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Who Am I and What Do I Need? Identity Difficulties as a Mechanism of the Link Between Childhood Neglect and Adult Sexual Disturbances

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ABSTRACT

Objectives: A growing body of research suggests that childhood neglect is associated with several negative repercussions in adulthood such as low self-esteem. However, we know little about howvictims navigate their sexuality. *Methods:* We explored associations between childhood neglect, identity impairment and sexual disturbances in adulthood, and examined the mediating role of identity difficulties in the relationship between childhood neglect and sexual disturbances. *Results:* Path analyses revealed that childhood neglect was associated with more identity impairment, which in turn, was associated with greater sexual disturbances. *Conclusions:* Results highlight the relevance of addressing identity difficulties in people who experienced childhood neglect and are struggling with sexual difficulties.

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Childhood neglect; identity; sexual concerns; dysfunctional sexual behaviors

Introduction

Child maltreatment encompasses two types of acts. Acts of *commission* refer to physical, sexual and emotional abuse, where abusive behaviors are directed toward the child. Acts of *omission* are best represented by childhood neglect (CN; Briere, 2002; Leeb et al., 2011), which refers to the parents' or caregivers' sustained incapacity to provide a safe and favorable environment that meets the child's basic physical (e.g., inadequate food, clothing, or accommodation, personal hygiene, supervision, and medical attention) and emotional needs (e.g., inadequate nurturance and lack of affection, failure to protect a child from domestic violence, allowing inappropriate behaviors from the child, not providing care for emotional or behavioral problems, and providing inadequate structure; Gilbert et al., 2009; Leeb et al., 2011). It also includes sustained parental nonresponsiveness and physical or psychological unavailability which can impair the child's normal psychological development (Briere, 2002). Based on official reports to Child Protective Services (CPS) agencies gathered through the National Data Archive on Child Abuse and Neglect, more than 500,000 children have experienced some form of CN, which represents 75.3% of confirmed child maltreatment victims in 2015 (U.S. Department of Health & Human Services, 2017). Representative studies documenting prevalence of CN (combined psychological and physical CN) in Canada or in United States found that between 15% and 29.4% of adults reported CN in their childhood (Clément et al., 2016; Finkelhor et al., 2015). An empirical study conducted with Canadian university students has retrospectively examined psychological neglect and foud rates of 38% in women and 45% in men (Paivio & Cramer, 2004). Because children have strong biopsychological needs for contact and nurturance, and because their brains are wired to develop in the context of caring relationships, persistent CN can result in painful feelings of what can be seen as deprivation and abandonment. Also, because of the lack of parental stimulation needed to foster the development of rich internal representations and knowledge of

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oneself (Bowlby, 1969), CN may be related to a sense of emptiness and neediness (Briere, 2002).

Results from past and current studies highlight the longlasting effects of primary caregivers' or parents' inaction). Indeed, CN is known to contribute to a range of psychological and interpersonal difficulties in adulthood (Leeb et al., 2011; Widom, Dumon, & Czaja, 2007), including insecure attachment style, difficulty in developing and maintaining relationships, loneliness, social isolation and low self-esteem (Arata et al., 2005; Kapeleris & Paivio, 2011; Leeb et al., 2011; Widom et al., 2007). Yet, and despite the fact that CN is the main cause of CPS reporting and is associated with a plethora of repercussions in adulthood (Rebbe, 2018), CN remains largely understudied in comparison to other forms of childhood maltreatment (Clément et al., 2016; Gilbert et al., 2009; Stoltenborgh et al., 2013). In particular, very few efforts have been dedicated to examine the long-term correlates of CN with respect to adult sexuality.

Childhood neglect and adult sexuality

To our knowledge, few studies have explored the link between CN and some aspects of sexuality in adulthood (Naughton et al., 2017; Norman et al., 2012) while it has been largely covered in association with child sexual abuse (e.g., Pulverman et al., 2018; Roller et al., 2009). In the study of Arata and colleagues (2005), conducted among a sample of 384 students, participants who had experienced combined physical and psychological CN did not report significantly more sexual partners than those who had not experienced CN or had experienced other types of child maltreatment, including physical, sexual or emotional abuse. In their 30-year prospective study on 908 subjets, Wilson and Widom (2008, 2011) found that children who experienced physical CN were more likely to undertake risky sexual behaviors in adulthood, compared to control subjects without CN and subjects who reported other types of child maltreatment (i.e., child sexual abuse; CSA). Specifically, they were nearly two times more likely to report early sexual contacts, and close to two and a half times more likely to have been involved in prostitution activities and to report unprotected anal sex or multiple partners with inconsistent condom use compared to those who did not experience CN. Another study highlighted that physical CN was related to increased unprotected sex in 859 high-risk youth, while emotional maltreatment, including emotional CN, was indirectly linked to low sexual self-efficacy through trauma symptoms (e.g., anxiety, depression, posttraumatic stress, sexual concerns, anger, and dissociation; Thompson et al., 2017). A prospective study using a combined measure of physical and psychological neglect among yound adults found that CN was related to multiple sexual partners and that any form of child maltreatment, including CN, predicted higher rates of youth pregnancy and greater risk for pregnancy termination and miscarriage (Abajobir et al., 2018). Ramiro et al. (2010) found that among 1,068 adult respondents from the community of Philippines, psychological CN was related to higher risks of having multiple sex partners and early sex (i.e., before age 16) while using a combined measure of CN, Thibodeau and colleagues (2017) found similar results in a sample of 1940 sexually active adolescents in addition of more frequent casual sex behavior. Finally, Klein (2007, 2014) found that CN was both directly and indirectly associated with higher HIV-related risk behaviors through lower self-esteem.

Those studies mostly measured CN through a combination of endured physical and psychological CN, but have been conducted among students, adolescents, high-risk samples or samples from other countries with potentially different cultures, and focused exclusively on risky sexual behaviors. Hence, we lack data on the link between CN and sexual disturbances in community samples of North American, as well as on the wide array of sexual disturbances (i.e., negative affects toward sexuality, unprotected sex, shame related to sexual thoughts or behaviors or sexual problems).

Theoretical avenues can be put forward to explain the link between CN and adults' sexual disturbances. First, the tendency to actively use sexuality with multiple partners and risky sexual behaviors may serve as a mean of filling an inner sense of emptiness resulting from CN (Yeomans et al., 2002). Indeed, this painful sense of

emptiness may lead to acting out behaviors, aiming to discharge emotions through action as a way to avoid the experience of unpleasant affects. This assumption is in line with the Self-Trauma Model (Briere, 2002) that highlights the deleterious effects of child abuse and neglect on the individual's capacity to learn how to deal with or tolerate negative feelings without resorting to any kind of avoidance strategies that may "distract, soothe, numb, or otherwise reduce painful internal states" (including substance abuse, excessive sexual behavior, bingeing or purging, or even self-injury; Briere et al., 2010; Mitchell et al., 2012).

Childhood neglect and identity difficulties

CN is likely to impair identity development and to foster identity diffusion and lack of self-knowledge. Indeed, experience of child maltreatment, and CN in particular, has been linked to difficulties in maintaining a stable and coherent sense of self through a range of emotions, situations and interactions with others (Arata et al., 2005; Briere, 2002; Kapeleris & Paivio, 2011). For example, in the study of Kapeleris and Paivio (2011), conducted among 187 students, CN was associated with a lack of contentment, feeling of worthlessness, difficulty to identify and to communicate feelings (alexithymia), and fear of rejection and abandonment in romantic relationships in adulthood.

Unlike abuse, which involves clear messages from caregivers (acts of *commission*), CN involves an insufficiency of engagement and mirroring; in other words, emptiness. Neglectful, unavailable or unresponsive parents, oftentimes, fail to be attuned to the internal world of the child, which in turn, tend to hinder the development of a rich and coherent sense of self as well as the capacity to reflect on one's own and other's internal states (Fonagy, 2004; Fonagy et al., 2002). This latter capacity can be understood as a deficit in mentalization. Mentalization processes play a major role in the development of identity because they refer to a mental activity allowing an individual to understand the meaning of its actions and those of others in terms of mental states, such as beliefs, intentions, feelings, desires and thoughts (Allen & Fonagy, 2006).

According to Fonagy and Luyten (2009), identifying the cause of painful emotions helps to contain the emotional reaction and reduce its intensity. When parents are attuned to the child's internal world and able to make sense of the child's emotional reactions and needs, they promote mentalization skills. These mentalization skills subsequently support the development of a coherent and stable sense of self (i.e., identity). However, parental failure to respond to the need of their child, to be caring and sensitive, may lead to identity diffusion, which can be understood as a lack of agency resulting from an inability to connect mental states with actions (Bolton & Hill, 1996) or a feeling of discontinuity in one's sense of self.

Identity difficulties as a mechanism of the relation between CN and sexual disturbances

While identity difficulties have been found to be correlated with some dysfunctional sexual behaviors and sexual concerns (Bigras Godbout, & Briere 2015; Briere & Runtz, 2002), it has never been examined as a potential mediator of the relationship between CN and sexuality in adulthood. Yet, based on theories suggesting that people tend to behave in accordance with their self-conceptions as individuals (e.g., Ryan & Deci, 2000), it is rather difficult to conceive how people who experienced CN could be well-equipped to behave sexually in accordance with how they define themselves if they are lacking a stable sense of self. Indeed, empirical research and theoretical models of the repercussions of child maltreatment suggest that children may feel powerless during actual victimization experiences and then internalize and generalize this feeling (Turner et al., 2017). CN might support this view of self as unworthy, since the people who were typically supposed to take care of the child did not—or were not able to—devote the physical and emotional efforts required to interact with him/her. By being treated that way, it can be difficult for the victims to see themselves as mattering to others or to have internalized any sense of self-esteem, which potentially explains why many

neglected people have a difficulty in developping a solid and coherent sense of self (Klein et al., 2007). Therefore identity difficulties are likely to hamper their ability to care for themselves, or know what they want or like in relation with themselves and others, which is crucial in the sexual realm. More specifically, caregivers' failure to be attuned to the child's internal world is likely to impact the normal development of the childs's capacity to identify his or her internal states, emotions, needs, and desires (Fonagy & Target, 2006). Persisting into adulthood, impairments in self-knowledge are likely not only to interfere with the adoption of sexual attitudes and behaviors that would fulfill the individual's needs and desires, but also to impede the recognition of and avoid attitudes and behaviors that would generate sexual distress and concerns.

Confronted with the dearth of research on CN and based on empirical research as well as theoretical propositions, we first aimed to document the presence of CN in a convenience sample as well as examine how it relates to identity difficulties and sexual disturbances. We expected that CN would be as prevalent in our sample as in other studies with non-clinical samples, and that we would observe significant associations with identity difficulties, sexual concerns and dysfunctional sexual behaviors. Second, we aimed to examine the first integrative model of the mediator role of identity impairment in the relationship between CN and sexual disturbances in adulthood. We expected that people who experienced more CN would struggle with greater identity difficulties, which in turn, would be associated with more important sexual concerns and dysfunctional sexual behaviors. Lastly, since sexual difficulties have frequently been found to be associated with CSA (Roller et al., 2009; Pulverman et al., 2018; Vaillancourt-Morel et al., 2015), we controlled for this type of interpersonal trauma and hypothesized that CN would contribute, above and beyond CSA, to sexual disturbances.

Method

Participants and procedure

A convenience sample of 374 individuals aged 18 years or older recruited online through a link posted on Facebook (Facebook page of the research lab and research team personal profiles) and distributed through a psychology research listserv was used. Recent research suggests that Facebook and social network recruitment is as viable as more traditional research methods (Rife et al., 2016). The questionnaire was hosted on the *SurveyMonkey* website. The study was described as an anonymous survey on past experiences of victimization, intrapersonal processes, relationships, and sexual functioning. The study was approved by the University Institutional Review Board. Participation in the study required about 45 min and participants could enter a draw for $50CA.

Participants were between 18 and 68 years old ($M = 28.55$; $SD = 10.19$), with most of the sample being women (73.4%, $n = 278$). Most participants reported French as their first language (96.8%), while 1.6% had English as their first language. Most participants were born in Canada (90.1%), while 6.1% were from Western Europe and 1.3% from Eastern Europe. Regarding marital status, 10.8% were married, 34.9% were in relationship and cohabiting, 29.1% had a regular partner without cohabiting, and 25.1% were single. More than half of the sample was students (56.7%, $n = 212$), 32.6% ($n = 122$) were full time workers, and 8.4% ($n = 84$) were part-time workers. The majority had completed university studies (undergraduate: 47.9%; graduate studies: 23%). The vast majority of participants reported being heterosexual (92.1%). Half (50.1%, $n = 191$) of participants had an average annual income below $20,000 CA, and 20.5% ($n = 78$) had an average annual income between $20,000 and $40,000 CA.

Measures

The broader study aimed at investigating a range of adult outcomes of childhood interpersonal trauma. The complete survey included measures of childhood interpersonal trauma and relational, sexual, and psychological functioning. Previous articles can be consulted for more information on the other measures included in the overall project and the other investigated outcomes (Bigras, et al., 2015; Bigras, Daspe, Godbout, Briere, & Sabourin, 2017; Bigras & Godbout,

2020). Questions about sociodemographic variables such as sex, age, relationship status, sexual orientation, education, occupation, and annual income were included in the computerized questionnaire.

Childhood neglect

This variable was measured using five items inspired from the Comprehensive Child Maltreatment Scale (Higgins & McCabe, 2001) and the Psychological Maltreatment Review (Briere et al., 2012), taken from the Cumulative Childhood Trauma Questionnaire (CCTQ, Blinded et al., 2017). The latter contains17 items assessing eight different types of interpersonal traumas before the age of 18 including sexual, physical and emotional abuse, physical and psychological neglect, witnessing physical and psychological interparental violence and bullying. Items about neglect assessed lack of care concerning physical and psychological needs on a typical year, before the age of 18, on a scale ranging from 0 (*never*) to 6 (*every day or almost every day*). Specifically, psychological neglect was assessed using a combination of the emotional neglect scale from Briere et al. (2012): "one or both parents ignored the child, was not there when needed or seemed not to love the child," "has struggled to understand the child or the child's needs," and finally, "one or both parents ignored the child's demands for attention or did not talk to them." To assess physical neglect, participants had to determine to what extent one or both parents had responded or not to their basic needs as a child with two items from Higgins and McCabe (2001): "one or both parents did not give any meals, regular baths, clean clothes or the medical attention needed" and "locked up the child alone in a room for a long period of time." Two different variables were used. A dichotomous variable of CN was used for descriptive data (0–1). It was coded as experienced (1) as soon as the individual reported at least one occurrence in a typical year. A total continuous score of neglect including the five items, ranging from 0 to a maximum of 30, was created to capture the neglect severity continuum reported by participants for further analyses. Higher scores reflect more severe neglect. The five-items scale demonstrated a good Cronbach's alpha ($\alpha = .75$).

Childhood sexual abuse

One dichotomous item (0 = not experienced, 1 = experienced) assessed whether the individual had ever experienced unwanted sexual contact or sexual contact with an adult, someone in authority, or someone 5 years older before 18 years of age. If participants answered "yes" to this item, they were classified as having experienced CSA (1 = experienced) and were invited to answer additional questions about the type of sexual contact experienced (e.g., showed genitals, touching, oral sex, vaginal or anal penetration) and the participant's relationship to the abuser (e.g., father, uncle/aunt, neighbor). This measure was used in previous studies (Bigras et al., 2015, 2017).

Identity difficulties

The Inventory of Altered Self-Capacities (IASC; Briere, 2000; Briere & Runtz, 2002) was used to assess identity impairment. This measure assesses self-capacities thought to be related to adult optimal functioning in terms of relatedness, identity and affect dysregulation. Only the two identity subscales were used in the current study. Each scale is composed of nine items answered on a five-point scale ranging from 1 (*never*) to 5 (*very often*). The Identity Impairment scale measures the difficulty in maintaining a sense of self that is stable and consistent across different situations, interactions with others and emotions. The Susceptibility to Influence scale measures the tendency to follow the orders of others indiscriminately and accept assertions without critical judgment (Briere & Runtz, 2002). The IASC was translated into French following an agreement with the publisher (Psychological Assessment Resources; PAR). Once the translation was completed, a back-translation to English was conducted. Then the original English version and the back-translated version was forwarded through PAR to the original author for his assessment of equivalence. Items identified as nonequivalent were modified until the author of the original version approved the back-translated version. The IASC codification manual states that T-score of 70 or higher is an indication of clinically

significant identity difficulties (Briere, 2000). A total score of the two identity subscales was created by combining the two subscales, ranging from 0 to 90 with higher scores showing higher identity difficulties (18 items). The total identity difficulties scale showed good internal consistency ($\alpha = .91$) as in the validation study ($\alpha = .93$, Briere & Runtz, 2002).

Sexual disturbances

Sexual concerns and dysfunctional sexual behaviors were measured through the 10-item subscale of the Trauma Symptom Inventory-2 (TSI-2, Briere, 2011). This inventory measures a variety of psychological sequelae related to experiences of traumatic events such as anger, depression, suicidality or insecure attachment . Each item is based on a 4-point Likert Scale ranging from 0 "never happened in the last six months" to 3 "happened often in the last six months". Sexual concerns refer to sexual distress in terms of thoughts or unwanted sexual emotions (e.g., being ashamed of sexual thoughts or behaviors, or encountering various sexual problems). Dysfunctional sexual behaviors refer to behaviors that are, to some extent, dysfunctional, either because of their indiscriminate nature, their potential to cause harm or because they are inappropriately used to achieve non-sexual purposes (e.g., having unprotected sex or getting into trouble because of sex). The validity and reliability of this instrument were demonstrated in several samples, in particular by showing good reliability coefficients (α for sexual concerns = .80; α for dysfunctional sexual behaviors = .83, Briere, 2011). The TSI- 2 allows identification of participants who have difficulty in terms of sexuality; scores of 65 or higher are indications of significant problems in the sexual sphere (Briere, 2011). In the current study internal consistency was satisfactory (α for sexual concerns = .70; α for dysfunctional sexual behaviors = .73).

Analytic strategy

Descriptive analyses were first conducted to document the distribution of the variables in the sample. Then, correlations between study variables were examined to ensure that they were all significantly associated as hypothetized. Finally, the hypothesized mediation model was tested using path analyses with CN as independent variable, identity difficulties as a mediator and sexual concerns and dysfunctional sexual behaviors as outcome variables. Path analysis is a statistical method allowing the test of both direct and indirect links between different variables that are potentially correlated with each other (Kline, 2011). Path analysis considers the relationships between variables by taking into account all relations simultaneously. Since sexual concerns and dysfunctional sexual behaviors are thought to be correlated, a covariance between the error terms of these two variables were added to the model. Based on the body of literature showing long term effects of childhood sexual abuse (CSA) on sexual outcomes (Lemieux & Byers, 2008; Rellini, 2014; Rellini & Meston, 2011), the model was also examined adjusting for the influence of this specific type of childhood maltreatment. These analyses were conducted using Mplus software Version 7 (Muthén & Muthén, 1998–2012). We handled missing data using *full information maximum likelihood* (FIML, Muthén & Muthén, 1998–2012) and used a robust estimation of parameters given that some variables (CN and dysfunctional sexual behaviors) were not normally distributed (MLR).

To assess the overall model fit, the following adjustment indices were used: chi-square, the comparative fit index (CFI; Bentler, 1990), and the root mean square error of approximation (RMSEA; Steiger & Zanko, 1990). A non-statistically significant chi-square value, a CFI and NFI of .90 or higher and a RMSEA of less than .06 are considered indicators of a good fit (Hu & Bentler, 1999). To examine the significance of indirect effects, we used 95% bootstrap confidence intervals (MacKinnon & Fairchild, 2009). This bias-corrected method is based on a distribution for the product of coefficients and generated confidence limits for the true value of the coefficient for indirect effects. When zero is not in the confidence interval, the indirect effect is considered significant.

In order to examine the potential impact of gender on our findings, we conducted a multiple-group gender-invariance analysis using a chi-

Table 1. Mean and Standard Deviations of Continuous Scores of CN.

Variables	Mean	*SD*
Total CN (0–24)	3.78	5.12
Psychological CN (0–18)	3.45	4.47
Item 1. One or both parents ignored the child, was not there when needed or seemed not to love the child (0–6)	.92	1.72
Item 2. One or both parents has struggled to understand the child or the child's needs (0–6)	1.89	1.99
Item 3. One or both parents ignored the child's demands for attention (0–6)	.67	1.44
Physical CN (0–9)	.34	1.13
Item 1. One or both parents did not give any meals, regular baths, clean clothes or the medical attention needed (0–6)	.20	.90
Item 2. One or both parents locked up the child alone in a room for a long period of time (0–6)	.19	.71

square difference test; a univariate incremental chi-square value probability smaller than .05 indicates evidence of differences across men and women in the associations examined.

Results

Preliminary analyses and descriptive statistics

Rates of participants who endorsed at least one act of emotional or physical CN in our sample was 66.3% (respectively 65%, $n = 248$, and 11.7%, $n = 44$, for emotional and physical neglect). Means and standard deviations of continuous scores of CN were also computed and results from breaking down the data by type of CN as well as by items are also shown (see Table 1). In terms of frequency, 4.3% ($n = 16$) reported that one or both of their parents ignored them, was not there when needed or seemed not to love them on a daily basis. Eight percent ($n = 30$) reported that one or both of their parents has struggled to understand them or their needs each day and finally, 2% ($n = 7$) reported that one or both parents ignored their demands for attention or did not talk to them on a daily basis. Frequency of physical CN was lower: 1% of the sample ($n = 5$) reported one or both of their parents did not give them any meals, regular baths, clean clothes or the medical attention needed each day and less than 1% stated that they were daily locked up the alone in a room for a long period of time. Using a dichotomous score, 23% ($n = 89$) of the sample reported having experienced sexual abuse before the age of 18.

In terms of CSA, 23.2% ($n = 89$) of the sample reported having experienced CSA before 18 years old. CSA were committed by a boy of the same age as the victims without their consent (29.7%, $n = 27$), a male member of the family including the mother's partner, a brother, an uncle, or a grand-father (20%, $n = 22$), or a male stranger 5 years older than the victim (15.4%, $n = 14$). Thirteen percent ($n = 11$) of survivors report CSA without contacts (e.g., touching sexual body part, making the child touch the perpetrator), 50% of survivors ($n = 42$) reported CSA with contacts only and 37% of survivors ($n = 31$) reported CSA with oral, vaginal or anal penetration.

With respect to identity difficulties, possible scores ranged between 17 and 82 and participants reported a mean score of 30 ($SD = 11.09$). Approximately 27% ($n = 101$) of the sample showed clinically significant difficulties in terms of identity impairment, while 17.6% ($n = 66$) reported clinically significant difficulties in terms of susceptibility to influence. In addition, 6.1% ($n = 23$) of participants showed significant sexual concerns, while 6.6% ($n = 25$) reported significant dysfunctional sexual behaviors. In terms of the mean on each sexual subscale, result showed that on a scale ranging from 0 to 15, participants reported a mean score of 2.73 on sexual concerns ($SD = 2.88$) while on scale ranging from 0 to 14, participants had a mean score of 1.50 on dysfunctional sexual behaviors ($SD = 2.20$).

Bivariate analyses (Table 2) showed that all the study variables were significantly correlated. As expected, CN was positively associated with sexual concerns and dysfunctional sexual behaviors in adulthood. Neglect was also positively correlated with identity difficulties. Finally, identity difficulties were positively associated with sexual concerns and dysfunctional sexual behaviors. Child sexual abuse was positively correlated with CN, identity difficulties and sexual concerns, but not associated with dysfunctional sexual behaviors. We also explored relationships between study variables and key demographics (i.e., age and relationship status) to determine whether they would be relevant covariates. Age was not

Table 2. Correlations Among Key Demographics, Childhood Neglect, CSA, Identity Difficulties, Sexual Concerns and Dysfunctional Sexual Behaviors.

Variables	1.	2.	3.	4.	5.	6.
1. Relationship status	–					
2. CSA[a]	.01	–				
3. Chilhood neglect[b]	.10*	.28***	–			
4. Identity difficulties	.17**	.13*	.41***	–		
5. Sexual concerns	.12*	.13**	.16**	.39***	–	
6. Dysfunctional sexual behaviors	.52***	.06	.17***	.35***	.45***	–

*$p \leq .05$; **$p \leq .01$; ***$p \leq .001$.
[a]Child sexual abuse (CSA) is a dichotomous variable.
[b]Childhood neglect is a continuous variable.

significantly related to study variables while relationship status (0 = in a relationship, 1 = not in a relationship) was significantly correlated with participants' identity and sexual difficulties. Thus, relationship status was included as covariates in further analyses.

Path analyses

Direct associations between CN and sexual concerns as well as dysfunctional sexual behaviors were first examined, while controlling for relationship status and CSA. The associations between relationship status and sexual outcomes were significant (sexual concerns, $\beta = .10$, $p = .05$; dysfunctional sexual behaviors, $\beta = .51$, $p < .001$), suggesting that being single was related to increased levels of sexual concerns and dysfunctional sexual behaviors. Results showed that CN was significantly associated with greater sexual concerns ($\beta = .12$, $p = .03$), but not with sexual dysfunctional behaviors ($\beta = .11$, $p = .07$). This model also revealed nonsignificant paths between CSA and sexual concerns ($\beta = .10$, $p = .10$) as well as dysfunctional sexual behaviors ($\beta = .02$, $p = .65$). the model provided good fit to the data, χ_2 (4) = 4.75, $p = .31$, CFI = 1.00, RMSEA = .02, 90% CI (.00, .08), and explained 4% in the variance of sexual concerns variance and 27% in the variance of dysfunctional sexual behaviors.

To assess our mediational model, identity difficulties were then added to the first model. A path from relationship status and CSA to the mediator were added. Nonsignificant associations among covariables were left in the model to be estimated (see Figure 1). The specified model showed good fit to the data (χ^2 (4) = 4.72, $p = .32$, CFI = 1.00, RMSEA = .02, 90% CI (.00, .08)). Direct path between CN and sexual concerns became nonsignificant after the inclusion of the mediator. Results showed that CN was moderately and positively associated with identity difficulties ($\beta = .41$, $p < .001$), which in turn, were positively and moderately associated with both sexual concerns ($\beta = .39$, $p < .001$) and dysfunctional sexual behaviors ($\beta = .29$, $p < .001$).With the inclusion of the mediator, the association between relationship status and sexual concerns became nonsignificant, but relationship status remained significantly linked to dysfunctional sexual behaviors ($\beta = .48$, $p < .001$). The covariance between the two sexual subscales was significant ($r = .38$, $p < .001$), as well as the one between CN and CSA ($r = .28$, $p < .001$).

Examination of indirect effects revealed two significant indirect effects from CN to sexual concerns and dysfunctional sexual behaviors through identity difficulties (sexual concerns, $b = .09$, 95% CI [.06, .13]; dysfunctional sexual behaviors, $b = .06$, 95% CI [.03, .08], respectively). Thus, more neglect during childhood was associated with greater identity difficulties which, in turn, were associated with increased levels of sexual concerns and dysfunctional sexual behaviors. The final model explained 19% of the variance in identity difficulties, 17% in the variance of sexual concerns, and 34% in the variance of dysfunctional sexual behavior. Overall, results showed that CN was related to sexual outcomes above and beyond the effects of CSA but that relationship status was playing an important role in the presence of greater dysfunctional sexual behaviors.

Gender invariance

Gender invariance was assessed to examine if the model held across gender. The model was first examined separately for men and women, allowing coefficients to be freely estimated. The results of the multi-group model showed good fit to the data (χ^2 (8) = 11.89, $p = .16$, CFI = .99, RMSEA = .05, 90% CI (.00, .11). This model was then compared to a more restrictive model in which all coefficients were constrained to be equal across men and women. The models were compared using the Sattora Bentler chi-square difference in which a p-value of < .05 indicates

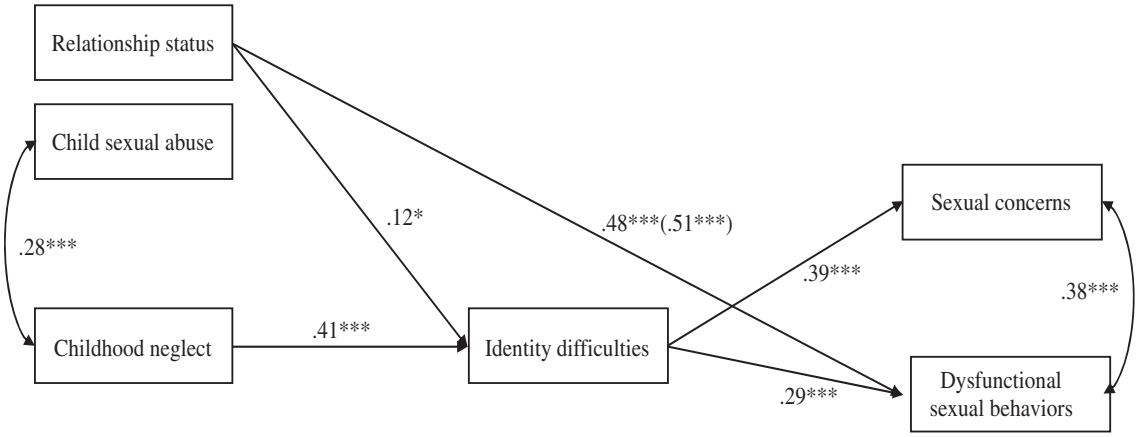

Figure 1. Path analysis model of the role of identity difficulties in the association between childhood neglect and sexual concerns and dysfunctional sexual behaviors. Coefficients in brackets are estimates before the inclusion of mediator. *Note.* To avoid overloading the figure, nonsignificant paths and covariances are not depicted. $^{*}p < .05$; $^{***}p < .001$.

statistically significant differences between the models for men and women. The results revealed a p-value above .05, ($\Delta\chi^2$ (13) = 17.77, p = .17) suggesting that neither the overall model nor any of its paths differed significantly across gender.

Discussion

The aims of this study were to document the prevalence of CN in a convenience sample and its associations with identity and sexual difficulties in adulthood, as well as examining the mediational role of identity difficulties in the relationship between CN and sexual disturbances. First, compared to previous studies, results showed a much higher prevalence of emotional neglect and a similar rate of physical neglect. This might be explained by the items we used, and the way CN was calculated. Indeed, as soon as the participant reported one act of CN, it was coded as experienced whereas other studies used a judgment by community and professional standards or depending on the severity of acts the participant experienced (Klein et al., 2007; Klein, 2014; Wilson & Widom, 2008). It might also be that the items used to assess emotional neglect in the present study (whether one or both parents ignored the child, did not understand the child's need or ignored the child's demands for attention) were triple barreled, general and open to subjective interpretation by the respondents (Ramiro et al., 2010; Stoltenborgh et al., 2013), while other studies used more specific behavioral questions, such as "Was your birthday always remembered?" or "[one or both parents] treat the child's drawings as important" (Clément et al., 2016; Stephenson et al., 2006). Yet, considering that emotional neglect can unfold in many ways (Gilbert et al., 2009; Leeb et al., 2011), more subjective and broad questions (e.g., felt ignored, invisible, not-understood), rather than specific behavioral exemples, may best capture participants' CN experiences, and therefore measure participants' perception of neglect rather than measuring a number of specific facts (reactions to birthdays and drawings). By assessing subjective perception of neglect, we observed a higher rate of participants reporting experiences of emotional neglect in our sample as compared to other samples. This rate should, on the other hand, be interpretated carefully, since the mean of the continuous score of emotional CN found in this study is relatively low. Still, our prevalence suggests that a majority of indviduals have, at least once in a typical year during their childhood, felt emotionally neglected by their parents. This result show the importance of including emotional CN in future studies and to measure it in a continuous way to better capture the severity of neglect and its associated outcomes.

The hypothesized mediational role of identity difficulties in the relationship between CN and sexual disturbances was supported by the findings. More precisely, path analyses confirmed that more CN was both directly and indirectly associated with greater sexual concerns in adulthood, and indirectly associated with dysfunctional

sexual behaviors, through identity difficulties, while taking into account CSA and relationship status. Those results are supported by the literature on Borderline personality disorder where Wiederman and Sansone (2009) suggest that a changing and incoherent sense of identity, in particular when intertwined with feelings of abandonment or boredom, may contribute to greater use of indiscriminate sexual behaviors. These results suggest that, years after having experienced neglect from attachment figures, it can still influence a person's sexual life through its repercussions on impaired identity. By not receiving sufficient care and attention from their caregivers, survivors may have internalized that they are not important to others and have little personal value, altering the development of a solid sense of self (Klein et al., 2007). This, in turn, might lead to poor abilities to care for themselves, to know what they like and need, and to act in ways that make sense to them in the long run. Those abilities are yet critical to face sexual situations without experiencing sexual concerns (e.g., sexual dissatisfaction, sexual dysfunction, unwanted sexual thoughts/emotions) or dysfunctional sexual behaviors (e.g., sexuality that may cause harm or to achieve non-sexual purposes). In addition, an emotionally or physically unavailable parent may interfere with the development of the child's mentalization abilities. The development of the child's sense of self and the child's understanding of own and others' mental states could be thought as essential skills for a positive and healthy sexuality later on. For example, impulsive sexual behaviors might possibly come from a lack of mentalization skills (Berry & Berry, 2014). Difficulties in understanding one's own mental states, emotions and thoughts, and rather act them out, might lead to engagement in risky sexual situations (Birthrong & Latzman, 2014) and/or in sexual situations that leave the individual anxious (Bigras et al., 2017) or unsatisfied (Bigras et al., 2015).

Results not only confirmed our hypothetized effects of CN on sexual outcomes in adulthood, but they also supported them above and beyond the presence of CSA. In this study, we controlled for the presence of sexual abuse in childhood, which has been repeatedly associated with sexual difficulties in adulthood (Lemieux & Byers, 2008; Rellini & Meston, 2011; Vaillancourt-Morel et al., 2015). Since it is not uncommon for a child victim of one type of childhood interpersonal trauma to experience several other types (e.g., neglect, sexual abuse, physical abuse; Bigras et al., 2017; Finkelhor et al., 2006), the notion of polyvictimization is therefore important to keep in mind when studying the impact of childhood trauma to try disentangling the unique contribution of each type of interpersonal trauma. These findings provide new highlights into the study of impaired sexual functioning in the aftermath of childhood maltreatment. This finding complements and expands previous empirical and theoretical knowledge, such as Finkelhor & Browne's four traumagenic dynamics model (1985) stipulating that traumatic sexualization, defined as the child's sexuality being shaped in a "developmentally inappropriate and interpersonally dysfunctional fashion" (p. 531), is one key dynamic in the development of inappropriate repertoire of sexual behaviors or confusions about the sexual self-concept. They suggest that being deprived of security, and responsiveness to emotional or physical needs, tend to leave people who experienced CN with little relational landmark on what is good or bad for them, and lead to sexual concerns and dysfunctional sexual behaviors in adulthood, even after controlling for experienced CSA. If current data are replicated, results will show that not only traumatic sexualization, but also CN, may provide a "developmentally inappropriate and interpersonally dysfunctional" (Finkelhor & Browne, 1985, p. 531) environnement, likely to impair the sexual self-concept and to be an obstacle to the development of a healty and satisfactory sex life.

In accordance with previous studies conducted in various samples of CSA survivors from the Quebec community (Vaillancourt-Morel et al., 2016), men and women from the general population in France (Sicard et al., 2017) or Brazilian women (Pereira et al., 2013), the current results also demonstrate a significant link between relationships status and sexual outcomes, in particular in single participants and regarding dysfunctional sexual behaviors.

Limitations and further studies

Results must be considered within their inherent limitations. First, the mediational role of identity difficulties must be understood with caution because of the cross-sectional design that prevents causality inferences. Use of retrospective self-reported measures also involves some limitations as the passage of time may induce biases in recall of biographical events and because self-report measures of child maltreatment seem to allow discriminating individuals with potential different risk pathways to psychological outcomes (Baldwin, Reuben, Newbury, & Danese, 2019). The choice in measures also induce biases in itself as several other variables could have been assessed to explain the link between CN and sexual outcomes. Specifically, although the rationale of the study is strongly based on the theory of mentalization, the fact remains that this hypothesis has not been directly tested and should be examined in future investigations, knowing that trauma alters the development of mentalization skills and that lack of mentalization skills disturbs psychosocial functioning (Fonagy & Bateman, 2016; MacIntosh, 2013). Secondly, the use of online surveys and various recruitment methods, such as Facebook, and psychology research listserv, can involve some limitations. Despite the fact that it facilitates the examination of more sensitive subject such as childhood experiences and sexuality, it may also limits the representativeness and generalizability of our results by affecting the sampling strategy. Indeed, only individuals who have access to the internet were reachable. Although most of North American adults have online access, results from Census data (Ryan & Lewis, 2017) suggest that users are more likely to be White, younger and more highly educated. Also, individuals who select themselves for the survey (e.g., self-selection bias) may be of great importance (Bethlehem, 2010) regarding who would volunteer for online child maltreatment and sexuality research. Future studies are needed to replicate our mediational model with different subject populations and in different settings.Thirdly, sexuality often being experienced within the context of a commited relationship, future study should include both partners to document the couple dyad as the unit of analyses, in order to capture the dynamic interplay between partners' respective history, sense of self and sexual difficulties. Finally, as for studies previously cited documenting the role of CN on subsequent sexual functioning (e.g., Arata et al., 2005; Ramiro et al., 2010; Thompson et al., 2017; Wilson & Widom, 2008, 2011), our study included both physical and psychological neglect as a total score, and future study should examine the potential particularities related to different types and degree of CN. In the same vein, while documenting only CSA and CN might seem an important limitation, too many studies are documenting child maltreatment as a homogenous whole (e.g., Bigras et al., 2017; Rellini et al., 2012) without disentangling the different types of adversities that may arise in one family. Therefore, while the current method present limitations, it is also thought to put forward the relevance of scrutinizing independently CN which has long been overlooked in scientific literature (Stoltenborgh et al., 2013) but also all other types of child maltreatment and their co-occurence.

Practical implications and conclusion

Results highlights the awareness with which clinicians should work with their patients, whether they spontaneously report a history of CN in the beginning of their therapy or consult for identity difficulties or sexual concerns. Since the current results suggest that people who experienced CN are likely to report identity and/or greater sexual concerns and dysfunctional sexual behaviors, mentalization-based treatments (MBT) could be an interesting therapeutical avenue. Indeed, the development of the capacity to identify, to understand one's own feelings, and to express them in an intentional efficient manner, consistent with their subjective, individual values and priorities (Berry & Berry, 2014), and to stabilize the sense of self (Bateman & Fonagy, 2010) seems well-suited for those individuals and could promote a healthy and more satisfying sexuality. Fostering a greater sense of self in therapy could also help individuals to more easily acknowledge their sexual preferences and boundaries, recognize their right for sexual pleasure, gain enough confidence

to communicate their sexual needs and interests (Tambling et al., 2012), and potentially diminishing the presence of sexual disturbances. Conducted in the context of a welcoming, warm and safe relationship with the therapist, interventions that are either trauma-focused or aimed to foster mentalization could offer the synchronicity and emotional attunement formerly needed during childhood to develop a sense of self that remains stable across the different stages of life.

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The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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