# Factors Associated with Help-Seeking Among Online Child Sexual Abuse Material Offenders: Results of an Anonymous Survey on the Dark Web

Tegan Insoll, Valeriia Soloveva, Eva Díaz Bethencourt, Anna K. Ovaska, Juha Nurmi, Arttu Paju, Mikko Aaltonen, and Nina Vaaranen-Valkonen

Abstract. The proliferation of child sexual abuse material (CSAM) online is a global epidemic. Recently, programs to prevent child sexual abuse perpetration are being developed, and mounting evidence suggests that these measures can mitigate the risk of abuse. This study investigates the factors associated with help-seeking among CSAM offenders to inform efforts to increase uptake and strengthen effectiveness of such interventions. We analyze survey responses from 4,493 individuals who self-report to use CSAM. 55.0% of respondents report that they would like to stop using CSAM; however, only 13.8% have sought help, and only 3.2% have accessed help. The respondents most likely to want to stop using CSAM are those who report difficulties with mental health, in daily life, and related to use of CSAM. The respondents most likely to have sought treatment include those who report that they have sought contact with children, have experienced self-harm or suicidal thoughts, are in contact with other offenders, experience difficulties related to CSAM and in daily life, and view CSAM depicting toddlers and infants. We complement the findings with insights from a survey of 255 help-seeking individuals participating in an online self-help program to stop CSAM use.

# 1 Introduction

Sexual abuse and exploitation of children, including the creation, use, and dissemination of child sexual abuse material (CSAM), is a global public health problem of epidemic proportions, with severe adverse impacts on child victims, survivors, and society as a whole (US National Center for Missing & Exploited Children [NCMEC] 2024). In 2023, the US National Center for Missing and Exploited Children received over 36.2 million reports

of suspected child sexual exploitation (NCMEC 2024b). In 2015, the estimated lifetime economic burden of child sexual abuse (CSA) in the United States was \$9.34 billion (Letourneau et al. 2018). The volume of CSAM is massive and exponentially increasing, with an 87% increase in the number of reports since 2019 (WeProtect 2023), and content is growing increasingly violent (Internet Watch Foundation [IWF] 2024). In 2024, the Internet Watch Foundation (IWF) reported a 5% annual increase in CSAM depicting 7- to 10-year-olds, with content depicting 11- to 13-year-olds remaining in highest demand (IWF 2024). The volume of Category A material, the most extreme category of imagery, has increased by 22% since 2022 (IWF 2024). Many CSAM offenders self-report having sought direct contact with children (Insoll et al. 2022), underscoring the urgent need for stronger prevention measures.

Sexual violence for which there is recorded footage is particularly traumatic for the victim and has lifelong consequences for victims and survivors. The awareness of recorded evidence of sexual abuse, the fear of its possible online spread and circulation, and the fear of recognition by the offenders can have long-lasting, devastating impacts for victims of CSAM. As a result, victims experience re-victimization each time the material is shared or viewed (Canadian Centre for Child Protection [C3P] 2017).

Despite the unprecedented growth of online crimes of sexual violence against children, efforts to prevent perpetration remain scattered and non-systematic (Quadara 2019; Higgins et al. 2019). Tertiary-level initiatives that focus on already-convicted or known offenders are more prevalent (Cant, Harries, and Chamarette 2022); however, there has been an increase in offender-focused primary and secondary prevention initiatives that address the crime before it occurs (Knack et al. 2019). Letourneau et al. (2014) propose the need for a systematic and comprehensive public health approach to address CSA. This type of approach incorporates multiple levels of prevention, engages a variety of relevant stakeholders, and encompasses local, national, and international dimensions (Letourneau et al. 2014). Perpetration prevention measures are an essential part of a public health approach, as they contribute to the prevention of victimization and revictimization, prevent individuals at risk of offending from committing crimes, and spare the resources of criminal justice and healthcare systems (Knack et al. 2019).

Previous research has found that many CSAM offenders want to change their harmful and illegal behavior; however, they often find themselves unable to maintain behavioral change and require professional support (Nurmi et al. 2024; Wild et al. 2019; Levenson, Willis, and Vicencio 2018). As such, there is a need for research to understand the facilitators and barriers to help-seeking and inform efforts to increase uptake of perpetration prevention resources.

In this study, we examine factors associated with motivation to change behavior and with seeking help to stop using CSAM among anonymous CSAM offenders. We analyze a sample of 4,493 individuals who voluntarily responded to the anonymous "Help us to help you" survey in English or Spanish after they had searched for CSAM on a dark web search

engine, and who self-report that they use CSAM. We test our hypotheses on the factors positively associated with motivation to change and help-seeking behavior. Over half (55.0%) of the respondents report that they would like to stop viewing CSAM. However, only 13.8% of respondents report that they have sought help to stop using CSAM, and only 3.2% report that they have found help. We find the factors that have a strong positive association with motivation to change to be frequent mental health difficulties, contact with other CSAM offenders, and fear of escalating offending. Factors strongly positively associated with help-seeking behavior include seeking contact with children, having thoughts about contacting children, experiencing frequent mental health difficulties, feeling strongly affected by other CSAM offenders, and viewing CSAM depicting toddlers and infants.

We complement the findings by presenting insights from a survey of 255 help-seeking individuals engaged with an anonymous online self-help program to stop using CSAM. Findings from this survey reveal that the most prevalent self-reported motivations for seeking help include feelings of guilt and shame (69.0%), a negative impact of CSAM on life (56.1%), and fear of being caught (54.0%). Half of respondents (50.5%) began searching for help at least one year after first using CSAM. When seeking help, respondents commonly report such obstacles as fear of being caught and legal consequences (79.6%), fear of being stigmatized (75.7%), and fear of being rejected by a specialist (50.5%).

# 2 Prior Research

# 2.1 Child Sexual Abuse Material: Definition and Emerging Threats

CSAM includes images, videos, live-streaming, and any other material or representation that depicts sexual violence against a child (Greijer and Doek 2016; NCMEC 2024a). CSAM includes material depicting a child in real or simulated explicit sexual activities or exploitative acts, partially clothed or nude, or any sexualized material depicting the anal or genital region of the child (Greijer and Doek 2016). CSAM is often referred to as "child pornography" in international and legal instruments. Growing consensus recognizes that this term is misleading and harmful, as it suggests that children are able to consent to appear in "pornography." We choose not to use the term "child pornography," so as not to normalize or perpetuate the use of terms that legitimize behaviors or practices that harm children. Instead, we use the term "child sexual abuse material," which accurately describes the content, i.e., "sexual abuse," and respects the rights of the child.

A large portion of CSAM is disseminated in the dark web (WeProtect 2021). The dark web is predominantly accessed via the Tor Browser, an open source privacy network with over four million daily users that allows users to browse the web anonymously (The Tor Project 2024). A study of six different dark web forums revealed that out of a total

of 600,000 members, 94% engaged in downloading CSAM (Bruggen 2023). Gannon et al. (2023) found that websites hosting CSAM are 2,000 times more prevalent on the dark web in comparison to the surface web. Research by Owen and Savage (2015) demonstrated that CSAM is the most searched type of content on the dark web, with 168,152 search requests per day. Nurmi et al. (2024) conducted the first large-scale study of the availability of CSAM on the Tor network, finding that CSAM is easily available using 21 out of the 26 most-used Tor search engines. Additionally, analysis of 110,133,715 search sessions from the Ahmia.fi search engine revealed that 11.1% (N = 12,270,042) seek CSAM (Nurmi et al. 2024), demonstrating the significant demand for CSAM via dark web search engines.

The rapid development of new technologies poses new threats to children, as perpetrators exploit emerging technologies to evade detection and harm children in new ways (WeProtect 2023). The past few years have seen the rise of increasingly realistic CSAM generated or modified by artificial intelligence (AI-generated CSAM) (IWF 2023). Artificial intelligence (AI) can be misused to simulate, in part or in full, images, videos, audios, or texts depicting child sexual abuse and exploitation. A growing body of evidence indicates that AI-generated CSAM increases the risk of revictimization of known CSAM victims, allows offenders to profit from child sexual abuse, and increases opportunities for grooming and sexual extortion of children (IWF 2023). Thiel (2023) states that an abundance of realistic AI-generated imagery can hinder effective work of child protection organizations to detect, report, and remove CSAM and law enforcement agencies to investigate crimes. Simantiri (2017) emphasizes that AI-generated CSAM perpetuates the sexualization of children, sustains the demand for CSAM, and fosters harmful sexual fantasies among offenders and potential offenders. This evidence indicates that AI-generated CSAM-regardless of whether or not a real child is involved-seriously infringes on children's rights, as it portrays a representation of child sexual abuse and constitutes the objectification and sexualization of children, as well as the exploitation of the image of children.

Another technological development that unintentionally creates increased opportunities for online child sexual abuse and exploitation is eXtended Reality (XR) gaming (WeProtect 2023). XR features may offer new ways of creating CSAM, both using existing methods such as live webcam abuse and using tools and techniques from adult XR pornography (Barrett et al. 2023). Additionally, when misused, XR provides opportunities to distribute CSAM via interactions in social spaces, such as chat rooms, or through specially designed applications (Barrett et al. 2023).

An alarming issue is the emergence of "self-generated" CSAM, in which perpetrators coerce or manipulate children into producing or sharing sexual material of themselves (Greijer and Doek 2016). According to the IWF, from 2020 to 2022, coerced "self-generated" sexual abuse imagery of children aged 7 to 10 increased by 360% (IWF 2022). In 2023, 92% of the content the IWF assessed contained "self-generated" CSAM

(IWF 2024).

## 2.2 Child Sexual Abuse Material Offenders

Prior research finds that motivations behind CSAM offending are complex and wideranging, including, *inter alia*, sexual interest in children (Seto 2013), emotional congruence with children (Merdian et al. 2013), coping with stress (Kettleborough and Merdian 2016), commercial interest (Açar 2017), and situational offending (Knack, Holmes, and Fedoroff 2020).

A number of studies have categorized CSA offenders into subgroups, identifying CSAM-only offenders; contact offenders; and mixed offenders, who commit both contact and online crimes (Seto, Hanson, and Babchishin 2010; Woodhams et al. 2021; Babchishin, Hanson, and Hermann 2010). As studies are largely based on criminal convictions or self-reported data, it remains difficult to precisely classify the typologies of CSA offenders. A meta-analysis by Seto, Hanson, and Babchishin (2010) finds that, according to official records of contact offenses among CSAM offenders, 12.2% of online offenders have committed a contact crime, while self-report evidence reveals that 55.1% of online CSAM offenders admit to having committed a contact sexual crime against a child.

Ly, Dwyer, and Fedoroff (2018) find that CSAM offenders are generally younger than contact CSA offenders. In contrast to contact offenders, they achieve higher levels of education and secure higher incomes (Babchishin, Hanson, and VanZuylen 2014). A meta-analysis of the psychological characteristics of CSAM and contact offenders revealed that CSAM offenders have a lower prevalence of cognitive distortions, lower emotional congruence with children, and higher rates of victim empathy when compared to contact offenders (Babchishin, Hanson, and Hermann 2010). Babchishin, Hanson, and VanZuylen (2014) find that CSAM offenders are prone to having difficulties with sexual self-regulation and often have no prior criminal record. According to a study by Babchishin, Hanson, and Hermann (2010), CSAM offenders are more likely, when compared to the general population, to have experienced adverse childhood experiences—particularly physical and sexual abuse.

Offenders who commit both contact and online crimes are characterized by more frequent difficulties with sexual regulation, a higher prevalence of pedophilic disorders, and wider access to children compared to CSAM-only offenders (Babchishin, Hanson, and VanZuylen 2014). According to Babchishin, Hanson, and VanZuylen (2014), compared to CSAM offenders, mixed offenders have fewer obstacles to committing a crime due to, *inter alia*, higher prevalence of prior offending, unemployment, and substance abuse.

While Babchishin, Hanson, and Hermann (2010) found that CSAM offenders tend to have a lower prevalence of cognitive distortions when compared to contact offenders, other studies have emphasized that cognitive distortions often accompany CSAM offending, justifying and sustaining illegal behavior (Steel et al. 2021a). Common cognitions include

beliefs that children can consent to sexual acts or enjoy the violence they are subject to (Ward and Keenan 1999), beliefs that offenders' actions are out of their control (Bartels and Merdian 2015), beliefs that viewing CSAM is incentivized by curiosity and does not harm children (Quayle and Taylor 2004), and perceptions of the world beyond the internet as limiting (Steel et al. 2020).

## 2.3 Child Sexual Abuse Perpetration Prevention

Efforts to prevent child sexual abuse largely focus on the prevention of victimization (Knack et al. 2019; Centers for Disease Control and Prevention 2024). However, increasing attention has been given to offender-focused measures that aim to prevent the perpetration of child sexual abuse and exploitation by tackling the underlying causes of criminal behavior and targeting individuals who harbor fears of committing or recommitting harmful acts or who are at risk of doing so (Knack et al. 2019).

A range of programs designed to prevent the perpetration of sexual violence against children are being developed globally (Di Gioia and Beslay 2023), and a growing body of evidence indicates that initial perpetration can be prevented and reoffending can be reduced after treatment (Lätth et al. 2022; Foshee et al. 1998; Foshee et al. 2004; Letourneau et al. 2022; Taylor et al. 2012; Taylor, Mumford, and Stein 2015; Duwe 2018; Letourneau et al. 2009; Sheerin et al. 2020; Silovsky, Hunter, and Taylor 2018; Wilson, McWhinnie, and Wilson 2008). For example, a placebo-controlled trial by Lätth et al. (2022) showed for the first time that a guided web-based intervention based on cognitive behavioral therapy for individuals who consume CSAM can reduce the amount of time spent viewing such material. An evaluation of community-based cognitive behavioral therapy for youth with problematic sexual behavior — cognitive behavior therapy for children revealed a considerable reduction of problematic sexual behavior among participants after the program (Silovsky, Hunter, and Taylor 2018). Duwe (2018) evaluated a sexual offender reentry program and found that recidivism risk was reduced by 88%.

While CSA perpetration prevention efforts are growing, recent research has called for increased attention and evaluation of such programs. Hillert et al. (2024) found that evaluations and observations of web-based initiatives aimed at preventing sexual offense perpetration show overall promising results and are well-appreciated. However, they acknowledge the scarcity of evaluation studies and the need for more randomized controlled trials. In a systematic review of CSA perpetration prevention efforts, Seto et al. (2024) conclude that higher-quality evaluations of perpetration prevention efforts are greatly needed.

# 2.4 Help-Seeking Among Child Sexual Abuse Material Offenders

While there is growing investment in CSA and CSAM perpetration prevention programs, there is limited research on the prevalence and process of help-seeking among CSAM

offenders to inform the development of such programs. As such, there is a need for further research to understand the barriers and facilitators to help-seeking among this population.

Rickwood and Thomas (2012) define help-seeking as an "adaptive coping process" when an individual seeks support to tackle health-related difficulties. Help-seeking consists of problem recognition, the decision to seek assistance, and the selection of a suitable help resource (Srebnik, Cauce, and Baydar 1996). It can be formal or informal (Slotte et al. 2022), or take the form of self-help (Rickwood and Thomas 2012).

Research on help-seeking for mental health-related difficulties can provide a basis for understanding the possible factors associated with help-seeking among CSAM offenders. Prior research indicates that help-seeking is a complex process influenced by a plethora of factors, including demographics, attitudes, well-being, and resource availability.

Demographic characteristics found to deter seeking treatment for mental health difficulties include being male (Doll et al. 2021), being young or elderly (Magaard et al. 2017), being married or cohabitating (Andrade et al. 2013), and having a low educational level and low health literacy (Zhao and Hu 2022; Levenson, Willis, and Vicencio 2017).

Attitudinal aspects, such as a subjective need for help and acceptance of the problem, have been reported as the most precise predictors of help-seeking (Nagai 2015). Among CSAM offenders, attitudes toward help-seeking may be affected by cognitive distortions (Levenson, Willis, and Vicencio 2017), and help-seeking can be inhibited by feelings of shame (Eigenhuis et al. 2021), negative attitudes toward treatment (Andrade et al. 2013), fear of judgement by a specialist (Levenson, Willis, and Vicencio 2017), the belief that one can handle the problem without external help (Swaby and Lievesley 2022), and the belief that one can manage their sexual urges (Levenson, Willis, and Vicencio 2017).

The current state of an individual's well-being can act as both a barrier and a facilitator to seeking help. Some studies have found that the presence of physical symptoms, mental distress (Eigenhuis et al. 2021), and anxiety disorders (Magaard et al. 2017) can facilitate help-seeking. Certain symptoms of depression, such as feelings of hopelessness (Eigenhuis et al. 2021) or suicidal ideation (Zhao and Hu 2022), tend to deter help-seeking, while longer and more frequent depressive episodes can facilitate it (Magaard et al. 2017). In addition, identification of symptoms by other individuals can stimulate help-seeking behavior (Eigenhuis et al. 2021; Nagai 2015).

Finally, help-seeking is facilitated by easily accessible and proactive help services (Slotte et al. 2022; Hussein et al. 2022; Eigenhuis et al. 2021) and can be impeded by negative personal or known prior experience of seeking help (Andrade et al. 2013; Slotte et al. 2022). CSA offenders report concerns about anonymity, confidentiality, and the lack of qualified specialists when seeking help (Levenson, Willis, and Vicencio 2017).

Non-disclosure of CSAM use and absence of help-seeking behavior facilitate first-time or

further offending (Swaby and Lievesley 2022). Further research is needed to deepen our knowledge of anonymous, undetected CSAM offenders and those at risk of offending, and of ways to prevent their offending behavior.

# 3 Hypotheses

In this study, we explore characteristics of CSAM offenders in order to identify factors positively associated with motivation to stop CSAM use and with help-seeking behavior. We test the following hypotheses:

Hypothesis 1: Early age and accidental exposure to CSAM will be positively associated with self-reported motivation to stop CSAM use and with help-seeking behavior. We hypothesize that respondents who have been exposed to CSAM at an early age are likely to want to change their behavior and to have sought help, as exposure to extreme material during childhood may have a serious impact on mental health, which prior research has found to be a motivator to seek help (Eigenhuis et al. 2021; Magaard et al. 2017). We hypothesize that accidental exposure to CSAM is also positively associated with motivation to change and help-seeking behavior, as the non-consensual and disturbing nature of accidental exposure to abusive material may cause significant psychological distress, which may prompt an individual to seek help.

Hypothesis 2: Longer and more frequent use of CSAM will be positively associated with self-reported motivation to stop CSAM use and with help-seeking behavior. Respondents who report longer and more frequent CSAM use may be more likely to experience and acknowledge the negative effects of CSAM use on their well-being, which would increase their subjective need for treatment, which Nagai (2015) found to be one of the strongest predictors of help-seeking.

Hypothesis 3: Viewing CSAM depicting younger children will be positively associated with self-reported motivation to stop CSAM use and with help-seeking behavior. We hypothesize that respondents who report viewing CSAM depicting younger children are more likely to exhibit a desire to change their behavior and to have sought help compared to those who report viewing CSAM depicting older children. Cognitive distortions and the sexualization of children in media and popular culture contribute to the justification of viewing CSAM depicting older children among offenders, potentially preventing the recognition of problematic behavior (Steel et al. 2020; Rush and La Nauze 2006). Comparatively, viewing more extreme material depicting infants and toddlers may be more difficult to rationalize. This increased difficulty in rationalization may heighten the likelihood of users acknowledging the issue with their behavior and attempting to change it.

Hypothesis 4: Experiencing mental health difficulties will be positively associated with self-reported motivation to stop CSAM use and with help-seeking behavior. We

hypothesize, on the basis of prior research, that respondents who experience mental health difficulties are more likely to report a desire to change their behavior and to seek help (Eigenhuis et al. 2021; Magaard et al. 2017).

Hypothesis 5: Seeking contact with children after viewing CSAM will be positively associated with self-reported motivation to stop CSAM use and with help-seeking behavior. We hypothesize that individuals who seek contact with children will be more likely to want to stop CSAM use and seek help. This association is attributed to the mental stress caused by the fear of offending escalation (Eigenhuis et al. 2021; Magaard et al. 2017).

Hypothesis 6: Not being in contact with other CSAM offenders will be positively associated with self-reported motivation to stop CSAM use and with help-seeking behavior. Research indicates that communities of CSAM offenders tend to reinforce cognitive distortions and neutralizations related to CSAM offending, normalizing and facilitating criminal behavior (Huikuri 2023; O'Halloran and Quayle 2010). As such, we hypothesize that respondents who are more frequently in contact with other users will be less likely to want to stop using CSAM and less likely to have sought help.

# 4 Data and Methods

# 4.1 Sample

We analyze a sample of 4,493 individuals who voluntarily responded to the "Help us to help you" survey in English or Spanish after they searched for CSAM in dark web search engines from May 5, 2021, to November 28, 2023. We extract the sample for analysis from a total sample of 13,791 respondents who answered the survey during the data collection period in one of the 21 available languages. We include only respondents who answered the survey in English or Spanish (N = 8,670), which are the two largest language groups represented, making up 62.9% of responses. Additionally, we include only respondents who self-report using CSAM by answering "CSAM related to boys aged 4–13 years," "CSAM related to girls aged 4–13 years," or "CSAM related to infants and toddlers aged 0–3 years" to a question that asks what type of content the respondent views. We exclude those who self-report watching other material ("related to violent or sadistic and brutal material" and "other violent material"). Table 1 presents the final analytical sample, which comprises N = 4,493 total respondents, including N = 3,310 who answered in English (73.7%) and N = 1,183 who answered in Spanish (26.3%).

# 4.2 "Help us to help you" Survey

We collected the data for this study via an anonymous survey of individuals searching for CSAM on dark web search engines. The "Help us to help you" survey is available in 21

Complete responses to the survey	13,791
Responses in English or Spanish	8,670
Explicitly self-report using CSAM	4,493
Final analytical sample	4,493
English 3,310	Spanish 1,183

Table 1: "Help us to help you" survey data sample

languages<sup>1</sup> and consists of 43 single-select, multiple-choice, and open-ended questions asking respondents about their thoughts, feelings, and behaviors related to their use of CSAM.

We do not collect any personally identifiable data, such as age, gender, nationality, or location, and we phrase the questions to avoid specifics of criminal conduct (e.g., time, date, place, or victim details). We inform participants that by answering the survey, they are providing their informed consent to participate in the study. At the end of the survey, we offer participants links to resources to help manage urges and stop using CSAM, including the ReDirection Self-Help Program, Helplinks.eu, and Project Bridge.

From May 5, 2021, to November 28, 2023, the "Help us to help you" survey was visited over 400,000 times, and 13,791 individuals responded. For respondents who do not wish to answer the "Help us to help you" survey, we offer the "No need for help" survey, which asks respondents if they would like to disclose the reason they believe that they do not need help. Within the same period, the "No need for help" survey was visited over 100,000 times and received responses from 9,045 individuals.

# 4.3 Dark Web Search Engine-Based Intervention

We recruit respondents to the "Help us to help you" survey via three prominent dark web search engines: Ahmia.fi, OnionLand, and Onion Search Engine (see Figure 1). We recruit participants through the dark web, as it is a common platform for searching for CSAM (Nurmi et al. 2024; WeProtect 2023; Huikuri 2023; Gannon et al. 2023). We display the survey to those seeking CSAM, using a set of 1,265 keywords in, *inter alia*, English, Spanish, Russian, German, Swedish, Dutch, Czech, Slovak, and Finnish. We composed these keywords based on user search behavior on the Ahmia.fi search engine, as well as keywords provided by national and international law enforcement agencies.

<sup>1.</sup> The "Help us to help you" survey is available in Arabic, Simplified Chinese, Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Hindi, Italian, Japanese, Norwegian, Polish, Portuguese, Russian, Spanish, Swedish, Tagalog, and Thai.

<sup>2.</sup> The ReDirection Self-Help Program is an online self-help tool to stop using child sexual abuse material; https://www.redirectionprogram.com.

<sup>3.</sup> Helplinks.eu is a comprehensive list of resources intended to assist individuals seeking help and support for addressing problematic sexual interest in children, maintained by the Internet Crimes Against Children Section, National Cybercrime Center, National Criminal Investigation Service, Norway; https://helplinks.eu.

<sup>4.</sup> Project Bridge, funded by the European Commission under the Internal Security Fund, offers anonymous and free of charge therapeutic interventions for people with sexual urges involving children and people who view child sexual abuse material; https://www.iterapi.se/sites/bridge.

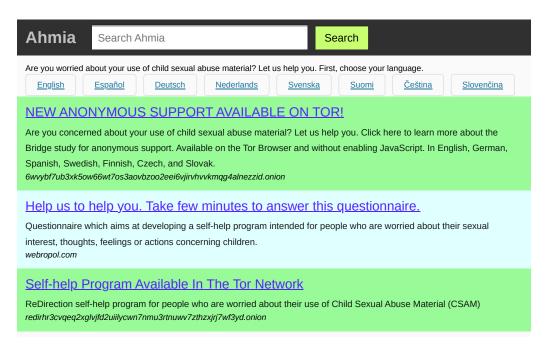


Figure 1: When a user searches for CSAM-related terms, Ahmia.fi returns links to online help resources and invitations to participate in research surveys.

This research methodology attempts to address a common tendency in related research to focus primarily on individuals who have been convicted of CSAM-related crimes (Merdian et al. 2013; Steel et al. 2021b; Seto, Reeves, and Jung 2010; Webb, Craissati, and Keen 2007; Rimer and Holt 2022). This narrow focus can lead to a skewed or incomplete understanding of CSAM offenses, as it overlooks the likely possibility that many CSAM offenders have not been, and may never be, caught or convicted. Additionally, the retrospective nature of studies that examine past instances of criminal behavior inevitably limits the timeliness of the information. By recruiting respondents via dark web search engines, we attempt to address these limitations by collecting up-to-date information on individuals who are undetected and actively seeking CSAM. Collecting survey data via the dark web inevitably poses certain risks, including ethical challenges with consent and privacy, data security, participant dishonesty and sampling bias, and technical anonymity issues. When these risks are carefully considered and mitigated, we find that this methodology demonstrates feasibility for recruiting study participants for self-report surveys and is showing early signs of feasibility for recruiting users to intervention resources.

### 4.4 Outcomes

We use two outcomes to measure the respondents' willingness to stop viewing CSAM and their help-seeking behavior. Together, the two outcomes give a comprehensive picture of respondents' help-seeking behavior.

# 4.4.1 Primary Outcome

To target the general motivation to change offending behavior, we chose the primary outcome *motivation to stop using CSAM*. The primary outcome is based on answers to the question, "I would like to stop searching and viewing CSAM/illegal violent material." The five answers range from "Not at all" to "Nearly every time." For bivariate analysis, we recoded the variables into binary measures: 0 = no, those who have no motivation to change ("Not at all"; "I have not thought about it"), 1 = yes, those who are motivated to change ("Weekly"; "Monthly"; "Nearly every time").

# 4.4.2 Secondary Outcome

We chose *help-seeking behavior* as the secondary outcome. The secondary outcome is based on answers to the question, "Have you sought help to stop searching, using, or sharing CSAM/illegal violent material?" The five answers range from "No, never" to "I have and I got help." For bivariate analysis, we recoded the variables into binary measures: 0 = no, those who have not sought help ("No never"; "I have not thought about getting help"; "I am afraid to seek help") and 1 = yes, those who have sought help ("I have, but did not get any help"; "I have and I got help").

### 4.5 Covariates

We analyze 15 covariates, categorized into six groups: onset of CSAM use, nature of CSAM use, victim demographics, mental health, contact with children, and contact with other CSAM offenders. The distribution of these covariates is detailed in Table 3, Table 4, and Table 5 (see Appendix Tables).

# 1. Onset of CSAM use

This group of covariates examines the onset of CSAM use by measuring the age and nature of the first exposure to CSAM.

Age at first exposure: Nearly two-thirds (64.3%) of respondents report that they first saw CSAM below the age of 18, with most respondents reporting that they were first exposed when they were 13 years old or under (33.7%).

Nature of first exposure: Less than a quarter (21.4%) of respondents report that they first saw CSAM after actively searching for it, while many claim to have seen it for the first time accidentally (43.6%). 17.7% report that they first saw CSAM after searching for pornographic or hard-core material. The prevalence of accidental exposure may be inflated, as respondents may be inclined to attribute their exposure to accidental encounters rather than intentional searches in order to portray themselves in a more favorable light.

# 2. Nature of CSAM use

This group of covariates examines the duration and frequency of CSAM use.

*Duration of CSAM use*: Many respondents report that they have been using CSAM for less than six months (51.5%). 23.9% report having used CSAM for five years or more.

Frequency of CSAM use: Many respondents (47.8%) report searching for and viewing CSAM occasionally (i.e., at no regular intervals), while some use CSAM weekly (10.7%) or daily (12.4%).

# 3. Victim demographics

Victim demographics measures the age and gender of the children depicted in the CSAM that the respondents view.

Victim age and gender: Most respondents report viewing CSAM that depicts girls aged 4–13 years (65.2%). 27.4% view CSAM that depicts boys of the same age, while 7.5% view CSAM depicting infants and toddlers aged 0–3 years.

# 4. Mental health

This group of covariates measures a range of aspects related to the mental health of respondents.

Feelings before using: Prior to viewing CSAM, many respondents report feeling sexually aroused or agitated (42.6%); some feel optimistic (23.5%); and some feel guilt and shame (17.0%) or depressed and anxious (14.3%).

*Inability to control behavior*: 72.2% of respondents feel, at least rarely, that they are unable to control their behavior when searching for CSAM.

*Self-harm and suicide attempts*: Over half (54.0%) of respondents have experienced self-harming or suicidal thoughts or attempts.

Difficulties related to use: Around half (50.0%) of respondents have experienced difficulties related to their use of CSAM, including difficulties with mental health, close relationships, and substance abuse.

Difficulties in daily life: Around half (49.7%) report experiencing difficulties in their ordinary daily routine and activities.

## 5. Contact with children

This group consists of covariates identifying fear of committing sexual acts, thoughts of seeking contact with children online, and seeking contact with children online.

Fear of committing sexual acts: Over half (57.0%) of respondents feel, at least rarely, afraid that their use of CSAM may lead to sexual acts against a child or adult.

Thoughts of seeking contact with children online: 47.3% have thought about seeking contact with children online after viewing CSAM.

Seeking contact with children online: 39.7% have sought direct contact with children online after viewing CSAM.

# 6. Contact with other CSAM offenders

Finally, contact with other CSAM offenders includes the frequency of contact with other CSAM offenders and feeling affected by other users.

Contact with other CSAM offenders: 39.5% of respondents have been in contact with other CSAM offenders, while 33.6% say they have never been in contact with other CSAM offenders, and 26.9% say they do not want to be in contact with other users.

Feeling affected by other CSAM offenders: 37.5% report that they have been affected by the feelings, thoughts, or behaviors of other CSAM offenders.

### 4.6 Methods

To run the analysis, we divide the responses to the "Help us to help you" survey through cross-tabulation to investigate the difference between respondents who report having motivation to change their behavior and those who do not (answered "yes" or "no" to the question, "I would like to stop searching and viewing CSAM/illegal violent material"). We perform a similar procedure with the question, "Have you sought help to stop searching, using or sharing CSAM/illegal violent material?" We use bivariate analysis to define the differences between respondents who have behavioral change motivations or try to seek help and those who do not have motivation to change or do not seek help. We use chi-square tests to examine the statistical significance of these associations. The factors that will be considered in the analysis include six groups of variables: onset of CSAM use, nature of CSAM use, victim demographics, mental health, contact with children, and contact with other CSAM offenders.

# 5 Results

# 5.1 Outcome Distributions

Table 2 presents the full distributions of the two outcome variables. Table 6 (see Appendix Tables) presents the distributions of the two outcome variables recoded into binary measures.

According to the primary outcome distribution, over half of respondents report that they wish to stop searching for and viewing CSAM (55.0%, N = 2,311 of 4,202 who responded to the question). This includes respondents who report that they feel on a weekly basis

that they would like to stop using CSAM (14.1%, N = 594), feel this on a monthly basis (9.1%, N = 383), and those who feel this way nearly every time they use CSAM (31.7%, N = 1,334). 45.0% of respondents (N = 1,891 of 4,202 who responded to the question) report that they do not want to stop searching for and viewing CSAM, including 26.0% (N = 1,093) who answered "Not at all" and 19.0% (N = 798) who have not thought about it.

The secondary outcome distribution shows that the majority of respondents (86.2%, N = 3,028 of 3,513 who responded to the question) have not sought help to stop searching for, using, or sharing CSAM, including 41.9% (N = 1,473) who report that they have never sought help, 17.1% (N = 601) who report that they have thought about getting help, and 27.2% (N = 954) who report that they are afraid to get help. Of the 13.8% (N = 485) respondents who have sought help, only 23.3% report that they have received help (N = 113 of 485 who report having sought help).

The outcome distributions indicate that many online CSAM offenders would like to change their behavior and stop using CSAM; however, very few have actively sought help to do so. Most of those who have sought help have not been able to access help.

Question N % I would like to stop searching and viewing CSAM Not at all 1,093 26.0 I have not thought about it 798 19.0 Weekly 594 14.1 Monthly 383 9.1 1,334 Nearly every time 31.7 Total 4,202 100.0 Sought help to stop searching, using, or sharing CSAM 1,473 41.9 No never 601 I have thought about getting help 17.1 954 I am afraid to seek help 27.2 I have, but did not get any help 372 10.6 I have and I got help. What kind of help? 113 3.2 100.0 Total 3,513

Table 2: Outcome distributions of "Help us to help you" survey

# 5.2 Bivariate Associations

Table 7, Table 8, and Table 9 (see Appendix Tables) present the bivariate analysis, examining the associations between each covariate and the two outcomes one at a time. We use the chi-squared test to identify the statistical significance (p < 0.05) of the associations between covariates and the outcomes recoded into binary measures. To run the test, we remove all responses with missing values. For motivation to change, all covariates have a statistically significant association with the outcome. For help-seeking

behavior, all covariates except nature of first exposure (p = 0.487) and duration of use (p = 0.341) are statistically significantly associated with the outcome.

# Hypothesis 1: Early and accidental exposure to CSAM will be positively associated with self-reported help-seeking behavior and motivation to stop CSAM use.

The results are partially consistent with the hypothesis that early exposure to CSAM will be positively associated with the two outcomes. We find that the younger the age at which the respondents were first exposed to CSAM, the more likely they are to want to stop using CSAM, except for respondents who were exposed below the age of 13, who have a slightly lower than average motivation to change (53.4%). However, respondents exposed at a younger age are less likely to have sought help. Those who first saw CSAM over the age of 35 are the most likely to have sought help (20.4%), despite being the least likely to want to stop using CSAM (50.0%).

The results are inconsistent with the hypothesis that accidental exposure will be positively associated with the two outcomes. Respondents who were first exposed to CSAM accidentally are only slightly more likely to want to stop using CSAM (57.1%), and are slightly less likely than average to have sought help (13.5%). The chi-squared test revealed that the association between the nature of first exposure and help-seeking behavior is not statistically significant (p = 0.487).

The respondents most likely to want to change their behavior are those who first saw CSAM after searching for other hard-core material (61.9%) and, in particular, those who reported that they first saw CSAM on another occasion (71.6%). Some respondents explained in open-ended responses which other occasions they had been first exposed to CSAM. Responses included while searching for adult pornography, while scrolling through social media platforms, and as a part of their own sexual abuse. Those who saw CSAM first through their social connections have the lowest rates of motivation to change (50.8%). We explore the link between the motivation to change and contact with other CSAM offenders further in Hypothesis 6 (Section 5.2).

# Hypothesis 2: Longer and more frequent use of CSAM will be positively associated with self-reported help-seeking behavior and motivation to stop CSAM use.

We find that longer duration of CSAM use is positively associated with motivation to stop using CSAM, except for those who have used CSAM for five years or more, who are less likely to be motivated to change (59.4%). Longer duration of use is also positively associated with help-seeking behavior; however, this association is not statistically significant (p = 0.341).

There is no clear association between frequency of CSAM use and motivation to change behavior. In terms of help-seeking behavior, a higher frequency of use is positively associated with a higher likelihood of having sought help, although help-seeking behavior slightly decreases for respondents who use CSAM daily (17.1%) compared to weekly

(18.0%).

Hypothesis 3: Viewing CSAM depicting younger children will be positively associated with self-reported help-seeking behavior and motivation to stop CSAM use.

The results are consistent with the hypothesis, as respondents who view CSAM depicting infants and toddlers are the most likely to want to stop (64.2%) and the most likely to have sought help (23.6%).

Respondents who view CSAM depicting girls aged 4–13 are more likely to want to change their behavior (60.5%) when compared to respondents who view CSAM depicting boys of the same age (48.1%). Respondents who view CSAM depicting boys are, however, slightly more likely to have sought help (15.4%) than those who view girls (11.9%).

# Hypothesis 4: Experiencing mental health difficulties will be positively associated with self-reported help-seeking behavior and motivation to stop CSAM use.

Overall, all the variables we used to measure various aspects of mental health difficulties are strongly positively associated with both outcomes. Respondents who most frequently experience difficulties related to their use of CSAM (89.1%) and those who feel depressed and anxious before viewing CSAM (82.3%) have the highest likelihood of wanting to stop using CSAM out of all groups. Feeling guilt and shame prior to viewing CSAM is also positively associated with wanting to change (74.6%). Respondents who most frequently experience difficulties in their ordinary routine (daily 29.8% or weekly 29.2%) are very likely to have sought help, as are those who have frequent self-harming or suicidal thoughts (26.5%). Self-reported inability to control behavior is positively associated with a higher likelihood of both outcomes.

# Hypothesis 5: Seeking contact with children after viewing CSAM will be positively associated with self-reported help-seeking behavior and motivation to stop CSAM use.

We find that all variables (fear of committing sexual acts, thoughts of seeking contact with children, and having sought contact with children) are positively associated with a higher likelihood of both outcomes. Respondents who seek contact with children weekly are the most likely among all respondents to have sought help (31.6%). Motivation to change and help-seeking behavior decrease among respondents who think about or seek contact with children nearly every time they view CSAM. Unlike help-seeking behavior, motivation to change is likely among the respondents who have never thought about contacting children online and who have never sought contact with children online after viewing CSAM.

Hypothesis 6: Not being in contact with other CSAM offenders will be positively associated with self-reported help-seeking behavior and motivation to stop CSAM use.

The results are partially consistent with the hypothesis. Respondents who are not in contact with other CSAM offenders (78.3%) and those who do not want to be in contact (79.4%) have among the highest rates of wanting to stop using CSAM. The more frequently they are in contact with other CSAM offenders, the less likely they are to want to stop. Notably, for respondents who are in contact with other users, the more they are affected by the feelings, thoughts, or behaviors of other CSAM offenders, the more likely they are to want to stop.

Help-seeking behavior does not follow a similar linear pattern, being the most prevalent among respondents who are in contact with other users monthly (18.7%) and the least prevalent among respondents most frequently in contact with other users (7.8%). However, similarly to the motivation to change, help-seeking behavior becomes more prevalent as the self-reported influence from other offenders increases. The results demonstrate that less frequent contact with other CSAM offenders is positively associated with motivation to stop CSAM use, but associations with help-seeking behavior are more complex.

# 6 Insights from a Survey of Users of an Online Self-Help Tool to Stop Using CSAM

# 6.1 "Motivation to Change" Survey of Active Help-Seekers

In addition to the survey of individuals searching for CSAM, we collected self-report data from a survey of individuals actively seeking help via an online self-help program to stop using CSAM. The "Motivation to Change" survey consists of 16 questions asking respondents about their experience of seeking help, including what motivated them to seek help, what barriers they faced, and other support they have received.

We recruit participants to the "Motivation to Change" survey via the ReDirection Self-Help Program website (see Figure 2). The ReDirection Self-Help Program is an online anonymous self-help program for individuals engaged in or at risk of online offending (e.g., accessing or downloading CSAM). The program is based on cognitive behavioral theory and aims to "ReDirect" users away from CSAM by teaching them new skills to manage their thoughts, emotions, and behaviors related to CSAM use. Users can access the ReDirection Self-Help Program in English, Spanish, and Finnish on both the clear web and dark web.

We present a descriptive analysis of a sample of N=255 individuals who voluntarily responded to the "Motivation to Change" survey in English (84.7%, N=216) or Spanish (15.3%, N=39) from April 29, 2023, to April 8, 2024. We extracted the data from the complete sample of 266 respondents, excluding the small group of individuals who responded to the survey in Finnish (N=11). This sample represents individuals who are actively seeking help to change their behavior and stop using CSAM.

# Motivation to Change Would you like to share your experience of looking for help? Complete this 'Motivation to Change' survey and help us to understand the challenges that you face. Link to survey

Figure 2: The ReDirection Self-Help Program webpage invites users to participate in the "Motivation to Change" survey.

# 6.2 Descriptive Results of "Motivation to Change" Survey

Table 10 and Table 11 (see Appendix Tables) present the descriptive statistics of the "Motivation to Change" survey.

Motivations to seek help: We asked respondents what motivated them to seek help. The most prevalent motivations reported by over half the respondents are feeling guilt and shame about using CSAM (69.0%), noticing that using CSAM was having a negative impact on their life (56.1%), and fearing that they will be caught or knowing that it is illegal (54.0%).

Help-seeking process: When asked how long it took them to seek help after first using CSAM, most respondents report that it took over a year (50.5%). 35.4% report that it took them over three years to seek help. Respondents predominantly report that they did not receive any extra support while they were searching for help (82.4%). Out of those who did have support, 56.3% were supported by a close person, 37.5% found support in an online chat service, 34.4% were supported by another CSAM user, and 31.3% found support via a call-based helpline.

Barriers to help-seeking: To understand possible barriers to help-seeking, we asked respondents what obstacles they encountered while seeking help. 47.7% of respondents reported that they encountered obstacles when seeking help, the most prevalent being fear of being caught and legal consequences (79.6%), fear of being stigmatized (75.7%), and fear of being rejected by a specialist (50.5%). The least prevalent obstacle to help-seeking is failure to acknowledge that CSAM use is wrong (17.5%).

Finding a suitable help resource: Nearly half (43.9%) of respondents report that they have not yet found a help resource suitable to them. A quarter (25.8%) of respondents report that they found a suitable resource straight away. When asked what difficulties

emerged when searching for a suitable help resource, 70.2% of respondents reported that they struggled to find an anonymous help resource, 54.8% could not find information on relevant help, 44.2% found it challenging to continue seeking help, and 40.4% could not access help services.

# 7 Discussion

# 7.1 Summary of Key Findings

From analysis of responses to the "Help us to help you" survey of individuals searching for CSAM, we find that the respondents most likely to be motivated to stop using CSAM are those who report experiencing frequent mental health difficulties, those who are not in contact with other CSAM offenders (78.3%), and those who are often afraid that their use of CSAM will lead to sexual acts (75.9%). In terms of mental health difficulties, respondents who experience very frequent difficulties related to their use of CSAM (89.1%), who experience daily difficulties carrying out their daily routine (78.9%), who often feel unable to control their own behavior (77.2%), who feel depressed and anxious before viewing CSAM (82.3%), and who have had self-harming thoughts and suicide attempts (75.4%) are the most likely to be motivated to stop using CSAM.

The factors positively associated with help-seeking behavior in part overlap with the factors positively associated with motivation to stop CSAM use. Factors strongly positively associated with help-seeking behavior include seeking weekly contact with children (31.6%) and weekly thoughts about contacting children (25.2%), feeling strongly affected by other CSAM offenders (30.5%), and viewing CSAM depicting toddlers and infants (23.6%). Similarly to the primary outcome, factors related to mental health, including daily and weekly difficulties in carrying out ordinary routines (29.8%; 29.2%), weekly difficulties related to CSAM use (26.8%), and frequent self-harming thoughts and suicide attempts (26.5%), are strongly positively associated with having sought help to stop CSAM use.

Findings from the "Motivation to Change" survey of active help-seekers provide additional insights into the motivations and obstacles to seeking help, alongside insight into the help-seeking process. Most respondents to this survey reported that they were motivated to seek help due to feelings of guilt and shame around their use of CSAM (69.0%), because they recognized the negative impact of CSAM on their life (56.1%), and they feared being caught or knew that using CSAM is illegal (54.0%). Many respondents reported that the obstacles that they faced when seeking help included fear of being caught and legal consequences (79.6%), fear of being stigmatized (75.7%), and fear of being rejected by a specialist (50.5%).

# 7.2 Interpretation of Results

Hypothesis 1. We find that respondents who were first exposed to CSAM at a younger age (i.e., below 18 years old) are more likely to want to stop using CSAM, except for those who were exposed at the age of 13 or younger. This result could be explained by the connection with duration of CSAM use, as respondents who were exposed to CSAM at an earlier age may have been using CSAM for a longer duration than those who first viewed CSAM later in life. We find that longer duration of CSAM use is also positively associated with motivation to change. At the same time, respondents who were exposed to CSAM at a younger age are less likely to seek help, while longer duration of CSAM use does not show a statistically significant association with help-seeking. As we did not collect the age of respondents (see Limitations), we are unable to verify this connection. We recommend future research to examine this question further, to understand the extent to which the age of first exposure to CSAM is associated with motivation to change.

Notably, the analysis reveals no statistically significant association between the nature of first exposure to CSAM and help-seeking. Respondents who were exposed to CSAM after actively searching for other hard-core material or on another occasion, which includes, e.g., searching for adult pornography or scrolling through social media, are likely to be motivated to change. This may be due to possible feelings of fear and confusion entailed by unexpected exposure to CSAM and consequent further interest in viewing such material.

Hypothesis 2. We find that respondents who report using CSAM very frequently are likely to have sought help, as are respondents who have used CSAM for a longer duration, although not statistically significantly. Additionally, in the "Motivation to Change" survey, the majority of respondents shared that it took them over a year of CSAM use to begin searching for help. Individuals who use CSAM more frequently and for a longer period may be more likely to experience and acknowledge the negative impact of CSAM use on their well-being, which would increase their subjective need for treatment, which Nagai (2015) found to be one of the strongest predictors of help-seeking. Additionally, the second most reported motivator to seek help in the "Motivation to Change" survey is noticing the negative impact of CSAM on the respondent's life. This links with our finding that the strongest predictors for help-seeking behavior are mental health difficulties, and in particular, experiencing difficulties related to CSAM use and difficulties in daily life. The results suggest that individuals whose use of CSAM interferes with their life and routine are likely to seek help and want to change their behavior.

**Hypothesis 3.** Most respondents to the "Help us to help you" survey report that they predominantly search for CSAM that depicts girls aged 4 to 13 years. The victim demographics are consistent with other research, as multiple studies find that the majority of CSAM depicts girls, and the majority of CSAM victims are prepubescent or younger (IWF 2024; Seto et al. 2018). Analysis by the IWF found that the largest age category of children depicted in CSAM is 7 to 13 years old (IWF 2024).

We find varying prevalence of motivation to change and help-seeking behavior among respondents based on the type of CSAM that they use. Notably, respondents who view CSAM depicting infants and toddlers are very likely to report that they want to stop using CSAM and report that they have sought help. This may be explained by the theory that viewing more extreme material may result in stronger negative effects on mental health of respondents, which we find to have a strong positive association with help-seeking and motivation to change. Further research is needed to understand the association between the type of CSAM that individuals view and their likelihood to seek help.

Hypothesis 4. Our findings indicate that mental health difficulties are the most significant predictors of help-seeking behavior within this sample. Respondents who report experiencing difficulties in their daily life and those who report self-harming or suicidal thoughts are the most likely to have sought help. Prior research on the association between mental health and help-seeking varies; however the findings seem to be generally consistent with other studies. For example, in line with the prior research, we find that mental distress (Eigenhuis et al. 2021; Magaard et al. 2017) and inability to control one's own behavior (Levenson, Willis, and Vicencio 2017) facilitate motivation to change and help-seeking. In contradiction to previous studies (Eigenhuis et al. 2021; Zhao and Hu 2022), we find that suicidal ideation and feelings of depression and anxiety are also positively associated with both outcomes. Another notable discrepancy with the prior research (Eigenhuis et al. 2021; Levenson, Willis, and Vicencio 2017) is the finding that feelings of guilt and shame are strong predictors of help-seeking and motivation to change in "Help us to help you." In the "Motivation to Change" survey, the feeling of guilt and shame is the most reported motivator to seek help.

**Hypothesis 5.** The results of the "Help us to help you" survey demonstrate a strong positive association between fear that viewing CSAM will lead to sexual acts against a child and both outcomes. Conversely, the results of the "Motivation to Change" survey of CSAM offenders who actively seek help do not reveal the fear of committing another offense against a child as a common motivator to seek help. Fear of committing other sexual acts against a child may result in mental stress, leading to increased desire to stop viewing CSAM and seek help (Eigenhuis et al. 2021; Magaard et al. 2017).

We note that respondents who have very frequent thoughts about contacting children or who seek contact with children nearly every time they view CSAM are less likely to be motivated to change their behavior or seek help. Frequent thoughts or attempts to contact a child might be an indicator of offending escalation, negatively influencing motivation to stop and seek help.

**Hypothesis 6.** Respondents who are not in contact with other CSAM offenders at the moment of responding to the survey and those who do not want to be in contact have one of the highest rates of wanting to stop using CSAM. Prior research finds that communities of CSAM offenders tend to perpetuate harmful sexual fantasies, reinforce cognitive distortions, and normalize and encourage criminal behavior (Huikuri 2023; O'Halloran and

Quayle 2010). Andrade et al. (2013) and Slotte et al. (2022) argue that known negative experiences of seeking help can impede help-seeking behavior, and such experience may be shared among communities of CSAM offenders, preventing individuals from seeking treatment. Among the respondents who do maintain contact with other CSAM offenders, those who feel most affected by other offenders' feelings and behavior are more likely to have motivation to change and seek help. This may derive from the fear of offending behavior escalation caused by the increased influence from other offenders.

# 7.3 Limitations of the Study

We acknowledge that this study suffers from a number of limitations, including certain limitations inevitable to self-reported survey data and self-selected samples.

Biases in self-reported survey data. We collected the data analyzed in this study via self-reported surveys. Such data sets have an inevitable bias, as respondents may intentionally or unintentionally provide dishonest answers. We attempted to mitigate this limitation by assuring respondents of the anonymity of the survey, with the aim of increasing the comfort in providing honest answers. Additionally, the survey design included clear and neutral questions aimed at reducing misunderstanding and reducing the likelihood of prompting socially desirable responses.

Biases in self-selected samples. We acknowledge that the "Help us to help you" survey may oversample individuals with motivation to change. Individuals who are met with the survey after searching for CSAM on a dark web search engine may be more likely to click on and complete the survey if they already have some motivation to change their behavior. Thus, the results may present a higher prevalence of motivation to change and help-seeking within this population.

**Limited knowledge of the sample.** Due to privacy and confidentiality, we do not ask respondents to the surveys to disclose any demographic or identifiable information. Therefore, we are lacking knowledge of the respondents' sociodemographic characteristics.

**Recruitment via the dark web.** The findings of the "Help us to help you" survey are limited to individuals who seek CSAM on dark web search engines. While the dark web is commonly used to search for, view, and disseminate CSAM (Nurmi et al. 2024; WeProtect 2023), it is certainly not the only location used. Nonetheless, recent research suggests that there may be a notable overlap between individuals who search for CSAM on dark web search engines and those who use other technologies (Protect Children 2024).

Limitations of survey questions. In a number of survey items, we employed straightforward scales to enhance respondent comprehension. However, this approach may have oversimplified the measurement of certain variables, limiting the depth of insights gained. Future research should explore how to gather significant insights while maintaining respondent comprehension and engagement. Additionally, as with any survey,

the survey questions may be subjective and open to interpretation by respondents. We attempted to mitigate this by designing each question to be clear, unambiguous, and easily understandable across different demographic groups.

# 8 Conclusion

Child sexual abuse material offenses have reached a colossal global scale. Huge volumes of CSAM are created and disseminated online, leading to significant and long-lasting impacts on victims and survivors. The vast scale and devastating impact call for a concerted global effort and a public health approach, which must include investment in measures aiming to prevent the perpetration of child sexual abuse and exploitation. As there is limited research to inform such measures, we conducted this study to further the understanding of the process of help-seeking among CSAM offenders. Through analysis of 4,493 responses to a survey of individuals searching for CSAM, we identified factors positively associated with help-seeking and motivation to change among CSAM offenders. Our findings reveal that many CSAM offenders would like to change their behavior and stop searching for, viewing, or sharing CSAM (55.0%), but very few have actively sought help to stop using CSAM (13.8%). Out of those who have sought help, only 23.3% have been able to access support.

We aim for the findings of this study to inform the development of child sexual abuse prevention measures, in addition to the evaluation of existing ones. Further, we aim to illustrate the need for greater investment in tailored CSAM perpetration prevention, as many respondents demonstrate a willingness and motivation to change their behavior. The results reveal new findings on factors associated with help-seeking behavior and motivation to stop CSAM use among the under-researched sample of active CSAM offenders. Knowledge of specific traits associated with an increased or decreased likelihood of motivation to change or help-seeking behavior can increase the outreach, engagement, and effectiveness of existing and new support services.

# 8.1 Recommendations and Future Research Directions

Further research is needed to better understand the prevalence of help-seeking behavior among CSAM offenders and their treatment needs, to inform prevention and intervention efforts. The limitations of this study give rise to future research directions that address the challenges of collecting up-to-date information on this hard-to-reach population. A challenge we faced was the possible self-selection bias. A more representative sample may be reached via, for example, the use of mixed recruitment methods, engaging both dark web and surface web resources. Such data can be supplemented by studies on already convicted offenders.

Gaps in the knowledge on help-seeking behavior and motivation to change among child

sexual abuse material offenders should not hinder the development of prevention and intervention programs. When asked whether they have sought help to stop using CSAM, 27.2% of respondents to the survey of CSAM searchers reported that they are afraid to seek help. Nearly half of respondents to a survey of active help-seekers report that they have not yet found a help resource suitable for them. 70.2% of respondents shared that they could not find an anonymous help resource, and nearly half could not find information about available help. On the basis of the findings, we recommend that perpetration prevention programs are designed to be low-threshold, accessible, and available online, and that they offer strong anonymity and confidentiality.

The results highlight the need to intervene in CSAM offenses before they occur or at an early stage of CSAM use to minimize harmful impact and risks for children, as many CSAM offenders may go on to seek direct contact with children or join communities of like-minded individuals, which tend to reinforce cognitive distortions and normalize and facilitate criminal behavior (Huikuri 2023; O'Halloran and Quayle 2010). We introduce a search-based intervention strategy that demonstrates the feasibility of intervening in offending behavior at an early stage by offering help resources.

Perpetration prevention initiatives must be complemented by technical solutions to build an online environment inhospitable to offending behavior. The majority of respondents to the survey report that they were first exposed to CSAM before the age of 18, and a significant proportion report that the exposure was involuntary. These findings strengthen the argument that online service providers should be obligated to proactively and effectively detect, report, and remove CSAM from their platforms. This should be combined with robust age-assurance mechanisms to limit opportunities for grooming and prevent children from exposure to harmful content.

This study provides valuable insights to inform public health policy, child protection disciplines, law enforcement agencies, the tech industry, and civil society organizations. Overall, the study contributes to the growing body of research understanding online child sexual abuse offenders, which is integral to advancing the prevention of child sexual abuse.

# References

- Açar, Kemal Veli. 2017. *Child Abuse Materials as Digital Goods: Why We Should Fear New Commercial Forms*. Technical report. Economics Discussion Papers, March 28, 2017. https://doi.org/10.13140/RG.2.2.33720.14088.
- Andrade, Laura Helena, Jordi Alonso, Zeina Mneimneh, Jessie Wells, Ali Al-Hamzawi, Guilherme Borges, Evelyn Bromet, et al. 2013. "Barriers to Mental Health Treatment: Results from the WHO World Mental Health Surveys." *Psychological Medicine* 44, no. 6 (August 9, 2013): 1303–17. https://doi.org/10.1017/S0033291713001943.
- Babchishin, Kelly M., R. Karl Hanson, and Chantal A. Hermann. 2010. "The Characteristics of Online Sex Offenders: A Meta-Analysis." *Sexual Abuse* 23, no. 1 (July 26, 2010): 92–123. https://doi.org/10.1177/1079063210370708.
- Babchishin, Kelly M., R. Karl Hanson, and Heather VanZuylen. 2014. "Online Child Pornography Offenders Are Different: A Meta-analysis of the Characteristics of Online and Offline Sex Offenders Against Children." *Archives of Sexual Behavior* 44 (March 14, 2014): 45–66. https://doi.org/10.1007/s10508-014-0270-x.
- Barrett, Emma, Stephen Pettifer, James Marsh, Sandra Flynn, Polly Tuner, and Kathryn Hill. 2023. *Intelligence Briefing: Extended Reality Technologies and Child Sexual Exploitation and Abuse.* Technical report. WeProtect Global Alliance, February. https://www.weprotect.org/wp-content/uploads/Final-Extended-Reality-Briefing.pdf.
- Bartels, Ross M., and Hannah L. Merdian. 2015. "The Implicit Theories of Child Sexual Exploitation Material Users: An Initial Conceptualization." *Aggression and Violent Behavior* 26 (December 14, 2015): 16–25. https://doi.org/10.1016/j.avb.2015.11.002.
- Bruggen, Madeleine van der. 2023. "Child Sexual Abuse Material Networks on the Dark Web: A Multi-Method Approach." PhD diss., Leiden University, February 22, 2023. https://hdl.handle.net/1887/3564736.
- Canadian Centre for Child Protection. 2017. Survivors' Survey. Full Report 2017. Research report. Canadian Centre for Child Protection. https://content.c3p.ca/pdfs/C3P\_SurvivorsSurveyFullReport2017.pdf.
- Cant, Rosemary L., Maria Harries, and Christabel Chamarette. 2022. "Using a Public Health Approach to Prevent Child Sexual Abuse by Targeting Those at Risk of Harming Children." *International Journal on Child Maltreatment: Research, Policy and Practice* 5, no. 2 (September 9, 2022). https://doi.org/10.1007/s42448-022-00128-7.
- Centers for Disease Control and Prevention. 2024. *Principles of Prevention Guide*. Research report. Centers for Disease Control and Prevention, April 15, 2024. https://vetoviolence.cdc.gov/apps/pop/assets/pdfs/pop\_notebook.pdf.

- Di Gioia, Rosanna, and Laurent Beslay. 2023. *Help Seeker and Perpetrator Prevention Initiatives Child Sexual Abuse and Exploitation*. Research report. European Union, Joint Research Centre. https://op.europa.eu/en/publication-detail/-/publication/79e8b555-ace7-11ed-8912-01aa75ed71a1/language-en.
- Doll, Carolin M., Chantal Michel, Marlene Rosen, Naweed Osman, Benno G. Schimmelmann, and Frauke Schultze-Lutter. 2021. "Predictors of Help-Seeking Behaviour in People with Mental Health Problems: A 3-Year Prospective Community Study." *BMC Psychiatry* 21, no. 432 (September 3, 2021). https://doi.org/10.1186/s12888-021-03435-4.
- Duwe, Grant. 2018. "Can Circles of Support and Accountability (CoSA) Significantly Reduce Sexual Recidivism? Results from a Randomized Controlled Trial in Minnesota." *Journal of Experimental Criminology* 14, no. 432 (March 13, 2018). https://doi.org/10.1007/s11292-018-9325-7.
- Eigenhuis, Eline, Ruth C. Waumans, Anna D.T. Muntingh, Marjan J. Westerman, Marlinde van Meijel, Neeltje M. Batelaan, and Anton J.L.M. van Balkom. 2021. "Facilitating Factors and Barriers in Help-Seeking Behavior in Adolescents and Young Adults with Depressive Symptoms: A Qualitative Study." *PloS ONE* 16, no. 3 (March 8, 2021): e0247516. https://doi.org/10.1371/journal.pone.0247516.
- Foshee, Vangie A., Karl E. Bauman, Ximena B. Arriaga, Russell W. Helms, Gary G. Koch, and George Fletcher Linder. 1998. "An Evaluation of Safe Dates: An Adolescent Dating Violence Prevention Program." *American Journal of Public Health* 88, no. 1 (January 1, 1998): 45–50. https://doi.org/10.2105/ajph.88.1.45.
- Foshee, Vangie A., Karl E. Bauman, Susan T. Ennett, G. Fletcher Linder, Thad Benefield, and Chirayath Suchindran. 2004. "Assessing the Long-Term Effects of the Safe Dates Program and a Booster in Preventing and Reducing Adolescent Dating Violence Victimization and Perpetration." *American Journal of Public Health* 94, no. 4 (April 1, 2004): 619–24. https://doi.org/10.2105/ajph.94.4.619.
- Gannon, Colm, Arjan A.J. Blokland, Salla Huikuri, Kelly M. Babchishin, and Robert J.B. Lehmann. 2023. "Child Sexual Abuse Material on the Darknet." *Forensische Psychiatrie, Psychologie, Kriminologie* 17, no. 4 (July 20, 2023): 353–65. https://doi.org/10.1007/s11757-023-00790-8.
- Greijer, Susanna, and Jaap Doek. 2016. *Terminology Guidelines for the Protection of Children from Sexual Exploitation and Sexual Abuse*. Technical report. ECPAT International and ECPAT Luxembourg, January 28, 2016. https://www.unicef.org/media/66731/file/Terminology-guidelines.pdf.
- Higgins, Daryl, Bob Lonne, Todd I. Herrenkohl, and Debbie Scott. 2019. "The Successes and Limitations of Contemporary Approaches to Child Protection." *Re-Visioning Public Health Approaches for Protecting Children* (April 27, 2019): 3–17. https://doi.org/10.1007/978-3-030-05858-6\_1.

- Hillert, Jana, Lina Sophie Haubrock, Arne Dekker, and Peer Briken. 2024. "Web-Based Initiatives to Prevent Sexual Offense Perpetration: A Systematic Review." *Current Psychiatry Reports* (March 21, 2024): 1–13. https://doi.org/10.1007/s11920-024-01489-1.
- Huikuri, Salla. 2023. "Users of Online Child Sexual Abuse Material." *Journal of Police and Criminal Psychology* 38 (September 16, 2023): 904–13. https://doi.org/10.1007/s 11896-023-09611-4.
- Hussein, Bayan, Aya Sayed, Abdelrahman Ali, Roba Shady, Abdalla Takrouny, and Pilsung Choe. 2022. "Factors Influencing Professional Mental Health Help-Seeking Willingness Among People: A Case Study." *Journal of Positive School Psychology* 6 (6): 572–84. https://journalppw.com/index.php/jpsp/article/view/7038.
- Insoll, Tegan, Anna Katariina Ovaska, Juha Nurmi, Mikko Aaltonen, and Nina Vaaranen-Valkonen. 2022. "Risk Factors for Child Sexual Abuse Material Users Contacting Children Online: Results of an Anonymous Multilingual Survey on the Dark Web." *Journal of Online Trust and Safety* 1, no. 2 (February 28, 2022). https://doi.org/10.54501/jots.v1i2.29.
- Internet Watch Foundation. 2022. "20,000 Reports of Coerced 'Self-generated' Sexual Abuse Imagery Seen in First Half of 2022 Show 7- to 10-year-olds." https://www.iwf.org.uk/news-media/news/20-000-reports-of-coerced-self-generated-sexual-abuse-imagery-seen-in-first-half-of-2022-show-7-to-10-year-olds/.
- 2023. How AI is Being Abused to Create Child Sexual Abuse Imagery. Technical report. October. https://www.iwf.org.uk/media/q4zll2ya/iwf-ai-csam-report\_public-oct23v1.pdf.
- . 2024. *The Annual Report 2023*. Technical report. April. https://www.iwf.org.uk/annual-report-2023/.
- Kettleborough, Danielle G., and Hannah L. Merdian. 2016. "Gateway to Offending Behaviour: Permission-giving Thoughts of Online Users of Child Sexual Exploitation Material." *Journal of Sexual Aggression* 23, no. 1 (October 18, 2016): 19–32. https://doi.org/10.1080/13552600.2016.1231852.
- Knack, Natasha, Dave Holmes, and J. Paul Fedoroff. 2020. "Motivational Pathways Underlying the Onset and Maintenance of Viewing Child Pornography on the Internet." *Behavioral Sciences & the Law* 38, no. 2 (February 13, 2020): 100–116. https://doi.org/10.1002/bsl.2450.
- Knack, Natasha, Belinda Winder, Lisa Murphy, and J. Paul Fedoroff. 2019. "Primary and Secondary Prevention of Child Sexual Abuse." *International Review of Psychiatry* 31, no. 2 (March 28, 2019): 181–94. https://doi.org/10.1080/09540261.2018.154187 2.

- Lätth, Johanna, Valdemar Landgren, Allison McMahan, Charlotte Sparre, Julia Eriksson, Kinda Malki, Elin Söderquist, Katarina Görts Öberg, Alexander Rozental, Gerhard Andersson, et al. 2022. "Effects of Internet-delivered Cognitive Behavioral Therapy on Use of Child Sexual Abuse Material: A Randomized Placebo-controlled Trial on the Darknet." *Internet Interventions* 30 (November 15, 2022): 100–590. https://doi.org/10.1016/j.invent.2022.100590.
- Letourneau, Elizabeth J., Derek S. Brown, Xiangming Fang, Ahmed Hassan, and James A. Mercy. 2018. "The Economic Burden of Child Sexual Abuse in the United States." *Child Abuse & Neglect* 79 (March 20, 2018): 413–22. https://doi.org/10.1016/j.chiabu.2018.02.020.
- Letourneau, Elizabeth J., William W. Eaton, Judith Bass, Frederick S. Berlin, and Stephen G. Moore. 2014. "The Need for a Comprehensive Public Health Approach to Preventing Child Sexual Abuse." *Public Health Reports* 129, no. 3 (May 1, 2014): 222–28. https://doi.org/10.1177/003335491412900303.
- Letourneau, Elizabeth J., Scott W. Henggeler, Charles M. Borduin, Paul A. Schewe, Michael R. McCart, Jason E. Chapman, and Lisa Saldana. 2009. "Multisystemic Therapy for Juvenile Sexual Offenders: 1-year Results from a Randomized Effectiveness Trial." *Journal of Family Psychology* 23, no. 1 (February 23, 2009): 89. https://doi.org/10.1037/a0014352.
- Letourneau, Elizabeth J., Cindy M. Schaeffer, Catherine P. Bradshaw, Amanda E. Ruzicka, Luciana C. Assini-Meytin, Reshmi Nair, and Evelyn Thorne. 2022. "Responsible Behavior With Younger Children: Results From a Pilot Randomized Evaluation of a School-Based Child Sexual Abuse Perpetration Prevention Program." *Child Maltreatment* 29, no. 1 (September 30, 2022): 129–41. https://doi.org/10.1177/10775595221130737.
- Levenson, Jill S., Gwenda M. Willis, and Claudia P. Vicencio. 2017. "Obstacles to Help-Seeking for Sexual Offenders: Implications for Prevention of Sexual Abuse." *Journal of Child Sexual Abuse* 26, no. 2 (March 28, 2017): 99–120. https://doi.org/10.1080/10538712.2016.1276116.
- ——. 2018. "Preventing Sexual Abuse: Perspectives of Minor-Attracted Persons About Seeking Help." *Sexual Abuse* 31, no. 8 (September 5, 2018): 991–1013. https://doi.org/10.1177/1079063218797713.
- Ly, Thanh, R. Gregg Dwyer, and J. Paul Fedoroff. 2018. "Characteristics and Treatment of Internet Child Pornography Offenders." *Behavioral Sciences & the Law* 36, no. 2 (April 16, 2018): 216–34. https://doi.org/10.1002/bsl.2340.
- Magaard, Julia Luise, Tharanya Seeralan, Holger Schulz, and Anna Levke Brütt. 2017. "Factors Associated with Help-seeking Behaviour Among Individuals with Major Depression: A Systematic Review." *PloS ONE* 12, no. 5 (May 11, 2017): e0176730. https://doi.org/10.1371/journal.pone.0176730.

- Merdian, Hannah L., Nick Willson, Jo Thakker, Cate Curtis, and Douglas Pieter Boer. 2013. "'So Why Did You Do It?': Explanations Provided by Child Pornography Offenders." *Sexual Offender Treatment* 8 (1): 1–19. https://hdl.handle.net/10289/7976.
- Nagai, Satoru. 2015. "Predictors of Help-seeking Behavior: Distinction Between Help-seeking Intentions and Help-seeking Behavior." *Japanese Psychological Research* 57, no. 4 (August 13, 2015): 313–22. https://doi.org/10.1111/jpr.12091.
- Nurmi, Juha, Arttu Paju, Billy Bob Brumley, Tegan Insoll, Anna K. Ovaska, Valeriia Soloveva, Nina Vaaranen-Valkonen, Mikko Aaltonen, and David Arroyo. 2024. "Investigating Child Sexual Abuse Material Availability, Searches, and Users on the Anonymous Tor Network for a Public Health Intervention Strategy." *Scientific Reports* 14 (April 3, 2024): 7849. https://doi.org/10.1038/s41598-024-58346-7.
- O'Halloran, Elaine, and Ethel Quayle. 2010. "A Content Analysis of a 'Boy Love' Support Forum: Revisiting Durkin and Bryant." *Journal of Sexual Aggression* 16, no. 1 (February 15, 2010): 71–85. https://doi.org/10.1080/13552600903395319.
- Owen, Gareth, and Nick Savage. 2015. "The Tor Dark Net." *Global Commission on Internet Governance* (September 30, 2015). https://www.cigionline.org/static/documents/no20\_0.pdf.
- Protect Children. 2024. *Tech Platforms Used by Online Child Sexual Abuse Offenders:* Research Report with Actionable Recommendations for the Tech Industry. Technical report. Protect Children, February 20, 2024. https://www.suojellaanlapsia.fi/en/post/tech-platforms-child-sexual-abuse.
- Quadara, Antonia. 2019. "Child Sexual Abuse Prevention Strategies for Population-Level Change: Challenges and Future Directions." *Re-Visioning Public Health Approaches for Protecting Children* (April 27, 2019): 145–63. https://doi.org/10.1007/978-3-03 0-05858-6 10.
- Quayle, Ethel, and Max Taylor. 2004. "Model of Problematic Internet Use in People with a Sexual Interest in Children." *CyberPsychology & Behavior* 6, no. 1 (July 5, 2004): 93–106. https://doi.org/10.1089/109493103321168009.
- Rickwood, Debra, and Kerry Thomas. 2012. "Conceptual Measurement Framework for Help-seeking for Mental Health Problems." *Psychology Research and Behavior Management* 5 (December 6, 2012): 173–83. https://doi.org/10.2147/PRBM.S387 07.
- Rimer, Jonah R., and Karen Holt. 2022. "'It Was in Control of Me': Notions of Addiction and Online Child Sexual Exploitation Material Offending." *Sexual Abuse* 35, no. 1 (March 8, 2022): 3–30. https://doi.org/10.1177/10790632211070797.

- Rush, Emma, and Andrea La Nauze. 2006. Letting Children Be Children: Stopping the Sexualisation of Children in Australia. Technical report. The Australia Institute, December 12, 2006. https://australiainstitute.org.au/report/letting-children-be-children-stopping-the-sexualisation-of-children-in-australia/.
- Seto, Michael C. 2013. *Internet Sex Offenders*. American Psychological Association. https://doi.org/10.1037/14191-000.
- Seto, Michael C., Cierra Buckman, R. Gregg Dwyer, and Ethel Quayle. 2018. *Production and Active Trading of Child Sexual Exploitation Images Depicting Identified Victims*. Research report. US National Center for Missing & Exploited Children. https://www.missingkids.org/content/dam/missingkids/pdfs/ncmec-analysis/Production% 20and%20Active%20Trading%20of%20CSAM\_FullReport\_FINAL.pdf.
- Seto, Michael C., R. Karl Hanson, and Kelly M. Babchishin. 2010. "Contact Sexual Offending by Men With Online Sexual Offenses." *Sexual Abuse* 23, no. 1 (December 20, 2010): 124–45. https://doi.org/10.1177/1079063210369013.
- Seto, Michael C., Lesley Reeves, and Sandy Jung. 2010. "Explanations Given by Child Pornography Offenders for Their Crimes." *Journal of Sexual Aggression* 16, no. 2 (June 23, 2010): 169–80. https://doi.org/10.1080/13552600903572396.
- Seto, Michael C., Kailey Roche, Nicole C. Rodrigues, Susan Curry, and Elizabeth Letourneau. 2024. "Evaluating Child Sexual Abuse Perpetration Prevention Efforts: A Systematic Review." *Journal of Child Sexual Abuse* 0, no. 0 (May 20, 2024): 1–22. https://doi.org/10.1080/10538712.2024.2356194.
- Sheerin, Kaitlin M., Charles M. Borduin, Cynthia E. Brown, and Elizabeth J. Letourneau. 2020. "An Evaluation of Mechanisms of Change in Multisystemic Therapy for Juvenile Justice-Involved Youths a Decade Following Treatment." *Journal of Marital and Family Therapy* 47, no. 1 (July 29, 2020): 208–19. https://doi.org/10.1111/jmft .12446.
- Silovsky, Jane F., Michael D. Hunter, and Erin K. Taylor. 2018. "Impact of Early Intervention for Youth with Problematic Sexual Behaviors and Their Caregivers." *Journal of Sexual Aggression* 25, no. 1 (August 13, 2018): 4–15. https://doi.org/10.1080/13552600.2018.1507487.
- Simantiri, Nikoleta Lydaki. 2017. Online Child Sexual Abuse and Exploitation. Current Forms and Good Practice for Prevention and Protection. Research report. ECPAT France and ECPAT Luxembourg, June. https://ecpat-france.fr/www.ecpat-france/wp-content/uploads/2018/10/Revue-OCSE\_ANG-min.pdf.
- Slotte, Sebastian, Hege Ramsøy-Halle, Line Melby, and Jannike Kaasbøll. 2022. "Facilitating Factors for Seeking Help for Mental Health Problems Among Norwegian Adolescent Males: A Focus Group Interview Study." *Frontiers in Psychiatry* 13 (December 8, 2022): 1049336. https://doi.org/10.3389/fpsyt.2022.1049336.

- Srebnik, Debra, Ana Mari Cauce, and Nazli Baydar. 1996. "Help-Seeking Pathways for Children and Adolescents." *Journal of Emotional and Behavioral Disorders* 4, no. 4 (October): 210–20. https://doi.org/10.1177/106342669600400402.
- Steel, Chad M.S., Emily Newman, Suzanne O'Rourke, and Ethel Quayle. 2020. "A Systematic Review of Cognitive Distortions in Online Child Sexual Exploitation Material Offenders." *Aggression and Violent Behavior* 51 (February 19, 2020): 101375. https://doi.org/10.1016/j.avb.2020.101375.
- ——. 2021a. "Collecting and Viewing Behaviors of Child Sexual Exploitation Material Offenders." *Child Abuse & Neglect* 118 (May 26, 2021): 105133. https://doi.org/10.1016/j.chiabu.2021.105133.
- ——. 2021b. "Self Perceptions and Cognitions of Child Sexual Exploitation Material Offenders." *International Journal of Offender Therapy and Comparative Criminology* 67, nos. 10-11 (December 1, 2021): 1017–36. https://doi.org/10.1177/0306624X 211062161.
- Swaby, Helen, and Rebecca Lievesley. 2022. "'Falling Through the Cracks': A Retrospective Exploration of the Barriers to Help-Seeking Among Men Convicted of Sexual Crimes." *Sexual Abuse* 35, no. 7 (December 20, 2022): 812–41. https://doi.org/10.1177/10790632221146501.
- Taylor, Bruce G., Elizabeth A. Mumford, and Nan D. Stein. 2015. "Effectiveness of 'Shifting Boundaries' Teen Dating Violence Prevention Program for Subgroups of Middle School Students." *Journal of Adolescent Health* 56, no. 2 (February): S20–S26. https://doi.org/10.1016/j.jadohealth.2014.07.004.
- Taylor, Bruce G., Nan D. Stein, Elizabeth A. Mumford, and Daniel Woods. 2012. "Shifting Boundaries: An Experimental Evaluation of a Dating Violence Prevention Program in Middle Schools." Prevention Science 14, no. 1 (October 19, 2012): 64–76. https://doi.org/10.1007/s11121-012-0293-2.
- The Tor Project. 2024. "Users Tor Metrics." Accessed April 15, 2024. https://metrics.t orproject.org/userstats-relay-country.html.
- Thiel, David. 2023. *Identifying and Eliminating CSAM in Generative ML Training Data and Models*. Research report. December 23, 2023. https://doi.org/10.25740/kh752sm 9123.
- US National Center for Missing & Exploited Children. 2024a. "Child Sexual Abuse Material." https://www.missingkids.org/theissues/csam.
- ———. 2024b. "CyberTipline 2023 Report." Accessed May 6, 2024. https://www.missingkids.org/cybertiplinedata.
- Ward, Tony, and Thomas Keenan. 1999. "Child Molesters' Implicit Theories." *Journal of Interpersonal Violence* 14, no. 8 (August): 821–38. https://doi.org/10.1177/08862 6099014008003.

- Webb, Liane, Jackie Craissati, and Sarah Keen. 2007. "Characteristics of Internet Child Pornography Offenders: A Comparison with Child Molesters." *Sexual Abuse: A Journal of Research and Treatment* 19 (November 16, 2007): 449–65. https://doi.org/10.1007/s11194-007-9063-2.
- WeProtect Global Alliance. 2021. *Global Threat Assessment 2021: Working Together to End the Sexual Abuse of Children Online.* Research report. WeProtect Global Alliance. https://www.weprotect.org/global-threat-assessment-21/.
- ———. 2023. Global Threat Assessment 2023: Assessing the Scale and Scope of Child Sexual Exploitation and Abuse Online, to Transform the Response. Research report. WeProtect Global Alliance. https://www.weprotect.org/global-threat-assessment -23/.
- Wild, Tamara S.N., Peter Fromberger, Kirsten Jordan, Isabel Müller, and Jürgen L Müller. 2019. "Web-Based Health Services in Forensic Psychiatry: A Review of the Use of the Internet in the Treatment of Child Sexual Abusers and Child Sexual Exploitation Material Offenders." *Frontiers in Psychiatry* 9 (February 4, 2019): 427308. https://doi.org/10.3389/fpsyt.2018.00763.
- Wilson, Robin J., Andrew J. McWhinnie, and Chris Wilson. 2008. "Circles of Support and Accountability: An International Partnership in Reducing Sexual Offender Recidivism." *Prison Service Journal* 138, no. 178 (January): 26–36. https://robinjwilson.com/articles/The%20Prison%20Service%20Journal.pdf.
- Woodhams, Jessica, Juliane A. Kloess, Brendan Jose, and Catherine E. Hamilton-Giachritsis. 2021. "Characteristics and Behaviors of Anonymous Users of Dark Web Platforms Suspected of Child Sexual Offenses." *Frontiers in Psychology* 12 (April 9, 2021): 623–68. https://doi.org/10.3389/fpsyg.2021.623668.
- Zhao, Mei, and Mi Hu. 2022. "A Multilevel Model of the Help-seeking Behaviors Among Adolescents with Mental Health Problems." *Frontiers in Integrative Neuroscience* 16 (September 2, 2022). https://doi.org/10.3389/fnint.2022.946842.

# **Authors**

**Tegan Insoll**, LL.M. (tegan.insoll@suojellaanlapsia.fi) is the Head of Research at Protect Children (Suojellaan Lapsia ry.).

**Valeriia Soloveva**, M.Soc.Sc. (valeriia.soloveva@suojellaanlapsia.fi) is a Specialist at Protect Children (Suojellaan Lapsia ry.).

**Eva Díaz Bethencourt**, M.Soc.Sc., LL.M. (eva.diaz.bethencourt@suojellaanlapsia.fi) is a Specialist at Protect Children (Suojellaan Lapsia ry.).

**Anna K. Ovaska**, LL.M. (anna.ovaska@suojellaanlapsia.fi) is Deputy Director and Legal Specialist at Protect Children (Suojellaan Lapsia ry.).

**Juha Nurmi**, D.Sc. (Tech.) (juha.nurmi@tuni.fi) is a Postdoctoral Research Fellow at Tampere University and Head of Research at Cyber Intelligence House.

**Arttu Paju**, M.Sc. (Tech.) (arttu.paju@tuni.fi) is a Doctoral Researcher at Tampere University.

**Mikko Aaltonen**, Dr.Soc.Sc. (mikko.e.aaltonen@uef.fi) is a Professor of Criminology at the Law School at the University of Eastern Finland.

**Nina Vaaranen-Valkonen**, M.Soc.Sc. (nina.vaaranen-valkonen@suojellaanlapsia.fi) is Executive Director, Social Psychologist, and Cognitive Psychotherapist at Protect Children (Suojellaan Lapsia ry.).

# **Acknowledgements**

We thank the international community fighting against sexual violence against children. Thank you to Safe Online and the Tech Coalition for supporting the projects. We also thank Webropol Oy for hosting our research surveys; the dark web search engines that shared the links to the surveys; all global specialists who have translated the surveys; the reviewers and the editor; and everyone else who supported the project. We thank our ReDirection project partners, Red PaPaz; Helsinki University Hospital and their ICT unit; and the Police University College in Tampere (POLAMK).

# Data availability statement

Not applicable.

# **Funding statement**

This project has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation program under project number 952622 (SPIRS). The data analyzed in the article has been gathered through Protect Children's ReDirection project (2020–2023), which was funded by Safe Online, and Protect Children's Primary Prevention to Protect Children research project (2023–2024), which was funded by the Tech Coalition Safe Online Research Fund. The opinions, findings, conclusions, and recommendations expressed herein are those of the authors and do not necessarily reflect those of Safe Online or the Tech Coalition.

# **Ethical standards**

The study and its methods are in accordance with relevant guidelines and regulations. The Board of Suojellaan Lapsia, Protect Children ry. approved the experimental protocols with human participants, in accordance with the Declaration of Helsinki Ethical Principles for Medical Research Involving Human Subjects: (i) All participants to the "Help us to help you" survey provided informed consent. (ii) Participants received clear information on the purposes of the study before responding to the survey. (iii) Participants voluntarily responded to the survey and did not receive compensation. (iv) The survey did not collect any personal or identifiable information. (v) The survey data is stored and managed exclusively by the research team at Suojellaan Lapsia, Protect Children ry. without anyone else having access to the collected survey answers. (vi) Participants were offered links to relevant help resources at the beginning and end of the survey.

# **Keywords**

Child sexual abuse material; child sexual abuse; help-seeking; public health approach; perpetration prevention; internet-based intervention; offenders; Tor; dark web; cybercrime.

# A Tables

Table 3: Descriptive Statistics of "Help us to help you" covariates (part 1)

Question	N	%
Onset of CSAM use		
When I first saw CSAM/illegal violent material I was		
13 years old or under	1,496	33.7
14–17 years old	1,354	30.5
18–25 years old	906	20.4
26–35 years old	360	8.1
over 35 years old	318	7.2
When I first saw CSAM/illegal violent material, it was		
Accidentally	1,896	43.6
Through my social connections	641	14.7
After searching actively for other hard-core material	770	17.7
After searching actively for sexual CSAM / illegal material	929	21.4
Other occasion, what?	113	2.6
Nature of CSAM use		
I have actively searched and viewed CSAM/illegal violent material for		
1–4 weeks	1,558	35.8
1–6 months	687	15.8
1 year	585	13.4
2 years	484	11.1
5 years or more	1,042	23.9
I search and view illegal violent material		
Occasionally	2,059	47.8
Once a month	654	15.2
Several times a month	599	13.9
Weekly	462	10.7
Daily	533	12.4
Victim demographics		
I use images and videos		
CSAM related to boys aged 4–13 years	1,230	27.4
CSAM related to girls aged 4–13 years	2,928	65.2
CSAM related to infants and toddlers aged 0–3 years	335	7.5

Table 4: Descriptive Statistics of "Help us to help you" covariates (part 2)

Question	N	%
Mental health		
How are you feeling before you think, search or view CSAM/illegal		
violent material?		
I feel optimistic and good about myself	881	23.5
I feel sexually aroused/agitated	1,598	42.6
I feel guilt and shame	638	17.0
I feel depressed or anxious	536	14.3
Other feelings, what?	98	2.6
I feel that I am not able to stop or control my behaviour in		
searching/viewing CSAM/illegal violent material		
Never	1,026	27.8
Rarely	957	25.9
Monthly	615	16.6
Weekly	390	10.6
Nearly every time	706	19.1
Have you had any self-harming thoughts or suicide attempts?		
Never	1,638	46.0
Sometimes	810	22.7
Regularly	495	13.9
All the time	285	8.0
I have tried to harm/kill myself	335	9.4
Have you experienced any difficulties related to your use		
CSAM/illegal violent material?		
Not at all	1,758	50.0
Yes, difficulties in close relationships	462	13.1
Yes, difficulties with substance abuse	403	11.5
Yes, difficulties with my mental health	820	23.3
Yes, other difficulties, what?	71	2.0
Have you experienced difficulties in carrying out your		
ordinary daily routine and activities?		
Not at all	1,762	50.3
Yes, sometimes	803	22.9
Yes, monthly	381	10.9
Yes, weekly	245	7.0
Yes, daily	310	8.9

Table 5: Descriptive Statistics of "Help us to help you" covariates (part 3)

Question	N	%
Contact with children		
I feel afraid that viewing CSAM/illegal violent material might lead		
to sexual acts against a child or another human		
Not at all	1,595	43.0
Rarely	770	20.8
Monthly	457	12.3
Weekly	294	7.9
Nearly every time	589	15.9
How often has viewing CSAM/illegal violent material made		
you think about seeking direct contact with children		
through online platforms (chat or other)?		
Never	1,960	52.7
Rarely	722	19.4
Monthly	474	12.8
Weekly	276	7.4
Nearly every time	284	7.6
How often after viewing CSAM/illegal violent material have you sought		
direct contact with children through online platforms (chat or other)?		
Never	2,245	60.3
Rarely	675	18.1
Monthly	423	11.4
Weekly	188	5.1
Nearly every time	190	5.1
Contact with other CSAM users		
Have you been in contact with other CSAM/illegal violent material users?		
Yes, weekly	439	12.5
Yes, monthly	359	10.2
Yes, sometimes	591	16.8
No, never	1,180	33.6
I do not want to be in contact with other users	946	26.9
Have you been affected by the feelings, thoughts,		
or behaviours of other CSAM/illegal violent material users?		
Not at all	1,412	40.4
Yes, it has had a slight effect on my feelings, thoughts, and behavior	590	16.9
Yes, it has had a moderate effect on my feelings, thoughts, and behavior	439	12.6
Yes, it has had a strong effect on my feelings, thoughts, and behavior	281	8.0
I am not in contact with other users	770	22.1

Table 6: Outcome Distributions of "Help us to help you" survey (variables recoded into binary measures)

Question	N	%
I would like to stop searching and viewing CSAM		
Not	1,891	45.0
Yes	2,311	55.0
Total	4,202	100.0
Sought help to stop searching, using, or sharing CSAM		
Not	3,028	86.2
Yes	485	13.8
Total	3,513	100.0

Table 7: Bivariate Associations of "Help us to help you" survey (part 1)

Primary outcome: Motivation to change	%	%
Secondary outcome: Help-seeking behaviour		70
Onset of CSAM use		
When I first saw CSAM/illegal violent material, I was		
13 years old or under	53.4	13.5
14–17 years old	64.9	10.7
18–25 years old	57.0	13.8
26–35 years old	54.7	19.5
over 35 years old	50.0	20.4
When I first saw CSAM/illegal violent material, it was		
Accidentally	57.1	13.5
Through my social connections	50.8	12.1
After searching actively for other hard-core material	61.9	13.9
After searching actively for sexual CSAM / illegal material	57.5	13.3
Other occasion, what?	71.6	19.3
Nature of CSAM use		
I have actively searched and viewed CSAM/illegal violent material for		
1–4 week	51.1	12.4
1–6 month	59.4	13.5
1 year	62.5	14.3
2 year	65.6	12.8
5 years or more	59.4	15.6
I search and view illegal violent material		
Occasionally	57.4	11.0
Once a month	53.7	14.2
Several times a month	68.3	14.5
Weekly	63.8	18.0
Daily	46.3	17.1
Victim demographics		
I use images and videos		
CSAM related to boys aged 4–13 years	48.1	15.4
CSAM related to girls aged 4–13 years	60.5	11.9
CSAM related to infants and toddlers aged 0–3 years	64.2	23.6

Table 8: Bivariate Associations of "Help us to help you" survey (part 2)

Primary outcome: Motivation to change	%	
Secondary outcome: Help-seeking behaviour		%
Mental Health		
How are you feeling before you think,		
search or view CSAM/illegal violent material?		
I feel optimistic and good about myself	32.1	12.2
I feel sexually aroused/agitated	56.6	10.1
I feel guilt and shame	74.6	17.9
I feel depressed or anxious	82.3	20.1
Other feelings, what?	52.9	15.3
I feel that I am not able to stop or control my behaviour in		
searching/viewing CSAM/illegal violent material		
Never	30.3	9.0
Rarely	53.4	12.0
Monthly	73.6	15.0
Weekly	77.2	21.1
Nearly every time	77.2	17.5
Have you had any self-harming thoughts or suicide attempts?		
Never	45.5	8.3
Sometimes	65.4	12.9
Regularly	67.6	20.4
All the time	67.9	26.5
I have tried to harm/kill myself	75.4	19.3
Have you experienced any difficulties related to your use of		
CSAM/illegal violent material?		
Not at all	37.9	7.7
Rarely	59.2	12.9
Monthly	68.9	14.8
Weekly	77.2	26.8
Nearly every time	89.1	21.3
Have you experienced difficulties in carrying out your		
ordinary daily routine and activities?		
Not at all	47.5	6.7
Yes, sometimes	64.6	14.3
Yes, monthly	61.3	19.5
Yes, weekly	75.2	29.2
Yes, daily	78.9	29.8

Table 9: Bivariate Associations of "Help us to help you" survey (part 3)

Primary outcome: Motivation to change	%	
Secondary outcome: Help-seeking behaviour		%
Contact with children		
I feel afraid that viewing CSAM/illegal violent material		
might lead to sexual acts against a child or another human		
Not at all	47.0	8.5
Rarely	57.8	14.1
Monthly	65.4	16.7
Weekly	70.0	21.4
Nearly every time	75.9	20.3
How often has viewing CSAM/illegal violent material made you think		
about seeking direct contact with children		
through online platforms (chat or other)?		
Never	59.0	10.0
Rarely	53.5	14.3
Monthly	60.8	16.4
Weekly	64.5	25.2
Nearly every time	46.0	21.0
How often after viewing CSAM/illegal violent material have you sought		
direct contact with children through online platforms (chat or other)?		
Never	60.6	10.1
Rarely	46.5	14.6
Monthly	63.4	20.5
Weekly	62.7	31.6
Nearly every time	47.2	23.3
Contact with other CSAM users		
Have you been in contact with other CSAM/illegal violent material users?		
Yes, weekly	34.8	7.8
Yes, monthly	44.7	18.7
Yes, sometimes	56.6	16.9
No, never	52.6	11.6
I do not want to be in contact with other users	79.4	13.8
Have you been affected by the feelings, thoughts, or behaviours of other		
CSAM/illegal violent material users?		
Not at all	42.6	7.1
Yes, it has had a slight effect on my feelings, thoughts, and behavior	56.5	13.9
Yes, it has had a moderate effect on my feelings, thoughts, and behavior	65.9	20.6
Yes, it has had a strong effect on my feelings, thoughts, and behavior	66.9	30.5
I am not in contact with other users	78.3	14.5

Table 10: Descriptive Statistics of "Motivation to Change" survey (part 1)

Question	N	%
What motivated you to seek help to change your behaviour?		
(Multiple selection possible)	239	
I noticed that using CSAM is negatively impacting my life	134	56.1
I felt guilt/shame about using CSAM.		
I know that it is wrong, and I want to change	165	69.0
I was encouraged to seek help by someone I know	40	16.7
I fear that I will be caught/I know that it is illegal	129	54.0
I was caught by law enforcement/convicted for		
an offence against a child	28	11.7
I fear that I will commit other offences against a child	63	26.4
Other, what?	37	15.5
From the first time you searched for CSAM,		
how long was it before you started looking for help?	226	
It took me about 1–4 weeks	55	24.3
It took me about 1–6 months	36	15.9
It took me about 6 months – 1 year	21	9.3
It took me about 1–3 years	34	15.1
It took me 3 years or more	80	35.4
How long did it take you to find		
a help resource suitable for you?	221	
I found a suitable resource straight away	57	25.8
It took me a few weeks	19	8.6
It took me about a month	22	9.9
It took me over a year	26	11.8
I have not yet found any help resource that is suitable for me	97	43.9
While seeking help to stop CSAM use,		
have you received support from anyone?	222	
No, I have sought help by myself	183	82.4
Yes, I have received support when looking for help	39	17.6
If "Yes" to previous question: Where did		
you find support when seeking help?		
(Multiple selection possible)	32	
I found support in a close person		
(e.g. family member, friend, partner)	18	56.3
I found support in another CSAM user	11	34.4
I used an online chat service to ask for support	12	37.5
I used a call-based helpline to ask for support	10	31.3
Other, what?	9	28.1
Was there anything that hindered you from seeking help		
regarding your use of CSAM previously?	218	
No, there was nothing that hindered me from seeking help.	114	52.3
Yes, there were obstacles that hindered me from seeking help.	104	47.7

Table 11: Descriptive Statistics of "Motivation to Change" survey (part 2)

Question	N	%
If "Yes" to previous question: What obstacles		
did you encounter when seeking help?		
(Multiple selection possible)	103	
I did not acknowledge that using CSAM is wrong	18	17.5
I had difficulty acknowledging the need for help	41	39.8
I feared being stigmatised because of CSAM use	78	75.7
I feared getting caught and having legal issues		
when seeking help	82	79.6
I lacked support when seeking help	40	38.8
I was sceptical about the effectiveness of help	34	33.0
I feared being diagnosed with a disorder	32	31.1
I feared being rejected by a specialist	52	50.5
Other, what?	17	16.5
After you have begun to actively seek help regarding		
your use of CSAM, did you experience any difficulties		
with finding a suitable help service/resource?	209	
No, I quickly and easily found a suitable help service/resource	102	48.8
Yes, I have experienced difficulties trying to find a suitable		
help service/resource	107	51.2
If "Yes" to previous question:		
What difficulties did you experience?		
(Multiple selection possible)	104	
I found it challenging to access help services		
(price, waiting time, etc.)	42	40.4
I could not find anonymous help services	73	70.2
I could not find information on relevant help	57	54.8
I could not find help services that operate offline, in real life	38	36.5
I could not find help services that operate online	32	30.8
I found it challenging to keep looking for help	46	44.2
Other, what?	13	12.5
Have you tried other resources		
to stop using CSAM previously?	216	
No, I have not tried to use any other resources to stop CSAM use	156	72.2
Yes, I have tried to use other resources to stop CSAM use	60	27.8
If "Yes" to previous question: What other resources		
have you tried to use to stop CSAM use?		
(Multiple selection possible)	57	
I have tried another self-help program	30	52.6
I have used a live chat service with a specialist	14	24.6
I have called a helpline	8	14.0
I have tried individual therapy	22	38.6
I have taken medicine prescribed by a specialist	12	21.1
Other, what?	17	29.8