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**Socio-cognitive factors underlying child abuse and neglect: The role of parental attributions**

Cláudia Camilo

*Master* in Psicologia Comunitária, Proteção de Crianças e Jovens em Risco

Supervisor:

Margarida e Sá de Vaz Garrido, Professora Associada, Departamento de Psicologia Social e das Organizações, Iscte - Instituto Universitário de Lisboa

November, 2020





CIÊNCIAS SOCIAIS  
E HUMANAS

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Departamento de Psicologia Social e das Organizações

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## **Abstract**

Socio-cognitive models explaining maladaptive parenting have been examining the cognitive information processing mechanisms in determining parental behavior towards children. Among different cognitions, parental attributions about child's behavior seem to have an important role to child maltreatment. However, little research has been conducted with in neglectful parents and the different patterns of parental attributions that are associated with child abuse and child neglect respectively are still underexplained.

In order to explore parental attributions associated with (self and professionals-reported) abusive and neglectful parental practices, 218 mothers participated in this study (half of them referred to the child protection services). Moreover, the effect of transgression-mitigating information, and the moderation effect of maternal intellectual functioning and socioeconomic status were examined.

The results suggested that mothers with higher scores on child abuse and neglect report more internal, global and stable attributions about the child's behavior, and feel less in control of the child's behavior. However, different attributional dimensions were found to be associated with abuse and with neglect respectively, and the effect of mitigating information also seems to be higher for child neglect. Surprisingly, the moderating role of intellectual functioning for child neglect indicated that higher neglect scores were associated with more internal and global attributions in mothers with higher levels of intellectual functioning.

This work presents a contribution to the still emerging research about parental cognitions in the context of child maltreatment. The theoretical and practical implications of these findings are discussed.

**Keywords:** Parental attributions; Social information processing; Child abuse and neglect; Multiple informants.

### **PsycINFO Codes:**

**2340** Cognitive Processes

**2900** Social Processes & Social Issues

**2956** Childrearing & Child Care

**3040** Social Perceptions & Cognitions





## **Resumo**

As abordagens sociocognitivas da parentalidade têm examinado os mecanismos de processamento cognitivo da informação na determinação dos comportamentos parentais. Entre os diferentes componentes cognitivos, as atribuições parentais sobre o comportamento da criança parecem assumir um papel importante no mau-trato infantil. No entanto, a investigação desenvolvida com pais negligentes é ainda escassa, e os diferentes padrões de atribuições parentais associados especificamente ao abuso e negligência ainda estão pouco explicados.

Com o objetivo de explorar as atribuições parentais associadas à parentalidade abusiva e negligente (auto-relatada e relatada pelos profissionais), participaram neste estudo 218 mães (metade sinalizadas aos serviços de proteção). Também o efeito de informação atenuante na transgressão, e o efeito moderador do funcionamento intelectual e estatuto socioeconómico materno foram examinados.

Os resultados sugeriram que as mães que reportam níveis mais elevados de abuso e negligência relatam atribuições mais internas, globais e estáveis sobre o comportamento da criança e sentem que controlam menos as suas transgressões. No entanto, diferentes dimensões de atribuição revelaram estar associadas ao abuso e à negligência, respetivamente, e o efeito da informação atenuante também parece ser significativo apenas para a negligência. Surpreendentemente, o papel moderador do funcionamento intelectual na negligência revelou níveis mais elevados de negligência associados a atribuições mais internas e globais em mães com níveis mais elevados de funcionamento intelectual.

Este trabalho apresenta um contributo para a investigação ainda emergente sobre as cognições parentais no contexto do mau-trato à criança. As implicações teóricas e práticas destes resultados são discutidas.

**Palavras-chave:** Atribuições parentais; Processamento de informação social; Abuso e negligência; Múltiplos informantes.

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## I. Introduction

Single-cause explanations for child abuse and neglect have been recognized as simplistic given the well-documented nature of the multiple pathways that might lead to child maltreatment (Cicchetti & Valentino, 2006). Child maltreatment has been typically addressed by socio-ecological approaches, based on Belsky's model on the determinants of parenting (Belsky, 1984, and revisited by Taraban & Shaw, 2018). Despite the importance of these models, recent socio-cognitive approaches to parenting have been emphasizing the role of parental cognitions in determining parental behaviors towards children (e.g., Johnston et al., 2018; Sigel & McGillicuddy-DeLisi, 2002), namely parental attributions about child's misbehavior (e.g., Haskett et al., 2003, 2006). In the current work we explore parental attributional processes underlying child abuse and child neglect.

Socio-cognitive models explaining maladaptive parenting (e.g., Azar et al., 2008; Larrance & Twentyman, 1983) have been examining the cognitive information processing mechanisms in determining parental behavior towards children (e.g., Johnston et al., 2018; Mah & Johnston, 2008; Sigel & McGillicuddy-DeLisi, 2002). According to these approaches, abusive and neglectful parents are unable to understand the signals or states of the child, interpret these signals correctly, and select and implement adequate responses due to bias and errors in processing caregiving related information (Crittenden, 1993; Milner, 1993, 2003). Child abuse and neglect have been associated with different socio-cognitive parental variables (see Camilo et al., 2020a for a recent meta-analysis). For example, research has shown that physically abusive parents display more negative affect towards children, make more errors when recognizing children's emotions, reveal difficulties in problem-solving and present a limited repertoire of adequate parenting techniques, while neglectful parents present unrealistic expectations about child development and difficulties in problem-solving skills. Among these variables, parental attributions seem to play a crucial role in determining parental practices. When interpreting and evaluating child's behaviors, parents engage in attributional processes, that influence the way parents act towards the child (Milner, 2003).

Attributions are not limited to the parent-child interactions, but are part of our human capacity to understand, predict and function within relationships, representing causal inferences that we make about each other's behavior (for a review see Hogg & Vaughan, 2017). Attribution theories emerged with Heider's theory of naive psychology (Heider, 1958), suggesting that people in general are intuitive psychologists who construct causal theories of

human behavior, attributing behavior to more personal factors (internal attribution) or environmental factors (external attribution). Subsequently, Jones and Davis (1965; Jones & McGillis, 1976) proposed that people are particularly likely to make correspondent inferences, that is, attribute behavior to underlying dispositions based on five sources of information about the behavior: freely chosen or limited by external constraints, affecting exclusively a specific behavior or common to many behaviors, socially desirable or undesirable, with important direct consequences for the self, and intended to benefit or harm oneself rather than others. Kelley's (1967, 1973) covariation model introduced the idea that people use a covariation principle when attributing the behavior to internal dispositions or to environmental factors, inferring about the consistency, the distinctiveness and the consensus of the behavior. Later, Weiner (1979, 1986) extended the attribution theory to the task performance domain, suggesting that, when making an achievement attribution, people ponder three performance dimensions: locus (the behavior was caused by internal or external factors), stability (the internal or external cause is stable or unstable), and controllability (whether the behavior is under the actor's control in the future).

In the parenting context, parental attributions have been considered as knowledge structures that are both stable and memory-based, or as event-dependent, dynamic cognitions, driven by the child's behavior (Johnston et al., 2018). Specifically, Bugental and colleagues (e.g., Bugental & Happaney, 2004) centered their approach to parental attributions on an attribution style which is based on the balance of power in parent-child relationships. Parents who attribute to themselves less power in controlling their child's behavior easily respond with escalating levels of negative affect and behavior to regain control. Considering attributions as "online" inference processes, the work developed by Dix and colleagues (e.g., Dix & Grusec, 1985; Dix et al., 1989) suggests that parents' affective reactions to children's behavior vary according to their belief that such behavior is intentional, controllable, or dispositional, and not constrained by developmental or situational factors. According to this approach, parental attributions are dependent on the specific instances of failure or misbehavior of the child. When parents see the child's negative behavior as caused by internal, stable and global factors, they act towards their child with more negative affective and behavioral responses (e.g., Dix & Grusec, 1985). Moreover, these attributions are predicted by parents' high stress levels, which in turn predict parents' disciplinary actions and harsh parenting (e.g., Beckerman et al., 2017).

Based on this line of research, the social information processing model of child physical abuse (Milner, 2003) proposed that high-risk and abusive parents are expected to display more negative and biased judgments about their children, to interpret their behavior as more negative,

wrong, and blameworthy, and to attribute such behavior to internal, stable, and global child factors, often motivated by hostile intent. Further, they are expected to make more evaluations of wrongness and to have more expectations of child's compliance following transgressions. Research conducted with high-risk and abusive parents provided support for these assumption by showing that these parents make more negative attributions about children's behavior (e.g., Crouch et al., 2017; Dopke & Milner, 2000; Rodriguez, 2018), interpret this behavior as having negative intent (e.g., Ateah & Durrant, 2005; Azar et al., 2016), and have higher expectations of child compliance (e.g., Rodriguez, Smith et al., 2016). However, little research has been developed in the child neglect context (e.g., Azar et al., 2017; Hildyard & Wolfe, 2007), and the different patterns of parental attributions that are associated with child abuse and child neglect are still underexplained. In a recent meta-analysis about parental cognitions underlying abusive and neglectful parenting (Camilo et al., 2020a), parents' attributions were moderately associated with physically abusive parental practices, but no significant results were observed for neglectful parenting, a finding potentially related with the low number of studies analyzing child neglect.

Furthermore, other contextual and individual variables might also influence information processing mechanisms underlying child abuse and neglect (Crittenden, 1993; Milner, 2003), and parental attributions in particular. It has already been established that parents' intellectual disabilities can lead to problems related to attention, risk assessment, perspective taking, planning, tolerance to frustration, and trial and error learning, which are likely to impact on an individual's capacity to parent a child effectively (Azar & Read, 2009; Conder et al., 2011). Indeed, intellectual disabilities have been found to characterize some individuals with SIP difficulties (Azar et al., 2012). Additionally, parents' executive functions, that provide the foundation for higher-order cognitive skills, have been also related to attributional biases in caregiving interactions (Sturge-Apple et al., 2014). Likewise, contextual stress and risk may also operate as potential risk factors in parenting models (e.g., Dopke & Milner, 2000). Specifically, socioeconomic adversity exposes parents to additional risk factors that may result in greater deficits in parenting (e.g., Conger et al., 2002), such as parenting stress and family conflict (Pereira et al. 2012), and chaotic family environments (Wang et al., 2013). Previous research has also demonstrated that the relationship between attributional biases and parenting may be moderated by their experienced level of contextual stress and risk (e.g., Sturge-Apple et al., 2014; Wang et al., 2013).

The present study examines parental attributions associated with (self and professionals-reported) abusive and neglectful parental practices, as well as the influence of transgression-

mitigating information in this association. Based on previous studies (e.g., Hildyard & Wolfe, 2007; Irwin et al., 2014), parents scoring higher on child abuse and neglect were expected to present: higher attributions of child's transgressions to internal, stable and global characteristics of the child, higher reports of intentionality and controllability to the child, higher expectations about child's knowledge to better behave, and a lower sense of parental control. Further, it was expected that, in the presence of mitigating information, mothers would show lower internal, stable and global attributions, lower intentionality and controllability of the child, lower expectations about child's knowledge to better behave, and a higher sense of parental control. However, it was expected that mothers scoring higher in abuse and neglect would be relatively insensitive to transgression-mitigating information (e.g., Irwin et al., 2014). Moreover, it was expected that these effects would be stronger in mothers with low intellectual functioning and low socioeconomic status. Finally, we were interested in exploring these results would depend on the self- or professionals-report nature of the measures of child abuse and neglect used.



## II. Method

### Participants

A convenience sample of 218 mothers participated in this study. Their age ranged from 24 to 53 years old ( $M = 38.52$ ,  $SD = 6.35$ ), and they had between 1 and 8 children ( $M = 2.64$ ,  $SD = 1.41$ ). Most of the mothers were White (69.7%) and did not complete high school (57.8%).

Approximately half of the sample ( $n=108$ ) had at least one child referred to the Child Protection Services (CPS). The remaining ( $n=110$ ) were recruited in schools and community services for socially vulnerable communities, to balance the socio-demographic characteristics of the sample. Mothers were eligible for participation if they had at least one child within the age range of 5–13 years old living with the family. Exclusion criteria included mothers with severe intellectual disabilities, lack of native language proficiency, and for the referred group, mothers with a substantiated record of sexual child abuse.

### Measures

Given the lack of validated measures for child maltreatment in the Portuguese context, we started by translating, adapting and validating two well-established parental self-report measures of child abuse and neglect. Additionally, a confirmatory analysis of a measure of professionals' report of child maltreatment previously validated for the Portuguese context was conducted, in order to obtain separate scores of child abuse and child neglect reported from professionals.

**Professionals' report of Child Abuse and Neglect.** Reports of child abuse and child neglect were obtained from professionals through the *Maltreatment Severity Questionnaire* (MSQ; Calheiros et al., 2019). The MSQ includes 21 items (e.g., Coercive/tough discipline methods), each composed by four severity descriptors (e.g., from 1 = *They use fear or intimidation as their primary method of discipline* to 4 = *They close and isolate the child in compartments with poor light, temperature, ventilation and space. They tie the child's hands and feet to a chair or table or put her inside a box*). Originally, the MSQ was organized as a three-factor structure: Physical neglect, Psychological neglect, and Physical and psychological abuse. In the current study, we obtained two separate global scores of child abuse and neglect [ $\chi^2 (129) = 387.567$ ,  $p < .001$ ,  $\chi^2/df = 3.004$ ; comparative fit index (CFI) = .815; and root mean square error of approximation (RMSEA) = .101] with good internal consistency indicators:

Physical and Psychological neglect (14 items;  $\alpha = .87$ ) and Physical and Psychological abuse (4 items;  $\alpha = .71$ ). Higher scores in the MSQ dimensions mean higher levels of child maltreatment.

**Self-reported Child Abuse.** The *Conflict Tactics Scale - Parent to Child* (Straus et al., 1998) was used as the self-report measure of child abuse, reported by parents. The questionnaire with 22 items (e.g., “Slapped him/her on the face, head or ears”) is originally organized in three main dimensions: Non-violent discipline, Psychological aggression, and Physical assault (the latter, composed by Corporal punishment, Physical maltreatment, and Extreme physical maltreatment). Mothers rated statements on a 7-point scale ranging from 0 = *never happened* to 7 = *more than 20 times in the past year*. In the current study, an abuse scale was used, constituted by the dimensions of Psychological aggression and Corporal punishment [ $\chi^2 (39) = 79.198, p < .001, \chi^2/df = 2.031$ ; comparative fit index (CFI) = .907; and root mean square error of approximation (RMSEA) = .067]. This scale included 7 items ( $\alpha = .72$ ), with higher scores meaning higher child abuse.

**Self-reported Child Neglect.** The *Multidimensional Neglectful Behavior Scale – Parent Report* (MNBS; Kantor et al., 2003) is a self-report measure of child neglect, for parents with children aged between 5-15 years old. A previous version of the MNBS validated for a Portuguese sample (face validity; Neves & Lopes, 2013) was used, composed by 49 items (e.g., “Left your child in places where you weren’t sure he/she was really safe”), divided in four dimensions: Emotional neglect, Cognitive neglect, Supervision neglect, and Physical neglect. Respondents were asked about their parental behavior in a 4-point scale, ranging from 1 = *never* to 4 = *always*, in two different versions according to the age of the child (5 to 9 years old including the 49 items; 10 to 13 years old including 47 items). In the current study, a global score of child neglect was used [ $\chi^2 (346) = 573.744, p < .001, \chi^2/df = 1.658$ ; comparative fit index (CFI) = .926; and root mean square error of approximation (RMSEA) = .057], revealing good internal consistency ( $\alpha = .83$ ), with higher scores meaning higher child neglect.

**Attributional vignettes.** Twenty-four vignettes were adapted from Irwin’s and colleagues’ study (2014), each one including a description of a child’s transgression (counterbalanced for the type of transgression – personal, conventional, and moral) such as “Your child did not have their homework at school because s/he left it where s/he was working on it last night”, half of them accompanied by a sentence providing mitigating information (“Your child did not have their homework at school because s/he left it where s/he was working on it last night. Your child had felt sick the night before and had gone to bed early”). Each mother read 12 of the 24 vignettes: half of them with no mitigating information (6 vignettes)

and other half with mitigating information (6 vignettes). Each mother was exposed to all types of transgressions (four moral, four conventional, and four personal), but saw each transgression in only one of its two forms: (a) no mitigating information, or (b) with mitigating information.

Mothers were asked to rate each vignette in the following attributional dimensions on seven-point scales (similarly to Hildyard & Wolfe, 2007): the extent to which they thought the cause of the child's behavior was external vs. internal (1 - *completely due to something about the situation* to 7 - *completely due to the child*); unstable vs. stable (1 - *a one time thing* to 7 - *will behave this way in the future*); specific vs. global (1 - *would behave this way only in this situation* to 7 - *will behave this way in most situations*); and uncontrollable vs. controllable (1 - *not at all under the child's control* to 7 - *completely under the child's control*). Mothers were also asked whether the child's behavior was intentional (1 - *not at all intentional* to 7 - *completely intentional*), whether the child should know better (1 - *should definitely not know better* to 7 - *should definitely know better*), and the extent to which they thought the mother in the vignette had control over the child's behavior (1 - *not at all under her control* to 7 - *completely under her control*).

**Family socioeconomic status.** Mothers were asked to report their highest completed education level, monthly family income, income source, housing and neighborhood characteristics, on a 5-point scale. All variables were positively and significantly correlated (all  $p$ 's < .01), thus the scores were computed into an index of socioeconomic status (SES;  $\alpha = .77$ ) (e.g., Beckerman et al., 2018). Lower scores indicated lower SES.

**Mothers' intellectual functioning.** Four subtests of the WAIS-III (Arithmetic, Matrix reasoning, Information, Coding;  $\alpha = .62$ ; Wechsler, 1997; Portuguese version of CEGOC, 2008) were used as an index of general intellectual functioning, given its previously reported high correlation with the full scale (e.g., Azar et al., 2017). Lower scores indicated lower intellectual functioning.

## **Procedure**

The data presented in the current article represent a selection of the measures collected in the context of a broader research program, approved by the Ethics Committee of the host institution (EA# 08/2016).

After obtaining the permission from the institutions, mothers who met the inclusion criteria were contacted by the CPS, community services and schools, and were invited to participate in a study about parenting. Those who agreed to participate were invited for two

individual sessions taking place at the respective CPS agencies (referred group), schools and community services (non-referred group). Participants were informed that they would participate in a study examining how mothers perceive, think, and remember information about child rearing and development, and their influence on parental practices.

In the first session, after reading and signing the informed consent, participants were asked to provide demographic information. Then the vignettes were read to them and the questions regarding the dimensions of attributions for each vignette were presented. In a second session, the WAIS subtests, the MNBS and the CTS-PC were administered. After completing both sessions, participants were thanked, debriefed and compensated with a 10€ gift card. Later, the MSQ was completed with the information available regarding each target-child, by CPS case-workers (for the referred group of mothers) and by the child's teacher/ professional of community service (for the non-referred group).

### **Data analysis strategy**

SPSS 25.0 was used to conduct data analysis. The independent variables were standardized, and the analysis of normal distribution and potential outliers revealed the presence of standardized scores extremely lower than  $-3.29$  or extremely higher than  $3.29$  (Tabachnick & Fidell, 2012) for the MNBS and for the abuse and neglect dimensions of the MSQ. Both for the MNBS and the neglect dimensions of the MSQ, the analysis of the absolute value of skewness revealed values lower than 3, so they were considered as non-problematic in terms of distribution (Kline, 2005). For the abuse dimension of the MSQ, considering that the absolute value of skewness was higher than 3, the highest four values were eliminated, and normality was reached.

Regarding the dependent variables, inspection of skewness and kurtosis statistics for the attributional scales revealed that the dimension 'child's knowledge' presented a non-normal distribution (skewness =  $-1.18$ , kurtosis =  $2.25$ ). Caution should be used when interpreting ANOVA results for this attributional scale.

To test our hypotheses, the relations between child abuse/neglect and mothers' attributions were explored with General Linear Model (GLM). Specifically, our independent variables were self-reported child abuse and neglect, and professionals-reported child abuse and neglect (since no significant correlations were found between self and professionals-reports; see Table 1). The dependent variables were the dimensions of the mothers' attributions, namely *internal causality*, *stability*, *globality*, *children's control*, *intentionality*, *children's*

*knowledge*, and *maternal control* (in three different types of transgressions – personal, conventional and moral – with and without mitigating information). Given the high co-occurrence of different types of maltreatment (Kim et al., 2017), both child abuse and neglect were included in the models. Finally, we tested the moderation effect of mothers' general intellectual functioning and socioeconomic status (included as continuous variables) in the association of child abuse and neglect and parents' attributions. The results for the GLM analyses are presented in the Table 2 (self-reported abuse and neglect) and Table 3 (professionals-reported abuse and neglect).

Participants with missing data in a given dimension were dropped from the analysis of that dimension.



### III. Results

Correlational analyses are presented in the Table 1. Self-reported abuse correlated positively and significantly with stable and global attributions about child's behavior, and negatively with expectations about child's knowledge and maternal control. Self-reported neglect only correlated negatively with maternal control. Professionals-reported neglect correlated positively internal attributions about child's behavior and negatively with expectations about child's knowledge. Moreover, professionals-reported neglect correlated negatively with mothers' intellectual functioning and socioeconomic status, and professionals-reported abuse correlated negatively with socioeconomic status.

The effect of mitigating information on each of the 7 attributional scales was examined. The presence of mitigating information in the vignettes describing child transgressions, compared to when mitigating information was not presented, was associated with lower scores on the following scales: Internal Causality,  $t(216) = 5.445, p < .001$ ; Globality,  $t(216) = 7.136, p < .001$ ; and Child's knowledge,  $t(216) = 4.215, p < .001$ . Specifically, when mothers were presented with mitigating information, they attributed the behavior less to internal (vs. external) and global (vs. specific) causes, and considered that the child did not know how to behave in a better way. However, mothers considered that, in situations with mitigating information, the children had higher control in their behavior  $t(216) = -4.161, p < .001$ .

**Table 1.**

Summary of correlations, means, standard deviations and range for study variables ( $n = 218$ ).

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	<i>M</i> ( <i>SD</i> )	Range
1. Internal causality	-												3.06 (1.17)	1.00 – 6.00
2. Stability	<b>.672**</b>	-											3.29 (1.10)	1.00 – 6.00
3. Globality	<b>.740**</b>	<b>.828**</b>	-										2.90 (1.01)	1.00 – 6.00
4. Child's control	<b>.179**</b>	<b>.219**</b>	<b>.162*</b>	-									4.35 (1.07)	1.00 – 7.00
5. Intentionality	<b>.183**</b>	<b>.310**</b>	<b>.211**</b>	<b>.626**</b>	-								3.05 (1.14)	1.00 – 6.25
6. Child's knowledge	<b>-.255**</b>	<b>-.187**</b>	<b>-.259**</b>	<b>.323**</b>	<b>.240**</b>	-							6.00 (0.78)	2.17 – 7.00
7. Maternal control	-.063	<b>-.191**</b>	<b>-.191**</b>	.047	-.044	.108	-						5.35 (1.29)	1.33 – 7.00
8. CTS. Abuse	.139	<b>.222**</b>	<b>.232**</b>	-.055	-.013	<b>-.205**</b>	<b>-.196**</b>	-					1.99 (1.27)	0.00 – 6.00
9. MNBS. Neglect	.030	.080	.045	.010	.031	-.135	<b>-.244**</b>	<b>.286**</b>	-				1.57 (0.36)	1.03 – 2.82
10. MSQ. Abuse	.105	-.077	-.007	.076	-.030	-.070	.046	.039	.045	-			1.18 (0.45)	1.00 – 4.00
11. MSQ. Neglect	<b>.273**</b>	.029	.126	-.002	-.089	<b>-.176*</b>	.101	.099	.086	<b>.484**</b>	-		1.43 (0.60)	1.00 – 3.73
12. Intellectual functioning	-.094	.026	-.027	.082	<b>.219**</b>	.132	<b>-.316**</b>	.104	-.007	-.073	<b>.303**</b>	-	83.78 (27.44)	20.00– 155.00
13. SES	<b>-.271**</b>	-.003	-.124	<b>.169*</b>	<b>.225**</b>	<b>.259**</b>	<b>-.261**</b>	-.042	-.007	<b>-.203**</b>	<b>-.433**</b>	<b>.575**</b>	2.90 (0.71)	1.20 – 4.50

\*  $p < .05$ .

\*\*  $p < .01$ .



### **Attributions of internal causality**

A significant main effect of professionals-reported Neglect revealed that higher neglect scores were associated with more attributions of internal causality ( $b = 0.335$ ),  $F(1, 188) = 12.200$ ,  $p = .001$ ,  $\eta_p^2 = .061$ .

### **Attributions of stability**

A main effect of the self-reported Abuse was significant,  $F(1, 194) = 8.089$ ,  $p = .005$ ,  $\eta_p^2 = .040$ , with mothers with higher abuse scores attributing children's misbehavior more to stable causes ( $b = 0.228$ ). Regarding professionals-reports, the Neglect  $\times$  Mitigating Information interaction was significant,  $F(1, 188) = 11.820$ ,  $p = .001$ ,  $\eta_p^2 = .059$ , with more neglectful mothers attributing child's misbehavior more to stable causes when mitigating information was absent ( $b = 0.273$ ), but less to stable causes when mitigating information was present ( $b = -0.121$ ).

### **Attributions of globality**

A main effect of self-reported Abuse was significant,  $F(1, 194) = 9.997$ ,  $p = .002$ ,  $\eta_p^2 = .049$ , with mothers with higher abuse scores attributing children's misbehavior more to global causes ( $b = 0.229$ ).

### **Attributions of intentionality**

The professionals-reported Neglect  $\times$  Mitigating Information interaction was significant,  $F(1, 188) = 6.134$ ,  $p = .014$ ,  $\eta_p^2 = .032$ , with higher scores of neglect associated with a lower intentionality attributed to the child in the presence of mitigating information ( $b = -0.279$ ), and more intentionality when mitigating information was absent ( $b = 0.009$ ).

### **Expectations about children's knowledge**

A main effect of the self-reported Abuse was significant,  $F(1, 194) = 6.237$ ,  $p = .013$ ,  $\eta_p^2 = .031$ , with mothers with higher abuse scores considering that children should not know how to behave better ( $b = -0.144$ ).

**Table 2.**

*Selected results of ANOVAs for each dimension of mothers' attributions, considering the self-reports of abuse and neglect (N = 218).*

<b>Attributional scale/ ANOVA effect</b>	<b><i>b</i></b>	<b><i>F</i></b>	<b><i>p</i></b>	<b><math>\eta^2</math></b>
<i>Internal Causality</i>				
Neglect	-0.015	0.031	.861	.000
Abuse	0.167	3.783	.053	.019
MI		23.952	.000	.110
Neglect x MI		0.002	.962	.000
Abuse x MI		0.584	.446	.003
<i>Stability</i>				
Neglect	0.026	0.191	.662	.001
Abuse	0.228	8.089	.005	.040
MI		0.563	.454	.003
Neglect x MI		0.079	.779	.000
Abuse x MI		0.003	.954	.000
<i>Globality</i>				
Neglect	-0.031	0.023	.881	.000
Abuse	0.229	9.997	.002	.049
MI		39.521	.000	.169
Neglect x MI		0.688	.408	.004
Abuse x MI		0.108	.743	.001
<i>Child control</i>				
Neglect	0.056	0.527	.469	.003
Abuse	-0.089	1.334	.249	.007
MI		12.162	.001	.059
Neglect x MI		0.005	.943	.000
Abuse x MI		0.129	.720	.001
<i>Intentionality</i>				
Neglect	0.061	0.542	.462	.003
Abuse	-0.043	0.263	.608	.001
MI		1.252	.265	.006
Neglect x MI		0.095	.758	.000
Abuse x MI		0.009	.925	.000
<i>Child's knowledge</i>				
Neglect	-0.059	1.251	.265	.006
Abuse	-0.144	6.237	.013	.031
MI		14.979	.000	.072
Neglect x MI		0.367	.545	.002
Abuse x MI		3.163	.077	.016
<i>Maternal control</i>				
Neglect	-0.268	8.159	.005	.040
Abuse	-0.178	3.594	.059	.028
MI		0.455	.501	.002
Neglect x MI		2.720	.101	.014
Abuse x MI		0.354	.553	.002

*Note:* MI = mitigating information.

### **Mothers' control**

A significant main effect of the self-reported Neglect,  $F(1, 194) = 8.159, p = .005, \eta_p^2 = .040$ , indicated that mothers with higher neglect scores revealed expectations of less control ( $b = -0.268$ ). Regarding professionals-reports, the Abuse  $\times$  Mitigating Information interaction was significant,  $F(1, 188) = 3.947, p = .048, \eta_p^2 = .021$ , with mothers who scored higher on abuse reporting less control when no mitigating information was provided ( $b = -0.080$ ), but more control in the presence of mitigating information ( $b = 0.123$ ).

### **Moderation effect of mothers' intellectual functioning and SES**

Intellectual functioning moderated the association between professionals-reported Neglect and mothers' internal attributions about child's transgressions,  $F(1, 182) = 8.649, p = .004, \eta_p^2 = .047$  as well as mothers' global attributions about child's transgressions,  $F(1, 182) = 6.309, p = .013, \eta_p^2 = .034$ . Specifically, for mothers with higher intellectual functioning, higher scores on neglect were associated with more internal and global attributions about child's transgressions. For mothers with lower levels of intellectual functioning, neglect was not associated with these attributions about child's transgressions.

Finally, SES moderated the association of professionals-reported Abuse and mothers' expectations about child's knowledge,  $F(1, 190) = 8.686, p = .004, \eta_p^2 = .045$ . Specifically, for mothers with lower SES, higher abuse scores were associated with higher expectations about child's knowledge, while for mothers with higher SES, higher abuse scores were associated with lower expectations.

**Table 3.**

*Selected results of ANOVAs for each dimension of mothers' attributions, considering the professionals-reports of abuse and neglect (N = 218).*

<b>Attributional scale/ ANOVA effect</b>	<b><i>b</i></b>	<b><i>F</i></b>	<b><i>p</i></b>	<b><math>\eta_p^2</math></b>
<i>Internal Causality</i>				
Neglect	0.335	12.200	.001	.061
Abuse	0.120	0.936	.335	.005
MI		29.064	.000	.134
Neglect x MI		1.140	.287	.006
Abuse x MI		0.030	.864	.000
<i>Stability</i>				
Neglect	0.076	0.686	.409	.004
Abuse	-0.024	0.040	.842	.000
MI		0.023	.880	.000
Neglect x MI		11.820	.001	.059
Abuse x MI		0.016	.899	.000
<i>Globality</i>				
Neglect	0.160	3.618	.059	.019
Abuse	0.047	0.184	.669	.001
MI		38.046	.000	.168
Neglect x MI		0.487	.486	.003
Abuse x MI		2.680	.103	.014
<i>Child control</i>				
Neglect	-0.076	0.758	.385	.004
Abuse	0.078	0.476	.491	.003
MI		14.293	.000	.071
Neglect x MI		0.072	.788	.000
Abuse x MI		0.829	.364	.004
<i>Intentionality</i>				
Neglect	-0.135	2.027	.156	.011
Abuse	-0.018	0.022	.883	.000
MI		0.677	.412	.004
Neglect x MI		6.134	.014	.032
Abuse x MI		0.974	.325	.005
<i>Child's knowledge</i>				
Neglect	-0.131	3.837	.052	.020
Abuse	-0.017	0.040	.841	.000
MI		12.804	.000	.064
Neglect x MI		1.475	.226	.008
Abuse x MI		0.149	.699	.001
<i>Maternal control</i>				
Neglect	0.184	2.797	.096	.015
Abuse	0.021	0.022	.881	.000
MI		1.114	.293	.006
Neglect x MI		1.211	.273	.006
Abuse x MI		3.947	.048	.021

*Note:* MI = mitigating information.

## IV. Discussion

In line with the socio-cognitive approaches to child abuse and neglect, parents' biases or errors in the evaluation and interpretation of child's behavior influence the way parents' act towards their children (e.g., Azar et al., 2008; Crittenden, 19993; Milner, 2003). Parental attributions, that is, the causes to which parents attribute the child's behavior, play a crucial role in the pathway linking parents' preexisting cognitive schemas and maladaptive parenting, as demonstrated by previous studies (for a review see Camilo et al. 2020a). However, few studies have been conducted with neglectful parents, and even less using multiple informants to assess maltreatment. The present study examined parental attributions associated with (self and professionals-reported) abusive and neglectful parental practices, as well as the influence of transgression-mitigating information in this association. In addition, we were interested in exploring the convergence of the different measures of child maltreatment, as well as the role of mothers' intellectual functioning and SES in moderating the association between child abuse and neglect and parental attributions.

Overall, the results indicated that mothers with higher scores on child abuse and neglect report more internal, global and stable attributions about the child's behavior, and feel less in control of the child's behavior. However, different attributional dimensions were found to be associated with abuse and with neglect respectively. Further, the effect of mitigating information also seems to be different for each type of maltreatment.

The results revealed that mothers scoring higher on child neglect attribute child's behavior more to internal causes and feel less in control of the child's behavior. These results are in line with Hildyard and Wolfe's (2007) study, reporting that neglectful mothers attribute child's misbehavior to more internal and stable causes, and report a lower sense of control of the child's behavior (Hildyard & Wolfe, 2007). However, our results also indicated that mothers scoring higher on neglect who presented a higher level of intellectual functioning made more attributions of the child's misbehavior to global characteristics of the child. In relation to the effect of mitigating information, mothers scoring higher on neglect were more likely to attribute the child's misbehavior to stable causes when no mitigating information was presented, but less intentionality to the child in the presence of mitigating information. Although our results seem to indicate that mitigating information plays an important role in reducing negative attributions of neglectful mothers, previous studies did not find this effect. Specifically, Azar and colleagues (2012) showed that neglectful mothers attributed

significantly more negative intentionality to the child than non-neglectful mothers both in ambiguous and unintended situations.

Mothers scoring higher on child abuse attributed child's misbehavior more to stable and global causes. These results are in line with previous studies in child abuse literature, suggesting that high-risk of abuse and abusive parents interpret child's behavior as more negative (e.g., Rodriguez & Tucker, 2015), especially mothers (when compared to fathers) (Rodriguez et al., 2020). In our study, abusive mothers also revealed to expect less child's knowledge on how to behave, especially mothers with high SES, in contrast to those with low SES, that revealed higher expectations about child's knowledge. However, contrary to previous findings revealing an association between abuse and attributions of negative intent to the child (e.g., Berlin et al. 2013; De Paúl et al., 2006), our results were not significant for the intentionality dimension. The effect of mitigating information was only observed in mothers' sense of control, with mothers scoring higher on abuse reporting less control over the child's behavior when no mitigating information was presented, but higher sense of control in the presence of mitigating information. A possible explanation for this particular result can be based on Bugental's work, suggesting that in the presence of a more defiant child, parents tend to feel less in control of the behavior and to engage in more hostile interactions (e.g., Bugental & Happaney, 2004). Contrary to what was observed for mothers scoring higher on neglect and in line with previous research, the effect of mitigating information seems to be independent of the level of abuse (e.g., Montes et al., 2001). This result is in line with empirical evidence suggesting that people who present higher levels of stress, such as abusive parents (e.g., Beckerman et al., 2017), are less likely to take situational information into account (e.g., Lupien et al., 2007).

As for the role of the moderators, and although mothers low intellectual functioning and low socioeconomic status were associated to maternal neglect (as expected), results from the moderation models revealed unexpected findings. Specifically, our results suggest that neglect was particularly associated with internal and global attributions in mothers with higher levels of intellectual functioning. These results contradict our hypothesis proposing that the association between biased parental attributions and neglectful practices would be stronger in mothers with low levels of intellectual functioning. This prediction was based on previous findings suggesting that better maternal cognitive capacities may act as a protective factor in maladaptive parenting (e.g., Azar et al., 2017; Camilo et al., 2020b; Sturge-Apple et al., 2014), improving mothers' ability to process child-related information. However, based on attributional theories, it is possible to relate this finding with the nature of mothers' attributions.

It is known that attributions are influenced by both cognitive and motivational factors (for a review see Hogg & Vaughn, 2017). The negative attributions of neglectful mothers with higher intellectual functioning are likely to derive from motivational factors. Influenced by the desire for a favorable image of their selves, and satisfying self-serving biases, these mothers can under-involve with the child's negative behaviors, attributing to the child the responsibility of their own failure (e.g., Bugental & Happaney, 2002). Contrary to what has been observed for the moderating role of intellectual functioning in abuse (e.g., Sturge-Apple et al., 2014), which outlined our hypotheses for neglect, our results present cues for the different mechanisms underlying abusive and neglectful parental practices. Further research with neglectful parents, testing the moderating effects of cognitive functioning, are needed to disentangle the paths differentially associated with the multiple types of child maltreatment.

Regarding SES, a single moderation effect was found for abuse, indicating that, for mothers with lower SES, higher abuse was associated with higher expectations about child's knowledge, while for those with higher SES, higher abuse scores were associated with lower expectations. This result supports previous findings on how socioeconomic stress is associated with negative parental attributions (e.g., Berlin et al., 2013), and is in line with our hypotheses.

Despite the contributions of this study to advance research on parental cognitions in the context of child abuse and neglect, some important limitations should be acknowledged and addressed in future studies. First, even though we asked mothers to imagine that was her own child misbehaving, the transgressional scenarios were hypothetical and potentially different from their experiences with their own child, which can influence parents' child-related cognitions, as showed in previous studies (e.g., Kendziora & O'Leary, 1998; Johnston et al., 2017). Second, we asked directly mothers to rate a set of attributional dimensions in Likert-type scales, instead of using a more spontaneous measure such as coding attributions from transcripts of speech (e.g. White & Barrowclough, 1998) or an implicit measure such as the *Parental Attributions of Child behavior Task* (PACT; Beckerman et al., 2017), which are known to be important in surpassing the potential bias (perception bias, or social desirability bias) associated with the single use of self-report measures (for a review see Camilo et al., 2016). Third, the SIP model states parental practices as an outcome of maladaptive cognitive processing of information (Milner, 2003), and in the current study, parental cognitions were considered dependent on child abuse and neglect. Given the cross-sectional nature of data collection with mothers revealing already abusive and neglectful practices, as well as the exploratory and correlational methods used to conduct data analysis, it is not possible to

establish cause-effect relationships and the pathways underlying parents' cognitive information processing. Finally, there are limitations related to the sample, namely it was only composed by mothers, as they are more readily accessible in the services, while some research conducted with mothers and fathers have been suggesting differences between their parental cognitions (e.g., Rodriguez et al., 2020).

In a nutshell, this study contributes to the body of knowledge on the relation between parental attributions and child abuse and neglect, providing some evidence about the different attributional dimensions associated with abuse and with neglect respectively. Moreover, our findings also indicate that the effect of mitigating information seems to be higher in neglectful parenting than in child abuse. Future research would benefit from using longitudinal designs (e.g., Rodriguez et al., 2019) in order to establish the pathways of information processing that lead to abusive and neglectful parental practices, including different parental cognitive components (e.g., Camilo et al., 2020b). Furthermore, including fathers and comparing differences on cognitive information processing between mothers and fathers would also constitute an important contribution (e.g., Rodriguez et al., 2020). In addition, individual variables of the parents namely those related to depression and anxiety, self-regulation, and parental stress (e.g., Beckerman et al., 2019) could be included in the models as control variables or moderators, considering their potential influence on information processing. These current findings provide further support to the SIP model of child abuse and neglect, emphasizing the potential of socio-cognitive approaches in the explanation of child maltreatment, as well as relevant inputs for understanding the different putative mechanisms underlying child abuse and child neglect.



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