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Evolution over a year of individual protective factors in preschool victims of sexual abuse

Rachel Langevin[1], Martine Hébert[2]

1 Department of Psychology, Concordia University

2 Department of Sexology, Université du Québec à Montréal

Abstract:

Objectives: While protective factors associated with resilience have been well-documented (e.g., initiative, self-regulation, attachment), less is known about their comparative levels in children exposed and not exposed to trauma. Given the relevance of examining this issue to enhance our understanding of mechanisms underlying resilience, the objectives of this study were to: 1) examine and compare individual protective factors in sexually abused and non-abused preschoolers over the course of one year; and 2) investigate the impact of sexual abuse (SA) characteristics on protective factors.

Methods: Sexually abused (n = 109) and non-abused preschoolers (n = 78) (M = 4.38; SD = 0.95) were recruited at Time 1 (T1), and assessed in a follow-up one year later (T2; n = 56 abused and n = 74 non-abused children). Parents completed the Devereux Early Childhood Assessment (LeBuffe & Naglieri, 1999) at T1 and T2, to assess their levels of Initiative, Self-Control, and Attachment. SA characteristics were coded from clinical files (History of Victimization Form; Wolfe, Wolfe, Gentile, & Boudreau, 1987).

Results: Abused children were more likely than non-abused children to present low levels of Initiative, Self-Regulation, and Attachment both at T1 and T2. Analyses indicated that while levels of protective factors increased over the year, abused children still presented lower scores at T2 compared to non-abused children. Severity of abuse tended to be positively related to Initiative, duration of the abuse was negatively associated with Self-Control at T2, and intra-familial abuse tended to be associated with higher levels of Attachment at T2.

Conclusion and Implications: While the presence of protective factors is deemed essential to achieving positive psychosocial adaptation following SA, preschool victims

presented lower levels of protective factors at T1 and T2. This should be accounted for in interventions that aim at fostering resilience in young children.

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Conflict of Interest:

Authors declare no conflict of interest.

Keywords:

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Introduction

Child sexual abuse (SA) affects approximately one in five women and one in ten men worldwide (Stoltenborgh, van Ijzendoorn, Euser, & Bakermans-Kranenburg, 2011). Child SA has been associated with a plethora of psychological, behavioral, and physical health difficulties in children and adults such as internalizing problems (e.g., depression, anxiety), externalizing problems (e.g., aggression, delinquency), at-risk sexual behaviors (e.g., unprotected sexual relationships, high number of partners), and chronic health conditions (e.g., Hébert, Daigneault, Langevin, & Jud, in press; Hébert & Langevin, 2016). While a large body of scholarly research has examined correlates of child SA in adulthood, less is known about the short-term correlates in childhood. The preschool population is particularly understudied even though preschoolers constitute a non-negligible proportion of abused minors (14-30% depending on the studies; Statistique Canada, 2010; U.S. Department of Health and Human Services, 2013). Available studies show that preschool victims of SA present more internalizing and externalizing problems (Hébert, Langevin, & Bernier, 2013), and greater emotion regulation deficits (Séguin-Lemire, Hébert, Cossette, & Langevin, 2016) than non-abused children. In addition, SA is linked to dissociation symptoms (Bernier, Hébert, & Collin-Vézina, 2013) as well as sleep difficulties (Langevin, Hébert, Guidi, Bernard-Bonnin, & Allard-Dansereau, in press) in young victims.

While an important proportion of sexually abused children present difficulties following the abuse, studies report that between 10 to 53% of SA survivors appear

asymptomatic (Dombhart, Münzer, Fegert, & Goldbeck, 2015). While this finding may reflect possible latent effects, it also raises the question of the potential protective factors linked to adaptation following such a traumatic event. Resilience has been defined by Cicchetti (2013) as "a dynamic developmental process encompassing the attainment of positive adaptation despite exposure to significant threat, severe adversity, or trauma that typically constitute major assaults on the processes underlying biological and psychological development" (p. 404). Per that definition, these asymptomatic children, could be labeled resilient.

Protective factors associated with resilience have been studied extensively in the last decade with community samples or at-risk samples of youth. At the community level, protective factors include, among other elements, early intervention and prevention programs, and accessibility to resources (Zolkoski & Bullock, 2012). At the family level, the importance of having a stable and supportive relationship with a caregiver, family cohesion, and the presence of a stimulating environment are among the factors fostering resilience (Zolkoski & Bullock, 2012). Personal characteristics, such as temperament, coping skills, self-regulation, sociability, and autonomy are also identified as critical protective factors for children confronted with adverse life events (Zolkiski & Bullock, 2012).

Studies specifically investigating protective factors among maltreated or sexually abused children are sparser, and none, to our knowledge, have studied their evolution over time. Yet, one factor consistently associated with positive adaptation in maltreated children is the presence of a supportive and stable caregiver (Afifi & MacMillan, 2011; Cicchetti, 2013). Quality of the child-parent attachment per se appears to be the critical variable (Bolen & Lamb, 2007). At the individual level, numerous factors have been associated with adaptation following a trauma including coping strategies, trust in others, easy temperament, empowerment, and social connections (Afifi & MacMillan, 2011). Characteristics linked to the SA itself (e.g., less severe abuse) have also been associated with resilience in abused girls (Afifi & MacMillan, 2011). Of interest is that one study of maltreated children found relational factors to be less predictive of positive adaptation in maltreated children than in non-maltreated children (Kim & Cicchetti, 2003). Conversely, individual protective factors (e.g., self-esteem) were identified as more closely related to resilience in maltreated children.

Empirical studies relying on a typological approach have highlighted a diversity of profiles in SA victims, and attempted to identify the factors that could explain this diversity (e.g., Hébert, Langevin, & Charest, 2014). One of these studies (Hébert et al., 2014) - the only one to our knowledge using a sample of preschool victims of SA - identified three subgroups of abused children: one presenting moderate (mostly externalizing problems) levels of symptomatology (37.1% of abused children), one presenting high levels of internalizing and externalizing symptomatology (21% of abused children), and one described as the resilient subgroup (41.9% of abused children), involving children presenting levels of symptomatology similar to those of the comparison group of non-abused children. One of the key elements that discriminated this resilient subgroup from the two other groups of sexually abused children was the presence of higher levels of individual protective factors as measured by a parent-reported questionnaire. Indeed, resilient abused preschoolers were found to present greater levels of self-control, more initiative, and more positive and stronger relationships with adults and peers than children in the other two subgroups.

Despite wide interest in the concept of resilience and its relevance to the study of several health issues, life events and specific conditions, surprisingly few measures are available to assess the construct (Békaert, Masclet, & Caron, 2011). In their systematic review, Windle, Bennett, and Noyes (2011) identified only 15 such measures, the majority of which were designed for adolescent or adult populations. There exists few standardized measures that evaluate the presence of protective factors in younger children (LeBuffe & Shapiro, 2004). The Devereux Early Childhood Assessment (DECA; LeBuffe & Naglieri, 1999) is one of the rare evaluation tools addressing resilience factors in preschool populations focusing on three components: self-control, initiative, and attachment. As findings from scholarly reports suggest that elements of mastery/initiation, relatedness/attachment, and behavioral control are central to resiliency (Prince-Embury, 2010), the DECA appears to be a relevant tool to assess protective factors in young children confronted with adversity. In one study of 1,344 developmentally and economically at-risk preschool children, a confirmatory factor analysis indicated the proposed three-factor structure fitted the data best (Ogg, Brinkman, Dedrick, & Carlson, 2010).

While we know that abused children presenting a higher number of protective factors are more likely to display adaptation following the trauma, it has also been suggested that maltreated children, to begin with, present with lower levels of these protective factors than children in the normative population. This is due in part because maltreatment itself can have a detrimental effect on factors such as self-regulation, relationship quality, and self-esteem, but also because difficulties in these areas are known risk factors for SA in childhood. While this appears to be a necessary first step in understanding the mechanisms underlying resilience in abused children, few studies have compared the presence and levels of protective factors in maltreated and non-maltreated children, and even less have done so using a longitudinal design. Trauma and events following disclosure may further hinder resources, and thus levels of protective factors may even decrease over time. Daigneault, Dion, Hébert, McDuff, and Collin-Vézina (2013) assessed resilience features in adolescents with the Child and Youth Resilience Measure (CYR-M). In their sample of 589 youth in grades 10-12, 12% of adolescents reported a history of child sexual abuse. In their first study, victims of SA obtained lower scores, when compared to non-abused peers, on individual/social, familial, as well as community features associated with resilience. Yet, the study relied on a cross-sectional design, and therefore evolution of protective factors was not investigated.

Against this backdrop, the present study aims to describe the presence of individual protective factors (initiative, attachment, self-control) in a group of sexually abused preschoolers as compared to a group of non-abused children. A novel contribution is to assess how protective factors evolve over a year. An additional objective was to explore whether characteristics of the SA experienced related to levels and evolution of protective factors.

Method

Participants

A sample of 187 children (109 sexually abused children; 78 non-abused children) aged 3½-7 years old (M = 4.38; SD = 0.95) and their caregivers (non-offending parents in the SA

group; 91.85% a maternal figure) was recruited for this study at Time 1 (T1). The SA group included 25 boys and 84 girls, while the comparison group included 21 boys and 57 girls. Families were evaluated again approximately one year later (M = 5.28 years old; SD = 0.86) for a second assessment (T2), and 130 children participated in this follow-up assessment (56 abused children; 74 non-abused children). The reasons for dropping out of the study were: one unsubstantiated SA (this participant was excluded from the analyses), 28 refusals, and 16 families were unreachable. Missing information was present for 12 participants. Children who participated at T1 and T2 were compared to those who dropped out of the study on sociodemographic characteristics at T1 (sex, age, family structure, maternal level of education, annual income) for both groups separately. No differences were found. Abuse characteristics (severity, duration, relationship with the perpetrator) were also compared for sexually abused children and no differences were identified. There were no differences on initial scores of Initiative, Self-Control, and Attachment between children who participated in the one-year follow-up assessment and those who did not.

Abused and non-abused groups were compared on sociodemographic variables at T1 and no differences were found regarding children's sex and age. However, children in the SA group were less likely to live with both of their biological parents ($\chi 2(186) = 74.00$, $p < .001$), their mothers reported lower levels of education ($\chi 2(181) = 78.67$, $p < .001$), and lower annual income than non-abused children ($\chi 2(174) = 77.36$, $p < .001$). Sociodemographic and SA characteristics are presented in Table 1.

Measures

Sociodemographic questionnaire. At T1 and T2, caregivers completed a questionnaire gathering sociodemographic information about the participating child and his/her family (e.g., age, sex, annual family income, maternal level of education, family structure).

Sexual abuse characteristics. SA characteristics were obtained through the child's medical or clinical file using the History of Victimization Form (HVF; Wolfe, Wolfe, Gentile, & Boudreau, 1987) completed by a research assistant. Characteristics coded included the severity of the acts involved (clothed touching, unclothed touching, attempted penetration/penetration), the duration of the abuse (one occurrence or several), and the nature of the relationship with the perpetrator (intrafamilial or extrafamilial). A prior analysis of interrater agreement based on 30 records indicated high agreement using this form (median intraclass correlation = .86). Complementary information was obtained through caregivers' reports when necessary.

Individual protective factors. Caregivers assessed the level of individual child protective factors using the DECA (LeBuffe & Naglieri, 1999). The DECA is a 27-item measure including a total score and three subscales: Initiative (11 items), Self-Control (8 items), and Attachment (8 items). Caregivers rated the child's behaviors using a 4-point frequency scale. T-scores ranging from 28 to 72 were derived for each scale, with higher scores reflecting higher levels of protective factors. The Initiative subscale reflects the use of independent thoughts and actions on the part of the child to meet his/her needs (e.g., "keep trying when unsuccessful (act persistent)."). The Self-control subscale refers to the child's

Table 1. Sociodemographic and Abuse Characteristics of Participants

Variable	SA group (M/%)	Comparison group (M/%)	Statistical test
Child age T1	4.50	4.23	$t(184) = -1,94$, ns
Child age T2	5.32	5.24	$t(128) = -0.51$, ns
Child gender T1			$\chi^2 (1, N=186) = 0.35$, ns
Girls	76.9%	73.1%	
Boys	23.1%	26.9%	
Family of origin (yes)	25.9%	89.7%	$\chi^2 (1, N=186) = 74.00, p < .001$
Maternal education level			$\chi^2 (1, N=181) = 78.67, p < .001$
Elementary (max. 6 years)	4.9%	0.0%	
High school (max. 11 years)	39.8%	2.6%	
College (max. 14 years)	35.0%	12.8%	
Undergraduate (max. 16 years)	15.4%	46.2%	
Graduate (max. 22 years)	4.9%	38.5%	
Annual family income			$\chi^2 (1, N=174) = 77.36, p < .001$
< 20,000$	38.8%	5.3%	
20,000 - 39,999$	23.5%	5.3%	
40,000 - 59,999$	25.5%	15.8%	
60,000 - 79,999$	5.1%	13.2%	
80,000 - 99,999$	5.1%	19.7%	
100,000 - 119,999$	0.0%	17.1%	
120,000 - 139,999$	2.0%	9.2%	
≥ 140,000$	0.0%	14.5%	
Severity of SA			
Clothed and unclothed touching	45.9%	NA	
Penetration or penetration attempt	54.1%	NA	
Duration of SA			
One occurrence	38.6%	NA	
More than one occurrence	61.4%	NA	
Relationship with the perpetrator			
Member of the family	70.6%	NA	
Not a member of the family	29.4%	NA	

Note. ns = not significant. NA = not applicable. $ = Canadian dollars.

ability to self-regulate his/her behaviors and affects and to express feelings appropriately (e.g., "handle frustration well."). Finally, the Attachment subscale assesses the quality and mutuality of the child's relationship with other children and adults (e.g., "respond positively to

adult comforting when upset."). The DECA is a validated questionnaire presenting acceptable psychometric properties (LeBuffe & Naglieri, 1999), and had shown high internal consistency coefficient with a sample of sexually abused children (α = .78 to .88, see Hébert et al., 2014). Following authors' guidelines, using a cut-off point of T-score < 40, children are labeled as presenting concerning levels of Total Protective Factors, Initiative, Self-Control, and Attachment.

Procedure

Children from the SA group were recruited at two intervention centers offering services to sexually abused children (CHU Ste-Justine and Centre d'expertise Marie-Vincent). At T1, parents in the SA group completed the questionnaire at the intervention center with the assistance of a trained research assistant if necessary. At T2, these families were met at home. Children in the comparison group were recruited from daycare centers and kindergartens from the Montreal, Quebec area, and were met at home at T1 and T2. Inform written consent was obtained prior to the assessment. A small financial compensation was offered to participating parents (20$). The Ethic Committees of the CHU Ste-Justine and Université du Québec à Montréal approved this study.

Results

All statistical analyses were performed using SPSS 20.

Preliminary Analyses

All variables were distributed normally; hence no transformation was required. No outliers were identified. Simple imputations using the Markov Chain Monte Carlo algorithm in SPSS were used to impute missing data (31% of the data for DECA T2). This method consists in replacing each missing value with a plausible value by performing simulations from a Bayesian predictive distribution under normality hypothesis of the data. All of the study's variables were included in this procedure, as well as other sociodemographic (e.g., number of children in the family, mother's age) and behavioral scores (e.g., levels of internalizing and externalizing problems, emotion regulation competencies, dissociation symptoms) that were available and could be associated with the DECA scores or the missingness. This allowed to conduct analyses on the complete sample of children, even when T2 variables were included.

Correlations between study variables indicated that the DECA subscales were positively correlated to one another at T1 and T2 (r between .29 and .69, $p < .001$). Correlations between levels of a same protective factor at T1 and T2 were also positive for the three DECA subscales: $r = .51$ ($p < .001$) for Initiative, $r = .61$ ($p < .001$) for Self-Control, and $r = .45$ ($p < .001$) for Attachment. Correlations were also performed between children's age and DECA scores. Results indicate that age was not related to Initiative, Self-Control, and Attachment at T1, but that it was correlated with Self-Control at T2 ($r = .25$, $p = .004$).

Bivariate analyses were performed to assess if family structure (family of origin vs. not), annual family income, and maternal education were related to DECA T-scores, given the differences between the SA group and the comparison group on these sociodemographic

Table 2. Range, Mean, Standard Deviation, and Percentages of Concerning Scores for the DECA Subscales

Variable	Minimum	Maximum	M	SD	% Concerning scores
Sexual abuse Group					
DECA - Initiative T1	28	70	47.80	10.71	25.3%
DECA - Initiative T2	28	72	52.07	11.73	29.1%
DECA - Self-control T1	28	72	50.03	11.08	23.2%
DECA - Self-control T2	28	72	53.26	11.75	23.6%
DECA - Attachment T1	28	72	46.38	10.40	28.3%
DECA - Attachment T2	28	72	51.90	11.08	20.0%
Comparison Group					
DECA - Initiative T1	28	72	54.82	9.11	6.4%
DECA - Initiative T2	30	72	57.45	8.97	4.1%
DECA - Self-control T1	40	72	59.31	7.44	1.3%
DECA - Self-control T2	38	72	61.97	7.56	2.7%
DECA - Attachment T1	28	72	55.13	11.10	5.1%
DECA - Attachment T2	30	72	56.68	12.09	8.1%

Note. M = mean. SD = Standard Deviation. T1 = time 1. T2 = time 2.
DECA = Devereux Early Childhood Assessment.

variables. A T-test showed that family structure was significantly related to all DECA scores at T1 and T2, except for Initiative T2, with children living in their family of origin presenting higher scores. Results from an ANOVA indicated that maternal education was significantly and positively related to all DECA scores at T1 and T2, except for Attachment T2, and that annual family income was significantly and positively associated with all DECA scores at T1, and with Self-Control at T2. For the sake of parsimony, it was elected to keep only Family Structure as a control variable for the main analyses, as this variable was strongly correlated with annual income ($r = .66$, $p < .001$) and maternal education level ($r = .58$, $p < .001$).

Description of the Evolution of Protective Factors

Means and standard deviations of DECA scores at T1 and T2, as well as percentages of children presenting concerning levels of each protective factors, separated by group, are presented in Table 2. Data in this table show that children in the SA group presented lower scores on the three subscales of the DECA at both T1 and T2. Standard deviations are higher in the SA group, indicating a more diverse distribution of scores. A higher percentage of children appears to present concerning levels of Initiative, Self-Control, and Attachment at both measurement times in the SA group, as compared to children in the comparison group. As for the total DECA score, close to one in three sexually abused children (32.3%) presented concerning levels of protective factors, while only 2.6% of comparison group did at T1. At T2, 30.9% of sexually abused children scored in the concerning range while only 4.1% of non-abused children did so.

A crosstab analysis was used to assess the trajectories in terms of concerning versus normal levels of DECA scores between T1 and T2. For Initiative: 15.7% of abused children and 1.4% non-abused children had scores within norms at T1 but concerning levels à T2, 13.7% of abused children and 2.7% of non-abused children remained with concerning levels between T1 and T2, and 7.8% of abused children and 4.1% of non-abused children started with concerning levels and ended with levels within norms at T2. Regarding Self-Control: 9.8% of abused children versus 2.7% of non-abused children presented levels within the norm at T1 but concerning levels at T2, 15.7% of abused children versus 0% of non-abused children remained with concerning levels between T1 and T2, and 2.0% of abused children versus 1.4% of non-abused children presented scores in normative levels at T2 while presenting concerning levels at T1. Finally, for Attachment: 15.7% of abused children and 6.8% of non-abused children achieved scores in normative levels at T1 but concerning level at T2, 3.9% of abused children and 1.4% of non-abused children remained with concerning levels between T1 and T2, and 17.6% of abused children and 2.7% of non-abused children presented concerning levels at T1 and then scores within norms at T2.

Protective Factors over a Year

Repeated measures ANCOVAs were performed using the T-scores for Initiative, Self-Control, and Attachment, to assess the evolution of these scores over a year as a function of the group. Family Structure was entered as a control variable. Significant Time x Family Structure interactions were found for all the DECA subscales, indicating that the difference between children living with their family of origin versus not decreased over the year, but

Table 3. Summary of the results from the repeated measures ANCOVAs comparing abused and non-abused children (n =186)

DECA subscales	F (*df*)	p	η2partial
Initiative			
Time x Sexual Abuse	2.14 (1, 183)	.145	.012
Time	30.75 (1, 183)	<.001	.144
Sexual Abuse	6.66 (1, 183)	.011	.035
Family Structure	2.92 (1, 183)	.089	.016
Self-Control			
Time x Sexual Abuse	2.34 (1, 183)	.128	.013
Time	22.73 (1, 183)	<.001	.110
Sexual Abuse	21.85 (1, 183)	<.001	.107
Family Structure	1.31 (1, 183)	.254	.007
Attachment			
Time x Sexual Abuse	0.19 (1, 183)	.664	.001
Time	15.59 (1, 183)	<.001	.078
Sexual Abuse	5.52 (1, 183)	.020	.029
Family Structure	5.50 (1, 183)	.020	.029

these results are not detailed here given the objectives of this study. Results described below are presented in Table 3.

Results of the analysis pertaining to Initiative showed a significant main effect of Time indicating an increase in Initiative scores between T1 and T2 in both groups. A significant main effect of SA was also found with abused children presenting lower levels of Initiative both at T1 and T2. No Time x Group interaction was found and the effect of Family Structure was only marginal. Partial eta squared indicated a small to medium effect of SA and a large effect of Time.

Self-Control was significantly associated with Time and SA. Here again, T-scores increased over the year, and SA was associated with lower levels of Self-Control both at T1 and T2. No Time x Group interaction was found and the effect of Family Structure was not significant. The effect of Time and SA were medium to high.

Finally, the analyses of Attachment scores indicated a significant main effect of Time, with attachment scores increasing over the year in both groups. A significant main effect of SA was also identified, with abused children presenting lower levels of Attachment. Family Structure was significantly associated with attachment scores. Children living in their family of origin, with both their parents, presented higher levels of Attachment. No Time x Group interaction was found. Effect sizes for SA and Family Structure were small to medium, while the effect of Time was medium to large.

Association with Sexual Abuse Characteristics

To assess the effect of SA characteristics on DECA T-scores and their evolution, repeated measures ANOVAs were performed, with the abuse characteristic (severity, duration, relationship with the perpetrator) as the grouping variables. Therefore, only the 108 sexually abused children were included in these analyses. Detailed results are presented in Table 4. Significant main effects of Time were found for every DECA subscales, a finding that was expected given results of prior analyses. Only significant results regarding the abuse characteristics will be reported here.

A significant Time x Duration of the abuse interaction was found for the Self-Control T-scores with a small to medium effect size. A post-hoc analysis indicated that while the duration of the abuse (one episode vs. more than one episode) was not associated with Self-Control at T1 ($F(1, 106) = 0.02$, $p = .903$), a significant difference was found at T2 ($F(1, 106) = 4.04$, $p = .047$) with children having sustained SA on more than one occasion (T1estimated marginal mean = 49.93; T2 estimated marginal mean = 51.51) presenting lower scores than children abused once (T1estimated marginal mean = 50.20; T2 estimated marginal mean = 56.12). In other words, levels of Self-Control in children abused more than once by their perpetrator showed a smaller increase between T1 and T2. A significant main effect of the relationship with the perpetrator was found for Initiative. This effect indicated that victims of intrafamilial abuse presented higher levels of Initiative at T1 and T2 than victims of extrafamilial abuse. Effect size was small to medium.

Table 4. Summary of the results from the repeated measures ANCOVAs with abuse characteristics (n =108)

DECA subscales	F (*df*)	p	η2partial
Severity			
Initiative			
Time x Severity	1.96 (1, 106)	.164	.018
Time	12.38 (1, 106)	.001	.105
Severity	3.20 (1, 106)	.077	.029
Self-Control			
Time x Severity	0.64 (1, 106)	.425	.006
Time	9.73 (1, 106)	.002	.084
Severity	0.00 (1, 106)	.980	.000
Attachment			
Time x Severity	0.73 (1, 106)	.395	.007
Time	20.92 (1, 106)	<.001	.165
Severity	0.06 (1, 106)	.807	.001
Duration			
Initiative			
Time x Duration	0.20 (1, 106)	.658	.002
Time	12.98 (1, 106)	<.001	.109
Duration	0.01 (1, 106)	.936	.000
Self-Control			
Time x Duration	4.14 (1, 106)	.044	.038
Time	12.37 (1, 106)	.001	.105
Duration	1.52 (1, 106)	.221	.014
Attachment			
Time x Duration	0.33 (1, 106)	.568	.003
Time	20.42 (1, 106)	<.001	.162
Duration	0.02 (1, 106)	.877	.003
Relationship with perpetrator			
Initiative			
Time x Relationship	3.52 (1. 106)	.063	.032
Time	6.97 (1, 106)	.010	.062
Relationship	4.90 (1, 106)	.029	.044
Self-Control			
Time x Relationship	0.04 (1, 106)	.844	.000
Time	8.39 (1, 106)	.005	.073
Relationship	1.45 (1, 106)	.231	.014
Attachment			
Time x Relationship	0.14 (1, 106)	.708	.001
Time	18.50 (1, 106)	<.001	.149
Relationship	0.84 (1, 106)	.362	.008

Discussion and Implications

The aim of this study was to examine individual protective factors (initiative, attachment, self-control) in a group of sexually abused preschoolers as compared to a group of non-abused children and to explore their evolution over time. Our results show that sexually abused children presented lower levels of protective factors both at initial and follow-up assessments, and were more likely to be categorized as presenting concerning levels of Initiative, Self-Control, Attachment, and Total Protective Factors than non-abused children. These results are consistent with those reported by Daigneault and colleagues (2013) in one of their samples indicating that abused adolescents presented lower scores on a resilience measure. When compared to a sample of Head Start children, our sample of sexually abused preschoolers seems to present concerning levels of Total Protective Factors in a greater proportion at T1 and T2 (32.3% and 30.9% vs. 23%) (Brinkman, Wigent, Tomac, Pham, & Carlson 2007).

Results also suggest that while mean levels of Initiative, Self-Control, and Attachment increased over time in both groups, sexually abused children did not catch-up with non-abused children over the year and still presented lower mean levels of protective factors at T2. This increase in competencies is to be expected given the rapid socio-emotional development that takes place in the preschool period (Luby, 2006). However, a non-negligible proportion of abused children - more so than in the comparison group - were found to be in a trajectory of normative levels of Initiative, Self-Control, and Attachment at T1, to concerning levels at T2. This is compounded by the fact that a higher proportion of abused children presented low levels of individual protective factors at both assessment times. Hence, while protective factors are deemed essential to overcoming a trauma such as a SA in early childhood, children who could benefit the most from these protective factors appear less equipped to do so.

Our investigation of the relevance of SA characteristics in understanding levels of individual protective factors in abused children resulted in some interesting and somewhat surprising findings. However, these results must be considered with caution given the high attrition in the SA group. While it appears intuitive that a more severe and chronic SA, as well as a SA perpetrated by a family member would be associated with lower protective factors, data reveal several non-significant findings. Severity of the abuse was not related to any DECA scores; duration was not associated with Initiative and Attachment scores; and relationship with the perpetrator was not associated with Initiative nor Self-Control. These results are coherent with those of numerous studies showing that, especially in young children, SA characteristics may not be associated with outcomes (Bernier et al., 2013; Hébert et al., 2014; Yancey & Hansen, 2010).

One significant finding with a direction of effect contrary to what we would have expected was identified. Intrafamilial abuse was associated with higher levels of Initiative than extrafamilial abuse. However, a marginal Time x Relationship with perpetrator was also identified, indicating steeper increases of Attachment over the year. It is worth mentioning that Child Protection Services are more likely to be involved in intrafamilial cases, hence more psychosocial services might have been provided to these families. Moreover, it is more likely that major changes in the family environment had occurred following an intrafamilial sexual abuse, changes that may have translated into positive impact on relationship quality,

cohesion, and support in the family. The effect of Duration on Self-Control scores was in the expected direction. These results are consistent with those of Hébert et al. (2006), indicating a positive association between the duration of the SA and externalizing symptoms such as sexualized behaviors and aggression, and suggest that victims of SA of longer duration are less likely to be able to self-regulate behaviors and affects.

Limitations

The present study has limitations that must be considered before generalizing the results. While the inclusion of a comparison group offers means to contrast abused and non-abused children on variables of interest, important sociodemographic differences were present on potentially confounding variables. Age range of participants was wide and attrition level in the SA group was quite high, but it is often the case with the difficulty in conducting longitudinal studies with SA victims. In addition, subsequent analyses need to be conducted to explore possible gender difference as previous studies identified such differences in protective factors (Ogg et al., 2010). Furthermore, past studies found gender differences in some correlates of SA and their evolution (Bernier et al., 2013; Séguin-Lemire et al., 2016). This longitudinal study is correlational, thereby preventing us from deriving conclusions about causality. While SA can impact self-regulation, relationship quality, and self-esteem, children who present a lack of these protective factors may also represent a vulnerable or targeted population for sexual predators. Unfortunately, the current study could not address this issue, and only prospective studies could do so.

Finally, resilience is clearly a multidimensional construct and unfortunately the different features related to resilience were not integrated in the present analysis. Contemporary perspectives of resilience suggest a multidimensional operationalization (Bonanno, Brewin, Kaniasty, & LaGreca, 2010). Currently, no psychometrically-sound measure appears, by itself, designed to evaluate both adversity and competence in addition to all the different levels of factors (individual, familial, community, cultural) associated with resilience (Windle et al., 2011). The DECA is similar to the majority of existing measures assessing exclusively individual resilience features.

Implications

Despite these limitations, the data gathered in the present study offers preliminary cues to understand the association between the trauma itself and the presence, levels, and evolution of individual protective factors. Results underline the relevance of investigating this association in a more detailed fashion by including variables such as gender and measures of protective factors at various levels of the social ecology. Studying the factors associated with the various pathways (e.g., normative levels at T1 to concerning levels at T2) of individual protective factors (e.g., provision of services, other adverse life experiences) would also be informative. In terms of practical implications, these results suggest that practitioners working with sexually abused preschoolers should assess protective factors prior to treatment. This assessment could allow for a more accurate prognostic and inform treatment orientation and plans. The most established psychotherapy for SA victims, Trauma-Focused Cognitive-

Behavioral Therapy, already includes components that could help foster self-control and attachment (i.e., parenting skills training, relaxation techniques, affective regulation, coping, and conjoint parent-child sessions). Children presenting to treatment with deficits in those areas could benefit from a more specific focus on these treatment components. Given that factors such as levels of initiative, self-control, and the quality of interpersonal relationships could foster resilience in traumatized young children, enhancing these individual and interpersonal skills via prevention and/or curative interventions could have a positive impact on the developmental trajectories of these children and favor positive adaptation.

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