care. *Reclaiming children and youth*, *17*(3), 17-21.

Beauregard, E., Proulx, J., & Rossmo, K. (2007). A descriptive model of the hunting process of serial sex offenders: A rational choice perspective. *Journal of Family Violence*, 22, 449-463. https://psycnet.apa.org/doi/10.1007/s10896-007-9101-3

Bodden, D., & Dekovic, M. (2010). Multiprobleemgezinnen ontrafeld. *Tijdschrift voor Orthopedagogiek*, *49*(6), 259-271.

Centrum Seksueel Geweld (s.d.). *Seksueel Geweld*. Retrieved on November 10th from https://centrumseksueelgeweld.nl/seksueel-geweld/

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis.* Pine Forge Press.

Cluver, L. D., Rudgard, W. E., Toska, E., Zhou, S., Campeau, L., Shenderovich, Y., Orkin, M., Desmond, C., Butchart, A., Taylor, H., Meinck, F., & Sherr, L. (2020). Violence prevention accelerators for children and adolescents in South Africa: A path analysis using two pooled cohorts. *PLoS medicine*, *17*(11). https://doi.org/10.1371/journal.pmed.1003383

Cockbain, E., Ashby, M., & Brayley, H. (2017). Immaterial boys? A large-scale exploration of gender-based differences in child sexual exploitation service uses. *Sexual Abuse, 29*(7), 658–684. https://doi.org/10.1177/1079063215616817

Covers, M., Noteboom, F., Dam, A., & Bicanic, I. (2022). Drempels voor disclosure van seksueel geweld in anonieme online hulpverlening. Retrieved on September 7th from: https://centrumseksueelgeweld.nl/wp-content/uploads/2022/06/CSG_Rapport_Drempels-voor-disclosure.pdf

Crandall, A., Miller, J. R., Cheung, A., Novilla, L. K., Glade, R., Novilla, M. L. B., Glade, R., Lelinneth, M., Novilla, B., Magnusson, B. M., Leavitt, B. L., Barnes, M. D., & Hanson, C. L. (2019). ACEs and counter-ACEs: How positive and negative childhood experiences influence adult health. *Child Abuse & Neglect*, *96*, 104089.
https://doi.org/10.1016/j.chiabu.2019.104089

Dekovic, M., & Bodden, D. H. M. (2019). Gezinnen met meervoudige en complexe problemen: kenmerken en verschillende typen. In Knot-Dickscheit, J., & Knorth, E.J. (ed.), *Gezinnen met meervoudige en complexe problemen: Theorie en praktijk*, pp. 52-74. Rotterdam: Lemniscaat.

De Vries, I., Kafafian, M., Goggin, K., Bouchard, E., Goldfarb, S., & Farrell, A. (2020). Enhancing the identification of commercial sexual exploitation among a population of high-risk youths using predictive regularization models. *Child maltreatment*, *25*(3), 318-327. https://doi.org/10.1177/1077559519889178

Donne, M. D., DeLuca, J., Pleskach, P., Bromson, C., Mosley, M. P., Perez, E. T., Mathews, S. G., Stephenson, R., & Frye, V. (2018). Barriers to and facilitators of help-seeking behavior among men who experience sexual violence. *American Journal of Men's Health, 12*(2), 189–201. https://doi.org/10.1177/1557988317740665

ECPAT International. (2021). *Global Boys Initiative: A global review of existing literature on the sexual exploitation of boys.* ECPAT International.

Easton, S. D. (2012). Understanding adverse childhood experiences (ACE) and their relationship to adult stress among male survivors of childhood sexual abuse. *Journal of prevention & intervention in the community, 40*(4), 291-303. https://doi.org/10.1080/10852352.2012.707446

Edinburgh, L., Pape-Blabolil, J., Harpin, S. B., & Saewyc, E. (2015). Assessing exploitation experiences of girls and boys seen at a child advocacy center. *Child Abuse & Neglect, 46*, 47–59. http://dx.doi.org/10.1016/j.chiabu.2015.04.016.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (2019). Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 56*(6). https://doi.org/10.1016/j.amepre.2019.04.001

Fedina, L., Williamson, C., & Perdue, T. (2019). Risk factors for domestic child sex trafficking in the United States. *Journal of interpersonal violence, 34*(13), 2653-2673. https://doi.org/10.1177/0886260516662306

Franchino-Olsen, H. (2021). Frameworks and theories relevant for organizing commercial sexual exploitation of children/domestic minor sex trafficking risk factors: A systematic review of proposed frameworks to conceptualize vulnerabilities. *Trauma, Violence, & Abuse, 22*(2), 306-317. https://doi.org/10.1177/1524838019849575

Greenbaum, V. J. (2014). Commercial sexual exploitation and sex trafficking of children in the United States. *Current problems in pediatric and adolescent health care*, *44*(9), 245-269. https://doi.org/10.1016/j.cppeds.2014.07.001

Greeson, J. K., Treglia, D., Wolfe, D. S., & Wasch, S. (2019). Prevalence and correlates of sex trafficking among homeless and runaway youths presenting for shelter services. *Social Work Research*, *43*(2), 91-100. https://doi.org/10.1093/swr/svz001

Hays-Grudo, J., Morris, A. S., Beasley, L., Ciciolla, L., Shreffler, K., & Croff, J. (2021). Integrating and synthesizing adversity and resilience knowledge and action: The ICARE model. *American Psychologist*, *76*(2), 203. https://doi.org/10.1037/amp0000766

Hill, L., & Diaz, C. (2021). An exploration of how gender stereotypes influence how practitioners identify and respond to victims (or those at risk) of child sexual exploitation. *Child & Family Social Work*, *26*(4), 642-651.

Hogan, K. A., & Roe-Sepowitz, D. (2020). LGBTQ+ homeless young adults and sex trafficking vulnerability. *Journal of Human Trafficking*, 1-16. https://doi.org/10.1080/23322705.2020.1841985

Hounmenou, C. (2017). An initial exploration of prostitution of boys in the West African region. *Child Abuse & Neglect, 69*, 188–200. https://doi.org/10.1016/j.chiabu.2017.04.027

Interagency Working Group on Sexual Exploitation of Children. (2016). *Terminology guidelines for the protection of children from sexual exploitation and sexual abuse*. Retrieved on November 10th from https://ecpat.org/wp-content/uploads/2021/05/Terminology-guidelines-396922-EN-1.pdf
Josenhans, V., Kavenagh, M., Smith, S., & Wekerle, C. (2020). Gender, rights and responsibilities: The need for a global analysis of the sexual exploitation of boys. *Child Abuse & Neglect*, *110*, 104291.

Kavenagh, M., Hua, N., & Wekerle, C. (2023). Sexual exploitation of children: barriers for boys in accessing social supports for victimization. *Child Abuse & Neglect*, 106129. https://doi.org/10.1016/j.chiabu.2023.106129

Landers, M., Johnson, M. H., Armstrong, M. I., McGrath, K., & Dollard, N. (2020). Exploring relationships as mediators of treatment outcomes among commercially sexually exploited youth. *Child Abuse & Neglect*, 100. https://doi.org/10.1016/j.chiabu.2019.104095

Lalor, K., & McElvaney, R. (2010). Child sexual abuse, links to later sexual exploitation/high-risk sexual behavior, and prevention/treatment programs. *Trauma, Violence, & Abuse, 11*(4), 159-177. https://doi.org/10.1177/1524838010378299

McNaughton Nicholls, C., Cockbain, E., Brayley, H., Harvey S., Fox, C., Paskell, C., Ashby, M., Gibson, K., & Jago, N. (2014). *Research on the sexual exploitation of boys and young men. A UK scoping study Summary of findings.* Retrieved on February 26th 2023 from https://www.nuffieldfoundation.org/sites/default/files/files/cse_young_boys_summary_report.pdf

Mitchell, K., Moynihan, M., Pitcher, C., Francis, A., English, A., & Saewyc, E. (2017). Rethinking research on sexual exploitation of boys: Methodological challenges and recommendations to optimize future knowledge generation. *Child abuse & neglect*, *66*, 142-151. https://doi.org/10.1016/j.chiabu.2017.01.019

Morris, A. S., Hays-Grudo, J., Zapata, M. I., Treat, A., & Kerr, K. L. (2021). Adverse and protective childhood experiences and parenting attitudes: The role of cumulative protection in understanding resilience. *Adversity and Resilience Science*, *2*, 181–192. https://doi.org/10.1007/s42844-021-00036-8

Moss, C., Smith, S. J., Kim, K., Hua, N., Noronha, N., Kavenagh, M., & Wekerle, C. (2023). A global systematic scoping review of literature on the sexual exploitation of boys. *Child Abuse & Neglect*, 106244. https://doi.org/10.1016/j.chiabu.2023.106244

Moynihan, M., Mitchell, K., Pitcher, C., Havaei, F., Ferguson, M., & Saewyc, E. (2018). A systematic review of the state of the literature on sexually exploited boys internationally. *Child Abuse & Neglect*, *76*, 440-451.
Nodzenski, M., & Davis, J. (2023). Frontline support services for boys who have experienced CSEA: a thematic review of survey data from six countries. Child Abuse
and Neglect (this issue) https://doi.org/10.1016/j.chiabu.2023.106077.

O'Brien, J. E. (2018). "Sometimes, Somebody Just Needs Somebody–Anybody–to Care:" The power of interpersonal relationships in the lives of domestic minor sex trafficking survivors. *Child abuse & neglect*, *81*, 1-11. https://doi.org/10.1016/j.chiabu.2018.04.010

O'Brien, J. E., & Li, W. (2020). The role of the internet in the grooming, exploitation, and exit of United States domestic minor sex trafficking victims. *Journal of children and media*, *14*(2), 187-203.

Office of the United Nations High Commissioner for Human Rights. (2000). *Protocol to prevent, suppress and punish trafficking in persons especially women and children, supplementing the united nations convention against transnational organized crime.* Geneva Switzerland: United

Pacheco, E. L. M., Buenaventura, A. E., & Miles, G. M. (2022). "She was willing to send me there": Intrafamilial child sexual abuse, exploitation and trafficking of boys. *Child Abuse & Neglect*, 105849. https://doi.org/10.1016/j.chiabu.2022.105849

Petruccelli, K., Davis, J., & Berman, T. (2019). Adverse childhood experiences and associated health outcomes: A systematic review and meta-analysis. *Child Abuse and Neglect*, 97. https://doi.org/10.1016/j.chiabu.2019.104127

Reid, J. A., & Piquero, A. R. (2014). Age-graded risks for commercial sexual exploitation of male and female youth. *Journal of interpersonal violence*, *29*(9), 1747-1777. https://doi.org/10.1177/0886260513511535

Reid, J. A., & Piquero, A. R. (2016). Applying general strain theory to youth commercial sexual exploitation. *Crime & Delinquency*, 62, 341–367. https://doi.org/10.1177/0011128713498213

Ricardo, C., & Barker, G. (2008). *Men, masculinities, sexual exploitation and sexual violence: A literature review and call for action.* Retrieved on May 10th 2023 from: https://www.svri.org/sites/default/files/attachments/2016-07-14/homens-masculinidades-exploracao-sexual-e-violencia-sexual-ing.pdf

Romano, E., Moorman, J., Ressel, M., & Lyons, J. (2019). Men with childhood sexual abuse histories: Disclosure experiences and links with mental health. *Child abuse & neglect*, *89*, 212-224. https://doi.org/10.1016/j.chiabu.2018.12.010

Schilling Wolfe, D., Greeson, J. K. P., Wasch, S., & Treglia, D. (2018). *Human trafficking prevalence and child welfare risk factors among homeless youth. A multi-city study.*
Retrieved on November 10th from: https://www.homelesshub.ca/resource/human-trafficking-prevalence-and-child-welfare-risk-factors-among-homeless-youth-multi-city

Selvius, K., Wijkman, M. D. S., Slotboom, A.-M., & Hendriks, J. (2018). Comparing intrafamilial child sexual abuse and commercial sexual exploitation of children: A
systematic literature review on research methods and consequences. *Aggression and Violent Behavior*, 41, 62–73. https://doi.org/10.1016/j.avb.2018.05.008.

Silverman, J. G., Boyce, S. C., Fonseka, R. W., Triplett, D., Chiang, L. F., Caslin, S. S., & Raj, A. (2022). The relationship between commercial sexual exploitation of children (CSEC) and childhood sexual abuse (CSA) among boys and girls in Haiti. *International journal of injury control and safety promotion*, *29*(1), 86-92. https://doi.org/10.1080/17457300.2021.2004430

Simons, E.I., Van Bemmel, S., Noteboom, F., Van Went, D., Castelijns, H. & Van den Akker, G. (2021). *Discretie te allen tijde. Een onderzoek naar jongensslachtoffers binnen de prostitutie in Nederland.* Capelle aan den IJssel: Centrum tegen Kinderhandel en Mensenhandel en Lumens.

Spijk-de Jonge, M., De Lange, M., Serra, M., Van der Steege, M., & Dijkshoorn, P. (2022). *'Betrek mij gewoon!' Op zoek naar verbeterkansen voor de jeugdhulp in het casusonderzoek Ketenbreed Leren.* Retrieved June 10, 2023, from https://www.brancheszorgvoorjeugd.nl/content/uploads/2022/11/Rapportage_KetenbreedLeren_2022.pdf

Substance Abuse and Mental Health Services Administration (2014). *SAMHSA's Concept of Trauma and Guidance for a Trauma-Informed Approach.* HHS Publication No. (SMA) 14-4884. Rockville, MD: Substance Abuse and Mental Health Services Administration.

Thirkle, S., Kennedy, A., & Sice, P. (2021). Instruments for Exploring Trauma-Informed Care. *Journal of Health and Human Services Administration.* https://doi.org/10.37808/jhhsa.44.1.2

United Nations. (2017). *Glossary on Sexual exploitation and Abuse. Thematic Glossary of current terminology related to Sexual Exploitation and Abuse (SEA) in the context of the United Nation*. Retrieved February 1, 2023, from https://hr.un.org/sites/hr.un.org/files/SEA%20Glossary%20%20%5BSecond%20Edition%20-%202017%5D%20-%20English_0.pdf

Van Gelder, P., Smit, W., Bakker, L., & De Vaan, K. (2017). *Seksuele uitbuiting van jongens in Nederland.* Retrieved on February 26th fom https://www.regioplan.nl/wp-content/uploads/data/file/2016/16054-Eindrapport-Seksuele-uitbuiting-van-jongens-in-Nederland-Regioplan-8feb17-B.pdf

Van Went, D., & Castelijns, H. (2018). *Jongensprostitutie in beeld. Projectrapportage 2015- 2017.* Retrieved on February 26th from: https://expertisecentrum-mensenhandel-jeugdprostitutie.nl/wp-content/uploads/2018/06/Rapport-Jongenprostitutie-2015-2017-Expertisecentrum-Mensenhandel-en-jeugdProstitutie.pdf

Wong, Y. J., Ho, M.-H. R., Wang, S.-Y., & Miller, I. S. K. (2017). Meta-analyses of the relationship between conformity to masculine norms and mental health-related outcomes. *Journal of Counseling Psychology, 64*(1), 80–93. https://doi.org/10.1037/cou0000176

World Bank (s.d.). *Netherlands.* Retrieved on November 10th from: https://data.worldbank.org/country/NL

Chapter 4

High risk, yet overlooked: a clinical record study on background characteristics of sexually exploited and at risk girls with mild intellectual disabilities

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Abstract

Introduction

Girls and young women with mild intellectual disabilities are at elevated risk to become victims of sexual exploitation, yet they are underrepresented in research. Gaining a better understanding of their background characteristics is key in prevention and adequate and timely treatment. The objective of this study is to gain more insight into the background characteristics and health care needs of sexually exploited and at-risk girls and young women with mild intellectual disabilities.

Methods

This retrospective clinical record study included 55 clinical records of sexually exploited and at-risk girls and young women with mild intellectual disabilities (age 14-29) who received care in a specialized treatment programme in The Netherlands. A codebook was used to collect data on background characteristics and health care needs. Descriptive statistics were conducted to gain insight into prevalence of the variables of interest.

Results

The mean number of adverse childhood experiences (ACEs) was 3.3 and 40% experienced at least 4 ACEs. Mental health problems and high risk behavior were highly prevalent as well, in particular trauma-related symptoms (72.7%), internalizing (78.2%) and externalizing problem behavior (83.6%), running away (69.1%) and sexual risky behavior (81.8%). Information on protective factors was lacking in the clinical records. Health care needs varied, including needs regarding resilience, social-emotional well-being, trauma-related symptoms, sexual well-being, behavior and housing.

Conclusions

In conclusion, this study revealed that sexually exploited and at-risk young women with mild intellectual disabilities experience many vulnerabilities at the individual, family and environmental level. The substantial presence of ACEs underline the need for trauma-informed and family centred interventions as early as possible to prevent further adversities and to foster resilience in youth and their families. It is important that professionals who may see victims or at-risk youth in their daily work are able to recognize both intellectual disabilities and sexual exploitation. Future research on sexual exploitation in youth with intellectual disabilities is important to fill the gaps in understanding their specific needs and to develop effective prevention and intervention strategies tailored to their needs.

Introduction

Girls and young women functioning at the level of mild intellectual disabilities are at an increased risk of becoming victims of sexual exploitation, a form of human trafficking (Franchino-Olsen et al., 2020; Franklin & Smeaton, 2017; Reid, 2018). Sexual exploitation is defined as the use of force, threat, fraud, abduction, the abuse of power or coercion by a human trafficker, to control and exploit individuals for purposes of prostitution or other forms of sexual acts (Office of the United Nations High Commissioner for Human Rights, 2000). Numerous short- and long-term consequences of sexual exploitation involve post-traumatic stress disorder (PTSD), depression, anxiety, substance abuse, sexually transmitted infections (STIs) and physical injuries from physical abuse (Chaffee & English, 2015; Clawson et al., 2009; Ijadi-Maghsoodi et al., 2016). Sexual exploitation is viewed as a global issue, because of the hidden nature of this crime and the detrimental and potential lifelong consequences on health (United Nations Office of Drugs and Crime, 2022). Girls with intellectual disabilities are seldom included in research on sexual exploitation, while they are in particular vulnerable (Franchino-Olsen et al., 2020). One of the few studies revealed that minor girls with intellectual disabilities are almost five times more likely to be sexually exploited compared to girls without intellectual disabilities (Franchino-Olsen, 2020). Another study in The Netherlands found that the likelihood of experiencing sexual exploitation and sexual violence is 13 to 18 times higher in youth with intellectual disabilities compared to youth without intellectual disabilities (Nationaal Rapporteur Mensenhandel en Seksueel Geweld tegen Kinderen, 2022).

Intellectual disabilities can range from mild to profound and are characterized by significant limitations in cognitive and adaptive functioning (American Psychiatric Association, 2013). Mild or borderline cognitive limitations are most common in people with intellectual disabilities (Llewellyn & Hindmarsh, 2015). There is considerable overlap in support needs and personal and environmental characteristics between people functioning on the level of mild intellectual disabilities and the DSM-5 V-code borderline intellectual functioning (American Psychiatric Association, 2013; Nouwens et al., 2017; Mercera et al., 2020). In The Netherlands people with borderline intellectual functioning can therefore receive the same care as people with mild intellectual disabilities if there are significant limitations in cognitive and adaptive functioning. For practical reasons, in this manuscript we use the term mild intellectual disabilities for girls and young women functioning on the level of mild intellectual disabilities or borderline intellectual functioning. From here, we also use the term young women, referring to adolescent girls and young adult women in line with definitions of youth; United Nations, s.d.). It is known that human traffickers take advantage of the vulnerabilities that young women with mild intellectual disabilities face as a result of their cognitive and adaptive limitations (Franchino-Olsen, 2020; Reid et al., 2018). Examples are a greater dependency on others, difficulties in understanding cause and effect, assessing risky situations, setting (sexual) boundaries, communicating or disclosing

the assault, recognizing perpetration in a romantic partner or a lack of understanding of what is happening during sexual abuse (Franchino-Olsen et al., 2020; Franklin & Smeaton, 2017; Reid et al., 2018; Wissink et al., 2015).

Risk factors for sexual exploitation involve factors at the individual, family and environmental level, examples are sexual, physical or emotional abuse, parent-child relationship problems, mental health problems, school problems, running away, substance use, out of home placements and poverty (Mercera et al., 2024a). It is known that many of these risk factors occur relatively more often in girls with mild intellectual disabilities. For example, children with intellectual disabilities are more likely than peers to experience Adverse childhood experiences (ACEs; Hassiotis et al., 2019; Jones et al., 2012), have found to belong to the highest risk groups to experience sexual abuse (Wissink et al., 2015), and are less likely to grow up at home and are more likely to experience placement instability (Morris et al., 2020). The accumulation of risk factors in young women with mild intellectual disabilities, may be a trigger for high-risk behavior, such as running away or sexual risk behavior, which can result in sexual exploitation (Reid, 2018; Reid et al., 2018). What also contributes to the vulnerabilities, is that there are gaps in professionals' knowledge about both sexual exploitation and mild intellectual disabilities and how to meet their needs (Franklin & Smeaton, 2017). This hampers the identification of victims by professionals and the provision of adequate care and support. Also, when reporting sexual victimization, young women with mild intellectual disabilities may not be viewed as credible and taken seriously by the police due to having a disability, leaving the victimization undetected (Reid et al., 2018, Spaan & Kaal., 2019; Wissink et al., 2015). This can further reinforce the marginalization that young women with mild intellectual disabilities often already face in society.

Protective factors can mitigate the effects of risk factors, such as ACEs (Hays-Grudo et al., 2021), and play an important role in reducing the likelihood of sexual exploitation (Landers et al., 2020). Yet, there remains a knowledge gap with regard to the presence of protective factors in sexually exploited young women with mild intellectual disabilities. To date, studies on protective factors for sexual exploitation have been conducted in the general population or in at-risk populations without a focus on mild intellectual disabilities (Mercera et al., 2024a). According to the systematic review of Mercera et al. (2024a) these include positive and supporting relationships, parental supervision, family connectedness, higher school grades or school completion). More research is needed on protective factors in relationship with sexually exploited and at-risk young women with mild intellectual disabilities to guide policymakers, educators, and service providers in creating and implementing effective prevention strategies.

Just as there is limited knowledge on background characteristics of sexually exploited young women with mild intellectual disabilities, the current literature on health care and support needs is lacking (Reid et al., 2018). The study of Franklin & Smeaton (2018) demonstrated that sexually

exploited and at-risk youth with intellectual disabilities experience a lack of sexual and relational education and information on understanding exploitative relationships and giving or receiving consent. The same study underlined that care and support should meet the specific learning needs of youth with intellectual disabilities. Positive support outcomes were linked to supportive and respectful relationships with care workers and care workers' dedication to meet youth's needs (Franklin & Smeaton, 2018). Furthermore, research illustrates that treatment should focus on emotion regulation, challenging behaviors and trauma (Reid et al., 2018). Adapted versions of evidence based treatments (CBT, EMDR) are most commonly recommended for youth with intellectual disabilities who experience PTSD (Mevissen et al., 2010) and who experienced sexual exploitation (Reid et al., 2018).

Despite the recognition that young women with mild intellectual disabilities are at-risk and are more often sexually exploited compared to their peers without mild intellectual disabilities, more research is needed on the individual background characteristics (e.g. mental and physical health, high risk behavior), family characteristics (e.g. parental mental health, support figures, ACEs) and environmental characteristics (e.g. social network, financial situation). Therefore the current clinical record study gains more insight into these characteristics and the support needs, aiming to contribute to the better identification of sexually exploited and at-risk young women with mild intellectual disabilities and to inform prevention and intervention strategies that address their needs. This study is conducted in a unique specialized treatment program in The Netherlands (YIP!) for sexually exploited and at risk young women with mild intellectual disabilities. This retrospective clinical record study answers the following research questions:

1. What are the background characteristics of sexually exploited and at-risk young women with mild intellectual disabilities?
    a. What is the prevalence of mental and physical health problems, high risk behavior and vulnerabilities related to cognitive and adaptive limitations? (individual characteristics)
    b. What is the prevalence of adverse childhood experiences (ACEs), protective factors and other family risk factors? (family characteristics)
    c. What is the prevalence of school problems, financial problems, homelessness and limited social network? (environmental characteristics)
2. What are the healthcare needs of sexually exploited and at-risk young women with mild intellectual disabilities?

Methods

This quantitative study used a retrospective cross-sectional study design. Data were collected by means of a clinical record analysis and was reviewed by the Medical Ethics Committee (METC) of Maastricht University (2023-3639).

Participants

Clinical records were included from young women who received care in a specialized treatment program in The Netherlands for sexually exploited and at-risk girls and young women with mild intellectual disabilities of borderline intellectual functioning. This specialized program provides both in and outpatient care to young women, aged 12-27. In the treatment program, at-risk young women are defined as those with concerns regarding (sexual) risk behavior, where there has been previous sexual abuse, or where there are signs of sexual exploitation but it has not been confirmed. The treatment program focuses on prevention of sexual victimization and exploitation, and treatment of its consequences. It consists of a multidisciplinary team involving: group home workers, therapists, behavioral scientists, psychiatrists, medical doctors and job and educational coaches. Clinical records contain treatment plans, evaluations, reports from diagnostics and medical examinations and information from previous or external care and educational settings, such as reports from child welfare organizations and previous treatments. All clinical records of young women who had been admitted to the in or outpatient treatment program since 2018 (start of the program) could be included. There were no exclusion criteria, except for clinical records that lacked information. For example because of early withdrawal of treatment. Data were retrieved between March 2023 and May 2024.

Measures

Variables were selected based on scientific literature on individual, family and environmental characteristics associated with sexual exploitation and intellectual disabilities and the way information was filed in the clinical records. All variables were operationalized in a codebook.

Individual characteristics.

Mental health problems. The DSM-IV or 5 classifications documented in the clinical records by professionals were collected. Other mental health problems that were included in the codebook were: internalizing and externalizing problem behavior, trauma-related symptoms, attachment problems, psychotic experiences, sleeping problems, socio-emotional problems and suicidal attempts and/or thoughts.

High risk behavior. High-risk behavior was operationalized into the variables running away, substance abuse, sexual risky behavior, sexual transgressive behavior and criminal activities.

Physical health characteristics. Information on the following physical health problems were collected: use of medication (antidepressants, antipsychotics, stimulants or sleep and sedative medication), sexually transmitted infections (STIs), pregnancy, abortion, injuries, pain and chronic illness.

Vulnerabilities related to intellectual disabilities. The following vulnerabilities were coded: difficulties in understanding cause and effect, setting boundaries, limited understanding of relationships and sexuality, vulnerability to peer pressure, dependency on others and impulsive behavior, risky social media use, and a limited social network, and a category 'other'.

Family characteristics

Adverse childhood experiences. The original ACE framework Wave II (Anda et al., 2009; Felitti et al., 1998) was used to determine the presence of the 10 ACEs: physical abuse, physical neglect, emotional abuse, emotional neglect, sexual abuse, parental divorce, parental mental health problems, domestic violence, parental substance abuse and parental incarceration. Other extended ACEs that were added to the codebook were: being bullied and the death of a significant other.

Protective factors. Protective factors were operationalized using the Protective and Compensatory Experiences (PACEs) framework of Morris et al. (2020): having friendships, support figures within the family, support figures outside the family, support figures of parents, having a hobby or regular leisure activities, having a clean and safe home, having routines and rules at home and positive school experiences.

Other family characteristics. Parent-child relationship problems, mental health problems of siblings, ACEs of parents, intellectual disabilities parents, financial problems of parents.

Environmental characteristics

Living conditions. The following living conditions were retrieved from the clinical records: homelessness, financial problems and limited social network.

Health care needs

Healthcare needs. Health care needs were extracted from the clinical records regarding the initial specific support needs of the patients. At the start of care, this information determines the treatment goals in the healthcare trajectory. The following categories were extracted from a first global analysis of the initial support needs: resilience, sexual exploitation, self-confidence, school and work, trauma, behavior, general well-being, sexual health, practical skills and other.

Procedure

Via the electronic patient record system, 2 researchers were granted access to the clinical records of girls and young women who received in or outpatient care since 2018. Information was collected anonymously. No personal names, names of geographical places, schools or health care organizations

were used. For the majority of variables, the code “present” (1) was used if the information in the clinical record met the criteria as operationalized in the codebook. The variable was coded as "not present" (0) if there was no presence of the variable according to the information in the clinical record. The code “unknown” (999) was used if there was no information in the clinical record on presence or absence of the variable. Since the nature of the clinical records do not allow insight into timelines, no conclusions were made as to whether variables involved risk factors for or consequences of exploitation. The presence of a variable, for example anxiety, meant that the participant had ever been experiencing anxiety. Some variables were coded differently, such as type of care (1 = in patient; 2 = outpatient). For variables concerning health care needs and vulnerabilities related to intellectual disabilities, the information was first collected qualitatively in order to make a categorization later. This allowed the research team to be open to information that was not previously mentioned in literature, or to gain a more detailed understanding of the variable of interest.

Analysis

All statistical analyses were conducted in SPSS, version 26 (IBM, Armonk, NY, USA). The 10 ACEs from the original ACE framework (Anda et al., 2009; Felitti et al., 1998) were added up in order to compare the ACE prevalence with other studies that also used this framework in the discussion. Descriptive statistics and frequencies were used to calculate the prevalence of the variables of interest.

Results

Fifty-five clinical records were retrieved and analyzed in this study. As indicated in Table 1, the participants were aged between 10 and 29 years old at the start of their treatment with a mean age of 18.0 years old (*SD* = 3.9). Most of the participants were born in the Netherlands (70.9%). In total 72.7% of the participants were enrolled in the inpatient treatment. More than 80% of the participants had received psychological diagnostics or treatment before admission and two thirds had previously received residential youth care.

Table 1. Demographic characteristics

Characteristics	*N*	*Mean*	*Std. Deviation*	*Min*	*Max*
Age	55	18.0	3.9	10	29

Characteristics		*N*	*%*
Country of birth	Netherlands	39	70.9%
	Surinam	2	3.6%

	Brazil	1	1.8%
	Canada	1	1.8%
	Colombia	1	1.8%
	Nigeria	1	1.8%
	Somalia	1	1.8%
	Syria	1	1.8%
	Missing	5	9.1%
Type of treatment	Inpatient	40	72.7%
	Outpatient	5	9.1%
	Both	5	9.1%
	Missing	5	9.1%
Previous mental health services	Psychological diagnostics	49	89.1%
	Treatment	45	81.8%
	Residential youth care	34	61.8%

Individual characteristics

Table 2 demonstrates that a substantial proportion of the participants experienced mental health problems, of which social-emotional problems (85.5%) and externalizing (83.6%) and internalizing (78.2%) problem behavior were most prevalent. Trauma-related symptoms (72.7%) were often present as well. Many participants engaged in high-risk behavior. Professionals reporting in the clinical records described that high-risk behavior contributed to the establishment of contact between the participant and perpetrator. Runaway behavior (69.1%) was the most prevalent followed by drug use (60.0%). Half of the participants reported substance use and a third was involved in criminal activities. More than half of the participants reported difficulties with concentration or maintaining attention. In several clinical records, this was noted as a barrier to engaging in therapy.

Table 2. Mental health problems and high-risk behavior

Characteristics		*N*	*%*
Mental health problems	Social-emotional problems	47	85.5%
	Externalizing problem behavior	46	83.6%
	Internalizing problem behavior	43	78.2%
	Trauma-related symptoms	40	72.7%

	Difficulties in establishing trust	35	63.6%
	Attachment problems	31	56.4%
	Attention and/or concentration problems	31	56.4%
	Suicide attempt and/or ideation	24	43.6%
High-risk behavior	Running away	38	69.1%
	Drug use	33	60.0%
	Alcohol use	26	47.3%
	Smoking	24	43.6%
	Self-harm	22	40.0%
	Involvement in criminal activities	18	32.7%
	Truancy	15	27.3%
	Involvement with the justice system	9	16.4%

Table 3 demonstrates the prevalence of life-time DSM-IV or 5 classifications. Participants could have received multiple classifications during their mental health care trajectories and it was not possible to identify which classifications per individual were still applicable. Post-Traumatic Stress Disorder (PTSD) was the most prevalent classification, affecting almost a third of the participants. Attention Deficit/Hyperactivity Disorder (ADHD) and attachment disorders were both prevalent in a quarter of the participants. A few V-codes recurred in the classifications, including parent-child relationship problems (21.8%), problems within the primary support group (14.5%) and work and/or school problems (14.5%). A third had other and less frequently prevalent classifications, such as anxiety disorders or eating problems.

Table 3. DSM Classifications

Characteristics	*N*	*%*
Post-Traumatic Stress Disorder (PTSD)	17	30.9%
Attention Deficit Hyperactivity Disorder (ADHD)	14	25.5%
Attachment Disorder	14	25.5%
Parent-child relationship problems (V code)	12	21.8%
Behavioral Disorder	8	14.5%
Issues within primary support group (V code)	8	14.5%
Work and/or School Problems (V code)	8	14.5%
Autism Spectrum Disorder (ASD)	7	12.7%

Depression	6	10.9%
Personality disorder	3	5.5%
Substance abuse disorder	3	5.5%
Other (e.g. anxiety disorder, eating disorder)	20	36.4%

Vulnerabilities related to intellectual disabilities were substantially present (Table 4) and all participants showed multiple of these vulnerabilities. Sexual risk behavior was observed in 81.8% of participants. This included sending nude photos and engaging in sexual activities with individuals they did not know well. According to the clinical records three-quarters of the participants had a low self-esteem and had difficulties in understanding cause-and-effect relationships. Nearly two-third of the sample struggled with setting boundaries and showed risky use of social media. They for example had connections with strangers through social media about which care providers had concerns. Information in the clinical records described that this allowed perpetrators to easily connect with them. As is seen in Table 5, almost half of the participants used sleeping medication and sedatives. Sleeping problems were present in two-third of the participants. A quarter of the participants experienced chronic illnesses, including genetic syndromes, epilepsy and gastrointestinal complaints.

Table 4. Vulnerabilities related to mild intellectual disabilities

Characteristics	*N*	*%*
Sexual risky behavior	45	81.8%
Low self-esteem	41	74.5%
Impaired comprehension of cause and effect	41	74.5%
Difficulties setting boundaries	36	65.5%
Risky social media use	35	63.6%
Limited understanding of relationships and sexuality	34	61.8%
Vulnerable to peer pressure	29	52.7%
Dependency on others	21	38.2%
Impulsive behavior	21	38.2%
General vulnerabilities	35	63.6%
Sexually transgressive behaviour	12	21.8%

Table 5. Medication use and physical health characteristics

Characteristics	*N*	*%*
Sleeping medication and sedatives	25	45.5%
Antipsychotics	13	23.6%
Stimulants	10	18.2%
Antidepressants	6	10.9%
Sleeping problems	34	61.8%
Chronic illness	14	25.5%
Pregnancy	12	21.8%
Abortion	4	7.5%
Sexually transmitted infections (STI)	4	7.3%

Family characteristics

Table 6 demonstrates that the prevalence of ACEs was substantial, with an average of 3.3 ACEs (range 0 – 7). 98.2% experienced at least 1 ACE and even 40% at least 4 ACEs. Up to 60% had been subjected to sexual abuse, including incidents such as rape, sexual abuse by a family member and experiencing sexual violence by a partner of peer. The data made clear that a significant proportion of the participants experienced sexual abuse beyond the situation(s) of sexual exploitation. ACEs regarding household dysfunction were prevalent as well, especially parental divorce and parental mental health problems.

Table 6. Adverse Childhood Experiences and other family characteristics

Characteristics		*N*	*%*
ACEs original framework	Parental separation or divorce	40	72.7%
	Sexual abuse	33	60.0%
	Physical abuse	18	32.7%
	Parental mental health problems	18	32.7%
	Domestic violence	15	27.3%
	Parental substance abuse	13	23.6%
	Emotional neglect	12	21.8%
	Emotional abuse	9	16.4%
	Physical neglect	5	9.1%
	Parental incarceration	1	1.8%

	Being bullied	20	36.4%
	Death of a parent, caregiver or sibling	10	18.2%
Frequency of ACEs*	At least 1	54	98.2%
	At least 2	48	87.3%
	At least 3	32	58.2%
	At least 4	22	40.0%
	Mean number	3.3 (*M*); 1.7 (*SD*)	Range 0-7
Family characteristics	Parent-child relationship problems	36	65.5%
	Mental health problems of siblings	15	27.3%
	ACEs of parents	11	20.0%
	Financial problems of parents	8	14.5%
	Intellectual disabilities parents	7	12.8%

*of the original framework

The clinical records lacked information on protective factors. Nevertheless, data regarding support figures for the participants were present. 43.6% of the participants had support figures in their family, such as parents, grandparents, uncles, and aunts. Moreover, 18.1% of the participants had support figures outside the family, such as friends or staff members at a healthcare organization.
Table 8 shows that more than half of the participants had a limited social network and a fifth experienced financial problems.

Table 7. Protective experiences

Characteristics	*N*	*%*
Support figures in the family	24	43.6%
Support figures outside the family	10	18.1%
Friendships	9	16.4%

Environmental characteristics

Table 8. Environmental characteristics

Characteristics	*N*	*%*
Limited social network	31	56.4%
Financial problems	12	21.8%

Homelessness	7	12.7%

Health care needs

During the intake process at the treatment program, participants expressed their healthcare needs which provided the basis for the treatment goals (Table 9). On average, participants had needs in 3 different categories, with a maximum of 6 categories per participant. More than half of the participants had a help request to improve their self-confidence or resilience (e.g. be more assertive, be able to set boundaries, becoming more resilient to men with wrong intentions and self-esteem improvement). In addition, 38.2% of participants had needs regarding social-emotional functioning, with help requests about emotion regulation and establishing and/or maintaining relationships with friends, family and peers. Needs regarding trauma involved processing adverse experiences from the past and symptoms, such as reliving traumatic experiences. A quarter of the participants had needs for housing. Most participants wanted a place for assisted living after their residential health care trajectory. Work and school were important for some participants as well to be able to be able to become more self-reliant. Other needs were financial assistance, learning to make healthy choices around drug and alcohol use, regaining contact with parents and dealing with arguments at home.

Table 9. Categories requests for help (N = 47*)

Characteristics	*N*	*%*
Self-confidence / Resilience	32	58.2%
Social-emotional	21	38.2%
Trauma	15	27.3%
General well-being	14	25.5%
Housing	14	25.5%
Sexual well-being	9	16.4%
Work / School	8	14.8%
Practical skills	7	12.7%
Behavior	6	10.9%
Exploitation	5	9.1%
Other	15	27.3%

*Data on this category was missing from 8 participants.

Discussion

This study explored the background characteristics and healthcare needs of sexually exploited and at-risk young women with mild intellectual disabilities. The main findings are discussed below, regarding: 1) ACEs and trauma-related symptoms, 2) vulnerabilities linked to cognitive and adaptive limitations, 3) mental health problems, 4) protective factors, and 5) health care needs.

Trauma-related symptoms were present in almost three quarter of the girls and young women. They had extensive histories of ACEs. The average ACE sore, based on the original framework of Felitti et al. (1998), was 3.3. Moreover, 98.2% experienced at least 1 ACEs and even 40% at least 4 ACEs of the original framework. These numbers are concerning, because experiencing 4 ACEs is considered the threshold for extremely poor health outcomes (Szilagyi & Halfon, 2015). In the general population of school-ages youth, the percentage of experiencing at least 1 ACE varied from 45% - 66% (Bright et al., 2016; Carlson et al., 2020; Meeker et al., 2021; Turney, 2020; Vink et al., 2019). Although these numbers in the general population are relatively high as well, the numbers in de current study are substantial. Furthermore, in a comparable Dutch clinical record study on ACEs prevalence in adolescents with intellectual disabilities in residential care, it was found that 85% experienced at least 1 ACE, 24.4% at least 4 and the mean was 2.4 ACEs (Mercera et al., 2024b). From this, we can conclude as well that the ACEs prevalence among sexually exploited and at-risk young women with mild intellectual disabilities appears to be high.

Regarding types of ACEs, relatively many girls and young women in the current sample experienced the ACE sexual abuse (60%). This is in line with the study of Hanlin et al. (2024) in a sample of youth referred by child services for trauma and psychological evaluations (57% experienced sexual abuse before age 12). Also, Reid (2018) demonstrated that child sexual abuse and sexual assault (beyond sexual exploitation) were particularly present in girls with intellectual disabilities. Sexual abuse is consistently linked to sexual exploitation (Ports et al., 2016). Trauma resulting from sexual abuse or other ACEs, can serve as a triggering mechanism for a variety of risky behaviors that were present in the current sample, such as sexual risky behavior, running away and substance abuse (Mercera et al., 2024c; Reid, 2018). These behaviors combined with the cognitive and adaptive limitations of young women with mild intellectual disabilities may heighten the vulnerability for sexual exploitation (Reid, 2018; Reid et al., 2018). Running away from home and a lack of resources (e.g. money, shelter) can result in increased motivation to enter prostitution, which elevates their risk of being exploited (Reid et al., 2018; Tyler et al., 2000). The substantial presence of ACEs in sexually exploited and at-risk young women with intellectual disabilities underline the need for trauma-informed interventions as early as possible to prevent further adversities and to foster resilience.

A notable finding of the present study was that only one third was classified with PTSD, while trauma-related symptoms were highly present (72.7%). There may be a number of reasons for this discrepancy. Trauma-related symptoms may not always be recognized in young women with mild intellectual disabilities. Healthcare providers may incorrectly assume that behavioral or emotional difficulties are due to the intellectual disability itself, rather than considering PTSD or other mental health disorders. This is also called diagnostic overshadowing (Kanne, 2013). Research on sexual exploitation in girls with mild intellectual disabilities underlines this issue. It was found that sexually exploited girls with intellectual disabilities show higher levels of aggression than sexually exploited girls without intellectual disabilities (Reid et al., 2018). The aggression, risk behavior or noncompliance, were attributed by professionals to the girls' intellectual disabilities rather than traumatic experiences (Reid et al., 2018). Thus, PTSD may present differently in individuals with intellectual disabilities (Stenfert Kroese et al., 2016) and trauma assessment questionnaires should be adapted for use by individuals with intellectual disabilities (Langdon et al., 2023). Opportunities for effective prevention and early intervention are missed when the symptoms of sexually exploited and at-risk youth with mild intellectual disabilities are misunderstood (Franklin et al., 2024).

Many of the vulnerabilities in the clinical records were linked to cognitive and adaptive limitations (Wissink et al., 2015). For example, limited understanding of cause-effect, vulnerability to peer pressure, and difficulties setting boundaries were often present. Human traffickers are known to act on these vulnerabilities because they perceive individuals with intellectual disabilities as less capable of reporting the crime, easy to manipulate, more vulnerable and less powerful (Reid, 2018). Recognizing and addressing cognitive and adaptive limitations of individuals in clinical settings is important to early detect those at risk of exploitation. A major problem in policy, research and practice is that sexual exploitation in youth with intellectual disabilities is inadequately understood, recognized, recorded and monitored (Franklin et al., 2024). This was concluded in recent reports from the United Kingdom and The Netherlands (Franklin et al., 2024; CoMensha, Koraal and MetaStory, 2023). Individuals with intellectual disabilities make up a significant proportion of people receiving mental health care in The Netherlands (Nieuwenhuis et al., 2017). At the same time, there remain significant gaps in professionals' knowledge on recognizing intellectual disabilities (Nouwens et al., 2017). When intellectual disabilities are not recognized in time, this can lead to poorer treatment outcomes (Nieuwenhuis et al., 2017). This can lead to frustration at school, challenging behavior and exclusion in youth with intellectual disabilities, which can heighten their vulnerability to sexual exploitation (Franklin & Smeaton, 2017). Therefore, professionals should be equipped with the right knowledge and skills to identify youth with intellectual disabilities, and to address their needs. When professionals recognize signs that may indicate intellectual disabilities, screening instruments can provide an important contribution to correct classifications (Moonen, 2017), for example the Screener Intelligence

and Learning disability (SCIL; Nijman et al., 2018). An important note to make is that screening tools cannot replace an overall diagnostic assessment, but they can help to gain a first impression of cognitive abilities and can provide guidance for more detailed assessment (Moonen, 2017).

Mental health problems were substantially present, such as externalizing (83.6%) and internalizing problem behavior (78.2%), attachment problems (56.4%) and attention and/or concentration problems (56.4%). In a clinical record study of Reid (2018) among girls with intellectual disabilities, internalizing and externalizing problems were highly present as well, although the numbers cannot be compared due to different ways of measuring (prevalence rates versus standardized scores). Other studies in youth who experienced sexual exploitation, revealed that an accumulation of ACEs lead to increased chances for mental health problems (Hanlin et al., 2024; Landers et al., 2020; Perry et al., 2022). And that mental health problems are higher in sexually exploited youth compared to youth who did not experience sexual exploitation. Although the current study cannot draw conclusions on mental health problems as risk factors for sexual exploitation or consequences, the presence of mental health problems underline the need for mental health support that includes early identification of ACEs. These services tailored to the needs of youth with intellectual disabilities should address psychological and social vulnerabilities in both the context of prevention of sexual exploitation as well as treatment for actual victims.

Limited information on protective factors was available in the clinical records. This may be attributed to healthcare providers' bias towards documenting mainly negative aspects (Martin et al., 2020). Although in modern healthcare there has been a shift from disease-focused care to more strength-based care (Bokhour et al., 2018), diagnostic systems in mental health care still rely upon presenting signs and symptoms (Van Os, 2018). It is important to identify and address protective factors in sexually exploited and at-risk girls with mild intellectual disabilities to mitigate the effects of risk factors and to reduce the likelihood of sexual exploitation or revictimization (Crandall et al., 2019; Hays-Grudo et al., 2021; Landers et al., 2020). Some information on the protective factor support figures was actually available. Relatively few participants had positive support figures, and parent-child relationship problems were highly present as well as a limited social network. The absence of support figures is a cause for concern. Increased social isolation amplifies the susceptibility to sexual exploitation among young people with intellectual disabilities (Franklin & Smeaton, 2017). On top, the combination of social isolation and the desire to cultivate friendships heightens the susceptibility of young people with intellectual disabilities to exploitation and online grooming (Franklin & Smeaton, 2017). This behaviour was also reported in the clinical records, with more than 60% exhibiting risky social media behavior. Therefore, youth with intellectual disabilities should early receive education about forming healthy relationships, consent, and recognizing exploitative behaviors, both offline and online. Moreover, the

absence of positive support figures and the prevalence of parent-child relationship problems underline the need for interventions that strengthen family bonds and create supportive, trusted relationships.

Health care needs varied, including needs regarding trauma, resilience, social-emotional well-being, sexual well-being, behavior and housing. Due to complex problems, literature underlines that there is a wide range of treatment needs of sexually exploited young women with intellectual disabilities (Reid et al., 2018). A study on sexually exploited young women without intellectual disabilities emphasised the need for personalised treatment services (Sterkenburg & Meddeler-Polman, 2022). The current sample received care in a specialized treatment program, but literature demonstrates that internationally there is a lack of specialised treatment services for this target group (O'Brien et al., 2019). A relatively high proportion of the sample had needs regarding the treatment of trauma. Literature states that treatment of victims of sexual exploitation should focus on addressing mental health needs with evidence-based treatments that implement trauma-informed care (Ijadi-Maghsoodi et al., 2016). It is also known that youth with mild intellectual disabilities are at risk of not receiving the right care that matches their cognitive and adaptive limitations (Nieuwenhuis, 2019). Adapted therapies to intellectual disabilities such as cognitive-behavioral therapy and EMDR can successfully treat individuals with PTSD and intellectual disabilities (Mevissen & De Jongh, 2010). Needs regarding the family were limitedly present, but family risk factors were highly prevalent in the current sample. Literature recommends multisystemic therapy in which the family, school and other significant community members are involved in treatment (Reid et al., 2018). Many needs were related to sexual health and resilience and underline the need for psycho-education and sexual and relational education. Literature demonstrates that sexually exploited and at-risk youth with intellectual disabilities have a lack of sexual and relational education and information on understanding exploitative relationships and giving or receiving consent (Franklin & Smeaton, 2018). Thus, targeted interventions that provide accessible sexual and relational education to youth with intellectual disabilities is a need to enhance their resilience, protect them from exploitation, and promote healthier future relationships.

Strengths and Limitations

This study provides a unique insight into the background characteristics and healthcare needs of sexually exploited and at-risk girls and young women with mild intellectual disabilities, adding an important contribution to the limited scientific knowledge of this topic (Franchino-Olsen et al., 2022; Franklin & Smeaton, 2017; Reid et al., 2018; Wissink et al., 2015). The results can be used to further develop interventions that meet the healthcare needs of this population. Another strength is that the variables in this study were operationalized in a codebook that was conceptualised from scientific literature (Mercera et al., 2024a), leading to a structured framework to collect relevant data. In

addition, we first approached some qualitative data to remain open to new insights, for example regarding health care needs.

Several limitations of this study should be acknowledged. It is important to note that the nature of the clinical records did not allow insight into timelines of experienced problems. Therefore no conclusions can be drawn to whether variables involved risk factors, consequences or both. Moreover, the data was retrospectively retrieved. Inherent to clinical record studies, there is limited knowledge on accuracy and missing's, as many different professionals were involved in reporting information throughout the years. Often information on a variable was missing in a clinical record, such as the presence of intellectual disabilities in parents, but the fact that there is no information, does not necessarily mean that the prevalence of intellectual disabilities in parents was low. It is plausible that there is an underestimation of prevalence rates as a substantial amount of clinical records missed reports from previous care. This study was based on a relatively small sample size and may be a tip of the iceberg. A Dutch study found that the likelihood of experiencing sexual exploitation and sexual violence is 13 to 18 times higher in youth with intellectual disabilities compared to youth without intellectual disabilities, so it is expected that many actual victims are still under the radar (Nationaal Rapporteur Mensenhandel en Seksueel Geweld tegen Kinderen, 2022). The inclusion of 55 clinical records of at-risk and sexually exploited young women makes our sample unique, but generalizing the results should therefore be done with caution.

Conclusion

In conclusion, this study revealed that sexually exploited and at-risk young women with mild intellectual disabilities experience many vulnerabilities at the individual, family and environmental level. The substantial presence of ACEs underline the need for trauma-informed and family centred interventions as early as possible to prevent further adversities and to foster resilience in youth and their families. It is important that professionals who may see victims or at-risk youth in their daily work (e.g. general practitioners, health care workers, social workers, teachers, policemen or hotel employees) are able to recognize both intellectual disabilities and sexual exploitation. Moreover, the results underline that youth with intellectual disabilities should be provided with adequate education on relationships and sexuality that matches their cognitive and adaptive abilities. Future research on sexual exploitation in youth with intellectual disabilities is important to fill the gaps in understanding their specific needs and to develop effective prevention and intervention strategies tailored to their needs.

References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.).

Bright, M. A., Knapp, C., Hinojosa, M. S., Alford, S., & Bonner, B. (2016). The comorbidity of physical, mental, and developmental conditions associated with childhood adversity: a population based study. *Maternal and Child Health Journal, 20*(4), 843-853.

Carlson, J. S., Yohannan, J., Darr, C. L., Turley, M. R., Larez, N. A., & Perfect, M. M. (2020). Prevalence of adverse childhood experiences in school-aged youth: A systematic review (1990–2015). *International Journal of School & Educational Psychology*, *8*(sup1), 2-23.

Chaffee, T., & English, A. (2015). Sex trafficking of adolescents and young adults in the United States: healthcare provider's role. *Current opinion in obstetrics and gynecology*, *27*(5), 339-344.

Clawson, H. J., Dutch, M., Solomon, A., & Grace, L. G. (2009). *Human trafficking into and within the United States: A review of the literature.* Washington, DC: Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services. Available at: https://aspe.hhs.gov/reports/human-trafficking-within-united-states-review-literature-0

CoMensha, Koraal en MetaStory. (2023). *Uitbuiting & LVB. Knelpunten en aanbevelingen voor een effectievere aanpak*. Retrieved on August 15, 2024, from https://www.koraal.nl/IManager/MediaLink/991/93853/40509/2403389/

Franchino-Olsen, H., Silverstein, H. A., Kahn, N. F., & Martin, S. L. (2020). Minor sex trafficking of girls with disabilities. *International journal of human rights in healthcare*.

Franklin, A., & Smeaton, E. (2017). Recognising and responding to young people with learning disabilities who experience, or are at risk of, child sexual exploitation in the UK. *Children and Youth Services Review, 73*, 474-481.

Franklin, A., & Smeaton, E. (2018). Listening to young people with learning disabilities who have experienced, or are at risk of, child sexual exploitation in the UK. *Children & Society*, *32*(2), 98-109.

Franklin, A., Bradley, L., Greenaway, J., Goff, S., Atkins, S., & Rylatt, L. (2024). *Internal trafficking and exploitation of children and young people with special educational needs and disabilities (SEND) within England and Wales. Understanding identification and responses to inform effective policy and practice*. Retrieved August 15, 2024, from https://modern-slavery.files.svdcdn.com/production/assets/downloads/SEND-full-report-Final.pdf?dm=1715180164

Hanlin, H., Kivisto, A., & Gold, C. (2024). Exploring the Link among adverse childhood experiences and commercial sexual exploitation. *Child Protection and Practice*, *2*, 100042.

Hassiotis, A., Brown, E., Harris, J., Helm, D., Munir, K., Salvador-Carulla, L., et al. (2019). Association of Borderline Intellectual Functioning and Adverse Childhood Experience with adult psychiatric morbidity. Findings from a British birth cohort. BMC Psychiatry, 19(1).

Hays-Grudo, J., Morris, A. S., Beasley, L., Ciciolla, L., Shreffler, K., & Croff, J. (2021). Integrating and synthesizing adversity and resilience knowledge and action: The ICARE model. *American Psychologist, 76*(2), 203–215.

Ijadi-Maghsoodi, R., Cook, M., Barnert, E. S., Gaboian, S., & Bath, E. (2016). Understanding and responding to the needs of commercially sexually exploited youth: Recommendations for the mental health provider. *Child and Adolescent Psychiatric Clinics*, *25*(1), 107-122.

Jones, L., Bellis, M. A., Wood, S., Hughes, K., McCoy, E., Eckley, L., et al. (2012). Prevalence and risk of violence against children with disabilities: A systematic review and meta-analysis of observational studies. *The Lancet, 380*(9845).

Kanne, S. (2013). Diagnostic Overshadowing. In: Volkmar, F.R. (eds) *Encyclopedia of Autism Spectrum Disorders.* Springer, New York, NY.

Landers, M., Johnson, M. H., Armstrong, M. I., McGrath, K., & Dollard, N. (2020). Exploring relationships as mediators of treatment outcomes among commercially sexually exploited youth. *Child Abuse & Neglect*, *100*.

Langdon, P. E., Bisson, J. I., Rogers, G., Swain, S., Hiles, S., Watkins, A., & Willner, P. (2023). Evaluation of an adapted version of the International Trauma Questionnaire for use by people with intellectual disabilities. *British Journal of Clinical Psychology*, *62*(2), 471-482.

Llewellyn, G., & Hindmarsh, G. (2015). Parents with intellectual disability in a population context. *Current developmental disorders reports*, *2*, 119-126.

Meeker, E. C., O'Connor, B. C., Kelly, L. M., Hodgeman, D. D., Scheel-Jones, A. H., & Berbary, C. (2021). The impact of adverse childhood experiences on adolescent health risk indicators in a community sample. *Psychological Trauma: Theory, Research, Practice, and Policy, 13*(3), 302–312.

Mercera, G., Kooijmans, R., Leijdesdorff, S., Heynen, E., & van Amelsvoort, T. (2024). Risk and protective factors for sexual exploitation in male and female youth from a cross-cultural perspective: a systematic review. *Trauma, Violence, & Abuse*, *25*(3), 1966-1984.

Mercera, G., Vervoort-Schel, J., Kooijmans, R., & Moonen, X. (2020). Kind-, ouder-, gezins- en omgevingsfactoren van residentieel opgenomen jeugdigen die op licht verstandelijk beperkt of zwakbegaafd niveau functioneren. *LVB Onderzoek & Praktijk*, *18*.

Mercera, G., Kooijmans, R., Leijdesdorff, S., Heynen, E., & van Amelsvoort, T. (2024a). Risk and protective factors for sexual exploitation in male and female youth from a cross-cultural perspective: a systematic review. *Trauma, Violence, & Abuse*, *25*(3), 1966-1984.

Mercera, G., Vervoort-Schel, J., Offerman, E., Pronk, S., Wissink, I., & Lindauer, R. (2024b). Prevalence of Adverse Childhood Experiences in Adolescents with Special Educational and Care Needs in the Netherlands: A Case-File Study of Three Special Educational and Care Settings. *Journal of Child & Adolescent Trauma*, 1-14.

Mercera, G., Noteboom, F., Timmermans, C., Leijdesdorff, S., Heynen, E., & van Amelsvoort, T. (2024c). Sexual exploitation of young men: background characteristics and needs from a life-course perspective. *Child Abuse & Neglect*, *152*, 106794.

Mevissen, L., & de Jongh, A. (2010). PTSD and its treatment in people with intellectual disabilities: A review of the literature. *Clinical psychology review*, *30*(3), 308-316.

Moonen, X. M. H. (2017). *(H)erkennen en waarderen: Over het (h)erkennen van de noden mensen met licht verstandelijke beperkingen en het bieden van passende ondersteuning. (Oratiereeks; Nr. 577)*.

Vossiuspers UvA. Retrieved September 15, 2024, from https://pure.uva.nl/ws/files/50240275/oratie_Moonen2017.pdf

Morris, D. J., Webb, E. L., Parmar, E., Trundle, G., & McLean, A. (2020). Troubled beginnings: The adverse childhood experiences and placement histories of a detained adolescent population with developmental disorders. Advances in Mental Health and Intellectual Disabilities, 14(6).

Nationaal Rapporteur Mensenhandel en Seksueel Geweld tegen Kinderen (2022). *Brede blik op slachtofferschap. Achtergronden van slachtoffers van seksueel geweld tegen kinderen en seksuele uitbuiting*. Nationaal Rapporteur.

Nieuwenhuis, J. G., Smits, H. J. H., Noorthoorn, E. O., Mulder, C. L., Penterman, E. J. M., & Nijman, H. L. I. (2019). Not recognized enough: the effects and associations of trauma and intellectual disability in severely mentally ill outpatients. *European psychiatry*, *58*, 63-69.

Nijman, H., Kaal, H., van Scheppingen, L., & Moonen, X. (2018). Development and testing of a screener for intelligence and learning disabilities (SCIL). *Journal of Applied Research in Intellectual Disabilities*, *31*(1), e59-e67.

Nouwens, P. J., Lucas, R., Embregts, P. J., & van Nieuwenhuizen, C. (2017). In plain sight but still invisible: A structured case analysis of people with mild intellectual disability or borderline intellectual functioning. *Journal of Intellectual & Developmental Disability*, *42*(1), 36-44.

Office of the United Nations High Commissioner for Human Rights. (2000). *Protocol to prevent, suppress and punish trafficking in persons especially women and children, supplementing the united nations convention against transnational organized crime.* Geneva Switzerland: United

Perry, E. W., Osborne, M. C., Kinnish, K., Lee, N., & Self-Brown, S. R. (2023). The PTSD symptom presentation and the effect of polytrauma on PTSD symptom clusters among young people who have experienced commercial sexual exploitation and trafficking. *Journal of Child & Adolescent Trauma*, *16*(1), 81-93.

Ports, K. A., Ford, D. C., & Merrick, M. T. (2016). Adverse childhood experiences and sexual victimization in adulthood. *Child abuse & neglect*, *51*, 313-322.

Reid, J. A. (2018). Sex trafficking of girls with intellectual disabilities: An exploratory mixed methods study. *Sexual Abuse*, *30*(2), 107-131.

Reid, J. A., Strauss, J., & Haskell, R. A. (2018). Clinical practice with commercially sexually exploited girls with intellectual disabilities. In A. J. Nichols, T. Edmond, & E. C. Heil (Eds.), *Social work practice with survivors of sex trafficking and commercial sexual exploitation* (pp. 316-332). Columbia University Press.

Spaan, N. A., & Kaal, H. L. (2019). Victims with mild intellectual disabilities in the criminal justice system. *Journal of Social Work*, *19*(1), 60-82.

Stenfert Kroese, B., Willott, S., Taylor, F., Smith, P., Graham, R., Rutter, T., Stott, A., & Willner, P. (2016). Trauma-focussed cognitive-behaviour therapy for people with mild intellectual disabilities: Outcomes of a pilot study. *Advances in Mental Health and Intellectual Disabilities*, *10*(5), 299-310.

Szilagyi, M., & Halfon, N. (2015). Pediatric adverse childhood experiences: implications for life course health trajectories. *Academic pediatrics*, *15*(5), 467-468.

Turney, K. (2020). Cumulative adverse childhood experiences and children's health. *Children and Youth Services Review, 119*, 105538.

Tyler, K. A., Hoyt, D. R., & Whitbeck, L. B. (2000). The Effects of Early Sexual Abuse on Later Sexual Victimization Among Female Homeless and Runaway Adolescents. *Journal of Interpersonal Violence*, *15*(3), 235-250.

United Nations Office on Drugs and Crime, UNODC. (2022). *Global report on trafficking in persons.* Retrieved July 12, 2024, from https://www.unodc.org/documents/data-and-analysis/glotip/2022/GLOTiP_2022_web.pdf

Vervoort-Schel, J., Mercera, G., Wissink, I., Van der Helm, P., Lindauer, R., & Moonen, X. (2021). Prevalence of and relationship between adverse childhood experiences and family context risk factors among children with intellectual disabilities and borderline intellectual functioning. *Research in Developmental Disabilities, 113*, 103935.

Vink, R. M., van Dommelen, P., van der Pal, S. M., Eekhout, I., Pannebakker, F. D., Velderman, M. K., ... & Dekker, M. (2019). Self-reported adverse childhood experiences and quality of life among children in the two last grades of Dutch elementary education. *Child abuse & neglect*, *95*, 104051.

Wissink, I. B., Vugt, E. van, Moonen, X., Stams, G.-J. J. M., & Hendriks, J. (2015). Sexual abuse involving children with an intellectual disability (ID): A narrative review. *Research in Developmental Disabilities, 36*, 20-35.

Chapter 5

Prevalence of Adverse Childhood Experiences in adolescents with special educational and care needs in the Netherlands: a case file study of three special educational and care settings

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Journal of Child and Adolescent Trauma, 2024, 1-14

Abstract

Introduction

To date, Adverse Childhood Experiences (ACEs) in adolescents with special educational and care needs have received little attention as an important risk factor for their behavioral, emotional, and learning problems. *Objective:* This study provides insight into ACE prevalences and family risk factors in three Dutch special educational and care settings for vulnerable school-aged youth.

Methods

268 adolescents (10-18 years old) with severe and persistent problems at individual and family level, from a special educational setting (setting 1; n = 59), a residential care setting (setting 2; n = 86) and an alternative educational setting (setting 3; n = 123) were included. *Methods:* A retrospective cross-sectional study design was used. Data were collected between 2016 and 2019 through structured case-file analysis.

Results

A substantial proportion of the adolescents in all settings experienced at least one ACE, with 69.5% in setting 1, 84.9% in setting 2 and 95.1% in setting 3. Family risk factors were relatively common, among which a limited social network in all settings (20-50%) and debts in setting 2 and 3 (25-40%).

Conclusions

The substantial ACE prevalence underline the need for early ACE awareness. Trauma-informed care and education are needed to adequately understand trauma-related behaviors, prevent retraumatization, and enhance learning and healthy development. Given that ACEs regarding household dysfunction and family risk factors seem to be common in adolescents with special educational and care needs, family centered approached should be implemented as well in the interest of lifelong health and well-being for both adolescents and their families.

Introduction

In recent decades, both research and practice have become more aware of the prevalence and impact of Adverse Childhood Experiences (ACEs). Historically, studies of ACEs focused on adults and despite an increased focus on children in ACEs research in recent years (Narayan et al., 2021), research on the prevalence of ACEs in children is still sparse. Moreover, children with special educational or care needs are rarely included (Massetti et al., 2020), while limited research shows that ACEs are associated with special educational and health care needs (Kan et al., 2020). There is an association between ACEs and problems that children with special educational and care needs face, such as developmental problems, learning difficulties, behavioral problems, social problems, health-risk behaviors, psychopathology, and mental and physical health problems (Bright et al., 2016; Garrido et al., 2018; Goldenson et al., 2020; Hunt et al., 2017; Liming & Grube, 2018; Schäfer et al., 2022). Moreover, ACEs are known to be negatively related to school success, such as poor academic performance, a lack of school engagement, reduced attendance at school and an increased risk for school dropout (Crouch et al., 2019; Morrow & Villodas, 2017; Stempel et al., 2017; Webster, 2022). More knowledge on the prevalence of ACEs in children with special educational and care needs is crucial to understand their problems and to improve learning, development and health outcomes. Therefore, this study aims to gain a better understanding of the prevalence of ACEs and other family risk factors among Dutch adolescents with special educational and care needs.

Children with special educational and care needs

Children with special educational and care needs are characterized by their increased use of multiple systems of care (Kan et al., 2020). In a sample of children in the United States, aged 6-17, Kan et al. (2020) demonstrated that each additional ACE increased the likelihood of the child having a special educational or health care need by 26%, such as the need or use of specialized treatment, counselling for an emotional, behavioral or developmental condition and above-routine need of medical, mental health or educational services. When regular educational systems and primary care facilities can no longer adequately support the development of the child and the family, more intensive support is required. In The Netherlands there are various forms of more intensive youth care and educational services, among which special education, outpatient youth care services (e.g. outpatient care, day treatment, specialized treatment), residential youth care services, youth protection and probation measures, or a combination of these forms (Centraal Bureau voor de Statistiek, 2023; Nederlands Jeugdinstituut, s.d.). Children are eligible for this support if they are referred by, for example, a general practitioner, medical doctor, judge, youth protection service or the municipality. Thus by 'children with special educational and care needs' we refer to children who receive these more intensive forms of education or care than the regular education and primary care system in the Netherlands provides.

When there are problems in multiple areas of life, such as psychological, mental, physical or intellectual functioning, parenting, finances, housing or education, these forms of youth care provide assistance. Recently a Dutch study on the characteristics of youth receiving these forms of youth care services has been published (Centraal Bureau voor de Statistiek, 2023). Children who received youth care were more likely to attend special education, grow up in low-income or indebted households, or in households where someone uses mental health services and/or has an indication for intellectual disability support. For a better understanding of the potential role of ACEs in the challenges these children and families face, more knowledge on the prevalence of ACEs in children with special educational and care needs is needed. Given the research sample of the current study, we specifically focus on adolescents aged 12-18 years old.

The Adverse childhood experiences framework

ACEs are risk factors for development, health and societal functioning that are common, interrelated, and have cumulative effects (Gervin et al., 2022; Turney, 2020). Originally ACEs were defined as ten experiences of abuse, neglect in the family or household dysfunction that significantly contribute to negative health outcomes in childhood, adolescence and/or adulthood (Anda et al., 2009; Felitti et al., 2019). These experiences encompass physical and emotional abuse, physical and emotional neglect, sexual abuse, parental separation or divorce, domestic violence against the mother, substance abuse of a household member, household member with mental illness and incarceration of a household member and are also referred to as 'original ACEs'. The ACE framework continues to evolve. In recent years, other experiences have been recommended to be added to the ACE framework, such as peer victimization, battering, gambling problems in the household, contact with child protective services or foster care placement, poverty, neighborhood violence or discrimination (Afifi et al., 2020; Hawes et al., 2021). Thus, the ACEs framework continues to expand with experiences outside the family unit, in the community (Hamby et al., 2021; Portwood et al., 2021). Given the still evolving developments in this area of research, there is not yet an internationally agreed definition of ACEs or a uniform operationalization to assess ACEs in children and adults (Karatekin & Hill, 2019). However, the original framework consisting of ten ACEs is a worldwide commonly used and investigated operationalization and is therefore used in this study (Anda et al., 2009; Felitti et al., 2019).

ACE prevalence in children and adolescents

Prevalence findings on ACEs in children and adolescents that are available show considerable variation between studies due to for example different study populations, ACE frameworks, instruments and approaches and small sample sizes (Massetti et al., 2020). Therefore, when examining study results on ACE prevalence, these limitations of existing ACE research should be taken into account. The systematic

review by Carlson et al. (2020) found that approximately two-thirds of school-aged youth (i.e. < 18 years old) in the general population had had at least one ACE of the original framework, regardless of where they lived in the world. Most studies on ACE prevalence in adolescents have been conducted in the United States. A study among high school adolescents in the United States showed that 62.5% experienced at least one ACE of the original framework (Meeker et al., 2017). Another study in the United States using the original framework demonstrated an ACE prevalence of 55.7% among adolescents aged 12-17 (Bethell et al., 2017). In the Netherlands no studies specifically focusing on adolescents have been conducted. Dutch data on ACE prevalence in 9-13 year old children in regular elementary schools revealed that about 45% experienced at least one ACE and about 11% experienced 3 or more ACEs of 10 measured ACEs of the original framework (Vink et al., 2019).

There are limited findings available on the prevalence of ACEs in adolescents with special educational and care needs, and most studies on this vulnerable group include a broader age range. For example, the results of a nationally representative longitudinal study in the United States on children involved with child protection services found that by age 6, approximately 70% of the children had experienced 3 or more out of 8 ACEs of the original ACE framework (Clarkson Freeman, 2014). Pooled data of a systematic review showed that nearly 87% of justice-involved youth (i.e. < 18 years old) in 13 countries had experienced at least one ACE from the original framework, and that they were 12 times more likely than their peers to have experienced at least one ACE (Malvaso et al., 2021). Recent Dutch research among children with severe social-emotional and behavioral problems in primary and secondary special education schools aged 8-18 years showed that about 80% experienced at least 1 ACE and about 24% experienced four or more ACEs of the original ACE framework (Offerman & Asselman et al., 2022). Additionally, results of a Dutch study among children with cognitive and adaptive limitations receiving residential care revealed that approximately 86% of these children had experienced at least one ACE and 25% experienced 4 or more ACEs out of ten ACEs from the original framework (Felitti et al., 2019; Vervoort-Schel et al., 2021). In sum, limited research has been done on ACEs in adolescents with special education and care needs and existing results are difficult to compare. All cited literature above is American or Dutch. The American youth care system cannot be compared one on one with the system in The Netherlands, due to for example differences in cultural contexts, accessibility of care and thus heterogeneity in populations. Yet, the available American and Dutch results do indicate an increased ACE prevalence amongst children and adolescents with special educational and care needs compared to studies in regular schools or based on studies on children and adolescents in the general population.

Impact of ACEs on child and family functioning

ACEs can derail neurodevelopment, especially during critical periods of brain plasticity such as the first years of life and adolescence (Bundy et al., 2018). The effects on emotional, social, behavioral, cognitive, mental and physical health can be detrimental (Morris et al., 2021). Studies have shown that adolescents who reported ACEs were more likely to experience depression, anxiety, drug abuse, antisocial behavior, suicidality and cognitive difficulties (Meeker et al., 2021; Olofson et al., 2018; Schilling et al., 2007). Ensuring safe, stable, nurturing relationships for all children and adolescents in all settings is key to preventing ACEs and mitigating their effects in the interest of lifelong health and the health and well-being of future generations (Gervin et al., 2022; Merrick et al., 2020). Unfortunately, family stressors such as debts, housing problems, a limited social network, parental intellectual disabilities, or parental ACEs can compromise safe, stable, nurturing relationships and be a risk factor for parenting and family functioning (Crouch et al., 2019; May & Harris, 2020; Merrick & Guinn, 2018; Thornberry et al., 2013; Vervoort-Schel et al., 2021). Since a wide range of family risk factors can impact child and family functioning, the current study focuses on family risk factors as well, besides its focus on the ACEs from the original framework.

Objectives of this study

To date, for adolescents with special educational and care needs, ACEs have been overlooked as an important risk factor for behavioral, emotional, and learning problems and the opportunities for them to optimally benefit from or prevent special education and youth care. Therefore, this study gives insight into prevalences of ACEs and family risk factors in a convenience sample of adolescents with special educational and care needs from three specialized educational and youth care settings in The Netherlands. The original ACE framework (Anda et al., 2009; Felitti et al., 2019), consisting of ten ACEs, was used in this study. For these ACEs a similar operationalization was available between the three settings. In addition, six family risk factors were included, since these factors are known to impede safe, stable, nurturing relationships and thereby family functioning.

The current study specifically focuses on adolescents. The settings include: 1) two special education schools; 2) a residential youth care center and 3) an outpatient alternative educational facility providing both special education and youth care. Thereby, our convenience sample consists of three of the four categories of more intensive forms of youth care services that are provided in The Netherlands as described in this introduction. These settings are indicated when regular education systems and primary care facilities can no longer adequately support the development of the child and the family. Adolescents in all three settings experience a combination of severe and persistent individual, family, and social context problems, but the settings respond to different needs: special education only, residential admission or a combination of special education and youth care services from day admission

(see the paragraph 'settings' for a detailed description). Therefore the prevalence of ACEs and family risk factors are explored per setting. This study provides a unique insight into ACE prevalence in three underrepresented vulnerable subgroups of adolescents with special educational and care needs. This study aims to contribute to a better understanding of the potential role of ACEs and family risk factors in the challenges these adolescents face, and to inform research, policy an practice.

Methods

Design and procedures

This study is based on a convenience sample which stems from three independent larger studies investigating ACEs in vulnerable school-aged populations, which were conducted at schools from a special education foundation (Offerman et al., 2022), a national residential youth care center (Vervoort et al., 2021), and an alternative educational facility (Pronk et al., 2020). All studies used a retrospective cross-sectional study design and the variables were selected based on scientific literature on ACEs and family risk factors. All variables were operationalized in codebooks. Data were collected between 2016 and 2019 by means of structured analysis of case-files, containing reports such as school, youth care, diagnostic, and psychiatric reports from previous and current schools or care settings, as well as day-to-day journals at two of the three settings (i.e., the special education schools and the alternative educational facility). The reports included information about the adolescent, their parents and family and social context. For the present study, we combined the fully anonymized data of the three separate studies. Each separate study protocol was approved by the Ethics Review Board of the University of Amsterdam (residential care center 2018-CDE-8871; special educational setting 2017-CDE-7603; alternative educational facility 2017-CDE-7736).

Setting

The sample consisted of Dutch adolescents who had been assigned to special education (setting 1), a residential youth care center (setting 2) or an alternative educational facility (setting 3).

Setting 1. Two urban secondary special education schools for students with emotional and behavioral disorders were included. Thesespecial education schools provide education, care and guidance for youth between 11 and 18 years old (by exception from 10 years old) with severe and persistent internalizing and/or externalizing behavioral and social emotional problems, whose educational and support needs could not sufficiently be met by regular schools. Previous research within this setting explored 172 case-files of 8 to 18 year old students with emotional and behavioral disorders and demonstrates for example that about 68% of the students had two or more school switches prior to their special education placement at the time of the case-file analysis. The number of school switches in this population is corrected for the primary to secondary school switch. Autism

spectrum disorders (35%), attention-deficit/hyperactivity disorder (35%) and oppositional defiant disorder (17%) are the most commonly reported diagnoses, with 41% of the students having comorbid classifications of the 4th or 5th edition of The Diagnostic and Statistical Manual of Mental Disorders (DSM-4; DSM-5; Americal Psychiatric Association, 2000; American Psychiatric Association, 2013). 54% of the students used medication related to their DSM-4 or DSM-5 classifications. 86% of the students had received family-oriented social work and therapy, and 87% had received a form of therapy focussing on the child's individual problems (Offerman et al., 2022). Often, a combination of child, family and school factors plays a role in special education placement. Mostly, this placement is voluntary – as a last opportunity to receive education – after an accumulation of negative experiences at previous, often regular schools. Youth participate in the special education program during the hours of a regular school day (i.e., approximately six hours per day), potentially at least up until they reach the compulsory school age of 16 years old. Apart from special education, various specialized youth health care partners provide diagnostics and individual guidance or treatment in the schools in collaboration with the school and parents, to reduce problem behavior and enhance cognitive and social emotional development.

Setting 2. One national residential youth care center situated in a rural area in the Netherlands was included. This setting provides specialized clinical observation, diagnostics and treatment for children between two and 18 years old, with intellectual disabilities and borderline intellectual functioning and severe, persistent and complex mental- and behavioral health problems. Previous research within this setting, exploring 69 case-files of children and adolescents (≤18 years old) with intellectual disabilities, gives an indication of the problems those children and adolescents face (Vervoort-Schel et al., 2021). Outcomes of the Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2001), reported by residential care staff, showed that almost two third of youth scored in the borderline clinical or clinical range for total problem behavior and around half of the children scored in the borderline clinical or clinical range for externalizing behavior problems and internalizing behavior problems. One third of the sample experienced attachment problems and/or trauma and stressor related problems. Another study within this setting, exploring 134 case-files of children and adolescents with ID or borderline intellectual functioning, showed that 85% of the children had a co-morbid clinical disorder (Vervoort-Schel et al., 2021). In this study it was also found that family problems were relatively often present, as 76% of the children grew up in families with multiple and complex problems. These are families experiencing an accumulation of problems in at least six out of the following seven domains: child, parental, child rearing, family functioning and contextual factors, social network and prior history of support services (Dekovic & Bodden, 2019). About 28% of the children had parents with intellectual disabilities, about 32% parents with ACEs and 28% had parents with debts (i.e. meaning that a professional reported in the case-file that the family in which the child

grew up experienced any kind of debts or that debt counselling agencies have been involved). The residential placement is mostly voluntary, however, in some cases placement is ordered by court. Youth participate in a 24-hour program for approximately 1.5 years. During placement, the great majority of the included adolescents participate in a program of the involved special educational school for students with intellectual disabilities.

Setting 3. One urban alternative educational facility was included. This facility provides education and care for youth between 12 and 18 years old, who are at risk for school drop-out or (secure) residential placement because of a complex combination of individual, family, and social context problems. This facility was developed in 2011 as an innovative program to reduce the number of residentially placed youth, especially in secure residential facilities. Participation in the program can be voluntary as well as stimulated or ordered by court as a last chance to avoid secure residential placement. Youth participate in the 12-hour program (i.e., 8 a.m. to 8 p.m. program), for around six to nine months, before returning to regular or special education, after which their coach stays involved for at least six more months. The program is an integration of special education and youth care (i.e., academic classes, individual and group trainings, mental health therapies, workshops) and focused on all life domains (i.e., school, home, leisure time). Previous research based on case-files gives an indication of the severity of problems of adolescents at this alternative educational facility. Adolescents of the studied facility for example face limited intellectual abilities (33%), trauma and stress-related disorders (15%), disruptive behavior disorders (41%), substance use disorders (16%), and criminal involvement (20%), based on case-file analysis (Pronk et al., 2020). Furthermore, based on structured questionnaires (Pronk et al., 2021), adolescents score in the borderline clinical or clinical range on the Brief Problem Monitor (BPM; Achenbach et al., 2011) for externalizing behavior problems for 83% (teacher-reports), 40% (parents-reports) and 13% (self-reports) and for internalizing behavior problems 48% (teacher-reports), 37% (parent-reports) and 10% (self-reports). Furthermore, 64% of parents reported severe parenting stress, and 43% mild or severe problems in family functioning. Psychologists reported severe to extreme problems on adolescent functioning (57%), quality of the context (72%), severity of needs (56%), and urgency of needs (71%).

Sample

The combined sample consisted of 268 adolescents (N = 268), between 10 to 18 years old (M_{age} = 14.2 years; 66% boys); 59 from setting 1 (special educational schools); 86 from setting 2 who were discharged between 2016-2019 (residential care center); 123 from setting 3 who were assigned to the setting between 2014-2017 (alternative educational setting). For this study, only the subgroup of adolescents from 12 to 18 of setting 1 and 2 were included. All were assigned to a special educational

or care setting - hereafter referred to as 'setting' - due to severe and persistent problems at the individual, family and context level.

Background information on the behavioral problems of the adolescents was present from the samples of setting 1 and 2. In these settings the outcomes of the Brief Problem Monitor (BPM; Achenbach et al., 2011; setting 1) and the Child Behavior Checklist/6-18 (CBCL; Achenbach & Rescorla, 2001; setting 2), reported by parents/caregivers, were collected. In setting 3 this data was not available. Clinical scores on internalizing problems were present in 13.6% of adolescents in setting 1 and in 47.7% of the adolescents in setting 2. Clinical scores on externalizing problems were present in 28.8% of adolescents in setting 1 and in 53.5% of the adolescents in setting 2.

Measures

To systematically collect the information for the current study, case-files were assessed using scoring protocols and codebooks, available from the authors. The operationalizations used in each study were extensively compared and for some variables a minor recoding was done on the original data to guarantee conformity (e.g., the categorization of country of birth of parents). The following operationalizations were used:

Demographic characteristics. Four items were included: gender, age at the start of the intervention, age during case-file study or after intervention, and the country of birth of parents.

Adverse Childhood Experiences. Ten variables were assessed, based on the original ACE framework (Anda et al., 2009; Felitti et al., 2019), that is physical abuse, emotional abuse, physical neglect, emotional neglect, sexual abuse, parental incarceration, parental separation or divorce, domestic violence, parental substance abuse and parental mental health problems. These items were coded based on information derived from a professional report in one or more documents in the case-file. ACEs were coded as present (1) if the description in the data-files matched the chosen operationalization. If the information did not match, the ACE was coded as absent (0). Table 2 presents the ACEs used with accompanying definitions. The sum of the ten original ACEs was calculated, resulting in a total score (0 to 10).

Family risk factors. Six items were included, partially based on expanded ACE frameworks (Crouch et al., 2019; Jaffee et al., 2013; Merrick & Guinn, 2018; Thornberry et al., 2013; Vervoort-Schel et al., 2021). These items were separation from parents due to out-of-home placement, economic hardship - e.g. financial problems or debts, housing problems - and other family risk factors such as intellectual disability of the parent(s), ACEs of parents and a limited social network. ACEs of parents were coded in setting 1 and 2 only. In the residential care center, the variable residential care placement concerned the presence of an out of home placement before admission to the current residential care setting. Table 3 presents the family risk factors with accompanying definitions.

Table 1. Operationalization of Adverse Childhood Experiences original framework (Anda et al, 2009)

Physical abuse	The child experienced pushing / beating / grabbing / slapping / kicking or being hit so hard by (one of) the biological parents or primary caregiver(s) that it resulted in marks or injury
Emotional abuse	The child was sworn at / insulted / threatened or put down by (one of) the biological parents or primary caregiver(s) that may physically have hurt the child
Physical neglect	The parent's or primary caregiver's behavior interfered with the child's care; wearing dirty clothes / bad hygiene / not enough personal living space / no safe living space / not enough to eat / not taken to a doctor when needed or forced to take care of themselves
Emotional neglect	The parent(s) or primary caregiver(s) didn't make the child feel special and loved / the family not being a source of strength, protection and support or the child received little attention
Sexual abuse	The child was involuntarily touched in a sexual way / forced into any form of sexual contact / forced into watching sexual content by a parent(s), primary caregiver(s), adult, relative, family friend or stranger
Parental incarceration	A parent or primary caregiver went to prison
Parental separation or divorce	The biological parents were (temporary) separated or divorced
Domestic violence	The father, mother or primary caregiver was (1) pushed, grabbed, slapped, or had something thrown at her/him (2) kicked, bitten, hit with a fist, or hit with something hard (3) repeatedly hit over at least a few minutes (4) threatened with or hurt by a knife or gun
Parental substance abuse	The parent or primary caregiver used excessive alcohol or drugs
Parental mental health problems	1) biological parent(s) had mental health problems (symptoms or disorders) interfering with the child's care 2) a parent ever attempted suicide

Table 2. Operationalization of family risk variables

Intellectual disabilities parents	There was a (suspicion of) intellectual disability of (one of) the biological parents
ACEs parents	Parent(s) experienced at least one of ten ACEs*
Debts	The family experience(d) economic hardship (e.g., financial problems, debts)
Housing problems	The family experience(d) housing problems
Limited social network	The family has a limited social network
Residential care placement	The child was separated from parents due to out-of-home placement

** According to the original framework (Anda et al., 2009).*

Each study of the three different settings had an inter-rater reliability percentage which can be considered as sufficient. In setting 1 and 2, the percent agreement was calculated. This statistic is directly interpreted as the percent of data that are correct (McHugh, 2012). In setting 3 the Cohen's Kappa was calculated which accounts for false agreements. For 10.5% of the case-files in setting 1, the inter-rater reliability for the complete codebook (162 items), including the ACEs, was 86.4%. For 25.0% of the case-files of the total case-file study (*N* = 169) in setting 2, the inter-rater reliability was 96.6 %. For 11.0% of the case-files of setting 3, the Cohen's Kappa for the ACE's was .82 which is considered as good (McHugh, 2012). Due to initial low inter-rater reliability scores for some categories in this setting, additional agreements were made and another 11.0% of case-files resulted in 68.0% for the subscale emotional neglect (moderate) and 35.0% for the subscale physical neglect (minimal). Therefore, for these two categories, every file was discussed and scored together to reach consensus.

Statistical analyses

All statistical analyses were conducted in SPSS, version 26 (IBM, Armonk, NY, USA). Descriptive statistics were used to present the demographics and to explore the prevalence of ACEs and variables in the family context in the total sample and by setting.

Results

In Table 3 the demographic data of the sample are presented. The mean age (start) and the mean age (at the time of case-file review/end intervention) in the total sample was respectively 14.2 (range 10-18) and 15.3 years old (range 12-19). Differences between settings in age, gender and country of birth of parents were explored to understand how the settings relate to each other in terms of

demographics. There were significant differences between the groups in age (start) and age (at time of case-file review/end intervention). Post hoc comparisons indicated that both age variables of the adolescents in the alternative educational facility (setting 3) were higher than the age variables of the adolescents in special education (setting 1) and in the residential care center (setting 2). In all settings, the study sample consisted of more males than females. Gender differences between groups were found, in which the proportion males was significantly higher in setting 1 than in setting 2 and setting 3. Although there were differences between settings in age variables and gender, logistic regression analyses showed that these demographic variables did not significantly impact the number of ACEs in these settings (setting 1: $X^2(3, n = 59) = .46$, $p > .05$; setting 2: $X^2(3, n = 86) = .68$, $p > .05$; setting 3: $X^2(3, n = 123) = .90$, $p > .05$). As assumptions for the variable Country of birth of parents were violated, a Chi-square test was performed for a combined group of categorizations, that is, 1) both parents born in the Netherlands and 2) at least one parent born in a foreign country. It was found that the proportion of both parents born in the Netherlands differed significantly between all three settings, with the highest proportion of both parents born in the Netherlands in setting 2. Also, the proportion of at least one parent born in a foreign country differed significantly between all three settings, with the highest proportion of at least one parent born in a foreign country in setting 3.

Table 3. Demographics

	Setting 1: Special education (n = 59)	Setting 2: Residential care center (n = 86)	Setting 3: Alternative educational facility (n = 123)	Total (n = 268)	p
Gender*					
Male	86.4% $(51)_a$	58.1% $(50)_b$	61.8% $(76)_b$	66% (177)	X^2 (2) = 14.335, p = .001
Female	13.6% $(8)_a$	41.9% $(36)_b$	38.2% $(47)_b$	34% (91)	
Age at start intervention (M)*	13.3_a SD 1.4 RNG 11-17	13.3_a SD 1.7 RNG 10-17	15.3_b SD 1.1 RNG 12-18	14.2 SD 1.7 RNG 10-18	H (2) = 92.803, p = .000
Age during case-file study / after intervention (M)*	14.7_a SD 1.6 RNG 12-19	14.5_a SD 1.8 RNG 12-19	16.0_b SD 1.2 RNG 12-18	15.3 SD 1.6 RNG 12-19	H (2) = 50.703, p = .000
Country of birth of parents*					

Both parents born in The Netherlands	27.1% (16)$_a$	65.1% (56)$_b$	14.6% (18)$_c$	33.6% (90)	X^2 (2) = 56.824, p = .000
At least one parent born in a foreign country	61.0% (36)$_a$	29.1% (25)$_b$	74.8% (92)$_c$	57.1% (153)	

***significant difference(s) between groups**

$_{a, b, c}$ Within each row, percentages that significantly differ between settings at the .05 level get different subscript letters (i.e. 'a' differs from 'b'; 'a' and 'a' both differ from 'b'; 'a', 'b', 'c' all differ from eachother; no subscript letter indicates no significant difference between the setting and other settings).

Table 4 presents the prevalence of ACEs. A substantial proportion in all settings experienced at least one ACE, with 69.5% in setting 1, 84.9% in setting 2 and 95.1% in setting 3. In setting 2, even 81.3% of the adolescents experienced at least 2 ACEs and 62.6% at least 3 ACEs. The proportion of at least 2 ACEs in setting 1 and 2 was respectively 35.6% and 58.1%. The proportion of at least 3 ACEs in setting 1 and 2 was respectively 23.7% and 48.8%.

The mean number of ACEs in the total sample was 2.7, with a relatively high standard deviation (*SD* = 2.0) and large range (0-9), see Table 2. In setting 1, 2 and 3 the mean number of ACEs was respectively 1.6 (*SD* = 1.9; range 0-8), 2.4 (*SD* = 1.8; range 0-9) and 3.3 (*SD* = 2.0; range 0-9).

Exploring the prevalence of the types of ACEs, it was found that parental separation or divorce was most prevalent in all settings, namely 47.5% in setting 1, 59.3% in setting 2 and 74.8 in setting 3. Emotional neglect was especially present in setting 3 (61.8%). Yet, in setting 1 and 2 the presence of this ACE was relatively high as well (approximately one-fifth of the adolescents) compared to other types of ACEs within these settings. In all settings approximately 30-40% of the biological parents experienced psychological problems. Domestic violence was relatively common among adolescents in setting 2 (26.7%) and setting 3 (28.5%). In all settings less common ACEs were incarceration of parents or primary caregivers and sexual abuse.

Table 4. Prevalence of Adverse Childhood Experiences

	Setting 1: Special education (*n* = 59)	Setting 2: Residential care center (*n* = 86)	Setting 3: Alternative educational facility (*n* = 123)	Total (*n* = 268)
Minimum number of ACEs				
≥ 1 ACEs	69.5% (41)	84.9% (73)	95.1% (117)	86.2% (231)
≥ 2 ACEs	35.6% (21)	58.1% (50)	81.3% (100)	63.8% (171)

≥ 3 ACEs	23.7% (14)	48.8% (42)	62.6% (77)	49.6% (133)
≥ 4 ACEs	15.3% (9)	24.4% (21)	42.3% (52)	30.6% (82)
≥ 5 ACEs	8.5% (5)	10.5% (9)	22.0% (27)	15.3% (41)
≥ 6 ACEs	6.8% (4)	4.7% (4)	15.4% (19)	10.1% (27)
Number of ACEs	1.6	2.4	3.3	2.7
	SD 1.9	SD 1.8	SD 2.0	SD 2.0
	RNG 0-8	0-8 RNG	RNG 0-9	RNG 0-9
Type of ACEs				
Physical abuse	13.6% (8)	18.6% (16)	31.7% (39)	23.5% (63)
Emotional abuse	11.9% (7)	15.1% (13)	21.1% (26)	17.2% (46)
Physical neglect	16.9% (10)	8.1% (7)	48.0% (59)	28.4% (76)
Emotional neglect	22.0% (13)	23.3% (20)	61.8% (76)	40.7% (109)
Sexual abuse	1.7% (1)	14% (12)	13% (16)	10.8% (29)
Parental separation/divorce	47.5% (28)	59.3% (51)	74.8% (92)	63.8% (171)
Psychological problems biological parent(s)	28.8% (17)	39.5% (34)	29.3% (36)	32.5% (87)
Substance abuse parent/primary caregiver	6.8% (4)	22.1% (19)	19.5% (24)	17.5% (47)
Domestic violence	11.9% (7)	26.7% (23)	28.5% (35)	24.3% (65)
Incarceration parent/primary caregiver	3.4% (2)	9.3% (8)	5.7% (7)	*6.3% (17)*

Table 5 describes the prevalence of family risk factors. In setting 1, a limited social network of the family was present in at least half of the adolescents. In setting 2 having a parent with a suspected intellectual disability, a family with debts and a family with a limited social network was prevalent in about a quarter of the adolescents. In setting 3, relatively many (42.3%) adolescents experienced an out-of-home placement in residential care. All adolescents in setting 2 were in residential care at that specific setting, but 44.2% of them already experienced out-of-home placements before the placement in setting 2.

Table 5. Family risk factors

	Setting 1: Special education (n = 59)	Setting 2: Residential care center (n = 86)	Setting 3: Alternative educational facility (n = 123)	Total (n = 268)
Intellectual disability parent(s) (suspicion)	0% (0)	25.6% (22)	9.8% (12)	12.7% (34)
ACEs parent(s)	16.9% (10)	22.1% (19)	-	10.8% (29)
Debts	8.5% (5)	23.3% (20)	39.8% (49)	27.6% (74)
Housing problems	5.1% (3)	7.0% (6)	19.5% (24)	12.3% (33)
Limited social network	52.5% (31)	26.7% (23)	20.3% (25)	29.5% (79)
Residential care placement	16.9% (10)	44.2% (38)	42.3% (52)	37.3% (100)

Discussion

In the current study, we have explored the prevalence of ACEs and family risk factors in Dutch adolescents with special educational and care needs in three settings (i.e., special education, residential youth care and an alternative educational facility). The aim is to raise awareness of the prevalence of ACEs in this vulnerable group of adolescents and to advance research, policy and practice in this area. Two main findings are discussed below, which are 1) ACE prevalence is substantial in adolescents with special educational and care needs and 2) family risk factors are common in the overall sample.

First, it was found that a large proportion of the adolescents in all settings experienced at least one ACE, with 69.5% in setting 1, 84.9% in setting 2 and 95.1% in setting 3. At least two ACEs were experiences by 35.6%, 58.1% and 81.3% of the adolescent in respectively setting 1, 2 and 3. These prevalence rates are relatively high compared to ACE research in adolescents in the general population, as described in the introduction section of this study. These studies showed that the prevalence of at least 1 ACE was 56.0% (Bethell et al., 2017) and 62.5% (Meeker et al., 2017). Our prevalence rates are also relatively high compared to studies on children in a broader age range, in which the prevalence of at least 1 ACE varied from 45% to 66% and the prevalence of at least 3 ACEs ranged from 4% to 10% (Bright et al., 2016; Carlson et al., 2020; Turney, 2020; Vink et al., 2019). Although the mean age of the current study population was higher (*M* = 15.3) compared to the mean ages in for example the studies of Bright et al. (2016; *M* = 8.6 years) and Vink et al. (2019; *M* = 11 years), the ACE prevalence in the current sample of adolescents with special educational and care needs still seem considerable high,

also in light of the finding of the present study that age was not significantly associated with the number of ACEs.

Our findings indicate a substantial ACE prevalence in adolescents with special education and care needs, which is consistent with national (Offerman & Asselman et al., 2022) and international (Clarkson Freeman, 2014; Malvaso et al., 2021) data on children and adolescents with special needs, also described in the introduction. All three settings in the current study provide education and/or care for children and adolescents with severe and persistent mental- and behavioral problems. As the number of ACEs increase, the risk for developmental, behavioral, emotional and learning problems and subsequent special education and care needs increase as well (Felitti et al., 2019; Kan et al., 2020). The cumulation of ACEs may underlie or contribute to the severe and persistent mental and behavioral problems for which the adolescents in the current sample receive special education and care. Since the relationship between ACEs and mental health and behavioral problems could not be investigated in the present study, it is not possible to draw conclusions about the such associations. However, based on literature and the high prevalence of both mental health and behavioral problems and ACEs, a relationship between those factors seems plausible.

Second, besides ACEs, family risk factors were clearly present in the overall sample, with debts, limited social networks and previous residential care placements being the most prevalent. These family risk factors impair parental and family functioning, can induce the likelihood of experiencing ACEs and reduce the likelihood of safe and stable nurturing parent-child relationships (Schofield et al., 2018; Vervoort-Schel et al., 2021). There were also parents with ACEs or intellectual disabilities. It is known that parental ACEs, intellectual disabilities or psychological problems, which were a relatively common ACE in the current sample, can disrupt parental and family functioning and negatively affect their children's outcomes (Crouch et al., 2019; Jaffee et al., 2013; May & Harris, 2020; Zhang et al., 2022). Kan et al. (2020) found that living with a family member with psychological problems was associated with twice the odds of the child having special educational and care needs. It was demonstrated that this association might be explained by the strong association between living with a family member with psychological problems and the child having an emotional or behavioral disorder (Kan et al., 2020). Vice versa, it is known that raising a child with mental health problems, can strain parenting and parental mental health and increase the risk for the development of ACEs experienced by children (Murphy, 2011). Thus, the health of the child and the health of parents are interconnected (Purpura et al.) The consequences of ACEs and family risk factors on children's development, behavior and learning could lead to increased needs that require more intensive forms of special educational and youth care services. These results illustrate the importance of safe, stable and nurturing environments and promoting resilience to buffer against the often present family adversities in adolescents with special education and care needs (Burstein et al., 2021). Future research should

address the mechanisms through which ACEs and family risk factors affect special educational and care needs. This knowledge can help to mitigate the effects of ACEs and family risk factors in the interest of lifelong health and well-being of children and their families.

Study limitations and strengths

Several limitations of this study should be considered. First, this study was based on a convenience sample with relatively small sample sizes of heterogeneous groups of adolescents in three different settings, experiencing a variety of severe and persistent and mental and behavioral problems, social emotional problems and/or intellectual disabilities or borderline intellectual functioning. Therefore, generalizing the results to other populations internationally with specific special education and care needs should be done with caution. However, this study is a unique contribution to the limited literature on ACEs in the broad population of adolescents with special needs, since it gives insight into three settings providing special education and/or care. Second, these descriptive data were retrieved from case-files in which potentially relevant information may not or may differently be administered by involved professionals. Inherent in this type of data is that there is little knowledge on accuracy and missings. Also, this makes itis plausible that there is an underestimation of prevalence rates on ACEs and family risk factors. Third, no associations between ACEs and the mental and behavioral problems that were present (see for a description the methods section) in the study population could be explored, since the variables of the three settings regarding mental health and behavioral problems were not comparable due to different operationalizations. However, it is known that ACEs contribute to a variety of negative health outcomes (Felitti et al., 2019). As ACE research is limited in children and adolescents with special education and care needs, it is important to gain more insight into these associations in follow-up research. Fourth, as was stated in the introduction, the scope of the original framework is limited, which could have led to underexposure of other adversities that may also negatively impact health outcomes. Finally, only ACEs and family risk factors were included in the present study, while protective and compensatory experiences (PCEs) are a powerful predictor of development and health as well, and can promote healthy outcomes and resilience (Burstein et al., 2021). Children's dependence on their environment is high and ensuring safe, stable, nurturing relationships for all children in all settings is key to preventing ACEs and mitigating their effects in the interest of lifelong health (Gervin et al., 2022). For future ACE research we recommend to examine protective and compensatory experiences as well to get a better understanding of developmental trajectories and health outcomes.

Notwithstanding its limitations, the present study has several strengths. First, since ACE research on youth with special care or educational needs is limited (Massetti et al., 2020), this study is a unique contribution to the insights on ACE prevalence in this vulnerable group. Second, the data collections

and operationalizations of the variables in this study were structured and accurate, reflected in good to high inter-rater reliability scores in all three settings. Third, this study contributes to literature since it was the first to describe ACEs in adolescents in three different special needs/care settings, which is exceptional in ACE research since different frameworks are often being used.

Implications

The high prevalence of ACEs in the current sample of adolescents with special educational and care needs underlines the need for increased ACE awareness in education, healthcare, policy and in society in general. When there is insufficient attention for ACEs and their detrimental impact on a wide variety of health outcomes such as social, emotional and cognitive development and subsequent mental and behavioral problems, there is a risk for treating symptoms instead of underlying root causes. By integrating trauma informed approaches such as Trauma-informed care (TIC) or Trauma-informed education, in which past and present positive and adverse experiences are included to understand behavior, and professionals are supported to prevent retraumatization and provide adequate support, appropriate and sustainable education and care can be provided (Thirkle et al., 2021).

The finding that a significant part of the studied population already experienced at least 3 or 4 ACEs at the age of 15, outlines the need for recognition, prevention and early intervention of adverse experiences in children and adolescents. Throughout childhood, together with the first 1000 days in a child's life, puberty constitutes the most active period for the development of different brain networks (Bundy et al., 2018). During both periods, brain development is the most vulnerable. Awareness of consequences of toxic stress resulting from ACEs in relation to brain development and neuroplasticity of key regions controlling cognitive processing and emotion regulation is crucial to stop the negative cycle of ACEs and its impact on overall health as early as possible (Weems et al., 2021).

The relatively large range in number of ACEs within settings, underline that adolescents with special educational and care needs have different individual backgrounds. The emotional and behavioral problems of this vulnerable population are internationally increasingly seen as the result of complex interactions between child and environment (Köhne & Van Os, 2021; Lehman et al., 2017). This demonstrates that the personal life stories, backgrounds and individual educational and care needs of the child and family are an important source of information for personalized, effective and sustainable educational and health care trajectories. To what extent the differences in prevalence of ACEs and family risk factors between settings contributed to the allocation of the adolescents to the specific setting is not examined in the current study. Also, research on the impact of different types of ACEs on development is still ongoing (Miller et al., 2018). What is known is that ACE awareness takes an important place in working with children and adolescents with a developmental, emotional and behavioral problems or disrupted family functioning. Also in the case of relatively mild symptomatology

or dysregulation a close look at the possible underlying presences of ACEs is important with the aim of minimizing long-term and intensive educational and care interventions.

Thus, ACEs are common in children and adolescents with special educational and care needs and therefore it is important to gain insight into possible experienced ACEs during admission and provision of education and/or care. ACE assessment is not yet common in special education and youth care in the Netherlands and there are some contemporary challenges, which call for awareness (Bartlett, 2020; McLennan et al., 2020). These challenges concern for example the uniformity of the framework and determinants to include (Bartlett, 2020; Finkelhor, 2018; Jee & Forkey, 2022; Karatekin & Hill, 2019), the necessary availability of effective interventions during and after screening (Finkelhor, 2018; McLennan et al., 2020) and the absence of valid screening tools (Jee & Forkey, 2022; Meehan et al., 2022). For example, when asking about ACEs professionals must be able to offer adequate interventions and responses to those with positive ACE screening, The right use of ACE screeners depends on the context in which professionals use it. Despite these challenges, having conversations about life history, sources of stress and strengths is key in education and care for both the child, the parent and the professional. Trauma-informed care and trauma-informed education can provide organizations a context to recognize and respond to ACEs in a trauma-sensitive way. Also, the use of a multi-informant perspective (i.e. child, family members, professional) seems important, as different informants can contribute to a more complete picture of the number, type and timing of ACEs (Hambrick et al., 2014; Offerman & Asselman, 2022; Zelechoski et al., 2021). Since ACEs and a lack of protective and compensatory experiences are often part of the child's problems, this should be described in all personal plans and the education and care that is subsequently offered should be trauma-informed, with sensitivity to positive childhood experiences in children and parents (Kan et al., 2020; Narayan et al., 2021).

Conclusion

To date there has been little scientific research on both ACE prevalence and family risk factors in adolescents with special educational and care needs. The current study contributes to limiting this knowledge gap by providing insight into the ACE prevalence of this vulnerable population. The substantial ACE prevalence in our sample of adolescents with special educational and care needs underline the need for early ACE awareness and a trauma-informed perspective in special educational and youth care interventions. When there is insufficient attention for ACEs and their detrimental impact on a wide variety of health outcomes, there is a risk for treating symptoms instead of underlying root causes. Approaches such as Trauma-informed care and Trauma-informed education should be impelemted in organizations working with these adolescents and their parents, in which past and present positive and adverse experiences of all involved are included to understand trauma-related

behavior in adolescents and families (Thirkle et al., 2021). Such approaches can prevent retraumatization and support learning and healthy development in vulnerable groups of adolescents with special educational and care needs (Substance Abuse and Mental Health Services Administration [SAHMSA], 2014). In this, a family centered approach should be incorporated as well, given that ACEs regarding household dysfunction and family risk factors are common in adolescents with special educational and care needs. Future research should address the mechanisms through which ACEs and family risk factors affect special educational and care needs. This knowledge can help to mitigate the effects of ACEs and family risk factors in the interest of lifelong health and well-being of both adolescents and their families.

Declarations

Statements and declarations

On behalf of all authors, the corresponding author states that there is no conflict of interest.

Ethics approval

Each separate retrospective cross-sectional study protocol was approved by the Ethics Review Board of the University of Amsterdam (residential care center 2018-CDE-8871; special educational setting 2017-CDE-7603; alternative educational facility 2017-CDE-7736). In 2018 a new European law was implemented, which more often obligates active consent for retrospective case-file studies, known as General Data Protection Regulation (GDPR; General Data Protection Regulation, 2016). Since for the alternative educational setting data were collected before GDPR, no active consent was asked for that setting. In the residential care setting active consent to participate and publish was asked for case-files analyzed from the moment GDPR was implemented. The special education setting asked for an active consent from all informants (students, parents, teachers).

Acknowledgements

We would like to express our special thanks of gratitude to Prof. dr. Geert-Jan Stams for his input.

References

Achenbach, T.M., & Rescorla, L.A. (2001). *Manual for the ASEBA School-Age Forms & Profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, & Families.

Achenbach, T. M., McConaughy, S. H., Ivanova, M. Y., & Rescorla, L. A. (2011). Manual for the ASEBA brief problem monitor (BPM). *Burlington, VT: ASEBA*, *33*.

Afifi, T. O., Salmon, S., Garcés, I., Struck, S., Fortier, J., Taillieu, T., Stewart-Tufescu, A., Asmundson, G. J. G., Sareen, J., & MacMillan, H. L. (2020). Confirmatory factor analysis of adverse childhood experiences (ACEs) among a community-based sample of parents and adolescents. BMC Pediatrics, 20(1).

American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.).

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.).

Anda, R. F., Dong, M., Brown, D. W., Felitti, V. J., Giles, W. H., Perry, G. S., ... & Dube, S. R. (2009). The relationship of adverse childhood experiences to a history of premature death of family members. *BMC public health*, *9*(1), 1-10.

Bartlett, J. D. (2020). Screening for childhood adversity: contemporary challenges and recommendations. *Adversity and resilience science*, *1*(1), 65-79. h

Bethell, C.D., Davis, M.B., Gombojav, N., Stumbo, S., & Powers, K. (2017). *Issue Brief: Adverse Childhood Experiences Among US Children, Child and Adolescent Health Measurement Initiative, Johns Hopkins Bloomberg School of Public Health*. Retrieved November 3, 2023, from https://www.cahmi.org/docs/default-source/resources/issue-brief-adverse-childhood-experiences-among-us-children-(2017).pdf

Bright, M. A., Knapp, C., Hinojosa, M. S., Alford, S., & Bonner, B. (2016). The comorbidity of physical, mental, and developmental conditions associated with childhood adversity: a population based study. *Maternal and Child Health Journal, 20*(4), 843-853.

Bundy, D. A., de Silva, N., Horton, S., Patton, G. C., Schultz, L., Jamison, D. T., ... & Sawyer, S. M. (2018). Investment in child and adolescent health and development: key messages from Disease Control Priorities. *The Lancet*, *391*(10121), 687-699.

Burstein, D., Yang, C., Johnson, K., Linkenbach, J., & Sege, R. (2021). Transforming Practice with HOPE (Healthy Outcomes from Positive Experiences). *Maternal and Child Health Journal*, *25*(7), 1019-1024.

Carlson, J. S., Yohannan, J., Darr, C. L., Turley, M. R., Larez, N. A., & Perfect, M. M. (2020). Prevalence of adverse childhood experiences in school-aged youth: A systematic review (1990–2015). *International Journal of School & Educational Psychology*, *8*(sup1), 2-23.

Centraal Bureau voor de Statistiek (2023). *Achtergrondkenmerken van jongeren met jeugdzorg.* Retrieved November 3, 2023, from https://www.cbs.nl/nl-nl/longread/rapportages/2023/achtergrondkenmerken-van-jongeren-met-jeugdzorg

Clarkson Freeman, P. A. (2014). Prevalence and relationship between adverse childhood experiences and child behavior among young children. *Infant Mental Health Journal, 35*(6), 544-554.

Crouch, E., Radcliff, E., Hung, P., & Bennett, K. (2019). Challenges to school success and the role of adverse childhood experiences. *Academic pediatrics, 19*(8), 899-907.

Dekovic, M., & Bodden, D. H. M. (2019). Gezinnen met meervoudige en complexe problemen: kenmerken en verschillende typen. In Knot-Dickscheit, J., & Knorth, E.J. (ed.), *Gezinnen met meervoudige en complexe problemen: Theorie en praktijk*, pp. 52-74. Rotterdam: Lemniscaat.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (2019). REPRINT OF: Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences (ACE)Study. *American Journal of Preventive Medicine, 56*(6).

Finkelhor, D. (2018). Screening for adverse childhood experiences (ACEs): Cautions and suggestions. *Child abuse & neglect*, *85*, 174-179. h

Garrido, E. F., Weiler, L. M., & Taussig, H. N. (2018). Adverse childhood experiences and health-risk behaviors in vulnerable early adolescents. *The Journal of early adolescence*, *38*(5), 661-680.

General Data Protection Regulation. (2016). *Complete guide to GDPR compliance*. Retrieved May 1, 2022, from: https://gdpr.eu/.

Gervin, D. W., Holland, K. M., Ottley, P. G., Holmes, G. M., Niolon, P. H., & Mercy, J. A. (2022). Centers for Disease Control and Prevention investments in adverse childhood experience prevention efforts. *American Journal of Preventive Medicine*, *62*(6), S1-S5.

Goldenson, J., Kitollari, I., & Lehman, F. (2020). The Relationship Between ACEs, Trauma-Related Psychopathology and Resilience in Vulnerable Youth: Implications for Screening and Treatment. *Journal of Child & Adolescent Trauma, 14*(1).

Hambrick, E. P., Brawner, T. W., Perry, B. D., Brandt, K., Hofmeister, C., & Collins, J. O. (2019). Beyond the ACE score: Examining relationships between timing of developmental adversity, relational health and developmental outcomes in children. *Archives of Psychiatric Nursing*, *33*(3), 238-247.

Hamby, S., Elm, J. H. L., Howell, K. H., & Merrick, M. T. (2021). Recognizing the cumulative burden of childhood adversities transforms science and practice for trauma and resilience. *The American Psychologist, 76*(2), 230-242.

Hawes, D. J., Lechowicz, M., Roach, A., Fisher, C., Doyle, F. L., Noble, S., & Dadds, M. R. (2021). Capturing the developmental timing of adverse childhood experiences: The Adverse Life Experiences Scale. *American Psychologist*, *76*(2), 253.

Hays-Grudo, J., & Morris, A. S. (2020). *Adverse and protective childhood experiences: A developmental perspective.* American Psychological Association.

Hunt, T. K., Slack, K. S., & Berger, L. M. (2017). Adverse childhood experiences and behavioral problems in middle childhood. *Child Abuse & Neglect, 67*, 391-402.

Jaffee, S. R., Bowes, L., Ouellet-Morin, I., Fisher, H. L., Moffitt, T. E., Merrick, M. T., & Arseneault, L. (2013). Safe, stable, nurturing relationships break the intergenerational cycle of abuse: A prospective nationally representative cohort of children in the United Kingdom. *Journal of Adolescent Health*, *53*(4), S4-S10.

Jee, S., & Forkey, H. (2022). Maximizing the benefit of screening for adverse childhood experiences. *Pediatrics*, *149*(2).

Kan, K., Gupta, R., Davis, M. M., Heard-Garris, N., & Garfield, C. (2020). Adverse Experiences and Special Health Care Needs Among Children. *Maternal and Child Health Journal, 24*(5), 552-560.

Karatekin, C., & Hill, M. (2019). Expanding the original definition of adverse childhood experiences (ACEs). *Journal of Child & Adolescent Trauma*, *12*(3), 289-306.

Köhne, A. C., & van Os, J. (2021). Precision psychiatry: promise for the future or rehash of a fossilised foundation?. *Psychological Medicine*, *51*(9), 1409-1411.

Lehman, B. J., David, D. M., & Gruber, J. A. (2017). Rethinking the biopsychosocial model of health: Understanding health as a dynamic system. *Social and personality psychology compass, 11*(8).

Lemmon, J. H. (2009). How child maltreatment affects dimensions of juvenile delinquency in a cohort of low-income urban males. *Justice Quarterly*, *16*, 357–376.

Liming, K. W., & Grube, W. A. (2018). Wellbeing outcomes for children exposed to multiple adverse experiences in early childhood: A systematic review. *Child and Adolescent Social Work Journal*, *35*(4), 317-335.

Mallett, C. A. (2014). Youthful offending and delinquency: The comorbid impact of maltreatment, mental health problems, and learning disabilities. *Child and Adolescent Social Work Journal*, *31*(4), 369-392.

Mallett, C. A. (2016). The School-to-Prison Pipeline: Disproportionate Impact on Vulnerable Children and Adolescents. *Education and Urban Society, 49*(6), 563–592.

Malvaso, C. G., Cale, J., Whitten, T., Day, A., Singh, S., Hackett, L., ... & Ross, S. (2021). Associations between adverse childhood experiences and trauma among young people who offend: A systematic literature review. *Trauma, Violence, & Abuse*, 15248380211013132.

Massetti, G. M., Hughes, K., Bellis, M. A., & Mercy, J. (2020). Global perspective on ACEs. In G. J. G. Asmundson, & T. O. Afifi (Eds.), *Adverse Childhood Experiences* (pp. 209-231). Academic Press.

May, T., & Harris, K. (2020). Parent training programmes can improve parenting skills in parents with intellectual disabilities. *Journal of Paediatrics and Child Health.*

McHugh, M. L. (2012). Interrater reliability: the kappa statistic. *Biochemia medica*, *22*(3), 276-282.

McLennan, J. D., McTavish, J. R., & MacMillan, H. L. (2020). Routine screening of ACEs: Should we or shouldn't we?. In G. J. G. Asmundson, & T. O. Afifi (Eds.), *Adverse Childhood Experiences Adverse childhood experiences* (pp. 145-159). Academic Press.

Meehan, A. J., Baldwin, J. R., Lewis, S. J., MacLeod, J. G., & Danese, A. (2022). Poor individual risk classification from adverse childhood experiences screening. *American Journal of Preventive Medicine*, *62*(3), 427-432.

Meeker, E. C., O'Connor, B. C., Kelly, L. M., Hodgeman, D. D., Scheel-Jones, A. H., & Berbary, C. (2021). The impact of adverse childhood experiences on adolescent health risk indicators in a community sample. *Psychological Trauma: Theory, Research, Practice, and Policy, 13*(3), 302–312.

Merrick, M. T., & Guinn, A. S. (2018). Child abuse and neglect: breaking the intergenerational link. *American journal of public health*, *108*(9), 1117-1118.

Merrick, M. T., Ports, K. A., Guinn, A. S., & Ford, D. C. (2020). Safe, stable, nurturing environments for children. *Adverse Childhood Experiences.*

Miller, A. B., Sheridan, M. A., Hanson, J. L., McLaughlin, K. A., Bates, J. E., Lansford, J. E., ... & Dodge, K. A. (2018). Dimensions of deprivation and threat, psychopathology, and potential mediators: A multi-year longitudinal analysis. *Journal of abnormal psychology*, *127*(2), 160.

Morris, A. S., Hays-Grudo, J., Zapata, M. I., Treat, A., & Kerr, K. L. (2021). Adverse and protective childhood experiences and parenting attitudes: The role of cumulative protection in understanding resilience. *Adversity and Resilience Science*, *2*(3), 181-192.

Morrow, A. S., & Villodas, M. T. (2018). Direct and indirect pathways from adverse childhood experiences to high school dropout among high-risk adolescents. *Journal of research on adolescence, 28*(2), 327-341.

Murphy, N. (2011). Maltreatment of children with disabilities: The breaking point. *Journal of Child Neurology*, 26(8).

Narayan, A. J., Lieberman, A. F., & Masten, A. S. (2021). Intergenerational transmission and prevention of adverse childhood experiences (ACEs). *Clinical Psychology Review*, *85*.

Nederlands Jeugdinstituut. (s.d.). Jeugdbeleid: definities en wetten. Retrieved November 3, 2023, from https://www.nji.nl/impact-maken-met-jeugdbeleid/veelgestelde-vragen-jeugdsector

Offerman, E. C.P., Asselman, M. W., Bolling, F., Helmond, P., Stams, G. J. J., & Lindauer, R. J. (2022). Prevalence of adverse childhood experiences in students with emotional and behavioral disorders in special education schools from a multi-informant perspective. *International journal of environmental research and public health*, *19*(6), 3411.

Olofson, M. W. (2018). A new measurement of adverse childhood experiences drawn from the panel study of income dynamics child development supplement. *Child Indicators Research*, *11*, 629-647.

Portwood, S. G., Lawler, M. J., & Roberts, M. C. (2021). Science, practice, and policy related to adverse childhood experiences: Framing the conversation. *The American Psychologist, 76*(2), 181-187.

Pronk, S., Mulder, E. A., Van den Berg, G., Stams, G. J. J. M., Popma, A., Kuiper, C. (2020). Differences between adolescents who do and do not successfully complete their program within a non-residential alternative education facility. *Children and Youth Servics Review, 209.*

Pronk, S., Van den Berg, G., Kuiper, C., Popma, A., Stams, G. J. J. M., & Mulder, E. A. (2021). Differences between adolescents in secure residential care and non-residential educational facilities. *Journal of Social Work*, *22(*3).779-803.

Purpura, G., Tagliabue, L., Petri, S., Cerroni, F., Mazzarini, A., & Nacinovich, R. (2021). Caregivers' burden of school-aged children with neurodevelopmental disorders: Implications for family-centred care. *Brain Sciences, 11*(7), 875.

Substance Abuse and Mental Health Services Administration (2014). *SAMHSA's Concept of Trauma and Guidance for a Trauma-Informed Approach*. HHS Publication No. (SMA) 14-4884. Rockville, MD: Substance Abuse and Mental Health Services Administration.

Schäfer, J. L., McLaughlin, K. A., Manfro, G. G., Pan, P., Rohde, L. A., Miguel, E. C., ... & Salum, G. A. (2022). Threat and deprivation are associated with distinct aspects of cognition, emotional processing, and psychopathology in children and adolescents. *Developmental Science*, e13267.

Schilling, E. A., Aseltine, R. H., & Gore, S. (2007). Adverse childhood experiences and mental health in young adults: a longitudinal survey. *BMC public health*, *7*, 1-10.

Schofield, T. J., Donnellan, M. B., Merrick, M. T., Ports, K. A., Klevens, J., & Leeb, R. (2018). Intergenerational continuity in adverse childhood experiences and rural community environments. *American Journal of Public Health, 108*(9), 1148-1152.

Stempel, H., Cox-Martin, M., Bronsert, M., Dickinson, L. M., & Allison, M. A. (2017). Chronic school absenteeism and the role of adverse childhood experiences. *Academic pediatrics, 17*(8), 837-843.

Thirkle, S., Kennedy, A., & Sice, P. (2021). Instruments for Exploring Trauma-Informed Care. *Journal of Health and Human Services Administration.*

Thornberry, T. P., Henry, K. L., Smith, C. A., Ireland, T. O., Greenman, S. J., & Lee, R. D. (2013). Breaking the cycle of maltreatment: The role of safe, stable, and nurturing relationships. *Journal of Adolescent Health*, *53*(4), S25-S31.

Turney, K. (2020). Cumulative adverse childhood experiences and children's health. *Children and Youth Services Review, 119*, 105538.

Vervoort-Schel, J., Mercera, G., Wissink, I., Mink, E., Van der Helm, P., Lindauer, R., & Moonen, X. (2018). Adverse childhood experiences in children with intellectual disabilities: An exploratory case-file study in Dutch residential care. *International journal of environmental research and public health*, *15*(10), 2136.

Vervoort-Schel, J., Mercera, G., Wissink, I., Van der Helm, P., Lindauer, R., & Moonen, X. (2021). Prevalence of and relationship between adverse childhood experiences and family context risk factors among children with intellectual disabilities and borderline intellectual functioning. *Research in Developmental Disabilities, 113*, 103935.

Vink, R. M., van Dommelen, P., van der Pal, S. M., Eekhout, I., Pannebakker, F. D., Velderman, M. K., ... & Dekker, M. (2019). Self-reported adverse childhood experiences and quality of life among children in the two last grades of Dutch elementary education. *Child abuse & neglect*, *95*, 104051.

Webster, E. M. (2022). The Impact of Adverse Childhood Experiences on Health and Development in Young Children. *Global Pediatric Health*, *9*.

Weems, C. F., Russell, J. D., Herringa, R. J., & Carrion, V. G. (2021). Translating the neuroscience of adverse childhood experiences to inform policy and foster population-level resilience. *The American Psychologist, 76*(2), 188-202.

Yun, I., Ball, J. D., & Lim, H. (2011). Disentangling the relationship between child maltreatment and violent delinquency: Using a nationally representative sample. *Journal of Interpersonal Violence, 26*(1), 88–110.

Zelechoski, A. D., Cross, H. L., Luehrs, R., Freedle, A., Bruick, S., Harrison, K., ... & Will, K. (2021). Trauma assessment in juvenile justice: Are we asking the right questions in the right ways?. *Journal of Aggression, Maltreatment & Trauma*, *30*(3), 324-346.

Zhang, L., Mersky, J. P., Gruber, A. M. H., & Kim, J. Y. (2022). Intergenerational Transmission of Parental Adverse Childhood Experiences and Children's Outcomes: A Scoping Review. *Trauma, Violence, and Abuse*. Retrieved from https://doi.org/10.1177/15248380221126186

Chapter 6

An intergenerational perspective on Adverse Childhood Experiences and psychotic experiences in patients with psychotic disorder

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Abstract

Introduction

This study explores the intergenerational relationship between adverse childhood experiences (ACEs) and psychotic experiences in parents and ACEs and psychotic experiences in patients with psychotic disorders. It was hypothesized that ACEs and psychotic experiences in parents were associated with ACEs and psychotic symptoms in their offspring.

Methods

Data were drawn from a Dutch longitudinal multicenter study on patients with psychotic disorders. The sample included patients (N = 144; 30.6% female; mean age = 25.0) with available data on parental ACEs and psychotic experiences. Measures were ACEs and severity of psychotic experiences in patients, mothers and fathers. Path analyses and mixed-effect models were conducted to explore the relationships.

Results

Significant correlations were found between ACEs in mothers (physical abuse) and ACEs in patients (emotional and sexual abuse). Severity of psychotic experiences in parents was significantly correlated with higher ACEs scores in patients. Path model analyses revealed that ACEs were associated with more severe psychotic experiences in parents and patients, and that severity of psychotic experiences in fathers was linked to the severity of psychotic experiences in patients. ACEs in mothers were associated with increased severity of psychotic experiences in patients over time.

Conclusions

This study partly confirms the intergenerational relationship between ACEs and psychotic experiences. Addressing ACEs and psychotic experiences in both patients and in parents is essential for breaking the intergenerational cycle of ACEs, benefiting not only patients but also promoting family well-being and healthier future generations.

Keywords: intergenerational trauma, maltreatment, neglect, psychiatry, psychosis, family risk

Introduction

Exposure to Adverse childhood experiences (ACEs) is associated with an increased risk of psychotic symptoms and disorders (Croft et al., 2019; Karcher et al., 2020; Loewy et al., 2019). ACEs have been defined as potentially traumatic experiences of early exposure before the age of 18 to abuse, neglect, household dysfunction (Anda et al., 2009; Felitti et al., 1998) and to environmental adversities (e.g. peer victimization, violence outside the family or poverty; Afifi et al., 2020). Research indicates that approximately 87% of individuals at high risk for psychosis experienced at least one ACE (Kraan et al., 2015). The detrimental impact of ACEs on mental and physical health can be understood from a developmental psychopathology perspective, with an emphasis on the role of the family context and intergenerational pathways (Hawes et al., 2023). A supportive and nurturing family environment can buffer the negative effects of ACEs in children and can promote resilience (Hays-Grudo et al., 2021). On the other hand, a dysfunctional family context can lead to ACEs and increases the risk of adverse outcomes (Merrick et al., 2020). Research on intergenerational trauma has revealed a continuity between generations in the number and type of ACEs and subsequent mental health problems experienced by both, parents and offspring (Narayan et al., 2017; Negriff, 2020; Schofield et al., 2018). For example, relationships have been found ACEs in mothers and children and children's developmental problems, physical health problems, internalizing and externalizing problems, temperament and academic performance (Rowell et al., 2021; Zhang et al., 2022). ACEs may be a modifiable risk factor if they are passed down through generations and contribute to the etiology of psychotic disorders (Bolhuis et al., 2022). Yet, research on the intergenerational effects of ACEs in the context of psychotic disorders is sparse (Bolhuis et al., 2022).

The clinical presentations of psychotic disorders vary widely, and psychopathological symptoms include positive symptoms (e.g. hallucinations, delusions), negative symptoms (e.g. emotional withdrawal, difficulty in abstract thinking) and general psychopathology (e.g. anxiety and depression; Moura et al., 2021). ACEs have shown to be an underlying risk factor in the development of psychotic symptoms and psychotic disorders in youth and adults (Bailey, 2018; Fusar-Poli et al., 2017; Kelleher et al., 2013; McKay et al., 2022; Trotta, 2015; Varese et al., 2012). The meta-analysis of McKay and colleagues (2021) revealed that those exposed to multiple forms of maltreatment had more than three times the odds of having a mental disorder in adulthood, among which psychotic disorders. Results of another meta-analysis indicated that the number of patients with psychosis would be reduced with 33% if childhood adversities could be eliminated as risk factors (Varese et al., 2012). Moreover, the presence of both ACEs and psychotic disorders is associated with poor quality of life across physical, psychological and social domains (Hurmuz et al., 2022; Klarić & Lovrić, 2018).

To date, the influence of parental mental health problems as a risk factor in the relationship between ACEs and psychotic symptoms and disorders has received limited attention. To our knowledge,

a cohort study of Bolhuis et al. (2022) in the general population is the first study to shed more light on intergenerational trauma in the context of psychotic experiences, in adolescents. A history of ACEs in mothers was associated with more maternal psychopathology, ACEs in offspring and psychotic experiences in offspring. ACEs in offspring mediated the relationship between maternal ACEs and offspring's psychotic experiences (Bolhuis et al., 2022). Also, maternal psychopathology was associated with more ACEs in offspring. The study of Bolhuis et al. (2022) has been restricted to psychotic experiences, and thus has a limited utility in predicting later development of psychotic disorders. Few other studies have focused on the role of parental psychotic disorders in the relationship between ACEs and psychotic disorders. Fisher et al. (2014) found that a parental history of psychosis was associated with a greater exposure to physical abuse and greater odds of psychotic disorders in offspring. Wang et al. (2022) observed that offspring of parents with psychiatric disorders (among which 79.0% of fathers and 78.0% of mothers had psychotic disorders) had a higher risk of experiencing ACEs when compared with offspring of parents without psychiatric disorders.

To gain more insight into the relationship between parental and offspring's ACEs and psychotic disorders, a focus on longitudinal prospective data is needed (Sideli et al., 2020). A better understanding of developmental pathways to psychotic disorders can help to inform future research and early interventions that address the negative consequences of parental and offspring's ACEs. In the present study we investigated the relationship of ACEs and severity of psychotic symptoms in parents with ACEs and severity of psychotic symptoms in their offspring with psychotic disorders, using data from a Dutch longitudinal multicenter study. The following research questions were answered:

1. Are there associations between ACEs and severity of psychotic experiences in patients with psychotic disorder and ACEs and severity of psychotic experiences in their parents?
2. Do parental ACEs impact the severity of psychotic experiences over time in patients with psychotic disorder?

It is hypothesized that ACEs are associated with severity of psychotic symptoms in both parents and patients. It is furthermore expected that parental ACEs and parental severity of psychotic symptoms are associated with a higher ACE score and more severe psychotic symptoms in patients. Parental ACEs expected to be positively associated with the severity of psychotic symptoms in patients over time.

Methods

Sample

Data in the current study pertain to a subset of baseline and follow-up measures at 3 years and 6 years of a longitudinal multicenter study (Genetic Risk and Outcome of Psychosis; GROUP) in The Netherlands and Belgium (Korver et al., 2012). Full details of the GROUP study have been presented elsewhere (Korver et al., 2012). Patients with psychotic disorders were recruited from regional psychosis care facilities or academic centers in selected geographical areas. They were identified through representative clinicians whose caseload was screened for inclusion criteria. Patients were asked for informed consent for detailed assessment and for contacting their first degree family members. To be eligible: (1) patients had to be between 15 and 50 years old; (2) their Dutch language skills had to be sufficient; (3) they had to be diagnosed with non-affective psychotic disorder according to the Diagnostic and Statistical Manual of Mental Disorders (fourth edition criteria; American Psychiatric Association, 1994); and (4) they had to be able and willing to give written informed consent. Inclusion criteria for parents were the same as criteria 2 and 4 above. When parents appeared to have a lifetime psychotic disorder, they were included in the patient group. At baseline, the full GROUP sample consisted of 1.119 patients, 1.059 siblings, 920 parents and 586 healthy controls. For this study, a subset of patients (N = 144) from the site Maastricht was included for whom at least for one parent data on ACEs were available by completing the Child Trauma Questionnaire (Bernstein et al., 2013). Ethical approval was provided by the Ethical Review Board of the University Medical Center Utrecht (METC: 0 4/003-O).

Instruments

Demographic information. Data on age, sex, ethnicity, educational level (adapted from the Dutch Standard Classification of education) were collected.

Adverse childhood experiences. Data of patients and parents were available on the following ACEs: physical abuse, emotional abuse, sexual abuse, physical neglect and emotional neglect. The Dutch version of the Childhood Trauma Questionnaire (CTQ) short version was used to assess these five ACEs at baseline in both patients and parents (Bernstein et a., 2013). The CTQ short version consists of 25 items about five types of ACEs, rated on a 5-point Likert scale to investigate the severity of traumatic experiences before the age of 18 (1 = never true; 5 = very often true). This results in subscale scores on the five types of ACEs and a total mean score. The CTQ short version has shown to be reliable and to provide adequate content coverage (Bernstein et a., 2013). There is also good evidence of criterion validity in both patients with psychiatric disorders and individuals from a normative sample (Bernstein et a., 2013). For the analyses, the total mean score and the mean score for each type of ACE was used.

Severity of psychotic experiences. Severity of psychotic experiences in patients was measured with the Positive and Negative Syndrome Scale (Kay et al., 2987; PANSS). The PANSS can determine whether and to what extent the patient experiences positive and negative symptoms of psychotic disorders, but also general psychopathology (e.g. anxiety, tension, depression, poor attention and active social avoidance). The instrument consists of 30 items, each evaluated on a 7-point Likert scale (1 = absent; 7 = extreme). Higher scores indicate more severe psychopathology. The PANSS was administered in patients at baseline and 3-year and 6-year follow-up measuring points. The subscales positive and negative symptoms and general psychopathology were used for analysis. Psychometric properties of the PANSS support the scales' reliability, criterion and construct validity (Kay et al., 1988).

Severity of psychotic experiences in parents was measured with the Community Assessment of Psychic Experience (CAPE) questionnaire (Stefanis et al., 2002; CAPE). The CAPE measures the lifetime frequency and distress levels of psychotic experiences regarding positive, negative and depressive symptom dimensions. In this study, only the distress levels of parental psychotic experiences were used to match the symptom severity measured in patients. There are 42 items in the questionnaire, recorded on 4-point Likert scales on frequency (1 = never; 4 = nearly always) and distress (1 = not distressed; 4 = very distressed). The severity dimensions of the subscales positive symptoms, negative symptoms and depressive symptoms were used in the analysis. The CAPE was administered in parents at baseline. The CAPE appeared to be a stable, reliable and valid instrument in the general population (Konings et al., 2006) and a valid instrument for detecting individuals at risk in a clinical population (Mossaheb et al., 2012). Using data from the total GROUP study which includes the current sample, the CAPE appeared to be useful as a first screening tool to detect individuals who are likely to fulfill criteria for psychotic disorder (Jaya et al., 2021).

Covariates

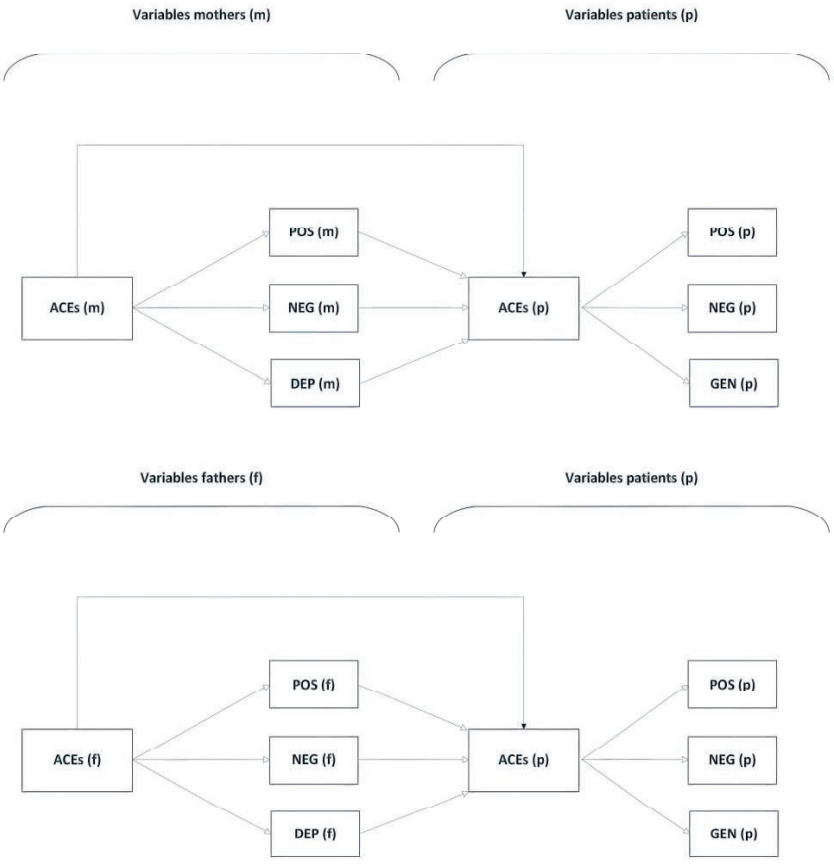
Age in years and IQ at baseline were included as covariates. IQ was estimated based on the 4-subtest version of the Wechsler Adult Intelligence Scale (Wechsler, 1997).

Data analyses

Data were analyzed with Stata 14.0 (StataCorp, 2015). The release 8.0 of the overall GROUP database was used. Assumptions were examined and there were no major deviations, except for a slight deviation from normality. Descriptive statistics were used to explore the characteristics of the sample. Non-parametric tests were used to correlate variables (Spearman rho test). Values of $0.1 < r < 0.3$ are considered as weak correlations, of $0.3 < r < 0.5$ as moderate and $r > 0.5$ as strong (Field, 2018). Path model analyses were conducted to examine the relationships between the variables of interest (ACEs and severity of psychotic experiences in parents and patients). Pathways were selected based on prior theoretical knowledge and hypotheses as described in the introduction. A path diagram representation

of the model was drawn: straight single-headed arrows represent regression paths (Figure 1). Separate path diagrams were tested for mothers and patients and fathers and patients. The baseline PANSS score of patients was used in the model, because the CAPE score of parents was administered at baseline as well. Analyses were adjusted for the covariates age and IQ, since ACEs have been found to impact many aspects of cognitive impairment (Gould et al., 2012) and cognitive impairments are highly prevalent in patients with psychotic disorder (Varese et al., 2012). There were missings since not all parents who administered the CTQ had administered the CAPE as well, therefore path analysis was conducted with 88 mothers and 47 fathers. Mixed-effects models were conducted to examine the effect of ACEs in parents and its interaction with the severity of psychotic experiences in patients over time (baseline and the 3 and 6 year follow-up).

Figure 1. Path diagram representation of the model mother patient- and father patient (m = mother; = patient)



ACEs = CTQ total score
POS = positive symptoms; NEG = negative symptoms; DEP = depressive symptoms; GEN = general psychopathology

Results

Demographics

The sample consisted of 144 patients (30.6% female) with a mean age of 25.0 years (*SD* = 6.9) at baseline. All included patients had a mother and/or father with available data about ACEs, leading to a sample of 129 mothers and 71 fathers. The socio-demographic description of the sample is presented in Table 1 and Table 2.

Table 1. Demographics

	Patients	Parents	
		Mothers	Fathers
	(N = 144)	(N = 129)	(N = 71)
Gender			
Male	69.4% (100)	-	100% (71)
Female	30.6% (44)	100% (129)	-
Age (*M*) years	25.0	52.7	55.8
	6.9 (SD)	7.2 (SD)	7.3 (SD)
	15 – 49 (RNG)	38 – 73 (RNG)	44 – 78 (RNG)
Educational level			
No education	2.1% (3)	0.8% (1)	0% (0)
Primary school	0.7% (1)	3.1% (4)	1.5% (1)
Secondary school lower vocational	7.7% (11)	18.0% (23)	10.1% (7)
Secondary school MULO ULO MAVO HBS	10.6% (15)	8.6% (11)	10.1% (7)
High school HAVO	10.6% (15)	6.3% (8)	0% (0)
High school VWO	13.4% (19)	8.6% (11)	5.8% (4)
Vocational education MBO	25.4% (36)	24.2% (31)	27.5% (19)
Vocational education HBO	21.1% (30)	22.7% (29)	29.0% (20)
University	8.5% (12)	7.8% (10)	15.9% (11)
Ethnicity			
Caucasian	91.0% (131)	89.1% (115)	91.6% (65)
Other	2.1% (3)	4.7% (6)	2.8% (2)
Mixed	6.9% (10)	6.2% (8)	5.6% (4)
IQ (*M*)	96	101	110
	14.7 (SD)	15.5 (SD)	17.9 (SD)
	65 – 146 (RNG)	65 – 143 (RNG)	74 – 146 (RNG)

Table 2. Scores on the Child Trauma Questionnaire

Instrument		Patients (N = 144)	Mothers (N = 129)	Fathers (N = 71)
CTQ	Exposure level			
Emotional abuse	none	54.7% (76)	70.5% (91)	81.7% (58)
	low	23.0% (32)	18.6% (24)	12.7% (9)
	moderate	10.1% (14)	7.8% (10)	2.8% (2)
	severe	12.2% (17)	3.1% (4)	2.8% (2)
Physical abuse	none	85.6% (119)	90.7% (117)	93.0% (66)
	low	5.0% (7)	4.7% (6)	4.2% (3)

	moderate	5.0% (7)	3.9% (5)	2.8% (2)
	severe	4.3% (6)	0.8% (1)	0.0% (0)
Sexual abuse	none	69.1% (96)	78.3% (101)	80.3% (57)
	low	15.1% (21)	7.8% (10)	12.7% (9)
	moderate	7.9% (11)	7.0% (9)	7.0% (5)
	severe	7.9% (11)	7.0% (9)	0.0% (0)
Emotional neglect	none	40.6% (56)	44.2% (57)	38.0% (27)
	low	34.8% (48)	36.4% (47)	42.3% (30)
	moderate	14.5% (20)	9.3% (12)	11.3% (8)
	severe	10.1% (14)	10.1% (13)	8.5% (6)
Physical neglect	none	66.9% (93)	63.6% (82)	64.8% (46)
	low	15.8% (22)	20.9% (27)	22.5% (16)
	moderate	12.9% (18)	10.9% (14)	8.5% (6)
	severe	4.3% (6)	4.7% (6)	4.2% (3)

Correlations

To investigate the individual relationships between the study variables of interest, correlations were computed with a Spearman rho test. See the correlation matrixes in Appendix 1 and 2.

ACEs in parents and severity of psychotic experiences in parents. Weak to moderate significant correlations were found between ACEs in parents and severity of psychotic experiences in parents. The total ACEs score in mothers significantly correlated with the severity of negative symptoms ($r = .334$, $p < .01$) and depressive symptoms ($r = .186$, $p < .05$) in mothers. Regarding types of ACEs in mothers, emotional abuse, physical abuse and sexual abuse were significantly correlated with both negative symptoms and depressive symptoms in mothers ($.183 \leq r \leq .374$, $p < .05$). Emotional neglect in mothers was significantly correlated with negative symptoms in mothers ($r = .309$, $p < .01$) and physical neglect in mothers was significantly correlated with positive symptoms in mothers ($r = .235$, $p < .05$). Strengths of the correlations were considered as weak to moderate. Regarding ACEs in fathers, sexual abuse was significantly correlated with the severity of negative symptoms ($r = .318$, $p < .05$) and depressive symptoms ($r = .254$, $p < .05$) in fathers. Also, emotional neglect in fathers was significantly correlated with negative symptoms ($r = .249$, $p < .05$) in fathers. Strengths of the correlations were weak to moderate.

ACEs in parents and ACEs in patients. Regarding correlations between ACEs in parents and patients, significant and weak correlations were found between physical abuse in mothers and emotional abuse ($r = .176$, $p < .05$) and sexual abuse ($r = .259$, $p < .01$) in patients.

Severity of psychotic experiences in parents and ACEs in patients. Severity of psychotic experiences in parents was significantly correlated with several ACEs in patients. Weak correlations

were found between positive, negative and depressive symptoms in mothers and the total ACE score in patients ($.184 \leq r \leq .202$, $p < .05$) and emotional neglect in patients ($.182 \leq r \leq .234$, $p < .05$). Weak to moderate correlations were also found between positive ($r = .310$, $p < .05$) and negative symptoms ($r = .251$, $p < .05$) in fathers and emotional abuse in patients. Depressive symptoms in fathers significantly correlated with emotional neglect in patients ($r = .273$, $p < .05$).

ACEs in parents and severity of psychotic experiences in parents and psychotic symptoms in patients

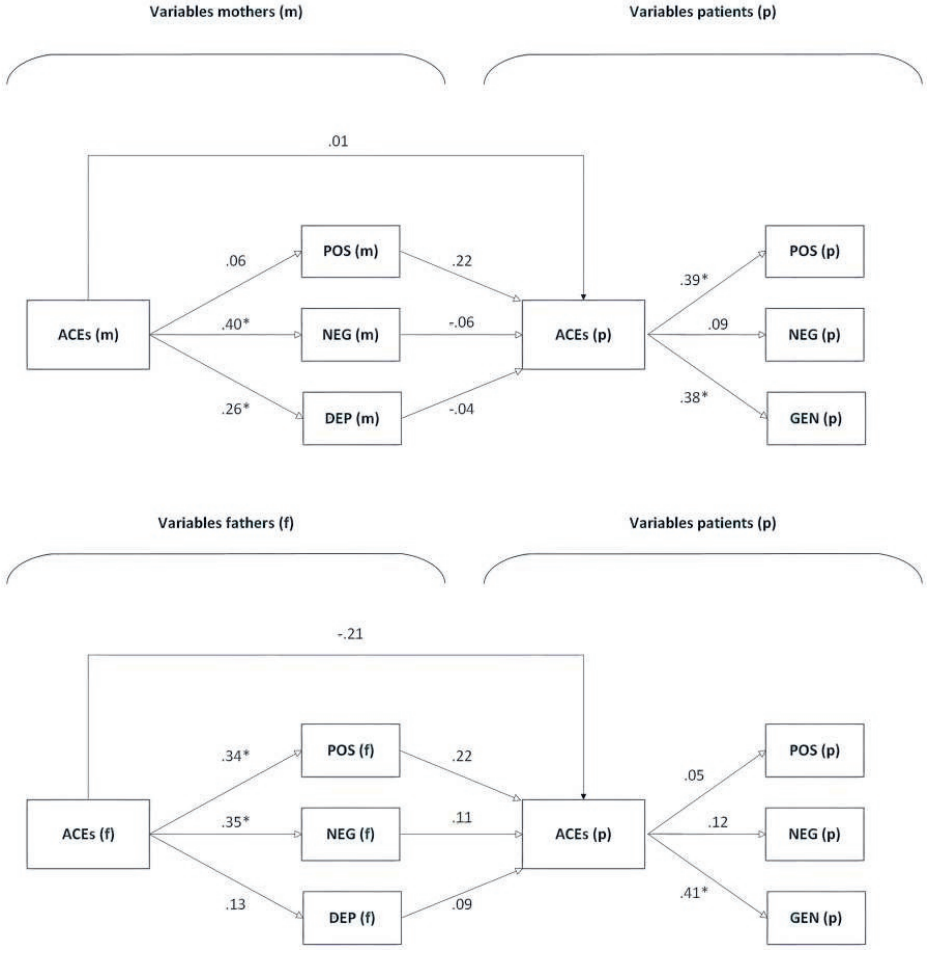
Physical neglect in mothers was significantly and negatively correlated with positive symptoms in patients ($r = -.193$, $p < .05$). Emotional abuse in fathers was significantly and negatively correlated with general psychopathology in patients ($r = -.243$, $p < .05$). Moderate significant correlations were found between positive ($r = .307$, $p < .05$) and depressive symptoms ($r = .370$, $p < .01$) in fathers and positive symptoms in patients.

Path analysis

Path model analyses were conducted to further examine the relationships between the variables of interest. Figure 2 illustrates the path model of mothers' and patients' variables. There were significant path coefficients for direct effects of the total ACEs score in mothers on the severity of negative symptoms in mothers (β = .40; $p = .000$) and depressive symptoms (β = .26; $p = .013$). In patients, ACEs significantly predicted their positive symptoms (β = .39; $p = .000$) and general psychopathology (β = .38; $p = .000$). Correlation estimates between maternal positive symptoms, negative symptoms and depressive symptoms were significant ($.43 < r < .71$; $p < .01$). Between patients' positive symptoms, negative symptoms and general psychopathology, significant correlation estimates were present as well ($.42 < r < .58$; $p < .01$). Patients' IQ was found to have a significant effect on patients' positive symptoms (β = -.36; $p = .001$), negative symptoms (β = -.28; $p = .017$) and general psychopathology (β = -.27; $p = .013$), indicating that a lower IQ was associated with higher symptom levels. Age did not have significant effects on the dependent variables in the model.

Figure 2 shows the path model of fathers' and patients' variables. Significant path coefficients were found for the direct effects of ACEs in fathers and positive symptoms (β = .34; $p = .019$) and negative symptoms (β = .35; $p = .017$) in fathers. Significant path coefficients were found as well for the direct effects of ACEs in patients on general psychopathology in patients (β = .41; $p = .008$). Positive symptoms in fathers predicted positive symptoms (β = .40; $p = .018$) and general psychopathology (β = .39; $p = .029$) in patients. Patients' IQ was found to have a significant effect on patients' negative symptoms (β = -.34; $p = .025$) and general psychopathology (β = -.30; $p = .031$), indicating that when IQ decreases, symptoms increase. Patients' age had a significant effect on their total ACEs score (β = -.33; $p = .037$), indicating that an increase in age is associated with a decrease in ACEs score.

Figure 2. Path analysis diagram mothers and patients and fathers and patients



* = significant *p-value* <.05

Mixed-effects models

Mixed-effects models were conducted to examine the effect of ACEs in mothers and fathers (Table 3) and its interaction with the severity of psychotic experiences in patients over time. For this purpose, the total ACEs scores in mothers, fathers and patients and patients' positive, negative and general symptoms at baseline (time 1) and three- (time 2) and six-year (time 3) follow-up period were used. The fixed effects included time (baseline measure PANSS as reference category), the total CTQ score and the interaction between time and the total CTQ score. The random intercept was specified for subjects to account for repeated measures.

Regarding ACEs in mothers and positive symptoms in patients, the main effect of time was significant, indicating that positive symptoms decreased over time 2 (β = -.62, *SE* = .21, *z* = -2.96, *p* = .003, 95% *CI* [-1.03; -.21]) and time 3 (β = -.74, *SE* = .25, *z* = -2.92, *p* = .004, 95% *CI* [-1.23;-.24]) compared to baseline. The main effect of ACEs in mothers was not significant, suggesting that ACEs in mothers did not have a significant effect on positive symptoms in patients at baseline. However, there were significant interaction effects between time and ACEs in mothers. The interaction effect for time 2 and ACEs in mothers was significant (β = .33, *SE* = .13, *z* = 2.44, *p* = .015, 95% *CI* [.06;-.59]), as was the interaction effect for time 3 (β = .49, *SE* = .17, *z* = 2.96, *p* = .003, 95% *CI* .17;.82]). These results indicate that for each unit increase in ACEs in mothers, the increase in positive symptoms in patients from time 1 to time 2 was an additional 0.33 units, and from time 1 to time 3 was an additional 0.49 units. Negative symptoms decreased significantly from baseline to time 2 (β = -.46, *SE* = .23, *z* = -2.03, *p* = .042, 95% *CI* [-.91;-.02]) as well, but not to time 3. The main effect of ACEs in mothers on both negative or general symptoms in patients was not significant and for neither negative nor general symptoms there were no interaction effects between time and ACEs in mothers.

Regarding ACEs in fathers and negative symptoms in patients, the main effect of time was significant, indicating that negative symptoms increased over time 2 (β = .98 *SE* = .42, *z* = 2.33, *p* = .020, 95% *CI* [.16;1.80]) compared to baseline. There was a significant interaction effect between time 2 and ACEs in fathers (β = -.70, *SE* = .28, *z* = -2.47, *p* = .014, 95% *CI* [-1.26;-.14]). The negative coefficient indicates that the increase of ACEs in fathers, decreased the negative symptoms from time 1 to time 2.

Table 3. Mixed-effect models for the effect of ACEs in mothers and fathers and its interaction with time on psychotic experiences in patients

	ACEs in mothers				
Positive symptoms					
Predictor	*b*	*SE*	*z*	*p*	*95% CI*
Intercept	1.872	.214	8.76	.000***	[1.453, 2.291]
Time 2	-.617	.209	-2.96	.003**	[-1.026, -.209]
Time 3	-.735	.252	-2.92	.004**	[-1.229, -.242]
ACEs mother	-.126	.134	-0.94	.348	[-.389, .137]
Time 2 x ACEs	.328	.134	2.44	.015*	[.065, .592]
Time 3 x ACEs	.493	.167	2.96	.003**	[.167, .820]
Negative symptoms					
Predictor	*b*	*SE*	*z*	*p*	*95% CI*
Intercept	1.708	.196	8.71	.000***	[1.324, 2.093]
Time 2	-.462	.227	-2.03	.042**	[-.906, -.-17]
Time 3	-.471	.273	-1.73	.084	[-.100, .064]
ACEs mother	-.069	.123	-0.56	.577	[-.319, 172]
Time 2 x ACEs	.263	.146	1.80	.072	[-.023, .549]
Time 3 x ACEs	.185	.180	1.02	.306	[-.169, .538]
General psychopathology					
Predictor	*b*	*SE*	*z*	*p*	*95% CI*
Intercept	1.680	.144	11.70	.000***	[1.400, 1.961]

Time 2	-.288	.149	-1.94	.053	[-.580, .004]
Time 3	-.161	.179	-0.90	.369	[-.513, .190]
ACEs mother	-.034	.090	-0.38	.706	[-.211, .143]
Time 2 x ACEs	.118	.096	1.23	.218	[-.070, .306]
Time 3 x ACEs	-.086	.119	-0.73	.467	[-.320, .146]
ACEs in fathers					
Positive symptoms					
Predictor	*b*	*SE*	*z*	*p*	*95% CI*
Intercept	1.338	.448	2.99	.003**	[.461, 2.216]
Time 2	.080	.424	0.19	.851	[-.751, .911]
Time 3	.395	.480	0.82	.411	[-.546, 1.336]
ACEs mother	.268	.304	0.88	.378	[-.328, .863]
Time 2 x ACEs	-.152	.287	-0.53	.597	[-.715, .411]
Time 3 x ACEs	-.289	.323	-0.89	.372	[-.922, .345]
Negative symptoms					
Predictor	*b*	*SE*	*z*	*p*	*95% CI*
Intercept	.942	.403	2.34	.019*	[.152, 1.732]
Time 2	.979	.420	2.33	.020*	[.156, 1.802]
Time 3	.648	.474	1.37	.172	[-.282, 1.578]
ACEs mother	.461	.273	1.68	.092	[-.075, .996]
Time 2 x ACEs	-.702	.284	-2.47	.014*	[-.126, -.144]
Time 3 x ACEs	-.512	.319	-1.60	.109	[-.138, .114]
General psychopathology					
Predictor	*b*	*SE*	*z*	*p*	*95% CI*
Intercept	1.500	.267	5.62	.000***	[.978, 2.023]
Time 2	.032	.272	0.12	.905	[-.502, .567]
Time 3	-.174	.308	-0.57	.572	[-.778, .430]
ACEs mother	.089	.181	0.49	.625	[-.266, .443]
Time 2 x ACEs	-.102	.185	-0.55	.579	[-.464, .259]
Time 3 x ACEs	-.048	.207	-0.23	.815	[-.455, .358]

Note. SE = Standard Error; z = z-score. Time 1 is the reference category.
*** $p < .001$
** $p < .01$
* $p < .05$

Discussion

The present study investigated the intergenerational relationship between ACEs and severity of psychotic experiences in patients with psychotic disorders, and ACEs and severity of psychotic experiences in parents. Results partly support the hypotheses. The main findings are discussed below. Path model analyses demonstrated that a higher score on ACEs was associated with more severe psychotic experiences in mothers, fathers and patients. Given the extensive research linking ACEs to a higher risk of psychotic experiences and disorders in later life, the findings indicate that psychotic experiences our sample may stem from their ACEs (McKay et al., 2021; Varese et al., 2012). The results underline the importance of the family environment in shaping vulnerabilities for psychotic experiences (Bolhuis et al., 2023). Continuing exposure to stress and trauma in the family, can lead to insecure attachment, emotion regulation difficulties, maladaptive coping strategies and subsequent risk for psychotic experiences (Lim et al., 2020; Liu et al., 2020), especially for children with a genetic

vulnerability to psychotic disorders (González-Pinto et al., 2011). This highlights the need of family centered interventions that focus on these mechanisms to mitigate the risks for psychotic experiences and disorders and to promote mental health.

Contrary to our expectations, path model analyses did not reveal that ACEs in parents predicted severity of psychotic experiences and subsequent ACEs in patients. Yet, correlation analyses did show that ACEs in mothers (physical abuse) were significantly and positively associated with ACEs in patients (emotional and sexual abuse) and that severity of psychotic experiences in parents were significantly correlated with several ACEs in patients. These associations are in line with the study of Bolhuis et al. (2023), revealing a significant model wherein ACEs in mothers is associated with more psychopathology in mothers and ACEs in adolescent offspring. Other studies have shown as well that a parental history of psychosis has been associated with a higher risk of ACEs in offspring (Fisher et al., 2014; Wang et al., 2023).

There may be a number of reasons why the present models do not reflect these relationships: measurement issues, insufficient power or the complex nature of relationships, involving mediators or moderators. Some relationships may be indirect and not appear as paths in our models. Indeed, there are studies in young children that demonstrate that parenting styles (Luo et al., 2023), low family support (Bunting et al., 2022), insecure attachment and insensitivity to read a child's distress (Zhang et al., 2022) can mediate associations between ACEs in mothers and ACEs in children. Another explanation may be that patients were included whose parents were present in their lives and were willing to participate in the study. Parents with psychotic disorders were excluded from the overall sample of the GROUP study (Korver et al., 2012), and were included as patients. The intergenerational transmission of ACEs may therefore be less of an issue for the current sample of parents. Future research investigating potential mediating or moderating variables in larger samples, should shed more light on the complex relationship between ACEs in parents and ACEs in offspring with psychotic disorders.

What our path model did show, were direct effects of psychotic experiences in fathers on the severity of psychotic experiences in offspring. This intergenerational transmission of psychotic experiences between fathers and children was found in a study in the general population of adolescents as well (Rimvall et al., 2024). Contrary to our results, this this association was present for mothers as well (Rimvall et al., 2024). In this study, it was expected that ACEs in offspring would mediate this association, but only associations were found on correlational level. Again, the present model may not reflect these associations for the reasons described above.

A lower IQ of patients was found to have a significant effect on the severity of their psychotic experiences. Cognitive impairments are highly present in patients with psychotic disorder (Bora et al., 2009; Müller et al., 2013; Van Os et al., 2017). No impact of IQ on ACEs was found, while ACEs are associated with cognitive decline in children, middle- aged and older adults (Baiden et al., 2022; Bucker

et al., 2012; Gladieux et al., 2023). A possible explanation is that the impact of ACEs on cognitive abilities may be relatively small in patients with psychotic disorders, whose cognition already is substantially lower compared to controls (Sideli et al., 2014; Van Os et al., 2017).

Regarding the second research question, a higher ACEs score in mothers predicted more severe psychotic experiences in patients over time. To our knowledge this is the first study that uses longitudinal data in assessing the relationship between ACEs in parents and severity of psychotic experiences in patients with an age range beyond adolescence (Grafft et al., 2024; 15 – 49 years old). The results suggest that ACEs in mothers may have a long-lasting effect on the severity of psychotic experiences in patients. There are different mechanisms that may contribute to these long-lasting intergenerational effects. It is known that the intergenerational transmission of ACEs through impaired parenting practices or parental psychopathology, can lead to insecure attachment and increased vulnerability to a wide range of mental health issues in offspring (Ma et al., 2022; Narayan et al., 2021; Sperlich & Seng, 2008; Zhang et al., 2022). A biological mechanism is that maternal stress resulting from ACEs can cause epigenetic changes in offspring's' DNA (Hays-Grudo et al., 2021). It can thereby alter neurobiological and physiological profiles, and increase the risk of psychopathology (Bolhuis et al., 2023). Once these issues in offspring are established, they can persist into adulthood if not adequately addressed. Together, these factors create a cumulative risk that perpetuates the cycle of ACEs and mental health issues across generations. Understanding these mediating factors is crucial for developing effective interventions to mitigate the impact of parental ACEs on offspring mental health. Future research should shed more light on mechanisms between fathers and offspring.

Some unexpected results were found. Physical neglect in mothers was negatively correlated with positive symptoms in patients and emotional abuse in fathers was negatively correlated with general psychopathology in patients. More ACEs in fathers were associated with less negative symptoms in patients over time. There might have been confounding factors that contribute to resilience in the face of adversity. Some individuals who experience ACEs may develop adaptive coping mechanisms that could mitigate the development of psychotic experiences. And if parents with ACEs have access to supportive relationships and resources, they might provide a positive nurturing environment for their children, reducing risk for psychotic experiences (Hays-Grudo et al., 2021; Park et al., 2024). Patients and their parents might have received therapeutic interventions that specifically address the impacts of ACEs. Future research should include protective factors as variables to explore their role in the risk for psychotic experiences.

Strengths and limitations

This study makes a unique contribution to the understanding of developmental pathways to psychotic disorders, since the intergenerational perspective on ACEs and psychotic experiences has received

limited attention in research. Also data on both mothers and fathers were included. Limited data exist on the transmission of ACEs in fathers (Grafft et al., 2024). This is problematic because fathers' engagement in child rearing has increased over the last decades (Yogman et al., 2016).

A limitation is that only five ACEs were included, while the ACE framework has expanded over the last decades (Afifi et al., 2020; Hawes et al., 2017). Future research should explore the role of expanded ACEs in the intergenerational transmission of ACEs and psychotic experiences. Also there may be an underreporting of ACEs as people may hesitate to open up about this sensitive topic in questionnaires. There were missings because not all parents filled in both the CTQ and CAPE. This could have affected the accuracy of the results. More research with larger sample sized are needed to further examine the studied relationships. As described in the discussion, parents with psychotic disorders were excluded from the overall sample of GROUP, which may have prevented to find significant associations throughout the models. Also, the CAPE questionnaire has some accuracy limitations to assess psychotic experiences and may not fully capture the complexity of these experiences (Boonstra et al., 2009; Jaya et al., 2021). Lastly, different measurements for psychotic experiences were used in parents (CAPE) and patients (PANNS) which may have limited the comparability of symptoms between patients and parents.

Clinical implications

The findings underscore the importance of increased ACE awareness in health care providers working with patients with vulnerable backgrounds. Screening on ACEs in parents and at risk offspring may help in preventing, managing and reducing the progression of psychotic experiences. Without considering ACEs in patients and parents, root causes of psychotic experiences may be overlooked. There is an important challenge around screening that calls for awareness: when asking about ACEs health care providers must be able to offer adequate interventions and responses to those with positive ACE screening (Finkelhor, 2018; McLennan et al., 2020). Inquiring about ACEs without providing support can cause harm and re-traumatize individuals (Finkelhor, 2018). Another implication is that family-centered approaches should be adopted in the health care for patients with psychotic experiences and disorders given the findings supporting that there are intergenerational relationships between ACEs and psychotic experiences. Attention to protective factors is needed as well, as they can buffer against ACEs and the onset of psychotic experiences.

In conclusion, this study contributes to the understanding of the intergenerational transmission of ACEs and psychotic experiences in patients with psychotic disorders and their parents. Sufficient attention to ACEs in patients with psychotic experiences and disorders and their parents is essential for breaking the intergenerational cycle of ACEs and psychotic experiences. This will benefit the individual patients but can also promote the well-being of the entire family, leading to healthier future generations.

Research regarding this topic is still sparse and our hypotheses were only partly confirmed. Therefore future research is needed on mediating and moderating variables, protective and compensatory experiences and the impact of ACEs in fathers.

Funding

This work was supported by and funded through the Geestkracht programme of the Dutch Health Research Council (Zon-Mw, grant number 10-000-1001), and matching funds from participating pharmaceutical companies (Lundbeck, AstraZeneca, Eli Lilly, Janssen Cilag) and universities and mental health care organizations (Amsterdam: Academic Psychiatric Centre of the Academic Medical Center and the mental health institutions: GGZ Ingeest, Arkin, Dijk en Duin, GGZ Rivierduinen, Erasmus Medical Centre, GGZ Noord Holland Noord. Groningen: University Medical Center Groningen and the mental health institutions: Lentis, GGZ Friesland, GGZ Drenthe, Dimence, Mediant, GGNet Warnsveld, Yulius Dordrecht and Parnassia psycho-medical center The Hague. Maastricht: Maastricht University Medical Centre and the mental health institutions: GGzE, GGZ Breburg, GGZ Oost-Brabant, Vincent van Gogh voor Geestelijke Gezondheid, Mondriaan, Virenze riagg, Zuyderland GGZ, MET ggz, Universitair Centrum Sint-Jozef Kortenberg, CAPRI University of Antwerp, PC Ziekeren Sint-Truiden, PZ Sancta Maria Sint-Truiden, GGZ Overpelt, OPZ Rekem. Utrecht: University Medical Center Utrecht and the mental health institutions Altrecht, GGZ Centraal and Delta).

The Authors have declared that there are no conflicts of interest in relation to the subject of this study.

Acknowledgements

We are grateful for the generosity of time and effort by the patients, their families and healthy subjects. Furthermore, we would like to thank all research personnel involved in the GROUP project, in particular: Joyce van Baaren, Erwin Veermans, Ger Driessen, Truda Driesen, Erna van 't Hag. Thank you Wolfgang Viechtbauer, for the support regarding the statistical analyses. Finally, we would like to thank Jessica Vervoort-Schel for her inspiring insights and literature recommendations on the intergenerational transmission of ACEs.

References

Afifi, T. O., Salmon, S., Garcés, I., Struck, S., Fortier, J., Taillieu, T., Stewart-Tufescu, A., Asmundson, G. J. G., Sareen, J., & MacMillan, H. L. (2020). Confirmatory factor analysis of adverse childhood experiences (ACEs) among a community-based sample of parents and adolescents. *BMC Pediatrics*, *20*(1).

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). American Psychiatric Publishing, Inc.

Anda, R. F., Dong, M., Brown, D. W., Felitti, V. J., Giles, W. H., Perry, G. S., … Dube, S. R. (2009). The relationship of adverse childhood experiences to a history of premature death of family members. *BMC Public Health*.

Baiden, P., Cassidy, J., Panisch, L. S., LaBrenz, C. A., & Onyeaka, H. K. (2022). Association of adverse childhood experiences with subjective cognitive decline in adulthood: Findings from a population-based study. *Aging & Mental Health*, *26*(11), 2214-2222.

Bailey, T., Alvarez-Jimenez, M., Garcia-Sanchez, A. M., Hulbert, C., Barlow, E., & Bendall, S. (2018). Childhood trauma is associated with severity of hallucinations and delusions in psychotic disorders: a systematic review and meta-analysis. *Schizophrenia bulletin*, *44*(5), 1111-1122.

Bernstein, D. P., Stein, J. A., Newcomb, M. D., Walker, E., Pogge, D., Ahluvalia, T., Stokes, J., Handelsman, L., Medrano, H., & Zule, W. (2003). Development and validation of a brief screening version of the Childhood Trauma Questionnaire. *Child abuse & neglect*, *27*(2), 169-190.

Boonstra, N., Wunderink, L., Sytema, S., & Wiersma, D. (2009). Improving detection of first-episode psychosis by mental health-care services using a self-report questionnaire. *Early intervention in psychiatry*, *3*(4), 289-295.

Bora E, Yucel M, Pantelis C. Cognitive functioning in schizophrenia, schizoaffective disorder and affective psychoses: meta-analytic study. *Br J Psychiatry*. 2009;195:475–482.

Bucker J, Kapczinski F, Post R, Cereser KM, Szobot C, Yatham LN, Kapczinski NS, Kauer-Sant'Anna M. Cognitive impairment in school-aged children

Cooke, J. E., Racine, N., Plamondon, A., Tough, S., & Madigan, S. (2019). Maternal adverse childhood experiences, attachment style, and mental health: Pathways of transmission to child behavior problems. *Child Abuse & Neglect*, *93*, 27–37.

Croft, J., Heron, J., Teufel, C., Cannon, M., Wolke, D., Thompson, A., ... & Zammit, S. (2019). Association of trauma type, age of exposure, and frequency in childhood and adolescence with psychotic experiences in early adulthood. *JAMA psychiatry*, *76*(1), 79-86.

Dong, M., Lu, L., Zhang, L., Zhang, Y. S., Ng, C. H., Ungvari, G. S., ... & Xiang, Y. T. (2019). Quality of life in schizophrenia: A meta-analysis of comparative studies. *Psychiatric Quarterly*, *90*, 519-532.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American journal of preventive medicine*, *14*(4), 245-258.

Finkelhor, D. (2018). Screening for adverse childhood experiences (ACEs): Cautions and suggestions. *Child abuse & neglect*, *85*, 174-179.

Fusar-Poli, P., Tantardini, M., De Simone, S., Ramella-Cravaro, V., Oliver, D., Kingdon, J., ... & McGuire, P. (2017). Deconstructing vulnerability for psychosis: meta-analysis of environmental risk factors for psychosis in subjects at ultra high-risk. *European Psychiatry*, *40*, 65-75.

Gould, F., Clarke, J., Heim, C., Harvey, P. D., Majer, M., & Nemeroff, C. B. (2012). The effects of child abuse and neglect on cognitive functioning in adulthood. *Journal of psychiatric research*, *46*(4), 500-506.

González-Pinto, A., de Azúa, S. R., Ibáñez, B., Otero-Cuesta, S., Castro-Fornieles, J., Graell-Berna, M., Ugarte, A., Parellada, M., Moreno, D., Soutullo, C., Baeza, I., & Arango, C. (2011). Can positive family factors be protective against the development of psychosis?. *Psychiatry Research*, *186*(1), 28-33.

Grafft, N., Lo, B., Easton, S. D., Pineros-Leano, M., & Davison, K. K. (2024). Maternal and Paternal Adverse Childhood Experiences (ACEs) and Offspring Health and Wellbeing: A Scoping Review. *Maternal and Child Health Journal*, *28*(1), 52-66.

Hays-Grudo, J., Morris, A. S., Beasley, L., Ciciolla, L., Shreffler, K., & Croff, J. (2021). Integrating and synthesizing adversity and resilience knowledge and action: The ICARE model. *American Psychologist*, *76*(2), 203.

Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., Jones, L., & Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis. *The Lancet. Public health, 2*(8), e356–e366.

Jaya, E. S., van Amelsvoort, T., Bartels-Velthuis, A. A., Bruggeman, R., Cahn, W., de Haan, L., ... & Lincoln, T. M. (2021). The Community Assessment of Psychic Experiences: Optimal cut-off scores for detecting individuals with a psychotic disorder. *International journal of methods in psychiatric research*, *30*(4), e1893.

Karatekin, C., & Hill, M. (2019). Expanding the original definition of adverse childhood experiences (ACEs). *Journal of child & adolescent trauma*, *12*, 289-306.

Karcher, N. R., Niendam, T. A., & Barch, D. M. (2020). Adverse childhood experiences and psychotic-like experiences are associated above and beyond shared correlates: Findings from the adolescent brain cognitive development study. *Schizophrenia Research*, *222*, 235-242.

Kay, S. R., Fiszbein, A., & Opler, L. A. (1987). The positive and negative syndrome scale (PANSS) for schizophrenia. *Schizophrenia bulletin*, *13*(2), 261-276.

Kay, S. R., Opler, L. A., & Lindenmayer, J. P. (1988). Reliability and validity of the positive and negative syndrome scale for schizophrenics. *Psychiatry research*, *23*(1), 99-110.

Konings, M., Bak, M., Hanssen, M., Van Os, J., & Krabbendam, L. (2006). Validity and reliability of the CAPE: a self-report instrument for the measurement of psychotic experiences in the general population. *Acta Psychiatrica Scandinavica*, *114*(1), 55-61.

Korver, N., Quee, P. J., Boos, H. B. M., Simons, C. J. P., de Haan, L., & Group Investigators. (2012). Genetic Risk and Outcome of Psychosis (GROUP), a multi site longitudinal cohort study focused on gene–environment interaction: objectives, sample characteristics, recruitment and assessment methods. *International journal of methods in psychiatric research*, *21*(3), 205-221.

Kraan, T., van Dam, D. S., Velthorst, E., de Ruigh, E. L., Nieman, D. H., Durston, S., ... & de Haan, L. (2015). Childhood trauma and clinical outcome in patients at ultra-high risk of transition to psychosis. *Schizophrenia research*, *169*(1-3), 193-198.

Lieberman, A. F., Diaz, M., Castro, G., & Oliver Bucio, G. (2020). *Make room for baby: Perinatal child-parent psychotherapy to repair trauma and promote attachment*. New York: Guilford.

Lim, B. H., Hodges, M. A., & Lilly, M. M. (2020). The differential effects of insecure attachment on post-traumatic stress: A systematic review of extant findings and explanatory mechanisms. *Trauma, Violence, & Abuse*, *21*(5), 1044-1060.

Liu, J., Lim, M. S. M., Ng, B. T., Chong, S. A., Subramaniam, M., & Mahendran, R. (2020). Global emotion dysregulation and maladaptive cognitive emotion regulation strategies mediate the effects of severe trauma on depressive and positive symptoms in early non-affective psychosis. *Schizophrenia Research*, *222*, 251-257.

Loewy RL, Corey S, Amirfathi F, Dabit S, Fulford D, Pearson R, Hua JPY, Schlosser D, Stuart BK, Mathalon DH, Vinogradov S, 2019. Childhood trauma and clinical high risk for psychosis. *Schizophr Res* 205, 10–14.

Luo, S., Chen, D., Li, C., Lin, L., Chen, W., Ren, Y., ... & Guo, V. Y. (2023). Maternal adverse childhood experiences and behavioral problems in preschool offspring: the mediation role of parenting styles. *Child and adolescent psychiatry and mental health*, *17*(1), 95.

Ma, X., Biaggi, A., Sacchi, C., Lawrence, A. J., Chen, P. J., Pollard, R., ... & Dazzan, P. (2022). Mediators and moderators in the relationship between maternal childhood adversity and children's emotional and behavioural development: a systematic review and meta-analysis. *Psychological Medicine*, *52*(10), 1817-1837.

McKay, M. T., Cannon, M., Chambers, D., Conroy, R. M., Coughlan, H., Dodd, P., ... & Clarke, M. C. (2021). Childhood trauma and adult mental disorder: A systematic review and meta-analysis of longitudinal cohort studies. *Acta Psychiatrica Scandinavica*, *143*(3), 189-205.

McKay, M. T., Kilmartin, L., Meagher, A., Cannon, M., Healy, C., & Clarke, M. C. (2022). A revised and extended systematic review and meta-analysis of the relationship between childhood adversity and adult psychiatric disorder. *Journal of Psychiatric Research*.

McLennan, J. D., McTavish, J. R., & MacMillan, H. L. (2020). Routine screening of ACEs: Should we or shouldn't we?. In G. J. G. Asmundson, & T. O. Afifi (Eds.), *Adverse Childhood Experiences Adverse childhood experiences* (pp. 145-159). Academic Press.

Merrick, M. T., Ports, K. A., Guinn, A. S., & Ford, D. C. (2020). Safe, stable, nurturing environments for children. *Adverse Childhood Experiences*. https://doi.org/10.1016/ b978-0-12-816065-7.00016-1.

Mossaheb, N., Becker, J., Schaefer, M. R., Klier, C. M., Schloegelhofer, M., Papageorgiou, K., & Amminger, G. P. (2012). The Community Assessment of Psychic Experience (CAPE) questionnaire as a screening-instrument in the detection of individuals at ultra-high risk for psychosis. *Schizophrenia research*, *141*(2-3), 210-214.

Müller, M., Vetter, S., Weiser, M., Frey, F., Ajdacic-Gross, V., Stieglitz, R. D., & Rössler, W. (2013). Precursors of cognitive impairments in psychotic disorders: a population-based study. *Psychiatry research*, *210*(1), 329-337.

Murphy, N. (2011). Maltreatment of children with disabilities: The breaking point. *Journal of Child Neurology*, 26(8). Retrieved from https://doi.org/10.1177/0883073811413278

Narayan, A. J., Kalstabakken, A. W., Labella, M. H., Nerenberg, L. S., Monn, A. R., & Masten, A. S. (2017). Intergenerational continuity of adverse childhood experiences: Unpacking exposure to maltreatment versus family dysfunction. *American Journal of Orthopsychiatry, 87*, 3–14. https://doi.org/10.1037/ort0000133

Narayan, A. J., Lieberman, A. F., & Masten, A. S. (2021). Intergenerational transmission and prevention of adverse childhood experiences (ACEs). *Clinical Psychology Review*. Retrieved from https://doi.org/10.1016/j.cpr.2021.101997

Park, J., Lee, E., Cho, G., Hwang, H., Kim, B. G., Kim, G., ... & Cha, J. (2024). Gene–environment pathways to cognitive intelligence and psychotic-like experiences in children. *Elife*, *12*, RP88117.

Petruccelli, K., Davis, J., & Berman, T. (2019). Adverse childhood experiences and associated health outcomes: A systematic review and meta-analysis. *Child Abuse and Neglect*, 97. Retrieved from

Rimvall, M. K., Simonsen, E., Zhang, J., Andersen, Z. J., Hastrup, L. H., Jeppesen, P., ... & Koch, S. V. (2024). Examining psychotic experiences in two generations–findings from a rural household-based cohort study; the Lolland-Falster Health Study. *Psychological Medicine*, *54*(7), 1382-1390.

Sideli, L., Murray, R. M., Schimmenti, A., Corso, M., La Barbera, D., Trotta, A., & Fisher, H. L. (2020). Childhood adversity and psychosis: a systematic review of bio-psycho-social mediators and moderators. *Psychological medicine*, *50*(11), 1761-1782.

Sperlich, M., & Seng, J. S. (2008). *Survivor moms: Women's stories of birthing, mothering and healing after sexual abuse*. Eugene, OR: Motherbaby Press.

Sperlich, M., & Seng, J. (2018). Survivor Mom's companion. In M. Muzik, & K. Rosenblum (Eds.), *Motherhood in the face of trauma* (pp. 197–211). New York: Springer.

Sideli L, Fisher HL, Russo M, et al. Failure to find association between childhood abuse and cognition in first-episode psychosis patients. *Eur Psychiatry*. 2014;29:32–35.

Sideli, L., Murray, R. M., Schimmenti, A., Corso, M., La Barbera, D., Trotta, A., & Fisher, H. L. (2020). Childhood adversity and psychosis: a systematic review of bio-psycho-social mediators and moderators. *Psychological medicine*, *50*(11), 1761-1782.

StataCorp (2015). *Stata Statistical Software: Release 14*. StataCorp LP, College Station, TX.

Stefanis, N. C., Hanssen, M., Smirnis, N. K., Avramopoulos, D. A., Evdokimidis, I. K., Stefanis, C. N., Verdoux, H., & van Os, J. (2002). Evidence that three dimensions of psychosis have a distribution in the general population. Psychological Medicine, 32(2), 347–358.

Thomas-Giyer, J., & Keesler, J. M. (2021). Exploring maternal adversity and childhood outcomes among low-income rural families. *Child Abuse & Neglect*, *111*, 104817.

Trotta, A., Murray, R. M., & Fisher, H. L. (2015). The impact of childhood adversity on the persistence of psychotic symptoms: a systematic review and meta-analysis. *Psychological medicine*, *45*(12), 2481-2498.

Turney, K. (2020). Cumulative adverse childhood experiences and children's health. *Children and Youth Services Review*, 119. Retrieved from https://doi.org/10.1016/j.childyouth.2020.105538
Van Os, J., & Reininghaus, U. (2016). Psychosis as a transdiagnostic and extended phenotype in the general population. *World Psychiatry*, *15*(2), 118-124.

Varese, F., Smeets, F., Drukker, M., Lieverse, R., Lataster, T., Viechtbauer, W., ... & Bentall, R. P. (2012). Childhood adversities increase the risk of psychosis: a meta-analysis of patient-control, prospective-and cross-sectional cohort studies. *Schizophrenia bulletin*, *38*(4), 661-671.

Wechsler, D. (1997). WAIS-III: Wechsler Adult Intelligence Scale (3rd ed.) Administration and Scoring Manual. San Antonio, TX: Psychological Corporation.

Weems, C. F., Russell, J. D., Herringa, R. J., & Carrion, V. G. (2021). Translating the neuroscience of adverse childhood experiences to inform policy and foster population-level resilience. The American Psychologist, 76(2), 188-202.

Zhang, L., Mersky, J. P., Gruber, A. M. H., & Kim, J. Y. (2022). Intergenerational Transmission of Parental Adverse Childhood Experiences and Children's Outcomes: A Scoping Review. *Trauma, Violence, and Abuse*. Retrieved from https://doi.org/10.1177/1524838022112618

Appendix 1. *Correlations variables of interest mothers (m; grey)) and patients (p; blue)*

Variables	Total trauma score (m)	Emotional abuse (m)	Physical abuse (m)	Sexual abuse (m)	Emotional neglect (m)	Physical neglect (m)	Positive symptoms (m)	Negative symptoms (m)	Depressive symptoms (m)	Total trauma score (p)	Emotional abuse (p)	Physical abuse (p)	Sexual abuse (p)	Emotional neglect (p)	Physical neglect (p)	Positive symptoms (p)	Negative symptoms (p)	General symptoms (p)
1. Total trauma score (m)	-																	
2. Emotional abuse (m)	**.663****	-																
3. Physical abuse (m)	**.555****	**.567****	-															
4. Sexual abuse (m)	**.517****	**.416****	**.451****	-														
5. Emotional neglect (m)	**.896****	**.456****	**.447****	**.360****	-													
6. Physical neglect (m)	**.684****	**.242****	**.304****	**.27****	**.559****	-												
7. Positive symptoms (m)	.088	.025	.129	.106	.039	**.235***	-											
8. Negative symptoms (m)	**.334****	**.374****	**.308****	**.220***	**.309****	.112	**.428****	-										
9. Depressive symptoms (m)	**.186***	**.271****	**.183***	**.203***	.130	.054	**.488****	**.709****	-									
10. Total trauma score (p)	-.09	-.021	**.146**	.051	-.011	-.220*	**.202***	**.184***	**.186***	-								
11. Emotional abuse (p)	-.086	.001	**.176***	-.023	-.039	-.159	.156	.176	.156	**.826****	-							
12. Physical abuse (p)	-.092	-.126	-.059	-.123	-.065	-.120	.171	.065	.061	**.524****	**.514****	-						
13. Sexual abuse (p)	-.004	.136	**.259****	.096	-.043	-.100	-.009	-.041	-.006	**.457****	**.383****	**.177***	-					
14. Emotional neglect (p)	-.007	.028	.087	.131	.077	-.150	**.234***	**.218***	**.182***	**.822****	**.544****	**.311****	.117	-				
15. Physical neglect (p)	-.065	-.062	.093	-.019	.055	-.162	.182	.130	.105	**.794****	**.561****	**.353****	**.315****	**.637****	-			
16. Positive symptoms (p)	-.159	-.167	.156	-.060	-.083	**-.193***	-.054	-.007	.004	**.220***	**.264****	.110	**.185***	.143	.112	-		
17. Negative symptoms (p)	-.027	-.107	.030	-.092	.019	-.002	-.067	-.022	-.040	.085	.079	.159	.081	.072	.039	**.420****	-	
18. General symptoms (p)	-.080	-.117	.078	-,169	-.035	-.028	-.040	-.089	.011	**.219***	**.172***	.144	**.246****	**.189***	.136	**.584****	**.538****	-

*Note: * p < .05, ** p < .01*

Appendix 2. *Correlations variables of interest fathers (f; grey) and patients (p; blue)*

Variables	Total trauma score (f)	Emotional abuse (f)	Physical abuse (f)	Sexual abuse (f)	Emotional neglect (f)	Physical neglect (f)	Positive symptoms (f)	Negative symptoms (f)	Depressive symptoms (f)	Total trauma score (p)	Emotional abuse (p)	Physical abuse (p)	Sexual abuse (p)	Emotional neglect (p)	Physical neglect (p)	Positive symptoms (p)	Negative symptoms (p)	General symptoms (p)
1. Total trauma score (f)	-																	
2. Emotional abuse (f)	.631**	-																
3. Physical abuse (f)	.405**	.329**	-															
4. Sexual abuse (f)	.250*	.157	-.037	-														
5. Emotional neglect (f)	.871**	.390**	.280*	.121	-													
6. Physical neglect (f)	.744**	.363**	.231	.175	.459**	-												
7. Positive symptoms (f)	.165	.199	-.039	.245	.047	.150	-											
8. Negative symptoms (f)	.235	.075	.015	**.318****	**.249***	.176	**.372****	-										
9. Depressive symptoms (f)	.119	-.006	-.073	**.254***	.103	.187	**.486****	**.658****	-									
10. Total trauma score (p)	.028	-.002	-.075	.209	.008	-.043	.256	**.254***	**.283***	-								
11. Emotional abuse (p)	-.024	.017	-.051	.079	.023	.068	**.310***	**.251***	.248	**.826****	-							
12. Physical abuse (p)	-.137	-.108	-.095	-.040	-.137	-.132	.117	.073	.132	**.524****	**.514***	-						
13. Sexual abuse (p)	-.005	.037	-.155	.141	.023	-.120	.150	.084	.129	**.457****	**.383***	**.177***	-					
14. Emotional neglect (p)	.073	-.035	-.079	.228	.055	-.010	.256	.191	**.273***	**.822****	**.544***	**.311****	.117	-				
15. Physical neglect (p)	.070	.045	-.018	.218	.012	.053	.095	.147	.230	**.794****	**.561***	**.353****	**.315****	**.637****	-			
16. Positive symptoms (p)	.072	-.069	.048	.081	.198	-.134	**.307***	.233	**.370****	**.220***	**.264***	.110	**.185***	.143	.112	-		
17. Negative symptoms (p)	.166	-106	.088	-.138	.226	.064	-.080	.029	.034	.085	.079	.159	.081	.072	.039	**.420****	-	
18. General symptoms (p)	-.006	**-.243***	-.150	.026	.091	-.110	.181	-.002	.124	**.219***	**.172***	.144	**.246***	**.189***	.136	**.584****	**.538****	-

*Note: * p < .05. ** p < .01*

Chapter 7

General discussion

Purpose of this dissertation

The overall aim of this dissertation was to advance knowledge on childhood adversity and specifically its pathways to sexual exploitation. Adverse childhood experiences (ACEs) have a cumulative and substantial impact on a wide range of negative health outcomes throughout the lifespan (Afifi et al., 2020; Hamby et al., 2021; Massetti et al., 2020), including mental and physical health problems and behavioral, interpersonal, educational, and economic difficulties (Bright et al., 2016; Portwood et al., 2021). Due to the developmental vulnerabilities of youth, they are particularly endangered to the harmful effects of ACEs. ACEs not only influence the affected individuals but can have profound effects on future generations as well. When adults have experienced ACEs, the likelihood of ACEs in their children increases, due to a complex interplay of biological, psychological and social factors (Lê-Scherban et al, 2018; Schickedanz et al., 2018; Narayan et al., 2017). Breaking the negative cycle of (intergenerational) ACEs is therefore essential to prevent long-lasting negative health consequences, but also additional adversities, such as for example sexual exploitation (Ports et al., 2016).

In this dissertation a specific focus on sexual exploitation was chosen because it is a major societal and hidden problem, that has received too little attention in research, policy and practice. By shedding light on sexual exploitation, this dissertation can raise more awareness on this global issue that has detrimental effects on youth's overall health and well-being. Increased awareness of sexual exploitation and more knowledge on risk and protective factors in youth can lead to better prevention strategies, protection and interventions for at-risk and victimized youth (Franchino-Olsen, 2019). Especially studies on youth who are underrepresented in research (e.g. young men, youth with intellectual disabilities) are critically needed to be able to fill the current knowledge gaps and address their needs effectively (Moss et al., 2023; Reid, 2018). Therefore the first part of this dissertation examined the risk and protective factors for sexual exploitation in young men and in young women, including those with intellectual disabilities. In this a specific focus on ACEs in the pathway to sexual exploitation was explored, because knowledge on risk patterns helps to identify opportunities for early intention leading to better health outcomes (Madigan et al., 2023).

Despite increased attention to ACEs in research and practice over the past few decades, ACEs continue to be a global concern and their long-term consequences continue to drive up costs for social and healthcare systems (Karatekin et al., 2023). The systematic review of Hughes et al. (2017) demonstrated that research on the prevalence of childhood adversity using the ACE framework has mainly focused on children and adults in the general population, with limited attention to at-risk youth who experience more ACEs (Jones et al., 2012). For a better understanding of the potential role of ACEs in the challenges at-risk youth face, more knowledge is needed on the prevalence of ACEs. Additionally, there is still limited knowledge about the role of intergenerational ACEs in the onset of mental health

problems, for example psychotic disorders (Bolhuis et al., 2022). To address these gaps in research, the second part of this dissertation aimed to deepen our understanding of the prevalence of ACEs in youth with special educational and care needs, as well as the intergenerational effects of ACEs in patients with psychotic disorders.

Overall, this research contributed to a better understanding of risk and protective factors for sexual exploitation, and possible pathways to victimization resulting from ACEs. More knowledge is gained on the prevalence of ACEs and on intergenerational ACEs which help to inform more timely and effective prevention and intervention strategies that help to break the cycle of adversity and long-lasting negative health consequences. The conclusions drawn from this dissertation are detailed below.

Main findings and conclusions of the studies

The cumulation of risk factors for sexual exploitation in youth

By identifying risk and protective factors for sexual exploitation in youth worldwide, the systematic review in **Chapter 2** makes an important contribution to the understanding of vulnerabilities for sexual exploitation. No such overview of risk and protective factors existed, while it clarifies knowledge gaps and targets for prevention and intervention. Many risk factors were identified at the individual, family, community and societal level. ACEs were the most common cited risk factors worldwide, but an important finding was that risk factors may vary depending on cultural, social and economic contexts. Understanding how risk factors may lead to sexual exploitation is complex, because of the large variety in risk factors and the different samples of youth in global research. Therefore we organized risk factors in a theoretical framework, based on existing models that explain risk factors in relationship to sexual victimization (Agnew, 2006; Edwards & Mika, 2017; Franchino-Olsen, 2021). Our theoretical framework explained that risk factors related to negative experiences (e.g., physical abuse and growing up in poverty) may result in negative affect states (e.g., mental health and emotional problems), subsequent maladaptive coping and risk behavior (e.g., running away, substance use or sex work) that increases youth's vulnerability for sexual exploitation. Significant gaps remain in the actual relationships between risk factors, but there are several studies that confirm part of the associations in this theoretical framework. For example, the ACEs parental arrests and parental substance abuse have been found to link to poor nurturing, which led to higher negative psychosocial emotion in their children, running away, substance abuse and sexual relationships at younger age - which are all risk factors for sexual exploitation (Reid & Piquero, 2016). In our systematic review we identified many risk factors but did not study the relationships between risk factors. In **Chapter 3**, however we provided unique insights into the accumulation of risk factors by using a qualitative study design. To our knowledge this is the first study that gave young men a voice in sharing their experiences with sexual exploitation from a life course perspective. The pathways the young men described are in line with our theoretical model;

sexually exploited and at-risk young men described how ACEs and a lack of protective factors resulted in emotional, behavioral and mental health problems and subsequent high-risk situations. Two pathways to sexual exploitation stood out; young men having to survive from day to day and young men involved in online dating and pay dates. In line with literature, societal gender norms and resulting taboos played a significant role in the reluctance of young men disclose victimization and not getting the help they need (Josenhans et al., 2019; Moynihan et al., 2018). This study highlights the urgent need that policymakers and practitioners focus on challenging the stigma and taboos these young men experience. For example, by creating more safe spaces and easy accessible (anonymous) help for young men to talk openly about their experiences without fear of judgement or stigma.

Implications. **Chapter 2 and 3** helped framing possible connections between ACEs, subsequent mental and emotional health problems, risk behavior and sexual exploitation. Although these studies did not study causal relationships, the results highlight key points and time frames at which prevention efforts in policy and practice can be aimed (Franchino-Olsen, 2019). At the individual and family level, early trauma-informed and family-based interventions are required when ACEs and other (family) risk factors are identified in young children and their families. This also implies that practitioners and policymakers need to move beyond focusing solely on the outward behavioral problems of youth and instead address the underlying emotional, psychological, and trauma-related vulnerabilities. By supporting caregivers, building resilience in children and addressing their adverse and positive experiences, interventions can promote a safe and stable nurturing environment that buffers against the consequences of ACEs (Merrick et al., 2020). Human traffickers know where to meet youth with vulnerable backgrounds. Therefore, at the community level, outreach and educational efforts are needed in areas with large numbers of at-risk youth (e.g. runaway and homeless youth, youth with school problems, youth with intellectual disabilities, youth in residential and foster care or youth involved in criminality; Nichols, 2018). Educational efforts should focus on raising awareness among at-risk youth, caregivers, and professionals about the tactics traffickers use, and teaching at-risk youth how to recognize and avoid exploitative situations, set boundaries, be safe online and form healthy relationships. At a societal level, policymakers must structurally address issues such as poverty, housing problems and social inequalities to reduce youth's susceptibility to human traffickers (United Nations Office on Drugs and Crime, 2020).

These implications are not only relevant in the context of sexual exploitation, but also in the context of overall youth mental health. Many risk factors for sexual exploitation are risk factors for a wider range of challenges in youth besides sexual exploitation, such as involvement in criminality, suicidality or future mental and physical health problems. When working with at-risk youth and their families it is important to carefully examine their personal histories and the factors that may influence the onset and continuation of their challenges. For this purpose, the 'explanatory analysis'

(Verklarende analyse) is increasingly being used by healthcare professionals in The Netherlands (Tempel et al., 2022). The emphasis of this analysis is on understanding and explaining problems, rather than describing or labeling them, with the aim of achieving more efficient and sustainable treatment choices. A further implementation of the 'Verklarende analyse' in at-risk youth and their families is advised in order to prevent the further accumulation of risk factors and improving their health and well-being.

Protective factors for sexual exploitation

Protective factors can play an important role in mediating the adverse effects of ACEs and reducing the likelihood of a broad range of negative health outcomes (Hays-Grudo et al., 2021). Protective factors have received limited attention in research on sexual exploitation (Landers et al., 2020). Therefore, besides a focus on risk factors, the systematic review in **Chapter 2** focused on the identification of protective factors for sexual exploitation. Our results confirmed that there are large knowledge gaps. Of the 65 included studies, only 10 addressed protective factors. Most of the research was conducted on the protective role of positive and supporting relationships. The importance of positive and supporting relationships was also demonstrated in **Chapter 3**; these relationships helped young men to deal with challenges in their lives, while a lack positive and supporting relationship was often accompanied an accumulation of ACEs. A lack of positive and supporting relationships is associated with a higher likelihood that youth turn to substance use, sexual risky behavior, criminal activities or other risky behavior (Bath, 2008), while the presence of it can buffer children against mental health problems and risky environments (Garner et al., 2021) and can reduce harm after victimization (Nationaal Rapporteur Mensenhandel en Seksueel Geweld tegen Kinderen, 2022). Thus, protective factors are an important, relatively ignored, aspect to address when working with at-risk youth.

That protective factors aren't taken into account enough yet in clinical practice was illustrated by the clinical record study in **Chapter 4** on sexually exploited young women with intellectual disabilities. Initially we aimed to gain insight into the presence of protective factors. However, this was hampered by a lack of data in the clinical records on protective factors. Although in modern healthcare a shift is being made from traditional problem-focused care to more strength-based care, diagnostic systems in practice still rely upon presenting diagnoses, problems and symptoms (Bokhour et al., 2018; Van Os, 2018). Healthcare providers may therefore have a bias towards documenting mainly negative aspects of mental health (Martin et al., 2020). Protective factors should be standardly part of practice in healthcare, because they play an important role in promoting positive development and mental health (Barnová & Tamásová, 2018).

Implications. The important insights of this dissertation can inform health care professionals in practice and policy to incorporate a focus on protective factors in a strength-based prevention and treatment approach. Currently, an operationalization of protective factors is reflected in three conceptual frameworks (Bethell et al., 2019; Morris et al., 2018; Narayan et al., 2018). Morris et al. (2018) for example recommends strategies aimed at facilitating youth and families developing and sustaining significant relationships (e.g. having someone who loves you unconditionally, having a best friend) and providing access to resources (e.g. living in a safe home, getting education; Hays-Grudo et al., 2021; Morris et al., 2018). For example, programs that strengthen family relationships can protect youth in times of stress and unsafety (Lerner et al., 2023). Another way to implement protective factors is establishing community and after school programs where at-risk youth can engage in leisure activities and receive support. Ensuring that at-risk youth have access to mental health services can support them to develop adaptive coping strategies that make them less vulnerable to exploitation. Also, education and employment opportunities can help reduce the risk of exploitation by giving youth the tools they need to achieve financial independence and stability. By prioritizing and integrating protective factors into all aspects of prevention and intervention, a more effective approach to safeguarding at-risk and sexually exploited youth can be created.

Sexually exploited and at-risk young women with intellectual disabilities

Chapter 2 demonstrated that intellectual disabilities are a risk factor for sexual exploitation, but that intellectual disabilities have received limited attention in research. The identified risk and protective factors in **Chapter 2** guided the operationalization of variables in **Chapter 4**. This chapter set more light on the background characteristics of sexually exploited and at-risk girls and young women with mild intellectual disabilities and borderline intellectual functioning in a Dutch specialized treatment centre. This study confirmed the limited and existing evidence on the relatively high prevalences of risk factors for sexual exploitation in youth with intellectual disabilities. An important finding was that many girls had multiple experiences of abuse, neglect, sexual abuse and sexual exploitation. It is known that trauma resulting from childhood sexual abuse or other ACEs can serve as a triggering mechanism for risky behaviors which then result in sexual exploitation (Reid, 2018). The combined vulnerabilities of the extensive histories of ACEs and the cognitive and adaptive limitations may make youth with intellectual disabilities more vulnerable to manipulation, seeking others for validation, impaired judgement of risky situations and poor decision making (Jones et al., 2012; Wissink te al., 2015). Human traffickers are known to act on these vulnerabilities, making youth with intellectual disabilities especially vulnerable to sexual exploitation (Franchino-Olsen, 2020; Reid et al., 2018). The likelihood of experiencing sexual exploitation and sexual violence has been found to be 13 to 18 times higher in youth with intellectual disabilities compared to youth without intellectual disabilities (Nationaal

Rapporteur Mensenhandel en Seksueel Geweld tegen Kinderen, 2022). Despite this risk, a major problem in policy, research and practice is that sexual exploitation in youth with intellectual disabilities is inadequately understood, recognized, recorded and monitored (Franklin et al., 2024). This was concluded in recent reports from the United Kingdom and The Netherlands (Franklin et al., 2024; CoMensha, Koraal and MetaStory, 2023). The Dutch report was a result from national conversations on 'exploitation and intellectual disabilities' with 90 organizations working in this field, including the police, municipalities and health care institutions (CoMensha, Koraal and MetaStory, 2023). One issue is that there remain significant gaps in professionals' knowledge on recognizing both intellectual disabilities and sexual exploitation (Franklin & Smeaton, 2017; Nouwens et al., 2017). The scoping review of Ailey et al. (2024) showed that health care professionals rarely receive specific training in communicating or working with people with intellectual disabilities. Professionals should be equipped with the right knowledge and skills to identify youth with intellectual disabilities, and to address their needs, especially because they make up a significant proportion of youth receiving (specialized) mental health care in The Netherlands (Nieuwenhuis et al., 2017). When intellectual disabilities are not recognized in time and the specific characteristics are not taken into account, this leads to poorer treatment outcomes (Nieuwenhuis et al., 2017). Also, when intellectual disabilities are not recognized at all in youth, this can lead to frustration at school, challenging behavior and exclusion which can heighten their vulnerability to sexual exploitation (Franklin & Smeaton, 2017). Another point of concern in sexually exploited youth with intellectual disabilities is diagnostic overshadowing, which poses a risk of treating symptoms instead of root causes. Research has indicated that behavioral problems of sexually exploited youth with intellectual disabilities are often wrongly attributed to the intellectual disabilities, rather traumatic experiences (Reid et al., 2018). This may also explain the discrepancy in our sample between the prevalence of PTSD (30.9%) and trauma related symptoms (72.7%). Opportunities for effective early intervention and breaking patterns of sexual violence are missed when the symptoms of sexually exploited and at-risk youth with intellectual disabilities are misunderstood (Franklin et al., 2024). All these barriers can allow sexual exploitation to continue or worsen, causing long-term psychological and physical harm. It can reinforce the marginalization that youth with intellectual disabilities often already face.

Implications. An important implication for practice is that the recognition of sexual exploitation and intellectual disabilities must be improved in professionals who may see victims or at-risk youth in their daily work (e.g. general practitioners, health care workers, social workers, teachers, policemen or hotel employees). There are multiple easily accessible e-learnings and advanced training courses for professionals available in The Netherlands. Organizations working with at-risk youth should give their employees the opportunity for these trainings. Professionals working in (mental) healthcare settings should gain more knowledge on the unique cognitive, emotional, and behavioral characteristics of

youth with intellectual disabilities and their needs. When there is a suspicion of intellectual disabilities, screening tools can help to gain a first impression of their cognitive abilities and can provide guidance for more detailed assessment, for example the Screener Intelligence and Learning disability (SCIL; Nijman et al., 2018). Youth with intellectual disabilities should be provided with adequate education on relationships and sexuality that matches their cognitive and adaptive abilities (Franklin & Smeaton, 2017). Learning about forming healthy relationships, how to keep safe online, giving and receiving consent, understanding what grooming and sexual exploitation is, and how to seek help can help improve resilience and prevent exploitation. Furthermore, an implication for policymakers is that they should be made aware of the major issue of sexual exploitation in youth with intellectual disabilities. Financial resources should be allocated for the development of prevention and interventions that protect these youth and are tailored to their specific needs. Future research on sexual exploitation in youth with intellectual disabilities is important to fill the gaps in understanding their specific needs and to develop effective prevention and intervention strategies tailored to these needs.

The importance of early identification of (intergenerational) ACEs

ACEs were substantially present in the studied samples in this dissertation. According to the sexually exploited and at-risk young men in **Chapter 3**, ACEs had a significant role in the challenges they experienced in their life course. **Chapter 4** and **Chapter 5** demonstrated that relatively many sexually exploited and at-risk young women with intellectual disabilities and youth with special educational and care needs experienced multiple ACEs. The cumulative ACE prevalences are worrying because more ACEs are related to more emotional and behavioral health needs and a higher likelihood of extremely poor health outcomes in children and adults (Anda et al., 2006). **Chapter 6** underlined this, by finding that that the more severe experiences of ACEs were associated with higher levels of psychotic experiences and general psychopathology in both patients with psychotic disorder and their parents. Moreover, there were indications for intergenerational relationships, as associations were found between ACEs in mothers and severity of psychotic experiences in patients over time. *Implications.* These findings outline the need for intergenerational ACE recognition, prevention and early intervention, especially in children, youth and their parents with vulnerable backgrounds who are at risk for a repeating cycle of adversity. As described in previous paragraphs, an effective response to ACEs entails both minimizing adversity and also building resilience by addressing protective factors in both children and their parents (Narayan et al., 2023). Higher levels of positive experiences are associated with more nurturing parental attitudes and greater well-being in adulthood, during pregnancy and in parenthood, even when there are high levels of ACEs (Bethell et al., 2019; Merrick et al., 2020). Researchers and practitioners are still in the early stages of developing, implementing, and evaluating interventions to ACEs (Portwood et al., 2023), but a growing body of evidence suggests that

trauma-informed care (TIC) is one effective approach (Piotrowski, 2023). It is an organization-wide approach to healthcare, social services, and education, that recognizes and responds to the impact of trauma on individuals from an intergenerational perspective. It involves understanding, recognizing, and responding to the effects of all types of trauma, and emphasizes creating a safe environment that promotes healing and resilience and minimizes the risk of re-traumatization (SAMHSA, 2014). Thereby it focuses on both adverse and positive childhood experiences of both the child and parents.

TIC has been found to contribute to a decrease in behavioral and trauma symptoms of children and adults, treatment time, violent incidents and repressive measures by professionals (Azeem et al., 2011; Boel-Studt, 2017; Piotrowski et al., 2020). Research in adults with intellectual disabilities have shown that TIC can effectively reduce trauma symptoms and can result in a decrease in aggressive behavior and less use of emergency medication (Keesler, 2020; Keesler & Isham, 2017). Professionals experience less stress, indirect traumatization, turnover, better self-care, more cooperation and cost savings are achieved (Piotrowski et al., 2020). The youth care and special educational system is a field in which the application of TIC can be of great value, because this dissertation shows that ACEs are relatively common among the at-risk youth who are involved in these systems. In the Netherlands, there is increasing attention to TIC in healthcare and education. The first organizations are implementing TIC and monitor and evaluate its outcomes in pilot research. TIC has been recommended in literature on sexual exploitation (Reid et al., 2018) as well as in the broader literature on at-risk youth populations (Portwood et al., 2021; Thirkle et al., 2021). Future research should shed more light on the effectiveness of the implementation of TIC in these at-risk youth in The Netherlands. By gaining more insight into effective trauma-informed practices, professionals can better recognize the signs of ACEs early on, which allows for timely intervention and can better understand how to effectively strengthen protective factors that are crucial for building resilience in at-risk youth.

Strengths and limitations

This dissertation has several strengths. Research on sexual exploitation is limited, while it is increasingly being recognized as a major societal issue. Addressing this issue in **Chapter 2, 3 and 4** makes an important contribution to the scientific understanding of risk and protective factors and further development of prevention and intervention strategies. Moreover, **Chapter 5** is the first to study ACE prevalences in a sample with special educational and care settings and **Chapter 6** is one of the first studies on intergenerational ACEs in patients with psychotic disorders and their parents. Another strength was that structured and accurate methodologies were used in this dissertation aiming to ensure objectivity. This was reflected in strong inter-rater reliabilities in **Chapter 2** and **Chapter 5.** Also**, Chapter 2** followed the PRISMA guidelines and included a quality appraisal, which is not common in research on sexual exploitation. **Chapter 4** and **5** used codebooks in which variables were

conceptualized form scientific literature, leading to structured and theory-based frameworks to collect data. The qualitative study in **Chapter 3** made use of an advisory board aiming to ensure objectivity, clinical relevance and safety of the participants. **Chapter 3** is the first study that gave young men a voice in sharing their experiences with sexual exploitation from a life-course perspective. Including the perspective of youth themselves is vital to gain in-depth insights into the accumulation of risk factors and their personal needs. Without them sharing their experiences, certain knowledge gaps would still exist. Future research in collaboration with youth is strongly recommended.

There are also several limitations throughout the chapters, that should be considered while interpreting the findings from these studies. Research on sexually exploited youth include heterogeneous samples and this was also the case in this dissertation. In the systematic review in **Chapter 2**, studies involved youth from varying backgrounds and no insight was gained into the extent that these factors apply different youth. Even in **Chapter 3** on sexually exploited and at-risk young men we cannot speak of a homogeneous sample, because every participant had a unique combination of risk factors. This seems to be an inevitable challenge in research on sexual exploitation as a result of the complex interactions of individual, family and community risk factors. Also, our study designs did not make it possible to make definitive statements about interconnectedness of risk and protective factors or comparisons between subgroups. Despite these limitations, by using theoretical frameworks we were able to identify *possible* pathways to sexual exploitation that makes an important contribution in targeting points for prevention and intervention in different samples of at-risk youth. Future research using larger samples should gain more knowledge on causal relationships in these pathways, but the hidden nature of sexual exploitation keeps up the challenge to use such study designs. Another limitation is that **Chapter 4** and **5** used data from clinical records. Inherent in this type of data is that potentially relevant information may not or may differently be administered by the different involved professionals. This makes it plausible that there is an underestimation of prevalence rates. Yet, this research method has its benefits because youth are indirectly involved and they are not burdened during data collection. Furthermore, in this dissertation we used the original ACE framework existing of 10 ACEs because of the clear operationalization in scientific research and the availability of data on these specific ACEs. This may have led to an underexposure, because we did not focus on recently recommended expanded ACEs. Unfortunately, a clear definition of these expanded ACEs is still lacking and are not included in instruments. For example, the Child Trauma Questionnaire (CTQ; Bernstein et al., 2013) used in **Chapter 6** only includes 5 ACEs on abuse and neglect. Lastly, although this dissertation tried to incorporate a focus on protective factors, actual data on protective factors was lacking (**Chapter 2, Chapter 4)**. This large gap regarding protective factors in ACE and sexual exploitation research should be prioritized, because protective factors are key in preventing ACEs, mitigating their effects and to prevent short and long term adversities.

Future research

The last decades of ACE research has provided a growing evidence for the role of ACEs in a wide range of negative (mental) health outcomes across the lifespan. Efforts to study intergenerational ACEs and the interplay with protective factors have just begun (Narayan, 2023). Focusing only on risk factors provides an incomplete picture of how ACEs influence youth and their families. Protective factors, such as positive relationships, stable home environments, and access to mental health resources, play a crucial role in fostering resilience, positive outcomes and the prevention of re-victimization. Studying protective factors alongside risks can reveal strategies to for (preventive) interventions that improve the well-being of at-risk youth and their families (Karatekin et al., 2022). We therefore advocate to incorporate a focus on protective factors alongside risk factors in future intergenerational research on at-risk youth and their families and in sexually exploited youth. As described in the introduction of this dissertation, the ACE pyramid is a widely used concpetual model that illustrates how ACEs can predict later (mental) health outcomes (Centers for Disease Control and Prevention, 2021; Felitti et al., 1998). In response to the ACE pyramid model, Morris et al. (2021) have argued for a model that literally turns ACEs upside down and focus on how protective factors counteract the negative impact of ACEs (see Figure 1). These models can guide urgently needed future research on the interplay between risk and protective factors for youth and adult mental health and their role in the risk for sexual exploitation.

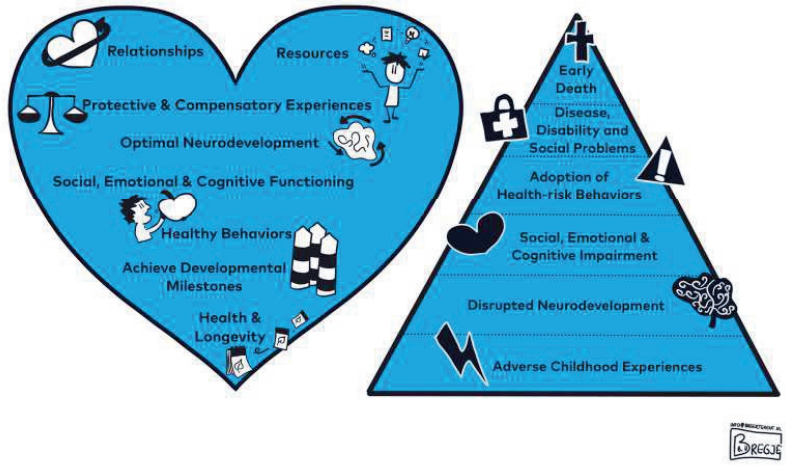


Figure 1**.** The heart model (left; read from top to bottom) argues that if children have nurturing relationships and the resources to grow up, protective experiences as well as secure attachment and healthy development increase. This leads to healthy behavior and maintenance of positive relationships. The ACE Pyramid (right, read from bottom to top) depicts how may lead to social, cognitive, and emotional impairments, which then lead to health-risk behaviors, which lead to disease, disability, and social problems, which then result in death. Freely translated to The ACE Pyramid (Centers for Disease Control and Prevention, 2021) and The Heart Model (with permission of the authors)

Regarding sexual exploitation, this dissertation made an important contribution to the knowledge on risk and protective factors. It is a logical expectation that at-risk youth with different backgrounds also have different needs in care and support. For example, this dissertation showed that societal gender norms were a major issue in sexually exploited young men and that vulnerabilities related to cognitive and adaptive limitations were substantially present in youth with intellectual disabilities. Needs of young men varied from challenging stigma and anonymous support to peer-to-peer support and specialized therapy, while needs of youth with intellectual disabilities were mostly concerned with trauma treatment and education on personal boundaries, and healthy relationships. This implies that future research should gain more insight on the specific needs of at-risk and sexually exploited youth from different backgrounds. Only with this knowledge, prevention and intervention efforts can be accommodated to their unique needs. This is much needed, because there is a worldwide lack of evidence-based screening tools, specialized prevention and treatment programs to identify and treat sexually exploited young men (Greenbaum, 2014; Moss et al., 2023). Also, there is limited research on the treatment of victims with intellectual disabilities (Reid et al., 2018). Although TIC and adapted versions of empirically supported therapies such as EMDR and CBT have been recommended, more

research is needed to establish an evidence base of treatment options.

There are multiple methodological challenges around sexual exploitation, in large part because victims often remain under the radar. Quantitative research using experimental and longitudinal designs is limited due to the hardship to include large homogeneous sample sizes. Yet, efforts should continue to be made for quantitative research because these study designs can contribute to fill the knowledge gaps around the understanding of relationships between risk and protective factors, sexual exploitation and consequences on overall health in the short and long term. Global research initiatives, such as 'The Global Boys Initiative' of ECPAT International (ECPAT, s.d.), can bring organizations together to create opportunities for more large-scale studies. However, qualitative research is certainly of added value to gain more insight into experiences of sexually exploited youth and their needs (e.g. **Chapter 3**). Qualitative research is of significant added value in studying sexual exploitation because it allows for a deeper understanding of the lived experiences, emotions, perspectives and personal needs of victims, which are often difficult to capture through quantitative methods alone. The use of qualitative designs in future research on the needs of at-risk and victimized youth is recommended to integrate the voice of youth themselves. It enables researchers to uncover unique insights into how they perceive risk, and the support systems around them, which might not be easily quantifiable but are crucial for developing effective interventions and policies.

Concluding remarks

In the Netherlands, sexual exploitation and other forms of human trafficking, have been described as a 'multi-headed monster' by people in policy and practice. This because of its hidden nature and combatting this issue is something we can only do together. Because the large variety in risk factors at the individual, family and community level, at-risk youth interact with professionals in a wide variety of domains. Thus, working cross-domains (medical healthcare, mental healthcare, education, social work, criminal justice, policy) on prevention and intervention is crucial to safeguard youth to this major issue. A multidimensional approach in the identification of ACEs is needed as well. By working together it becomes easier to identify early signs of ACEs in youth and their families, and to ensure that all facets of their health that are affected by ACEs are addressed. One key message of this dissertation to professionals working with these at-risk youth is to look beyond observable behavior and instead address the underlying emotional, psychological, and trauma-related vulnerabilities through trauma-informed practices. To conclude, this dissertation substantiated that addressing (intergenerational) ACEs is crucial in the context of sexual exploitation (**Chapter 2, 3 and 4**), special educational and care needs (**Chapter 5**) and psychotic experiences in patients and their parents (**Chapter 6)**.

References

Afifi, T. O., Salmon, S., Garcés, I., Struck, S., Fortier, J., Taillieu, T., Stewart-Tufescu, A., Asmundson, G. J. G., Sareen, J., & MacMillan, H. L. (2020). Confirmatory factor analysis of adverse childhood experiences (ACEs) among a community-based sample of parents and adolescents. *BMC Pediatrics*, *20*(1). https://doi.org/10.1186/s12887-020-02063-3

Agnew, R. (2006). Pressured into crime: An overview of general strain theory (1st ed.). Los Angeles, CA: Claude Teweles.

Ailey, S. H., Bathje, M., Tichá, R., Abery, B., Khuu, B. K., & Angel, L. (2024). Health professionals' education related to people with intellectual and developmental disabilities: A scoping review. *Journal of Applied Research in Intellectual Disabilities*, *37*(3), e13208. https://doi.org/10.1111/jar.13208

Anda, R. F., Dong, M., Brown, D. W., Felitti, V. J., Giles, W. H., Perry, G. S., Valerie, E. J., & Dube, S. R. (2009). The relationship of adverse childhood experiences to a history of premature death of family members. *BMC Public Health*. http://doi.org/10.1186/1471-2458-9-106

Azeem, M. W., Aujla, A., Rammerth, M., Binsfeld, G., & Jones, R. B. (2011). Effectiveness of Six Core Strategies Based on Trauma Informed Care in Reducing Seclusions and Restraints at a Child and Adolescent Psychiatric Hospital. *Journal of Child and Adolescent Psychiatric Nursing, 24*(1), 11-15. https://doi.org/10.1111/j.1744-6171.2010.00262.x

Barnová, S., & Tamášová, V. (2018). Risk and protective factors in the life of youth in relation to resilience. *Psychology and pathopsychology of child*, *52*(1), 50-59.

Bath, H. (2008). The three pillars of trauma-informed care. *Reclaiming children and youth*, *17*(3), 17-21.

Bernstein, D. P., Stein, J. A., Newcomb, M. D., Walker, E., Pogge, D., Ahluvalia, T., Stokes, J., Handelsman, L., Medrano, H., & Zule, W. (2003). Development and validation of a brief screening version of the Childhood Trauma Questionnaire. *Child Abuse & Neglect*, *27*(2), 169-190. https://doi.org/10.1016/s0145-2134(02)00541-0

Bethell, C., Jones, J., Gombojav, N., Linkenbach, J., & Sege, R. (2019). Positive childhood experiences and adult mental and relational health in a statewide sample: Associations across adverse childhood experiences levels. *JAMA pediatrics*, *173*(11), e193007-e193007. https://doi.org/10.1001/jamapediatrics.2019.3007

Boel-Studt, S. (2017). A Quasi-Experimental Study of Trauma-Informed Psychiatric Residential Treatment for Children and Adolescents. *Research on Social Work Practice, 27*(3), 273-282. https://doi.org/10.1177/1049731515614401

Bokhour, B. G., Fix, G. M., Mueller, N. M., Barker, A. M., Lavela, S. L., Hill, J. N., Solomon, J. L., & Lukas, C. V. (2018). How can healthcare organizations implement patient-centered care? Examining a large-scale cultural transformation. *BMC health services research*, *18*(1), 1-11. https://doi.org/10.1186/s12913-018-2949-5

Bolhuis, K., Steenkamp, L. R., Tiemeier, H., Blanken, L., Pingault, J. B., Cecil, C. A., & El Marroun, H. (2023). A prospective cohort study on the intergenerational transmission of childhood adversity and subsequent risk of psychotic experiences in adolescence. *Schizophrenia bulletin*, *49*(3), 799-808. https://doi.org/10.1093/schbul/sbac195

Bright, M. A., Knapp, C., Hinojosa, M. S., Alford, S., & Bonner, B. (2016). The comorbidity of physical, mental, and developmental conditions associated with childhood adversity: a population based study. *Maternal and Child Health Journal, 20*(4), 843-853. https://doi.org/10.1007/s10995-015-1915-7
Centers for Disease Control and Prevention. (2021). The ACE Pyramid. Retrieved July 9, 2024, from https://www.cdc.gov/violenceprevention/aces/about.html

CoMensha, Koraal en MetaStory. (2023). *Uitbuiting & LVB. Knelpunten en aanbevelingen voor een effectievere aanpak*. Retrieved on August 15, 2024, from https://www.koraal.nl/IManager/MediaLink/991/93853/40509/2403389/

ECPAT. (s.d.). ECPAT's Global Boys Initiative. Retrieved on August 28, 2024, from https://ecpat.org/global-boys-initiative/

Edwards, L., & Mika, K. M. (2017). Advancing the efforts of the macro-level social work response against sex trafficking. *International Social Work, 60*, 695–706. https://doi.org/10.1177/0020872815617992

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ACE) study. *American Journal of Preventive Medicine*, *14*(4), 245–258. https://doi.org/10.1016/s0749-3797(98)00017-8

Franchino-Olsen, H. (2019). Vulnerabilities relevant for commercial sexual exploitation of children/domestic minor sex trafficking: A systematic review of risk factors. *Trauma, Violence, & Abuse, 22*(1), 99-111. https://doi.org/10.1177/1524838018821956

Franchino-Olsen, H. (2021). Frameworks and theories relevant for organizing commercial sexual exploitation of children/domestic minor sex trafficking risk factors: A systematic review of proposed frameworks to conceptualize vulnerabilities. *Trauma, Violence, & Abuse, 22*(2), 306-317. https://doi.org/10.1177/1524838019849575

Franchino-Olsen, H., Silverstein, H. A., Kahn, N. F., & Martin, S. L. (2020). Minor sex trafficking of girls with disabilities. *International journal of human rights in healthcare*, *13*(2), 97-108.

Franklin, A., Bradley, L., Greenaway, J., Goff, S., Atkins, S., & Rylatt, L. (2024). *Internal trafficking and exploitation of children and young people with special educational needs and disabilities (SEND) within England and Wales. Understanding identification and responses*
to inform effective policy and practice. Retrieved August 15, 2024, from https://modern-slavery.files.svdcdn.com/production/assets/downloads/SEND-full-report-Final.pdf?dm=1715180164

Franklin, A., & Smeaton, E. (2017). Recognising and responding to young people with learning disabilities who experience, or are at risk of, child sexual exploitation in the UK. *Children and Youth Services Review, 73*, 474-481. https://doi.org/10.1016/j.childyouth.2016.11.009

Garner, A., & Yogman, M. (2021). Preventing childhood toxic stress: partnering with families and communities to promote relational health. *Pediatrics*, *148*(2), e2021052582. https://doi.org/10.1542/peds.2021-052582

Greenbaum, V. J. (2014). Commercial sexual exploitation and sex trafficking of children in the United States. *Current problems in pediatric and adolescent health care*, *44*(9), 245-269. https://doi.org/10.1016/j.cppeds.2014.07.001

Hamby, S., Elm, J. H. L., Howell, K. H., & Merrick, M. T. (2021). Recognizing the cumulative burden of childhood adversities transforms science and practice for trauma and resilience. *The American Psychologist, 76*(2), 230-242. https://doi.org/10.1037/amp0000763

Hays-Grudo, J., Morris, A. S., Beasley, L., Ciciolla, L., Shreffler, K., & Croff, J. (2021). Integrating and synthesizing adversity and resilience knowledge and action: The ICARE model. *American Psychologist, 76*(2), 203–215. https://doi.org/10.1037/amp0000766

Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., Jones, L., & Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis. *The Lancet public health, 2*(8), e356-e366. https://doi.org/10.1016/s2468-2667(17)30118-4

Jones, L., Bellis, M. A., Wood, S., Hughes, K., McCoy, E., Eckley, L., Bates, G., Mikton, C., Shakespeare, T., & Officer, A. (2012). Prevalence and risk of violence against children with disabilities: A systematic review and meta-analysis of observational studies. *The Lancet, 380*(9845), 899-907. https://doi.org/10.1016/s0140-6736(12)60692-8

Josenhans, V., Kavenagh, M., Smith, S., & Wekerle, C. (2020). Gender, rights and responsibilities: The need for a global analysis of the sexual exploitation of boys. *Child Abuse & Neglect*, *110*, 104291. https://doi.org/10.1016/j.chiabu.2019.104291

Karatekin, C., Mason, S. M., Riegelman, A., Bakker, C., Hunt, S., Gresham, B., Corcoran, F., & Barnes, A. (2022). Adverse childhood experiences: A scoping review of measures and methods. *Children and youth services review*, *136*, 106425. https://doi.org/10.1016/j.childyouth.2022.106425

Karatekin, C., Mason, S. M., Riegelman, A., Bakker, C., Hunt, S., Gresham, B., Corcoran, F., &
Barnes, A. (2023). Adverse Childhood Experiences (ACEs): An Overview of Definitions, Measures, and Methods. In *Handbook of Adverse Childhood Experiences: A Framework for Collaborative Health Promotion*, 31-45.

Keesler, J. M., & Isham, C. (2017). Trauma Informed Day Services: An Initial Conceptualization and Preliminary Assessment. *Journal of Policy and Practice in Intellectual Disabilities, 14*(2), 164-175. https://doi.org/10.1111/jppi.12206

Keesler, J. M. (2020). Trauma Specific Treatment for Individuals with Intellectual and Developmental Disabilities: A Review of the Literature from 2008 to 2018. *Journal of Policy and Practice in Intellectual Disabilities, 17*(4), 332-345. https://doi.org/10.1111/jppi.12347

Landers, M., Johnson, M. H., Armstrong, M. I., McGrath, K., & Dollard, N. (2020). Exploring relationships as mediators of treatment outcomes among commercially sexually exploited youth. *Child Abuse & Neglect*, *100*, 104095. https://doi.org/10.1016/j.chiabu.2019.104095

Lerner, R. M., Chase, P. A., Dowling, E. M., Tirrell, J. M., Buckingham, M. H., Yu, D., Park, Y., Gonçalves, C., Gansert, P., & Lerner, J. V. (2023). Resilience and positive youth development: A dynamic, relational developmental systems-based perspective. In S. Goldstein & R. B. Brooks (Eds.), *Handbook of resilience in children* (3rd ed., pp. 337–349). Springer Nature Switzerland AG. https://doi.org/10.1007/978-3-031-14728-9_18

Lê-Scherban, F., Wang, X., Boyle-Steed, K. H., & Pachter, L.M. (2018). Intergenerational Associations of Parent Adverse Childhood Experiences and Child Health Outcomes. *Pediatrics, 141*(6), e20174274. https://doi.org/10.1542/peds.2017-4274

Madigan, S., Deneault, A.-A., Racine, N., Park, J., Thiemann, R., Zhu, J., Dimitropoulos, G., Williamson, T., Fearon, P., Cénat, J. M., Mcdonald, S., Devereux, C., & Neville, R. D. (2023). Adverse childhood experiences: a meta-analysis of prevalence and moderators among half a million adults in 206 studies. *World psychiatry, 22*(3), 463-471. https://doi.org/10.1002/wps.21122

Martin, K., Ricciardelli, R., & Dror, I. (2020). How forensic mental health nurses' perspectives of their patients can bias healthcare: A qualitative review of nursing documentation. *Journal of Clinical Nursing*, *29*(13-14), 2482-2494. https://doi.org/10.1111/jocn.15264

Massetti, G. M., Hughes, K., Bellis, M. A., & Mercy, J. (2020). Global perspective on ACEs. In G. J. G. Asmundson, & T. O. Afifi (Eds.), *Adverse Childhood Experiences* (pp. 209-231). Academic Press.

Merrick, M. T., Ports, K. A., Guinn, A. S., & Ford, D. C. (2020). Safe, stable, nurturing environments for children. In *Adverse childhood experiences* (pp. 329-347). Academic Press.

Morris, A. S., Hays-Grudo, J., Kerr, K. L., & Beasley, L. O. (2021). The heart of the matter: Developing the whole child through community resources and caregiver relationships. *Development and psychopathology*, *33*(2), 533-544. https://doi.org/10.1017/s0954579420001595

Morris, A. S., Treat, A., Hays-Grudo, J., Chesher, T., Williamson, A. C., & Mendez, J. (2018). Integrating research and theory on early relationships to guide intervention and prevention. In A. S. Morris & A. Williamson (Eds., Building early social and emotional relationships with infants and toddlers (pp. 1–25). Springer.

Moss, C., Smith, S. J., Kim, K., Hua, N., Noronha, N., Kavenagh, M., & Wekerle, C. (2023). A global systematic scoping review of literature on the sexual exploitation of boys. *Child Abuse & Neglect, 142*, 106244. https://doi.org/10.1016/j.chiabu.2023.106244

Moynihan, M., Mitchell, K., Pitcher, C., Havaei, F., Ferguson, M., & Saewyc, E. (2018). A systematic review of the state of the literature on sexually exploited boys internationally. *Child Abuse & Neglect*, *76*, 440-451. https://doi.org/10.1016/j.chiabu.2017.12.003

Narayan, A. J., Kalstabakken, A. W., Labella, M. H., Nerenberg, L. S., Monn, A. R., & Masten, A. S. (2017). Intergenerational continuity of adverse childhood experiences: Unpacking exposure to maltreatment versus family dysfunction. *American Journal of Orthopsychiatry, 87*, 3–14. https://doi.org/10.1037/ort0000133

Narayan, A. J., Rivera, L. M., Bernstein, R. E., Harris, W. W., & Lieberman, A. F. (2018). Positive childhood experiences predict less psychopathology and stress in pregnant women with childhood adversity: A pilot study of the benevolent childhood experiences (BCEs) scale. *Child Abuse and Neglect, 78*, 19-30. https://doi.org/10.1111/jocn.15264

Narayan, A. J. (2023). Intergenerational resilience in the context of Adverse Childhood Experiences (ACE). In *Handbook of Adverse Childhood Experiences: A framework for collaborative health promotion* (pp. 13-27). Cham: Springer International Publishing.

Nationaal Rapporteur Mensenhandel en Seksueel Geweld tegen Kinderen (2022). *Brede blik op slachtofferschap. Achtergronden van slachtoffers van seksueel geweld tegen kinderen en seksuele uitbuiting*. Nationaal Rapporteur.

Nichols, A. (2018). Prevention and outreach to at-risk groups. In *Social work practice with survivors of sex trafficking and commercial sexual exploitation* (pp. 358-379). Columbia University Press.

Nieuwenhuis, J. G., Noorthoorn, E. O., Nijman, H. L. I., Naarding, P., & Mulder, C. L. (2017). A blind spot? Screening for mild intellectual disability and borderline intellectual functioning in admitted psychiatric patients: prevalence and associations with coercive measures. *PloS one*, *12*(2), e0168847. https://doi.org/10.1371/journal.pone.0168847

Nijman, H., Kaal, H., van Scheppingen, L., & Moonen, X. (2018). Development and testing of a screener for intelligence and learning disabilities (SCIL). *Journal of Applied Research in Intellectual Disabilities*, *31*(1), e59-e67. https://doi.org/10.1111/jar.12310

Nouwens, P. J., Lucas, R., Embregts, P. J., & van Nieuwenhuizen, C. (2017). In plain sight but still invisible: A structured case analysis of people with mild intellectual disability or borderline intellectual functioning. *Journal of Intellectual & Developmental Disability*, *42*(1), 36-44. https://doi.org/10.3109/13668250.2016.1178220

Piotrowski, C. C. (2020). ACEs and Trauma-Informed Care. In *Adverse Childhood Experiences* (pp. 307-328). Academic Press.

Ports, K. A., Ford, D. C., & Merrick, M. T. (2016). Adverse childhood experiences and sexual victimization in adulthood. *Child Abuse & Neglect*, *51*, 313-322. https://doi.org/10.1016/j.chiabu.2015.08.017

Portwood, S. G., Lawler, M. J., & Roberts, M. C. (2021). Science, practice, and policy related to adverse childhood experiences: Framing the conversation. *The American Psychologist, 76*(2), 181-187. https://doi.org/10.1037/amp0000809

Portwood, S. G., Lawler, M. J., & Roberts, M. C. (2023). The Past, Present, and Promise of Adverse Childhood Experiences (ACEs) Science. In *Handbook of Adverse Childhood Experiences: A Framework for Collaborative Health Promotion* (pp. 3-11). Cham: Springer International Publishing.

Reid, J. A. (2018). Sex trafficking of girls with intellectual disabilities: An exploratory mixed methods study. *Sexual Abuse*, *30*(2), 107-131. https://doi.org/10.1002/cbm.1903

Reid, J. A., & Piquero, A. R. (2016). Applying general strain theory to youth commercial sexual exploitation. *Crime & Delinquency, 62*, 341–367. https://doi.org/10.1177/0011128713498213

Reid, J. A., Strauss, J., & Haskell, R. A. (2018). Clinical practice with commercially sexually exploited girls with intellectual disabilities. In *Social work practice with survivors of sex trafficking and commercial sexual exploitation* (pp. 218-238). Columbia University Press.

SAMHSA. (2014). *SAMHSA's Concept of Trauma and Guidance for a Trauma-Informed Approach*. HHS Publication No. (SMA) 14-4884.

Schickedanz, A., Halfon, N., Sastry, N., & Chung, P. J. (2018). Parents' Adverse Childhood Experiences and their Children's Behavioral Health Problems. *Pediatrics, 142*(2) e20180023.

Tempel, H., van Dijk, A., & de Castro, B. O. (2022). Eerst begrijpen, dan (be)handelen: Het belang van de verklarende analyse. *Kind & Adolescent Praktijk*, *21*(3), 6-12.

Thirkle, S. A., Kennedy, A., & Sice, P. (2021). Instruments for exploring trauma-informed care. *Journal of Health and Human Services Administration*, *44*(1), 30-44. https://doi.org/10.37808/jhhsa.44.1.2

United Nations Office on Drugs and Crime. (2020). Global report on trafficking in persons. Retrieved July 12, 2024, from https://www.unodc.org/documents/data-and-analysis/tip/2021/GLOTiP_2020_15jan_web.pdf

Van Os, J. (2018). *De DSM-5 voorbij!: persoonlijke diagnostiek in een nieuwe ggz*. Springer.

Wissink, I. B., Van Vugt, E., Moonen, X., Stams, G. J. J., & Hendriks, J. (2015). Sexual abuse involving children with an intellectual disability (ID): A narrative review. *Research in developmental disabilities, 36*, 20-35. https://doi.org/10.1016/j.ridd.2014.09.007

Addendum

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Aim and main conclusions

The consequences of Adverse childhood experiences (ACEs) on youth's mental and physical health and future well-being have shown to be detrimental. The overall aim of this dissertation was to advance knowledge on (intergenerational) childhood adversity, and specifically its pathways to sexual exploitation in youth.

The studies in this dissertation revealed that ACEs are common in sexually exploited youth and at-risk youth (including youth with special care and educational needs) with and without intellectual disabilities. ACEs have been widely linked to a range of mental health disorders, including anxiety disorder, depression, post-traumatic stress disorder (PTSD) and psychodic disorder (McKay et al., 2021). This dissertation focused on psychotic disorders and found relationships between the severity of ACEs and psychotic experiences in both patients with psychotic disorders and their parents. Results provided indications of the intergenerational impact of childhood adversity. These insights substantiate the need that professionals working with at-risk youth and their families are aware of ACEs (e.g. general practitioners, pediatricians, social workers, psychologists, teachers, community care workers, policemen). The earlier ACEs are identified and addressed, the higher the chances may be to prevent long-lasting negative health consequences, and additional adversities such as sexual exploitation (Thompson et al., 2014; Webster, 2022). This also benefits societal costs, for which ACEs are a significant contributor (Hughes et al., 2021; Karatekin et al., 2022).

This dissertation specifically focused on sexual exploitation because it is a major societal and hidden problem that has received too little attention in research, policy and practice. Important insights were gained on risk and protective factors for sexual exploitation, and how ACEs may trigger a chain of other risk factors, mental health problems, risk behavior and ultimately circumstances in which at-risk youth are vulnerable to be sexually exploited. This knowledge can inform future research that aims to further elucidate these potential pathways to sexual exploitation. It also highlights key points and time frames in the lives of at-risk youth and their families at which prevention efforts can be aimed. This dissertation identified a significant gap in research and practice regarding protective factors. It underlines the critical need for a better understanding of how protective factors can mitigate the impact of risk factors, so that researchers and practitioners can incorporate more strength-based prevention programs and interventions into the existing risk reduction strategies**.**

Relevance

Today, the topic sexual exploitation is of increasing relevance. Globally there is growing attention in research, policy and practice to the complex issue of sexual exploitation. Studies have revealed the

widespread nature of sexual exploitation, affecting millions of people worldwide (The International Labor Organization, 2017), in particular at-risk and marginalized youth, such as youth with intellectual disabilities and young men (Moynihan et al., 2018; Reid, 2018). This has led to the conclusion that the 'hidden crime' of sexual exploitation is more common than previously thought. Regularly, newspapers headline about both sexual and criminal exploitation and how it manifests itself in all domains of society (e.g. online, the streets, in hotels, neighbourhoods, around schools and health care centres). Addressing sexual exploitation by prevention and intervention strategies has become a critical issue on governmental agendas, for example the action plan of the Dutch program 'Together against Human Trafficking' (Samen tegen Mensenhandel; Rijksoverheid, 2024). To be able to develop and enrich prevention and intervention strategies, knowledge gaps have to be filled. This dissertation makes an important contribution by increasing knowledge on risk and protective factors for sexual exploitation and including at-risk and marginalized youth (youth with intellectual disabilities and young men), for whom timely and adequate care and support is crucial to prevent long-term consequences on their health.

This dissertation focused on risk and protective factors for sexual exploitation at the individual, family, community and societal level. Also the ACE framework emphasizes the importance of addressing the broader context that give rise to ACEs, such as family level and society level risk factors (Karatekin et al., 2022). Thereby this research aligns with current movements in healthcare that seek to explain behavior from a more holistic perspective. In the last decades, healthcare is shifting from disease-oriented care to more personalised patient and family centred care (Bokhour et al., 2018). There is also a growing emphasis for someone's strengths and personal needs, rather than only on problems, risks and pathologies (Schlechter et al., 2019; Stancliffe et al., 2020). Mental health problems are the result of complex and dynamic biological, social and psychological interactions, it is thus important that an individual is seen within the broader context of functioning, its family and environment (Köhne & Van Os, 2016; Van der Stel, 2020). The results of this dissertation imply that taking history of the personal life of at-risk youth and their parents, including both adverse and positive experiences, can provide important information for the understanding of behavioural root causes. This knowledge can help to implement trauma-informed and strength based (early) interventions, that meet the personal needs of youth and their families. Ultimately, this can lead to more sustainable health outcomes.

Target audience

ACEs and sexual exploitation are societal challenges, making the results of this dissertation relevant to a broad audience. At-risk youth interact with professionals in a wide variety of domains, so the results are of importance for people working in medical healthcare, mental healthcare, education, social

services, family support, education, child welfare and protection, criminal justice and community care and youth organizations. A key message of this dissertation to these professionals is to look beyond observable behavior of at-risk youth and their families and instead recognize and address underlying emotional, psychological, and (intergenerational) trauma-related vulnerabilities through trauma-informed care (TIC). It is critical that the results reach professionals working with these at-risk youth and their families (see also 'dissemination of knowledge'). We call on policymakers involved in healthcare and safety to invest in trauma-informed prevention and intervention strategies, because when professionals adopt trauma-informed practices, they can better understand and respond to the behavioral, emotional, and psychological needs of at-risk youth and their families (SAMHSA, 2014). Youth's chances of re-traumatization can be reduced, and professionals can help to create environments that promote healing, resilience, and positive outcomes, which prevent a wide range of negative health problems across generations and can finally reduce societal costs. So the knowledge dissemination of this dissertation to professionals should ultimately benefit at-risk youth and their families, making them an important target audience as well. Youth with intellectual disabilities and sexually exploited young men are a specific target audience, because the knowledge about their backgrounds characteristics and needs can help to reduce stigma and meet their specific needs. Both groups for example need services that approaches them without judgement, but also are sensitive and provide comprehensive education about sexuality, consent, boundaries and healthy relationships. In order to truly match care and support to the needs of at-risk youth and their families, it is recommended that they be involved in initiatives to implement this knowledge into prevention and intervention efforts. For an example on how this can be achieved, see the next paragraph.

The findings of this dissertation have led to implications and recommendations for researchers. Many knowledge gaps remain regarding pathways to sexual exploitation that can be addressed in future research. Researchers should shed more light on the nature of protective factors for sexual exploitation, the interconnectedness between risk and protective factors and needs of underrepresented at-risk populations. Understanding how certain youth and families maintain healthy despite a history of ACEs is critical for developing interventions that foster resilience across generations. Also more research is needed on the intergenerational effects of ACEs in mental health disorders, to uncover the mechanisms through which trauma is passed down. In addition, more profound qualitative research is needed to give at-risk and victimized youth a voice, to significantly enrich the scientific and practical field. Last, the perspective of parents should be included in research on ACEs and sexual exploitation, because of the possible intergenerational effects of their own ACE histories on ACEs and mental health in their children, but also because parents can play an important role in mitigating adversity and promoting strengths.

Dissemination of knowledge

To reach the above described target groups, the following activities have already been conducted.

Results of this dissertation where shared internationally and nationally with many colleagues in research and practice and with policymakers. Internationally, the results of this dissertation were published in scientific journals (Mercera et al., 2024a; Mercera et al., 2024b; Mercera et al., 2024c). Results were also shared at the International Society for the Study of Behavioural Development (ISSBD) conference in 2024 (Lisbon); the European Congress of Psychiatry in 2024 (Budapest); the European Scientific Association on Residential and Family Care for Children and Adolescents (EuSARF) in 2023 (Brighton); the WPA World Congress of Psychiatry in 2023 (Vienna) the European Society for Child and Adolescent Psychiatry (ESCAP) conference in 2022 (Maastricht); the International Association for the Scientific Study of Intellectual and Developmental Disabilities (IASSIDD) conference in 2021 (Virtual).

Nationally, results were disseminated at the NvVP 'Voorjaarscongres' in 2024 (Maastricht); Jeugd in Onderzoek congress in 2024 ('s Hertogenbosch); MHeNs research day in 2023 (Maastricht); Jeugd in Onderzoek congress in 2022 ('s Hertogenbosch). A guest lecture on sexual exploitation was held for students at 'Fontys Hogeschool voor de Pedagogiek' in 2023 (Sittard). In addition, study results were presented via webinars for (prospective) healthcare and education professionals for the association 'European Association for Forensic Child & Adolescent Psychiatry, Psychology & other involved professions – The Netherlands' (Efcap-nl) in 2022 and 'Avans Hogeschool' in 2021. Policymakers of the Ministry of Justice and Safety and the Ministry of Health, Welfare and Sports were informed in 2022 and 2023 on the study on sexual exploitation in young men so that the results could inform their action plan 'Together against human trafficking' (Rijksoverheid, 2024). Practical factsheets resulting from the studies on sexual exploitation were shared with a wide range of professionals in different domains through knowledge institutes such as 'Landelijk Kenniscentrum LVB', 'Centrum Seksueel Geweld', 'Coördinatiecentrum tegen Mensenhandel' and 'Nederlands Jeugdinstituut'. The results also contributed to the realization of a book chapter about exploitation and intellectual disabilities in a study book for social workers (Basisboek LVB voor sociaal werkers; Kaal et al., 2022). A broader public was reached through an interview in the newspaper 'Algemeen Dagblad' on the sexual exploitation of young men (https://www.ad.nl/binnenland/mannen-worstelen-vaak-in-eenzaamheid-na-misbruikervaring-mijn-hulpverlener-heeft-me-gered~abef5e65/). One of the victimized young men participated in the interview as well, to help raise public awareness for this major societal issue.

Currently, the knowledge of this dissertation is being used to further develop prevention and intervention initiatives. One prevention initiative is the project of a consortium of healthcare organizations in The Netherlands (Koraal, Fier, Sterk Huis, Lumens, Pretty Woman/Best Man). In this project an e-learning for professionals is being developed on the sexual exploitation of young men,

aiming to increase professional's knowledge and skills to adequately support them. Also a platform for young men is going to be developed to inform them about sexual exploitation and accessible ways to ask and seek help. In this we collaborate actively with sexually exploited young men to assure that the information is appealing and the platform matches their needs. In another project of Koraal on exploitation and intellectual disabilties, the voice of youth and their parents are included as well, by asking them about their needs. Insights will be translated to practical handouts for professionals, including for example ways to engage in conversation with youth and parents about suspected exploitation. Regarding interventions, the residential and outpatient treatment program for youth with intellectual disabilities of Koraal (YIP!) will be further developed using the results of this dissertation.

References

Bokhour, B. G., Fix, G. M., Mueller, N. M., Barker, A. M., Lavela, S. L., Hill, J. N., Solomon, J. L., & Lukas, C. V. (2018). How can healthcare organizations implement patient-centered care? Examining a large-scale cultural transformation. *BMC health services research*, *18*(1), 1-11. https://doi.org/10.1186/s12913-018-2949-5

Hughes, K., Ford, K., Bellis, M. A., Glendinning, F., Harrison, E., & Passmore, J. (2021). Health and financial costs of adverse childhood experiences in 28 European countries: a systematic review and meta-analysis. *The Lancet Public Health*, *6*(11), e848-e857.

International Labor Organization. (2017). *Global estimates of modern slavery: Forced labour and forced marriage*. Retrieved October 1, 2024, from https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/publication/wcms_575479.pdf

Karatekin, C., Mason, S. M., Riegelman, A., Bakker, C., Hunt, S., Gresham, B., Corcoran, F., & Barnes, A. (2022). Adverse childhood experiences: A scoping review of measures and methods. *Children and youth services review*, *136*, 106425. https://doi.org/10.1016/j.childyouth.2022.106425

Köhne, A. C., & van Os, J. (2021). Precision psychiatry: Promise for the future or rehash of a fossilised foundation? *Psychological Medicine, 51*(9), 1409–1411. https://doi.org/10.1017/s0033291721000271

McKay, M. T., Cannon, M., Chambers, D., Conroy, R. M., Coughlan, H., Dodd, P., Healy, C., O'Donnell, L., & Clarke, M. C. (2021). Childhood trauma and adult mental disorder: A systematic review and meta-analysis of longitudinal cohort studies. *Acta Psychiatrica Scandinavica*, *143*(3), 189-205. https://doi.org/10.1111/acps.13268

Mercera, G., Kooijmans, R., Leijdesdorff, S., Heynen, E., & van Amelsvoort, T. (2024a). Risk and protective factors for sexual exploitation in male and female youth from a cross-cultural perspective: a systematic review. *Trauma, Violence, & Abuse*, *25*(3), 1966-1984. https://doi.org/10.1177/15248380231201815

Mercera, G., Vervoort-Schel, J., Offerman, E., Pronk, S., Wissink, I., & Lindauer, R. (2024b). Prevalence of Adverse Childhood Experiences in Adolescents with Special Educational and Care Needs in the Netherlands: A Case-File Study of Three Special Educational and Care Settings. *Journal of Child & Adolescent Trauma*, 1-14. https://doi.org/10.1007/s40653-024-00613-w

Mercera, G., Noteboom, F., Timmermans, C., Leijdesdorff, S., Heynen, E., & van Amelsvoort, T. (2024c). Sexual exploitation of young men: background characteristics and needs from a life-course perspective. *Child Abuse & Neglect*, *152*, 106794. https://doi.org/10.1016/j.chiabu.2024.106794

Moynihan, M., Mitchell, K., Pitcher, C., Havaei, F., Ferguson, M., & Saewyc, E. (2018). A systematic review of the state of the literature on sexually exploited boys internationally. *Child Abuse & Neglect*, *76*, 440-451. https://doi.org/10.1016/j.chiabu.2017.01.019

Reid, J. A. (2018). Sex trafficking of girls with intellectual disabilities: An exploratory mixed methods study. *Sexual Abuse*, *30*(2), 107-131. https://doi.org/10.1002/cbm.1903

Rijksoverheid. (2024). *Versterkt actieplan programma samen tegen mensenhandel*. Retrieved October 10, 2024, from https://www.rijksoverheid.nl/documenten/rapporten/2024/06/17/tk-bijlage-versterkt-actieplan-programma-samen-tegen-mensenhandel

SAMHSA. (2014). *SAMHSA's Concept of Trauma and Guidance for a Trauma-Informed Approach*. HHS Publication No. (SMA) 14-4884. Substance Abuse and Mental Health Services Administration. Retrieved October 10, 2024, from https://ncsacw.acf.hhs.gov/userfiles/files/SAMHSA_Trauma.pdf

Schlechter, A. D., O'Brien, K. H., & Stewart, C. (2019). The positive assessment: A model for integrating well-being and strengthsbased approaches into the child and adolescent psychiatry clinical evaluation. Child and Adolescent Psychiatric Clinics, 28(2), 157–169. https://doi.org/10.1016/j.chc.2018.11.009

Stancliffe, R. J., Shogren, K. A., Wehmeyer, M. L., & Abery, B. H. (2020). Policies and practices to support preference, choice, and self-determination: An ecological understanding. In R. J. Stancliffe, M. L. Wehmeyer, K. A. Shogren, & B. H. Abery (Eds.), Choice, Preference, and Disability. Positive Psychology and Disability Series. Cham: Springer.

Thompson, R., Flaherty, E. G., English, D. J., Litrownik, A. J., Dubowitz, H., Kotch, J. B., & Runyan, D. K. (2015). Trajectories of adverse childhood experiences and self-reported health at age 18. *Academic pediatrics*, *15*(5), 503-509. https://doi.org/10.1016/j.acap.2014.09.010

Van der Stel, J. (2020). Herstel als leerproces. SWP.

Van Os, J. (2018). De DSM-5 voorbij!: persoonlijke diagnostiek in een nieuwe ggz. Springer.

Webster, E. M. (2022). The impact of adverse childhood experiences on health and development in young children. *Global Pediatric Health*, *9.* https://doi.org/10.1177/2333794x221078708

Summary

The overall aim of this dissertation was to advance knowledge on (intergenerational) childhood adversity, and specifically its pathways to sexual exploitation in youth. In the introduction in **Chapter 1,** a theoretical background is provided on adverse childhood experiences (ACEs), the intergenerational transmission of ACEs and sexual exploitation. ACEs have been widely linked to a range of mental health disorders, including psychotic disorders. ACEs seem to be an important target for intervention, as they appear to be intergenerationally transmitted. **Chapter 1** explained that breaking the negative cycle of (intergenerational) ACEs is essential to prevent long-lasting negative health consequences, but also additional adversities, such as for example sexual exploitation. The global issue of sexual exploitation has received too little attention in research, policy and practice. Therefore, the first part of this dissertation examined the risk and protective factors for sexual exploitation in young men and in young women, including those with intellectual disabilities. The second part aimed to improve our understanding of the prevalence of ACEs in youth with special educational and care needs, as well as the intergenerational effects of ACEs in patients with psychotic disorders.

The systematic review in **Chapter 2** provided an overview of both risk and protective factors for sexual exploitation in male and female youth worldwide. Many risk factors were identified at the individual, family, community and societal level. ACEs were the most common cited risk factors worldwide. The identified risk and protective factors were organized in a theoretical framework, which explained that that risk factors related to negative experiences (e.g., physical abuse and growing up in poverty) can result in negative affect states (e.g., mental health and emotional problems), subsequent maladaptive coping and risk behavior (e.g., running away, substance use or sex work) that increases youths vulnerability for sexual exploitation. Positive and supportive relationships were found to be an important protective factor that mitigate the risk of sexual exploitation. Yet, research on protective factors is still limited. This systematic review can guide practice and policy in the establishment of more targeted prevention and intervention efforts, and areas to address in future research. Future research on the interconnectedness between risk factors, protective factors and sexual exploitation must contribute to a deeper understanding of potential pathways to sexual exploitation and ways to intervene in these pathways on behalf of youth mental health.

Sexually exploited young men are prevalent, yet underrepresented in clinical practice, policy and research. **Chapter 3** provided unique insights into the background characteristics and needs of sexually exploited and at risk young men. To our knowledge this is the first study that gave young men a voice in sharing their experiences with sexual exploitation from a life course perspective. This study revealed

that several vulnerabilities (e.g. childhood abuse and neglect, household dysfunction, social rejection, running away, substance use) and a lack of positive and supportive relationships led young men into high-risk situations. Among these situations were involvement in pay dates, criminality and having to survive from day to day. Overall, ACEs seemed to have a significant role in the pathways to sexual exploitation. Another important result was that prevailing gender norms and experiences of stigmatization were often a barrier in young men to express vulnerabilities and to disclose victimization. These results urge the need to challenge the taboos young men often experience. Results also demonstrated that there was a wide variety in support needs, including peer-to-peer support, therapy, support with day-to-day practices and anonymous support. To date there is a lack of interventions that specifically address the needs of at-risk and sexually exploited young men, so further development of interventions tailored to their needs is needed.

Chapter 4 gained more insight into the background characteristics and health care needs of sexually exploited and at-risk girls and young women with mild intellectual disabilities and borderline intellectual functioning, who received care in a specialized treatment programme in The Netherlands. It is known that girls and young women with intellectual disabilities are at elevated risk to become victims of sexual exploitation, but research is limited. This retrospective clinical record study demonstrated that vulnerabilities related to cognitive and adaptive limitations, mental health problems and risk behavior were highly prevalent. The mean number of ACEs was 3.1 and 40% experienced at least 4 ACEs. Compared to ACE research in the general population, these number are substantial. The combined vulnerabilities of the extensive ACE histories and the cognitive and adaptive limitations may make them more vulnerable to sexual exploitation. Results imply that these girls and young women must be provided with adequate education on concepts like consent, personal boundaries, and healthy relationships. Furthermore, to prevent diagnostic overshadowing, the recognition of intellectual disabilities, sexual exploitation and trauma-related symptoms is crucial in professionals who may see these at-risk youth in their daily work.

In summary, **Chapters 2, 3** and **4** identified a wide range of risk and protective factors for sexual exploitation in youth. ACEs seem to play a significant role in the risk for sexual exploitation. This underlines the importance of early ACE identification in at-risk individuals, which was the focus of the second part of this dissertation.

The study in **Chapter 5** provided insight into ACE prevalence and family risk factors in at-risk youth (10–18 years old) from three Dutch special educational and care settings. A substantial proportion of the adolescents in all settings experienced at least one ACE, with 69.5% in adolescents in special education,

84.9% in residential care and 95.1% in an alternative educational setting. Family risk factors were relatively common, among which a limited social network in all settings (20–50%). The cumulative ACE prevalences are worrying because more ACEs are related to more health care needs and a higher likelihood of extremely poor health outcomes. This research implies that trauma-informed care and education are needed to adequately understand trauma-related behaviors and to enhance learning and healthy development in youth. Given that ACEs regarding household dysfunction and family risk factors seem to be common, family centered approaches should be implemented as well in the interest of lifelong health and well-being for both adolescents and their families.

Chapter 6 further addressed the role of the family in the context of ACEs. This Dutch longitudinal multicenter study explored the intergenerational relationship between ACEs and psychotic experiences in patients with psychotic disorders and ACEs and psychotic experiences in their parents. The sample included a subset of patients (N = 144; 30.6% female; mean age = 25.0) with available data on ACEs and psychotic experiences of their parents. Significant correlations were found between ACEs in mothers (physical abuse) and ACEs in patients (emotional and sexual abuse). Severity of psychotic experiences in parents was significantly correlated with more severe ACEs experiences in patients. Path model analyses revealed that ACEs were associated with more severe psychotic experiences in both parents and patients. Furthermore, ACEs in mothers were associated with increased severity of psychotic experiences in patients over time. This study found indications for the intergenerational relationship between ACEs and psychotic experiences. It implies that addressing ACEs and psychotic experiences in both patients and in parents is essential for breaking the intergenerational cycle of ACEs, benefiting not only patients but also promoting family well-being and healthier future generations.

In summary, this dissertation substantiated that addressing (intergenerational) ACEs is crucial in the context of sexual exploitation (**Chapter 2, 3 and 4**), special educational and care needs (**Chapter 5**) and psychotic experiences in patients and their parents (**Chapter 6)**.

Finally, **Chapter 7** presents a discussion of the main findings, strengths and limitations and implications for future research and clinical practice. It concludes that taking history of the personal life of at-risk youth and their parents, including both adverse and positive experiences, can provide important information for the understanding of behavioral root causes.

The knowledge of this dissertation can help to implement trauma-informed and strength based (early) interventions, that meet the personal needs of at-risk youth and their families. Ultimately, this can lead to more sustainable health outcomes.

Nederlandse samenvatting

Het overkoepelende doel van dit proefschrift was om de kennis te vergroten over (intergenerationele) ingrijpende jeugdervaringen (adverse childhood experiences; hierna ACEs) met een specifieke focus op de totstandkoming van seksuele uitbuiting bij jongeren. De introductie (**Hoofdstuk 1**) geeft een theoretische kader rondom ACEs, de intergenerationele overdracht van ACEs en seksuele uitbuiting. ACEs worden in verband gebracht met een breed scala aan psychische stoornissen, waaronder psychotische stoornissen (McKay et al., 2021). ACEs zijn een belangrijk aangrijpingspunt voor preventie en interventie, omdat ze intergenerationeel worden doorgegeven (Bolhuis et al., 2022; Narayan et al., 2017). Hoofdstuk 1 onderstreept het belang dat het doorbreken van de vicieuze cirkel van (intergenerationele) ACEs essentieel is om langdurige negatieve gezondheidsproblemen te voorkomen, maar ook om toekomstige ingrijpende ervaringen op korte en lange termijn, zoals seksuele uitbuiting, te voorkomen. Seksuele uitbuiting is een wereldwijd maatschappelijk probleem, maar heeft nog te weinig aandacht gekregen in onderzoek, beleid en praktijk. Daarom richtte het eerste deel van dit proefschrift zich op risicofactoren en beschermende factoren voor seksuele uitbuiting bij jeugdigen, inclusief jeugdigen die functioneren op het niveau van een licht verstandelijke beperking. Het tweede deel van dit proefschrift had als doel om meer inzicht te krijgen in de prevalentie van ACEs bij jeugdigen met speciale onderwijs- en zorgbehoeften, evenals de intergenerationele effecten van ACEs bij patiënten met psychotische stoornissen.

De systematic review in **Hoofdstuk 2** gaf een overzicht van risicofactoren en beschermende factoren voor seksuele uitbuiting bij jeugdigen wereldwijd. Er werden veel risicofactoren geïdentificeerd op individueel, gezins-, omgevings- en maatschappelijk niveau. ACEs waren wereldwijd de meest voorkomende risicofactoren. De risico- en beschermende factoren zijn geordend in een theoretisch kader, dat uitlegt dat ingrijpende ervaringen (bijvoorbeeld fysieke mishandeling en opgroeien in armoede) kunnen leiden tot mentale gezondheidsproblemen (zoals psychische en emotionele problemen). Dit kan vervolgens leiden tot ongezonde copingstrategieën en risicovol gedrag (bijvoorbeeld weglopen, middelengebruik of het hebben van seks tegen betaling), hetgeen de kwetsbaarheid voor seksuele uitbuiting vergroot. Positieve en ondersteunende relaties bleken een belangrijke beschermende factor te zijn, die het risico op seksuele uitbuiting kan verkleinen, maar onderzoek naar beschermende factoren is nog beperkt. Deze systematic review kan bijdragen aan de ontwikkeling van passende preventie- en interventieprogramma's, en geeft richting aan vervolgonderzoek. Toekomstig onderzoek moet bijvoorbeeld inzicht verschaffen in de onderlinge samenhang tussen risicofactoren, beschermende factoren en seksuele uitbuiting. Deze kennis kan bijdragen aan een beter begrip van de mogelijke wegen naar seksuele uitbuiting.

Seksuele uitbuiting onder jongens en jonge mannen komt voor, maar tot op heden is er weinig aandacht voor hen in onderzoek, de klinische praktijk en beleid rondom seksuele uitbuiting. **Hoofdstuk 3** gaf unieke inzichten in de achtergrondkenmerken en behoeften van seksueel uitgebuite jonge mannen, en jonge mannen die een verhoogd risico lopen. Dit onderzoek liet zien dat verschillende kwetsbaarheden (zoals fysieke mishandeling, emotionele verwaarlozing, ouder-kind relatieproblemen, sociale afwijzing, weglopen, middelengebruik) en een gebrek aan positieve en ondersteunende relaties, ervoor zorgden dat jonge mannen in risicovolle situaties terecht kwamen. Voorbeelden van deze situaties waren onder andere betrokkenheid bij criminaliteit, betaalde seksafspraken en het dagelijks moeten overleven door een gebrek aan basisbehoeften. ACEs leken een belangrijke rol te spelen in de totstandkoming van seksuele uitbuiting. Een ander belangrijk resultaat was dat maatschappelijke gendernormen en stigmatisering vaak een barrière vormden voor jonge mannen om zich te uiten over hun moeilijkheden en om het slachtofferschap te openbaren. Deze resultaten benadrukken de noodzaak om de taboes te doorbreken, waar jonge mannen veelal mee te maken hebben. Er was een grote diversiteit aan ondersteuningsbehoeften, waaronder ondersteuning van leeftijdsgenoten, therapie, hulp bij dagelijkse praktische zaken (zoals geld) en anonieme hulp. Voor zover bekend, is dit de eerste studie die jonge mannen een stem gaf om hun ervaringen met seksuele uitbuiting vanuit een levensloopperspectief te delen. Tot op heden is er een gebrek aan interventies die specifiek gericht zijn op de behoeften van seksueel uitgebuite jonge mannen en jonge mannen die risico lopen. Dit maakt de verdere ontwikkeling van interventies die aansluiten bij hun specifieke behoeften noodzakelijk.

Hoofdstuk 4 focuste zich op de achtergrondkenmerken en zorgbehoeften van seksueel uitgebuite meisjes en jonge vrouwen die functioneren op het niveau van een licht verstandelijke beperking en zwakbegaafdheid. Zij ontvingen zorg in een gespecialiseerd behandelprogramma voor seksueel uitgebuite meisjes en jonge vrouwen in Nederland. Het is bekend dat meisjes en jonge vrouwen functionerend op het niveau van een verstandelijke beperking een verhoogd risico lopen om slachtoffer te worden van seksuele uitbuiting. Onderzoek hiernaar is nog maar beperkt. Deze retrospectieve dossierstudie toonde aan dat kwetsbaarheden gerelateerd aan cognitieve en adaptieve beperkingen, psychische problemen en risicogedrag veel voorkwamen. Het gemiddelde aantal ACEs was 3.1 en 40% had minstens 4 ACEs meegemaakt. Deze cijfers zijn aanzienlijk vergeleken met onderzoek naar ACEs in de algemene populatie. Het meemaken van meerdere ACEs in combinatie met hun cognitieve en adaptieve beperkingen, lijken hen extra kwetsbaar te maken voor seksuele uitbuiting. Ten aanzien van preventie impliceren de resultaten dat deze meisjes en jonge vrouwen voldoende voorlichting moeten krijgen over onderwerpen als wederzijdse toestemming voor seks, persoonlijke grenzen, weerbaarheid en het aangaan van gezonde relaties. Om *diagnostic shadowing* te voorkomen is het van belang dat

professionals die dagelijks met jeugdigen met een kwetsbare achtergrond werken, zowel verstandelijke beperkingen, signalen van seksuele uitbuiting als trauma-gerelateerde symptomen goed kunnen herkennen.

Samenvattend hebben **Hoofdstukken 2, 3 en 4** een brede range aan risicofactoren en beschermende factoren voor seksuele uitbuiting bij jeugdigen in kaart gebracht. ACEs lijken een belangrijke rol te spelen in het risico op seksuele uitbuiting. Dit benadrukt het belang om ACEs vroegtijdig te herkennen bij jeugdigen met een kwetsbare achtergrond. Dit thema stond centraal in het tweede deel van dit proefschrift.

Het onderzoek in **Hoofdstuk 5** bracht de prevalentie van ACEs en risicofactoren in het gezin in kaart bij jeugdigen (10-18 jaar) in drie Nederlandse onderwijs- en zorginstellingen. Een aanzienlijk deel van de jeugdigen had minstens één ACE meegemaakt: 69,5% van de jeugdigen in het speciaal onderwijs, 84,9% in residentiële zorg en 95,1% in een alternatief programma waarin zorg en onderwijs wordt geïntegreerd. Risicofactoren in het gezin kwamen relatief vaak voor, waaronder een beperkt sociaal netwerk (20-50%). De opeenstapeling van ACEs bij deze jeugdigen is zorgwekkend, omdat meer ACEs samenhangen met meer zorgbehoeften en een grotere kans op extreem slechte gezondheidsuitkomsten. Dit onderzoek impliceert dat trauma-informed care en traumasensitief onderwijs nodig zijn om gedrag goed te begrijpen en om het leren en de gezonde ontwikkeling van jeugdigen te bevorderen. Aangezien ACEs ten aanzien van de ACE categorie household dysfunction en risicofactoren in het gezin vaak voorkomen, moeten gezinsgerichte benaderingen worden geïmplementeerd. Dit is in het belang van de gezondheid en het welzijn van zowel de jeugdigen als hun families.

Hoofdstuk 6 richtte zich verder op het gezin in de context van ACEs. Deze longitudinale multicenterstudie in Nederland onderzocht de intergenerationele relatie tussen ACEs en psychotische ervaringen bij patiënten met een psychotische stoornis, en ACEs en psychotische ervaringen bij hun ouders. Er kwamen significante correlaties naar voren tussen ACEs bij moeders (fysieke mishandeling) en ACEs bij patiënten (emotionele mishandeling en seksueel misbruik). De ernst van psychotische ervaringen bij ouders was significant gecorreleerd met ernstigere ervaringen van ACEs bij patiënten. Path model analyses toonden aan dat ACEs geassocieerd waren met ernstigere psychotische ervaringen bij zowel ouders als patiënten. Bovendien waren ACEs bij moeders geassocieerd met een toename van de ernst van psychotische ervaringen bij patiënten in de loop van de tijd. Dit onderzoek vond aanwijzingen voor de aanwezigheid van intergenerationele overdracht tussen ACEs en psychotische ervaringen. Dit impliceert dat het aanpakken van ACEs en psychotische ervaringen bij zowel patiënten

als hun ouders essentieel is om de intergenerationele cirkel van ACEs te doorbreken. Dit komt niet alleen ten goede komt aan de gezondheid van patiënten, maar ondersteund ook gezondere toekomstige generaties.

Samenvattend heeft dit proefschrift aangetoond dat aandacht voor (intergenerationele) ACEs cruciaal is in de context van seksuele uitbuiting (**Hoofdstuk 2, 3 en 4**), jeugdigen met speciale onderwijs- en zorgbehoeften (**Hoofdstuk 5**) en psychotische ervaringen bij patiënten en hun ouders (**Hoofdstuk 6**).

Ten slotte presenteert **Hoofdstuk 7** de belangrijkste bevindingen, de sterke en zwakke punten van dit proefschrift, en de implicaties voor toekomstig onderzoek en de klinische praktijk. Het concludeert dat het in kaart brengen van de persoonlijke levensgeschiedenis, zowel ingrijpende als positieve ervaringen, van jeugdigen en hun ouders belangrijke informatie kan opleveren voor het begrijpen van gedrag. De resultaten uit dit proefschrift kunnen helpen bij het implementeren van trauma-informed care en krachtgerichte (vroegtijdige) interventies, die aansluiten bij de persoonlijke behoeften van jeugdigen met een kwetsbare achtergrond en hun gezinnen. Uiteindelijk kan dit leiden tot duurzamere gezondheidsuitkomsten.

About the author

Gabriëlle Mercera werd op 9 juni 1993 geboren in Drachten, Friesland. Na het afronden van het gymnasium op Het Drachtster Lyceum, verhuisde zij naar Groningen. Aan de Rijksuniversiteit Groningen volgde zij van 2011 – 2015 de bacheloropleiding psychologie. In 2015 verhuisde zij naar Breda, en vanuit daar volgde zij van 2015 - 2016 de masteropleiding “Klinische Kinder- en Jeugdpsychologie” aan Tilburg University. Haar klinische stage en afstudeeronderzoek voerde zij uit bij de organisatie Koraal, locatie De Hondsberg. Daar deed zij ervaring op in het werken met jeugdigen die functioneren op het niveau van een licht verstandelijke beperking en hun gezinnen. Tijdens de stage behaalde zij haar Basisaantekening Psychodiagnostiek (BAPD) en rondde ze haar afstudeeronderzoek naar de groepstraining ‘relationele en seksuele vorming’ af met een 8. Zij heeft haar masterdiploma ‘Met Genoegen’ behaald. Na haar afstuderen kreeg zij een werkervaringsplaats aangeboden bij De Hondsberg op de afdeling psychodiagnostiek. Naast psychologie bleef wetenschappelijk onderzoek haar aantrekken. Na een half jaar werkervaring op doen, kwam zij bij De Hondsberg in dienst als psycholoog en junior onderzoeker. Na 4 jaar in deze functie, begon zij een promotietraject als externe promovendus aan Maastricht University, gesuperviseerd door prof. Thérèse van Amelsvoort, dr. Evelyn Heynen en dr. Sophie Leijdesdorff. Gabriëlle voerde haar promotietraject parttime uit bij Koraal en bleef daarnaast binnen de afdeling Strategie en Kennisontwikkeling van Koraal werkzaam als onderzoeker. Daar deed zij onder andere onderzoek naar de onderwerpen Trauma-informed care (TIC), ingrijpende en positieve jeugdervaringen en leef-, leer- en werkklimaat onder de doelgroep jeugdigen die op het niveau van een LVB functioneren en hun gezinnen. Zij presenteerde haar werk op nationale en internationale congressen en gaf webinars en gastlessen aan opleidingsinstituten en zorgorganisaties. Gabriëlle zet haar onderzoek voort als senior onderzoeker bij Koraal en in samenwerking met Maastricht University.

Gabrielle Mercera was born in Drachten, Friesland, on June 9, 1993. After completing gymnasium at Het Drachtster Lyceum, she moved to Groningen. At the University of Groningen, she attended the bachelor's program in psychology from 2011 - 2015. In 2015, she moved to Breda, and from there she attended the master's program “Clinical Child and Adolescent Psychology” at Tilburg University from 2015 - 2016. She conducted her clinical internship and graduation research at the organization Koraal, location De Hondsberg. There she gained experience in working with youth functioning at the level of mild intellectual disabilities and their families. During the internship, she obtained her

“Basisaantekening Psychodiagnostiek (BAPD) and completed her thesis on the group training “relational and sexual education” with an 8. She earned her master's degree “Met genoegen”. After graduation, she was offered a work experience position at De Hondsberg in the psychodiagnostics department. In addition to psychology, scientific research continued to attract her. After six months of work experience, she joined De Hondsberg as a psychologist and junior researcher. After 4 years in this position, she started a PhD track as an external PhD student at Maastricht University, supervised by Prof. Thérèse van Amelsvoort, Dr. Evelyn Heynen and Dr. Sophie Leijdesdorff. Gabriëlle carried out her PhD trajectory part-time at Koraal, while continuing to work as a researcher within Koraal's Strategy and Knowledge Development Department. There she conducted research on topics including Trauma-informed care (TIC), adverse and positive childhood experiences and living, school and working climate among among youth functioning at the level of an MID and their families. She has presented her work at national and international conferences and has given webinars and guest lectures to educational institutions and healthcare organizations. Gabriëlle continues her research as a senior researcher at Koraal and in collaboration with Maastricht University.

List of publications

International publications in peer-reviewed journals

Mercera, G., Kalis, T., Vervoort-Schel, J., & Moonen, X. (2024). In the eye of the beholder: Visualizing Strengths, Burdens and Desires Through the Lens of Neurodivergent Children, Their Parents, and Professionals Using the Yucel Method. *Advances in Neurodevelopmental disorders,* 1-15. http://doi.org/ 10.1007/s41252-024-00411-3

Mercera, G., Noteboom, F., Timmermans, C., Leijdesdorff, S., Heynen, E., & van Amelsvoort, T. (2024). Sexual exploitation in young men: background characteristics and needs from a life-course perspective. *Child Abuse & Neglect.* https://doi.org/10.1016/j.chiabu.2024.106794

Mercera, G., Vervoort-Schel, J., Offerman, E., Pronk, S., Wissink, I., & Lindauer, R. (2024). Prevalence of Adverse Childhood Experiences in Adolescents with Special Educational and Care Needs in the Netherlands: A Case-File Study of Three Special Educational and Care Settings. *Journal of Child & Adolescent Trauma*, 1-14. https://doi.org/10.1007/s40653-024-00613-w

Mercera, G., Kooijmans, R., Leijdesdorff, S., Heynen, E., & van Amelsvoort, T. (2024). Risk and protective factors for sexual exploitation in male and female youth from a cross-cultural perspective: A systematic review. *Trauma, Violence, & Abuse, 25*(3), 1966-1984. https://doi.org/10.1177/15248380231201815

Kooijmans, R., Mercera, G., Langdon, P. E., & Moonen, X. (2022). The adaptation of self-report measures to the needs of people with intellectual disabilities: A systematic review. *Clinical Psychology: Science and Practice*, *29*(3), 250. https://psycnet.apa.org/doi/10.1037/cps0000058

Vervoort-Schel, J., Mercera, G., Wissink, I., Van der Helm, P., Lindauer, R., & Moonen, X. (2021). Prevalence of and relationship between adverse childhood experiences and family context risk factors among children with intellectual disabilities and borderline intellectual functioning. *Research in Developmental Disabilities*, 113, 103935. https://doi.org/10.1016/j.ridd.2021.103935

Vervoort-Schel, J., Mercera, G., Wissink, I., Mink, E., Van der Helm, P., Lindauer, R., & Moonen, X. (2018). Adverse childhood experiences in children with intellectual disabilities: An exploratory case-file study in Dutch residential care. *International journal of environmental research and public health*, 15(10), 2136. https://doi.org/10.3390/ijerph15102136

Publications in Dutch journals in research and practice

Mercera, G., Mulder, A., Zomervrucht, I., & Rijk, M. (2023). Problematische gehechtheidsontwikkeling en LVB. Psychomotorische gezinstherapie onderzocht. *Kind en Adolescent Praktijk.*

Pellemans-van Rooijen, R., Vervoort- Schel, J., Mercera, G., Kalis, T., & Moonen, X. (2022). Werken met de Yucelmethode. *Nurse Academy GGZ, 11*(3), 48-53.

Mercera, G., Vervoort-Schel, J., Kooijmans, R., & Moonen, X. (2020). Kind-, ouder-, gezins- en omgevingskenmerken van residentieel opgenomen jeugdigen die op licht verstandelijk beperkt of zwakbegaafd niveau functioneren. *LVB Onderzoek & Praktijk*, 18.

Verhelst, D., Mercera, G., van Esch, J., & Vervoort-Schel, J. (2020). Regulatie ouders cruciaal voor

gezonde ontwikkeling kind. *Vakblad Vroeg, 37*(4), 36-39.

Publications in book chapters

Vervoort-Schel, J., Mercera, G., & Van Amelsvoort, T. (2022). Omgevingsrisico's die reden zijn voor zorg. In Lindauer, R., & Staal, W. (Red.) *Handboek Kinder- en jeugdpsychiatrie* (pp. 541-554). Boom uitgevers: Amsterdam.
https://www.boompsychologie.nl/product/100-10299_Handboek-kinder-en-jeugdpsychiatrie

Sterkenburg, P., Meddeler-Polman, B., Van Kregten, C., Scharloo, A., Bardoel, J., Bouwman-van Ginkel, E., & Mercera, G. (2022). Gehechtheidsproblematiek, trauma, kindermishandeling en uitbuiting. In Kaal, H., Van Scheppingen, L., Douma, J., Van Ooistaijen, E., & Bouwman-Van Ginkel, E. (Red.), *Basisboek LVB voor sociaal werkers* (pp. 181-206). Koninklijke van Gorcum: Assen.
https://www.vangorcum.nl/sociaal-domein/100-450_Basisboek-lvb-voor-sociaal-werkers

Dankwoord

Ik ben iedereen die mij in de afgelopen 4,5 jaar direct en indirect heeft geholpen met mijn promotieonderzoek enorm dankbaar.

Als eerste wil ik **Thérèse**, **Evelyn** en **Sophie** bedanken. Jullie zijn een top promotieteam. In het eerste jaar was ik zoekende naar hoe ik mijn promotieonderzoek moest combineren met mijn andere projecten bij Koraal. Jullie hielden mij scherp om te prioriteren en keuzes te maken. Ik had niet verwacht om binnen dit tijdsbestek te kunnen promoveren, maar ik heb van jullie geleerd om pragmatisch te zijn en op mijn werk te vertrouwen. Ook wisten jullie altijd op korte termijn mee te denken en mee te lezen, zodat ik weer verder kon. **Thérèse**, ik heb je leren kennen tijdens het onderzoeksproject van Koraal over seksuele uitbuiting bij jongens. Bedankt voor de kans om dit promotieonderzoek te beginnen. Ik heb veel geleerd van jouw expertise op het gebied van uitbuiting, trauma, psychiatrie en LVB. Ik sta versteld van al het belangrijke werk dat je verzet op deze onderwerpen. Ook bedankt voor het warme welkom als externe promovendus binnen de divisie op Vijverdal. **Evelyn**, je hebt altijd goede ideeën: zowel op inhoud, methodologisch als taalkundig. Ik ben je dankbaar voor het sparren; onze gesprekken en jouw scherpe blik hebben me altijd geholpen om verder te komen. Ook heb je me geleerd om meer to-the-point academisch Engels te schrijven. **Sophie**, de weg die jij bent ingeslagen na jouw eigen promotieonderzoek is inspirerend. Al jouw kennis over Youth mental health heeft geholpen bij het schrijven van dit proefschrift. Ik heb veel gehad aan je steun, opbouwende feedback, leuke gesprekken tijdens divisie uitjes en de praktische tips rondom het promoveren.

Leden van de **promotiecommissie** (Prof. dr. Bart Rutten, Prof. dr. Xavier Moonen Em., Dr. Irma Hein, Dr. Claudia Vingerhoets, Prof. dr. Machteld Marcelis, Prof. dr. Petra Hurks, Prof. dr. Jacqeline Strik), bedankt voor het lezen van mijn proefschrift en de bereidheid deel te nemen aan de oppositie. Ook wil ik alle **co-auteurs** bedanken voor hun waardevolle bijdragen aan de artikelen. In het bijzonder **Evelyne** en **Sanne** voor de fijne samenwerking aan de dossierstudie over ACEs; **Ramón** en **Inge** voor jullie expertise in trauma en methodologie en goede begeleiding bij het schrijven van de dossierstudie; **Frank** en **Chantal** voor de tijd die jullie hebben genomen om samen met mij het rapport 'Jongens aan het woord' te vertalen naar een wetenschappelijk artikel; **Claudia** voor je goede hulp en de fijne overleggen over het GROUP artikel; **Wolfgang** for your help with statistics in Stata for the GROUP article; **Mirjam** en **Kim** voor de meters die jullie hebben gemaakt voor de dossierstudie en het project over criminele uitbuiting.

Dit proefschrift was nooit tot stand gekomen zonder de **onderzoeksdeelnemers**. Het is niet niks om mee te doen aan onderzoeken over ingrijpende (jeugd)ervaringen. Dat jullie je hebben opengesteld in de interviews of met de vragenlijsten, en jullie verhaal hebben willen delen, is ontzettend dapper. Mijn gesprekken met de jongens en met de meiden bij YIP! hebben mijn ogen geopend en me geleerd dat wat je ziet, slechts het topje van de ijsberg is. Het motiveert me om onderzoek te blijven doen samen met jongeren.

Wat heb ik het getroffen met zo'n fijn **onderzoeksteam** bij Koraal: van inspirerende brainstormsessies, gezamenlijke schrijfdagen, eindeloze transcripten en ontladen na deadlines, tot aan congressen bezoeken, teamuitjes, borrels en pubquizzen. Jullie maken mijn werk extra leuk! **Jessica** en **Roel**, al 8 jaar mijn onderzoeksmaatjes. Mede dankzij jullie is mijn enthousiasme voor onderzoek binnen de praktijk van Koraal aangewakkerd, waardoor ik sta waar ik nu sta. Heel fijn dat we onze promotietrajecten parallel aan elkaar hebben gedaan. **Jessica**, dankzij jou heb ik kennisgemaakt met het thema ACEs en PCEs. Je bent een wandelende encyclopedie en je aandeel in dit proefschrift is groot. Heel veel dank voor alle inspiratie, maar vooral ook voor de fijne gesprekken, je onvoorwaardelijke beschikbaarheid om mee te denken en steun te geven. **Roel**, sparren met jou helpt me altijd verder; je weet super veel van alles (ideaal als pubquiz teamlid). Je was tweede auteur bij mijn systematic review en dat heeft me erg geholpen. Bedankt voor de fijne 'woensdag promodagen' waarop we beiden aan onze artikelen werkten. Met radio StuBru aan en cappuccino's van beneden, komen we de dagen wel door. **Loïs**, ik ben blij dat je al een tijd meewerkt op de projecten rondom mensenhandel. Daarmee heb je ook geholpen met de totstandkoming van dit proefschrift. Bedankt voor je waardevolle input en ook de lol die we tussen het werken door hebben, onder ander samen met **Sarah**. **Rianne**, ook al hebben we niet op het thema uitbuiting samengewerkt, ik heb veel van je onderzoekskwaliteiten geleerd. Je bent scherp, analytisch en denkt altijd goed mee. Ook bedankt voor alle gezelligheid tijdens en buiten werk. Jammer dat je niet meer bij Koraal werkt, maar ik zie je bij de UM. **Lois**, bedankt voor alle fijne gesprekken en brainstorm momenten in het afgelopen jaar. Blij dat je in ons onderzoeksteam bent gekomen en dat we elkaar wekelijks zien op De Hondsberg.

Ook wil ik de collega's van de **community mensenhandel** van Koraal (Lisa, Kim, Marly, Vera, Sarah, Natascha, Bregje, Wendy), het voormalig **programmateam mensenhandel** (Irene, Julie, Pamela) en de andere collega's van **YIP!** bedanken. Ik heb ontzettend veel geleerd van jullie expertise op het gebied van uitbuiting. Zowel rondom preventie, signalering en behandeling. **Natascha**, in het bijzonder wil ik jou bedanken. Jouw inzet, passie en expertise zijn inspirerend en je maakt echt een verschil in de aanpak tegen mensenhandel. Ik werk graag met je samen; op naar mooie stappen in 2025.

Jeroen, bedankt dat ik dit promotietraject kon starten vanuit Koraal en bedankt voor je steun. **Ilona** en **Lara**, jullie zijn een top management duo. Heel erg bedankt voor jullie steun, vooral in het afgelopen jaar. Ook jij bedankt **Nicole**. Je staat altijd voor iedereen klaar. Zonder jouw snelle verwerking van facturen, Topdesk aanvragen en agendavoorstellen zouden mijn onderzoeksprojecten een stuk minder vlot zijn verlopen. Alle andere **collega's van Strategie en Kennisontwikkeling (S&KO)**, bedankt voor jullie interesse in het onderzoek dat ik doe. Jullie zijn een inspirerend team!

Anouk en **Chaira**, ik ben niet zo vaak in Maastricht aan het werk. Toch heb ik veel aan jullie gehad: het praten over onze PhD's, met elkaar meedenken, samen treinreizen (Chaira) en de gezelligheid tijdens divisie uitjes. Bedankt!

Femke, ik weet nog dat we aan het begin van mijn promotieonderzoek in Utrecht hebben afgesproken. Je hebt me toen een spoedcursus 'systematic reviews' gegeven. Mooi hoe onze wegen zich blijven kruisen en dat we elkaar blijven inspireren!

Dan nu mijn lieve vriendinnen. **Hanneke**, dat jij mijn paranimf zou worden, was al in het eerste jaar duidelijk. Niet alleen omdat je dat zelf graag wilde haha, maar ook omdat onze vriendschap veel voor mij betekent. We maken samen veel pieken mee! En ook tijdens dipjes weet je me er altijd weer bovenop te helpen. You're the best. **Linsey**, ik waardeer het heel erg dat we maten zijn. We hebben gezamenlijke interesses van wetenschap en psychologie, tot aan Frontaal en mario. Bedankt voor de goede gesprekken, je steun en je interesse in mijn werk. **Selena**, bedankt dat je altijd voor me klaar staat en voor je warmte, luisterend oor en begrip. Daar heb je me de afgelopen jaren echt mee geholpen. Je bent een topper. **Moniek**, wat ben ik blij dat ik in jaar 1 van de uni bij jou mocht komen wonen in Vinkietown, Groningen. Je bent en blijft een van mijn beste vriendinnen, hoeveel kilometer we ook uit elkaar wonen. Ik kijk uit naar onze volgende avonturen. **Nynke**, onze vakantie in 2022 was een welkome afleiding van de promoveer stress. Blij dat we nog altijd vriendinnen zijn! En last but not least, de Crew (**Anne, Gwennie** en **Lotte**). Afspreken met jullie komt altijd van pas: goede gesprekken om te lachen en elkaar te steunen, samen sporten om te ontladen, eten en borrelen om te genieten en uitjes om naar uit te kijken. **Anne**, op jou kan ik altijd bouwen; **Gwennie**, ik kan met jou alle onderwerpen in het universum aansnijden; **Lotte**, je bent altijd betrokken en blijft in verbinding. Ik vond onze sessies in de bieb heel fijn. Ook ben ik dankbaar voor **de meisjes** en **team Breda**; ik heb het getroffen met zo'n vriendengroep!

Sjaak, bedankt voor ons goede gesprek en je adviezen rondom de afronding van mijn promotieonderzoek.

Ad en **Riedel**, bedankt dat jullie altijd voor ons klaar staan. Heel fijn dat jullie op Kobe passen als wij aan het werk zijn. **Ad**, ook veel dank voor je hulp bij het opknappen van mijn thuiskantoor!

Mijn lieve **familie** in Drachten, bedankt voor al jullie hulp, medeleven, liefde en jullie oprechte interesse in mijn werk. We zijn er voor elkaar, ook in tijden van adversity. **Papa** en **mama**, ik heb veel van jullie geleerd en herken mezelf in jullie. Van paps analytische brein en liefde voor kennis uit boeken, tot mams enthousiasme, pedagogische achtergrond en warme hart voor kinderen en hun gezinnen. Jullie zijn een van mijn grootste steunbronnen. Dat geldt ook voor mijn broers **Roland** en **Edwin** en mijn schoonzus **Susanne**, die altijd voor me klaar staan.

En tot slot, **Stefan**. Jouw luisterend oor, geduld, onbevangenheid en wijsheid zijn je stille kracht. Daarmee heb je me enorm geholpen in de afgelopen jaren. Onderzoek doen kent zijn ups en downs, en mijn gedachten schieten soms alle kanten op, maar je leert me in het hier en nu te blijven. Je kan me lezen en weet vaak wat ik nodig heb. Soms zelfs eerder dan dat ik het zelf doorheb. Ook lachen we heel wat af samen, vooral sinds Kobe in ons leven is. Ik ben dankbaar voor het thuis dat we samen hebben en trots op hoe jij nu bezig bent met je eigen pad op werkgebied. Op naar mooie tijden samen!