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PSYCHOEDUCATIONAL GROUP INTERVENTION FOR JUVENILE SEX OFFENDERS: OUTCOMES AND ASSOCIATED FACTORS

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***Abstract*:** Childhood maltreatment is a factor frequently associated with adolescents who commit sexual assault. This study sought to determine: 1) whether juvenile sex offenders (JSO) progressed on a set of targets following a psychoeducational group intervention; and 2) whether presence of childhood maltreatment and quality of parent-adolescent relationship predicted this progression. To this end, 128 male JSO completed outcome measures of post-traumatic stress, self-esteem, social skills, and sex knowledge, attitude and behaviour pre- and post-intervention. Groups were composed of 5 to 10 participants and facilitated by two psychosocial practitioners (generally social workers and psychoeducators). A total of 24 to 30 weekly sessions were held lasting on average two hours each. Results show JSO improved significantly on practically all intervention targets, namely, post-traumatic stress symptoms, social skills, sex attitude, comfort level discussing sex, and self-esteem. Moreover, analyses indicate quality of parent-adolescent relationship at intervention outset does not influence outcomes whereas different forms of childhood maltreatment are associated with more positive outcomes for some targets. The intervention appears appropriate for JSO, especially those who experienced childhood maltreatment.

***Key words*:** Child abuse and neglect, Juvenile sex offender, Psychoeducational group intervention.

INTRODUCTION

In Europe as in North America, annual statistics published by official authorities suggest that adolescents 12 to 17 years old and adults in their 30s are the two age groups with the highest rates of sexual assault against children (Smallbone & Wortley, 2004). This represents about 1 per 1,000 teenagers in the United Kingdom (Whittle, Bailey,

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& Kurtz, 2006) and 90 per 100,000 inhabitants in Canada (Statistics Canada, 2008). It is also well known that estimated prevalence rates are a poor reflection of reality in that the non-disclosure rate is very high among adolescent victims of sexual assault (Erooga & Masson, 2006). Indeed, this rate has been reported at 83% when the offender is an adolescent, compared with 34% when the offender is an adult (Radford, Corral, Bradley, Fisher, Bassett, et al., 2011). This is an alarming problem for society, all the more so that it affects youths above all. According to Finkelhor and Shattuck (2012), adolescents are responsible for more than one-third of sexual assaults committed against children. What's more, the consequences are believed to be just as detrimental when sexual assault is committed by an adolescent as when it is committed by an adult (Cyr, Wright, McDuff, & Perron, 2002). These include physical and psychological health problems, substance abuse problems, sexual behaviour problems, delinquency and crime (Koenig, Doll, O'Leary, & Pequegnat, 2004; Nelson, Heath, Madden, Cooper, Dinwiddie, et al., 2002; Widom & Maxfield, 2001).

Psychoeducational Group Intervention for Juvenile Sex Offenders (JSO)

Over the past 40 years, a large number of intervention programs have been developed to meet the needs of JSO. Among these, group intervention remains a mode frequently used with and recommended for JSO (Lafortune, Tourigny, Proulx, & Metz, 2006; Longo, 2003; Whittle et al., 2006). In this regard, Longo (2003) proposed a continuum of care for sexually abusive youths that included psychoeducation. The advantage of this type of intervention is that, instead of focusing merely on the sexual problem, it examines all aspects of the person's development. Indeed, psychoeducational programs aim to educate participants regarding a host of topics, including sex, social skills, consequences of sexual assault for victim, and anger management (Lafortune et al., 2006; Longo, 2003). However, few studies to date have examined the effectiveness of psychoeducational group interventions with JSO. In a review of JSO program effectiveness, Fanniff and Becker (2006) identified seven outcome studies of psychoeducational programs. They reported that psychoeducational groups had positive effects on attitude toward sexual behaviour, social competence, and sex knowledge and attitude.

Childhood Maltreatment as Risk Factor

Childhood maltreatment, especially sexual abuse, is one of the factors most frequently associated with risk of adolescents committing sexual assault (Veneziano & Veneziano, 2002). A recent meta-analysis indicated that male adolescent sex offenders were five times as likely as male adolescent non-sex offenders to have suffered

childhood sexual abuse (Seto & Lalumière, 2010). What's more, JSO victims of childhood sexual abuse have been found to commit more serious crimes than JSO with no history of childhood maltreatment (Zakireh, Ronis, & Knight, 2008).

In addition to sexual abuse, the presence of other forms of childhood maltreatment (physical and emotional abuse), too, distinguishes JSO significantly from juvenile non-sex offenders (Seto & Lalumière, 2010). A large number of JSO have suffered one form or other of maltreatment, which clearly suggests that they have had traumatic experiences with the potential to hinder their development severely (Seto & Lalumière, 2010). Finally, it is not rare for JSO to have suffered multiple traumas in their life, with some studies indicating this being the case for 75% of them (Hutton & Whyte, 2006; McMackin, Leisen, Cusack, Lafratta, & Litwin, 2002).

Explanatory Theoretical Models of Role of Maltreatment

To explain what leads an adolescent to commit sexual assault, researchers resort to different theoretical models, most often inspired by developmental approaches that attribute great importance to the influence of maltreatment suffered. Among these, Social Learning Theory (SLT) developed by Bandura (1986) is the one that to date has resonated most in research results demonstrating the high prevalence of sexual victimization among JSO. Applying this theory to JSO, Burton and Meezan (2004) interpreted their sexual assaulting as a reaction to childhood sexual abuse. Accordingly, via a modeling process, JSO reproduce the behaviours suffered at the hands of an authority figure or trusted person.

Although SLT explains only in part research results that evidence a more heterogeneous picture of maltreatment likely to play a role in the etiology of JSO, Burton and Meezan (2004) added that a trajectory marked by violence could foster learning of sexually aggressive behaviour in the presence of other factors hindering development (e.g., intellectual deficiency, poor social skills, exposure to pornography). The explanation advanced by Burton and Meezan is echoed also in more general developmental theoretical models. This is the case, for instance, in the key work by Cicchetti in developmental psychopathology (Cicchetti & Lynch, 1995; Cicchetti & Rogosch, 1999, 2002), which stipulates that maltreatment at an early age has major repercussions on the development of the individual. Accordingly, some youths are believed to be more prone than others to develop adaptation problems or severe disorders on account of the vulnerabilities (e.g., weak self-esteem, negative or deficient social skills) induced by maltreatment, which can undermine their ability to face and effectively meet the challenges and tasks that arise at different stages of life. Generic developmental theoretical models maintain, also, that trajectories are neither linear nor irreversible, thus attributing to the environment a dynamic role in the individ-

ual's development by way of risk and protective factors.

The Trauma Outcome Process Assessment (TOPA) model proposed by Rasmussen (Rasmussen, 1999, 2001, 2004, 2012; Rasmussen, Burton, & Christopherson, 1992) integrates certain developmental approaches along with theoretical elements related to different trauma models. According to the TOPA model, three types of developmental trajectories can take shape following a childhood traumatic experience, such as maltreatment. Two of these trajectories lead to behavioural problems directed at self or others. Sexual assault is one of the most brutal and dangerous forms of behavioural problems directed at others. It is conceived as an explosive manifestation of the adolescent's inability to control emotions and repressed anger relative to an earlier trauma. If this manifestation is directed at others, it is on account of the erroneous beliefs (or cognitive distortions) that the adolescent has acquired about the world around him. In this regard, the TOPA model stipulates that maladaptive responses to traumatic experiences (e.g., negative distortions regarding sex, self-regulation problems) constitute the key risk factor for JSO and that the risk of committing such an act is influenced by other factors, both personal (e.g., deficiencies in terms of social skills and sex education) and environmental (e.g., social support), the presence or absence of which places the youth on a trajectory of vulnerability or resiliency. This phenomenon of risk factor interaction is echoed in the study by Hunter and Figueredo (2000), whose results demonstrated that adolescents who were abused in childhood and who received less family support were more likely to sexually offend later. The results of a recent study by Abu-Baker (2013) revealed, in this regard, that victims of childhood sexual abuse experienced more traumatic effects if their families were not supportive and instead blamed them for what happened.

Factors Associated with JSO Outcomes

Against this background, we undertook a study of childhood maltreatment and the parent-adolescent relationship to determine whether these factors influenced outcomes for JSO participating in a psychoeducational group program. The study falls within a recent current of research on the mechanisms of therapeutic change that seeks to go beyond the traditional evaluation of program effectiveness (black box evaluation) in order to gain a more refined understanding of the active elements responsible for an intervention's success or failure. In short, the aim is to answer why, how, for whom and in what context programs work (Kazdin, 2007; Kazdin & Nock, 2003; Weersing & Weisz, 2002). From our review of the literature inspired by this current of research, we noted its strong clinical potential, particularly for helping select participants most likely to benefit from psychoeducational group interventions and supporting practitioners tailor these interventions to client group specificities (Tougas & Tourigny, 2013).

In addition to its vast potential at the clinical level, this current of research is just as promising with respect to providing answers to the scientific questions in the field of juvenile sexual offending, a field where more and more researchers and practitioners are recognizing the need for developmentally sensitive intervention and for empirical research geared to determining what works best and, in turn, establishing guidelines for evidence-based practices and intervention (Ralph, 2012).

Works in the field of juvenile sexual offending provide interesting avenues regarding the potential role of maltreatment in recidivism and, by extension, the treatment of JSO. In a recent meta-analysis, Mallie, Viljoen, Mordell, Spice, and Roesch (2011) observed a significant albeit small effect-size relationship between childhood sexual abuse and sexual recidivism among JSO. These results were reflected also in a recent Canadian study by Carpentier and Proulx (2011), which demonstrated that childhood sexual victimization was one of several factors associated with higher risk for sexual recidivism over a follow-up period of up to eight years. Moreover, the results of certain studies suggest taking into consideration the influence on JSO sexual recidivism of other forms of maltreatment with more of an affective or psychological connotation, such as prolonged absence of father and parental rejection (Carpentier & Proulx, 2011; Worling & Curwen, 2000). Finally, such results suggest taking better account of the determinant role that can be played by parents in the development of JSO, owing to their history, their behaviours, and the family environment they provide their children (Efta-Breitbach & Freeman, 2004). To our knowledge, with the exception of one study showing the favourable effects of multisystemic therapy (MST) to be "mediated by increased caregiver follow-through on discipline practices as well as decreased caregiver disapproval of and concern about the youth's bad friends during the follow-up" (p. 451, Henggeler, Letourneau, Chapman, Schewe, Borduin, & McCart, 2009), no study had ever assessed whether the parent-child relationship was associated with the developmental trajectory of JSO. This was no doubt a question that deserved greater attention from researchers given the importance that certain programs attribute to parental involvement in intervention for JSO (Lafortune et al., 2006; Letourneau, Henggeler, Borduin, Schewe, McCart, et al., 2009). To our knowledge, no study had ever focused on the influence of both maltreatment and the parent-adolescent relationship on the effectiveness of an intervention program for JSO.

Purpose of Study

The purpose of this study was to determine: 1) whether JSO had progressed following a psychoeducational group intervention on measures of post-traumatic stress, self-esteem, social skills, and sex knowledge, attitude and behaviour; and 2) whether

presence of childhood maltreatment and quality of parent-adolescent relationship predicted this progression.

METHOD

Design and Procedures

A pre-test/post-test pre-experimental design was used for the purposes of the study. The interval between pre-and post-test was 35.5 weeks (*SD* = 9.8). Participants were 128 male adolescents who received a psychoeducational group intervention for JSO in one of four child welfare facilities - three in Canada (Quebec) and one in Switzerland - specialized in interventions for sex offenders and their victims for more than 20 years.

Nearly all the participants (96%) were referred for psychoeducational group intervention by youth protection services (45%), juvenile court (42%) or both (9%) at the moment they were added to the caseload of social services. They completed the questionnaires pre- and post-intervention in the same setting where they received the psychoeducational group intervention. To be eligible for the study, adolescents had to meet the following two criteria: a) 11 to 18 years of age; and b) no moderate or severe intellectual deficiency. Participation in the study was on a voluntary basis. All the adolescents were advised in a consent form that they were free to participate or not, without consequence for future services to be received. Participants were given a $10 gift card for a music shop as a token of appreciation.

All the participants were met for a semi-structured interview and completed eight self-report questionnaires in the two weeks prior to the start of the psychoeducational group intervention. The interviewer determined on the basis of the adolescent's abilities whether to allow him to answer the questions alone or whether to read the questions together with him. The interviewer was present at all times to explain instructions if needed and to answer any questions the participant might have. Data were collected a second time using the same eight questionnaires within two weeks of the end of the group intervention.

Participants

The 128 participants had a mean age of 15.0 years (*SD* = 1.6). The majority of the adolescents were full-time students (84%) and Caucasian (94%). Regarding living environment, 31% of the adolescents had been placed in foster homes or in a reha-

bilitation centre, 25% lived with both parents, and 39% lived with one of two parents (Table 1). Regarding this variable only, significant differences were observed depending on whether participants had been maltreated or not. Indeed, proportionally more maltreated youths (42.9% vs. 11.8%) lived in foster homes, $\chi^2(1, N = 128) = 14.0$, $p < .01$. However, proportionally more non-maltreated youths (35.3% vs. 18.2%) lived with both parents, $\chi^2(1, N = 128) = 4.8$, $p = .02$. Finally, the sexual assaults committed by participants were severe: 34% of the adolescents assaulted multiple victims and 41% of the assaults involved rape or attempted rape (Table 1).

Table 1. Descriptive Characteristics of Sample

	n (%) total	% abused	% non-abused	χ^2
Sociodemographic characteristics				
Living environment	(*n* = 128)	(*n* = 77)	(*n* = 51)	14.7*
Foster home	39 (30.5)	42.9	11.8	
Home with both parents	32 (25.0)	18.2	35.3	
Other	57 (44.5)	39.0	52.9	
Occupation	(*n* = 113)	(*n* = 73)	(*n* = 40)	
Studying full-time	95 (84.1)	79.5	92.5	3.3
Other occupation	18 (15.9)	20.5	7.5	
Ethnic background	(*n* = 114)	(*n* = 73)	(*n* = 41)	
Caucasian	107 (93.9)	93.2	95.1	
Other	7 (6.1)	6.8	4.9	
Age (years)	*M* = 15.0 *SD* = 1.6	*M* = 14.9 *SD* = 1.7	*M* = 15.0 *SD* = 1.5	*t* = 0.31
Characteristics of sexual assault committed				
Number of victims	(*n* = 128)	(*n* = 77)	(*n* = 51)	0.7
Only one	85 (66.4)	63.6	70.6	
Two or more	43 (33.6)	36.4	29.4	
Means of coercion used	(*n* = 123)	(*n* = 75)	(*n* = 48)	2.2
None	74 (60.2)	56.0	66.7	
Verbal constraint (e.g., threat, blackmail)	29 (23.6)	28.0	16.7	
Physical constraint (with or without a weapon)	20 (16.2)	16.0	16.7	
Nature[1]	(*n* = 127)	(*n* = 77)	(*n* = 50)	
Touching/fondling genitals	97 (76.4)	77.9	74.0	0.3
Oral-genital contact	63 (49.6)	53.2	44.0	1.0
Exhibitionism	34 (26.8)	28.6	24.0	0.3
Penetration or attempted penetration (vaginal or anal)	52 (40.9)	46.8	32.0	2.7
Masturbation	39 (30.7)	35.1	24.0	1.7

[1]Percentage exceeds 100% because more than one sexual assault was possible.
*$p < .01$

Associated Factors

A semi-structured interview (Madrigrano, Rouleau, & Robinson, 1997) was completed by participants. It contained 101 questions on various dimensions of life: sociodemographics, judicial situation, personal and family history, history of psychological, physical and sexual victimization, history of delinquency, sexual history (deviant and non-deviant), alcohol, drug and pornography consumption, academic trajectory, social skills, and sex offences. In our study, this interview served to document sociodemographic data, characteristics of sexual assault committed, characteristics of childhood maltreatment (i.e., sexual, physical and psychological abuse) and to determine whether participants met the program eligibility criteria[1].

Child's Attitude Toward Mother (CAM) and Child's Attitude Toward Father (CAF). This questionnaire was used to evaluate self-perception of quality of relationship with each parent or step-parent. The scale consists of 25 items and the total score indicates presence/absence of conflict in the relationship. Giuli and Hudson (1977) reported that the instrument presented adequate internal consistency (Cronbach's α = .94 and .95, for CAM and CAF respectively). A score below 30 indicates absence of conflict, a score from 30 to 69 indicates presence of conflict within the clinical range, and a score of 70 or more indicates that the adolescent is exposed to severe stress and that violence is likely to be considered or used to resolve conflicts (Giuli & Hudson, 1977).

Outcome Measures

Outcome measures were tightly linked to some of the group intervention's objectives, namely, those regarding sex education, anger management, and social skills and self-esteem improvement. Though post-traumatic stress did not figure among the intervention's objectives, a measure of post-traumatic stress symptoms was nevertheless added on account of the presence of numerous past traumatic experiences among the adolescents and in order to examine how these symptoms evolved in the course of intervention.

The *Dating Questionnaire* (DQ) was used to assess participant comfort level with different social situations involving sex. This is an 18-item scale from the Behaviour section of the *Mathtech Questions on Comfort* (MQC; Kirby, 1990). Items cover discussing sex with friends, partner(s), and parents, birth control, and STI protection,

[1] All except the criterion regarding absence of severe psychiatric disorder, which was verified instead by examining the child's social services file.

being sexually assertive (saying "no"), having a current sex life, and getting and using birth control and STI protection. The respondent must rate his comfort level in each situation on a four-point scale ranging from comfortable to very uncomfortable. The total score ranges from 18 to 72 and the higher the score, the more comfortable the participant is in these situations. The instrument obtained a Cronbach's alpha of .89 (Pagé, 2004).

Intended for adolescents and young adults, the *Sex Knowledge and Attitude Test for Adolescents* (SKAT-A; Lief, Fullard, & Devlin, 1990) is composed of three separate sections regarding sex knowledge, attitude and behaviour. Only the 43-item section on sex attitude was used in this study. The respondent must indicate his level of agreement with each statement. The total score ranges from 43 to 215, with a high score indicating a more positive (acceptance of sex) and liberal (e.g., less sexist, less homophobic) sex attitude. For the attitude scale, the instrument obtained a Cronbach's alpha of .89 and a test-retest correlation (at a three-week interval) of .92 (Lief et al., 1990).

The *Matson Evaluation of Social Skills in Youngsters* (MESSY; Matson, 1994) serves to measure social skills in children less than 18 years of age. The instrument comprises 62 items distributed across five subscales: a) appropriate social skills; b) inappropriate assertiveness; c) impulsive/recalcitrant; d) overconfident; and e) jealousy/withdrawal. The total score ranges from 62 to 310 and the higher the score, the more inappropriate are the social skills. Spence and Liddle (1990) reported the questionnaire's internal consistency to be .76 and its test-retest reliability to be .80 (at a two-week interval).

The *Self-Perception Profile for Adolescents* (SPPA; Harter, 1988) was selected to measure self-perceived competence through 46 items grouped under eight subscales. For the purposes of this study, only the global self-worth subscale was used. It comprises six items that tap how much the respondent likes himself as a person, is happy about the way he is leading his life, and is generally happy with the way he is. The subscale yields a global assessment of one's self-worth (Harter, 1988). The internal consistency reliabilities of the subscale vary from .80 to .89 (Harter, 1988). The score ranges from 1 to 4 and the higher the score, the greater is the adolescent's self-esteem.

The *Trauma Symptom Checklist for Children* (TSC-C; Briere, 1996) is used with children 8 to 17 years old to evaluate different post-traumatic stress outcomes. The 54-item TSC-C yieldssix clinical subscale scores measuring level of anxiety, depression, post-traumatic stress, sexual concerns, dissociation, and anger. Its internal consistency reliability coefficients have proved adequate (Cronbach's α ranging from .77 to .89; Briere, 1996). Higher scores indicate a higher frequency of symptoms.

Psychoeducational Group Intervention for Juvenile Sex Offenders (JSO)

Within the framework of this study, a psychoeducational group intervention was implemented by three organizations in Quebec (Canada) and one in Switzerland, namely, a youth protection centre and three community agencies. Each group was composed of 5 to 10 JSO and facilitated by two psychosocial practitioners (generally social workers and psychoeducators). The intervention entailed 24 to 30 weekly sessions lasting on average two hours each. The group facilitators had 4 to 15 years' experience working with JSO and most held a Master's degree. All had received 40 hours of basic training in the program and some had also taken part in continuing professional development activities regarding JSO intervention.

The aim of the psychoeducational group intervention was to help the adolescents: 1) gain a better understanding of the process that led them to commit sexual assault; and 2) develop strategies to avoid recidivism. The four intervention sites shared the following specific objectives: a) enhance social skills; b) raise self-esteem; c) improve sex knowledge and attitude; d) improve stress and anger control; and e) prevent recidivism. The intervention offered was divided into 15 modules each covering a specific topic, including legal aspects of sexual assault, adolescent sexuality, social skills, and cycle of sexual abuse. The techniques used to cover these topics and achieve the desired objectives drew on cognitive-behavioural approaches, including group discussion, role playing, observation, modeling, confrontation, written exercises, film screenings, and case studies.

A clinical evaluation interview was conducted (in the same setting where the psychoeducational group intervention took place) beforehand by one of the practitioners to determine the individual needs of each adolescent and to verify whether he met the program's eligibility criteria, namely: a) had a minimum of motivation to participate; b) acknowledged at least in part the sexual assaults accused of; c) recognized that the victim suffered some sort of harm; d) agreed to participate in all of the group sessions and signed a written commitment to this effect; and e) presented no severe psychiatric disorder (psychosis, schizophrenia or other personality disorder)[2]. Participants undertook in writing to respect the rules of the group, that is: a) participate actively in both group discussions and exercises to be completed during or between intervention sessions; b) justify any absence on the day of the session and catch up on missed content in the course of an individual session; c) show up without having consumed drugs or alcohol; and d) complete the logbook and homework assigned each week.

[2] Unlike the other criteria verified in the course of the clinical interview, this criterion was verified by the practitioner by examining the child's social services file.

In all, the 128 adolescents formed 24 separate psychoeducational groups from 2000 to 2007. Participation in the group intervention was excellent as evidenced by the fact that, on average, each adolescent participated in 23.7 sessions for an attendance rate of 90%.

Data Analysis

Objective 1: To verify whether participants improved on the outcome measures post-intervention, we ran repeated-measures analyses of variance (ANOVA). This type of analysis was preferred on account of its ability to detect intra-subject differences between two times of measurement only. What's more, it is robust in that it takes account of correlations between times of measurement and allows measuring effect sizes (Cohen's *d*).

Objective 2: To identify the factors associated with participants' progression following intervention, we first carried out univariate repeated-measures ANOVA to determine for each outcome measure whether factors were significantly associated with the change observed between pre- and post-test. The factors that proved significantly associated ($p < .1$) at this stage were then entered as co-variables in the multivariate repeated-measures ANOVA in order to explore which of these predicted the change in question. Age of adolescent at start of intervention was also considered as a co-variable.

To determine the presence of associated factors, which were defined as factors reflecting the presence of a significant association between an independent variable and the measure of the dependent variable in the different multivariate analyses, the significance threshold was set at $p < .05$ (Tabachnick & Fidell, 1996). Throughout, effect sizes were measured by way of Cohen's *d* (1988) to provide an index of the magnitude of the associations observed.

RESULTS

Effects of the Psychoeducational Group Intervention

Table 2 presents the results of the repeated-measures ANOVA showing how the adolescents progressed following the psychoeducational group intervention. With the exception of sexual concerns, the results on the whole demonstrated a significant improvement on all outcome measures post-intervention. More specifically, the adolescents saw their negative social skills and their anxiety, depression, anger, post-

traumatic stress, and dissociation symptoms diminish. Cohen's *d* indicated that these effects ranged from small (.39) to large (.91).

Moreover, we noted that the adolescents saw their self-esteem, comfort level discussing sex, and sex attitude improve following the group intervention. Effect sizes in these cases ranged from medium (Cohen's *d* of .4) to large (1.0).

Table 2. Outcomes of Psychoeducational Group Intervention

	Pre-test	Post-test	Anovas	Effect size
Outcome measures	*M* (*SD*)	*M* (*SD*)	*F* (df)	Cohen's *d*
Trauma Symptom Checklist for Children (TSC-C)				
TSC-Anxiety	6.3 (4.0)	5.5 (4.0)	4.74 (1, 127)*	.39
TSC-Depression	7.0 (4.3)	5.2 (4.0)	25.81 (1, 127)***	.91
TSC-Anger	6.7 (4.6)	5.4 (4.5)	14.78 (1, 127)***	.69
TSC-PTSD	9.4 (4.7)	7.4 (4.6)	23.59 (1, 127)***	.87
TSC-Dissociation	8.1 (4.8)	6.9 (4.8)	8.42 (1, 127)**	.52
TSC-Sexual concerns	6.1 (4.0)	5.4 (3.6)	3.78 (1, 127)	.35
Matson Evaluation of Social Skills in Youngsters (MESSY)				
MESSY-Inappropriate social skills	130.0 (24.4)	125.1 (25.5)	5.12 (1, 126)*	.40
Mathtech Questions on Comfort (MQC)				
MQC-Comfort talking about sex	3.1 (0.6)	3.2 (0.5)	8.45 (1, 109)**	.56
Self-Perception Profile for Adolescents (SPPA)				
SPPA-Global self-worth	2.8 (0.7)	3.2 (0.6)	20.90 (1, 100)***	.92
Sex Knowledge and Attitude Test for Adolescents (SKAT-A)				
SKAT- Sex attitudes	153.7 (20.0)	163.7 (15.6)	31.54 (1, 127)***	1.00

* $p < .05$ ** $p < .01$ *** $p < .001$

Factors Associated with Intervention Effectiveness

Childhood Maltreatment. The clinical interviews revealed that 60% of the JSO had experienced at least one form of childhood maltreatment (Table 3). Psychological abuse (39%) was the most frequent, followed by sexual abuse (30%) and physical abuse (27%). Parental figures were the offenders 86% of the time in the case of physical abuse, 53% in the case of psychological abuse, and only 18% in the case of sexual abuse.

The ANOVA results in Table 4 showed that, with one exception, childhood maltreatment was associated among JSO with significantly greater improvement following intervention. More specifically, JSO physically abused in childhood improved more than did non-abused JSO on the TSC-depression and TSC-anger scales (medium effect sizes: .47 and .45). For example, physically abused adolescents scored 3.3

Table 3. Characteristics of Childhood Maltreatment

	n	*%*
Accumulation of forms of maltreatment	(*n* = 128)	
None	51	39.8
One	44	34.4
Two	21	16.4
Three	12	9.4
Characteristics of childhood sexual abuse		
Sexually abused in childhood	(*n* = 128)	
Yes	38	29.7
No	90	70.3
Offender[1]	(*n* = 38)	
Mother or father	4	10.5
Substitute parent	3	7.9
Other family member	12	31.6
Other	22	57.9
Characteristics of childhood psychological abuse		
Psychologically abused in childhood	(*n* = 126)	
Yes	49	38.9
No	77	61.1
Offender[1]	(*n* = 49)	
Mother or father	20	40.8
Substitute parent	6	12.2
Other family member	4	8.1
Other	23	46.9
Characteristics of childhood physical abuse		
Physically abused in childhood	(*n* = 128)	
Yes	35	27.3
No	93	72.7
Offender[1]	(*n* = 35)	
Mother or father	23	65.7
Substitute parent	7	20.0
Other family member	2	5.7
Other	7	20.0

[1]Percentage exceeds 100% because more than one offender was possible.

points lower on depression post-intervention, whereas those not physically abused scored 1.2 points lower. Sexually abused JSO improved more than their non-abused counterparts on the TSC-anxiety, TSC-sexual concerns, and SPPA-self-worth scales (medium effect sizes: .42 to .59). For example, sexually abused JSO saw their anxiety

Table 4. Multivariate Analyses of Variance Aimed at Identifying Factors Associated with Effects of Psychoeducational Group Intervention

	Repeated-measures ANOVA			Description of associated factors				
Variables	*F*	*p*	*d*		*n*	*M* t_1 (*SD*)	*M* t_2 (*SD*)	*M* t_2-t_1 (*SD*)
	Trauma Symptom Checklist for Children (TSC-C)							
TSC-Anxiety (n = 127)								
Time	2.40	.12	.28					
Time x age of adolescent	2.47	.12	.29					
Time x physical abuse	0.73	.39	.16					
Time x sexual abuse	6.25	.01	.45	presence	38	6.9 (3.9)	4.7 (3.3)	-2.3 (4.1)
				absence	89	6.0 (4.1)	5.9 (4.2)	-0.1 (3.7)
TSC-Depression (n = 127)								
Time	0.38	.54	.11					
Time x age of adolescent	0.06	.81	.00					
Time x physical abuse	6.99	.01	.47	presence	24	8.6 (5.2)	5.6 (4.0)	-3.3 (4.8)
				absence	93	6.4 (3.8)	5.1 (4.1)	-1.2 (3.4)
TSC-PTSD (n = 127)								
Time	4.59	.03	.39					
Time x age of adolescent	3.45	.07	.33					
Time x physical abuse	1.76	.19	.24					
Time x sexual abuse	2.94	.09	.31					
TSC-Dissociation (n = 102)								
Time	0.21	.65	.09					
Time x age of adolescent	0.12	.73	.06					
Time x adolescent/mother relationship	4.94	.03	.45	correlation	102	.06	-.17	-.22
TSC-Sexual concerns (n = 99)								
Time	0.20	.65	.09					
Time x age of adolescent	0.62	.43	.17					
Time x physical abuse	1.07	.30	.21					
Time x sexual abuse	8.07	.01	.59	presence	29	7.2 (4.8)	5.1 (3.4)	-2.1 (3.6)
				absence	70	5.2 (3.6)	5.5 (3.9)	0.3 (3.8)
Time x adolescent/father relationship	9.60	.00	.64	correlation	99	.24	-.04	-.28

(continued)

Table 4. (continued)

	Repeated-measures ANOVA			Description of associated factors				
Variables	*F*	*p*	*d*		*n*	*M* t_1 (*SD*)	*M* t_2 (*SD*)	*M* t_2-t_1 (*SD*)
Trauma Symptom Checklist for Children (TSC-C)								
TSC-Anger (n = 125)								
Time	1.86	.18	.25					
Time x age of adolescent	0.79	.38	.16					
Time x physical abuse	6.20	.01	.45	presence	32	7.1 (4.7)	4.8 (3.6)	-2.3 (3.7)
				absence	93	6.6 (4.6)	5.7 (4.7)	-0.9 (3.8)
Time x psychological abuse	7.54	.01	.50	presence	49	5.8 (3.9)	5.4 (4.6)	-0.4 (4.1)
				absence	76	7.3 (5.0)	5.7 (4.8)	-1.8 (3.6)
Matson Evaluation of Social Skills in Youngsters (MESSY)								
MESSY - Inappropriate social skills (n = 126)								
Time	0.32	.57	.11					
Time x age of adolescent	0.11	.74	.06					
Mathtech Questions on Comfort (MQC)								
MQC - Comfort talking about sex (n = 84)								
Time	0.00	.95	.00					
Time x age of adolescent	0.00	.99	.00					
Time x adolescent/mother relationship	3.86	.05	.43					
Self-Perception Profile for Adolescents (SPPA)								
SPPA - Global self-worth (n = 100)								
Time	0.17	.68	.09					
Time x age of adolescent	0.01	.94	.00					
Time x sexual abuse	4.25	.04	.42	presence	28	2.6 (0.6)	3.1 (0.6)	0.6 (0.7)
				absence	72	3.0 (0.7)	3.2 (0.6)	0.2 (0.7)
Sex Knowledge and Attitude Test for Adolescent (SKAT-A)								
SKAT - Sex attitudes (n = 127)								
Time	26.67	.00	.92					
Time x age of adolescent	20.66	.00	.81	correlation	127	.29	-.11	-.38

score drop 2.3 points following intervention compared with 0.1 point for JSO not sexually victimized in childhood.

Contrary to the above results, childhood psychological abuse was associated with less improvement. Indeed, psychologically abused JSO improved less than their non-abused counterparts on the TSC-anger scale (medium effect size: .50).

Quality of Parent-Adolescent Relationship. Quality of parent-adolescent relationship, whether with father or mother, proved little associated with the adolescents' progression post-intervention (Table 4). Indeed, across all of the analyses conducted, only two associations proved statistically significant, namely: 1) the more relationship with mother at start of intervention was problematic according to the adolescent, the more he improved on the TSC-dissociation scale (medium effect size: .45) post-intervention; and 2) the more relationship with father at start of intervention was deemed problematic by the adolescent, the more he improved on the TSC-sexual concerns scale (medium effect size: .64).

DISCUSSION

Generally speaking, the results of this study show that the psychoeducational group was appropriate for the participating JSO given that they improved significantly on different aspects of development targeted by the program. In this regard, the results echo those of earlier studies that demonstrated positive changes, particularly in terms of social skills and sex knowledge and attitude, among JSO who took part in a psychoeducational group program (Graves, Openshaw, & Adams, 1992; Hains, Herrman, Baker, & Graber, 1986; Kaplan, Becker, & Tenke, 1991; Lab, Shields, & Schondel, 1993; Lagueux, 2006; Viens, Tourigny, Lagueux, & Étienne, 2012). The only exception is the TSC-sexual concerns subscale, on which our study results nevertheless reveal a tendency toward improvement ($p = .054$). It is important to put this tendency into proper perspective given the weak internal consistency reported across the items of this subscale ($\alpha = .68$ to .77) with both a normal sample and abused children (Briere, 1996).

In almost all cases, the JSO with a more negative profile at the start of the intervention owing to childhood maltreatment or a lower-quality relationship with one or other parent improved just as much as the others, if not more so. More particularly, physically and/or sexually abused JSO improved more than their non-abused counterparts on the following scales where our study revealed the presence of associated factors: depression, anger, anxiety, sexual concerns, and self-esteem. Hence, our results lead us to conclude that psychoeducational group intervention is indicated to meet the needs of adolescents who commit sexual assault and present a history of

childhood maltreatment. At first glance, these results might seem to run counter to the literature reviewed. However, they coincide with some of the results of the meta-analysis by James, Stams, Asscher, DeRoo, and van der Laan (2013), which in particular showed certain characteristics related to a more severe JSO profile (e.g., gang involvement, violent offences) to be associated with lower recidivism risk.

Beyond the fact that the psychoeducational group intervention yielded encouraging results, it is important to examine the elements of practice at play in order to gain a better understanding of what at the clinical level contributes to render this type of intervention particularly appropriate to meet the needs of JSO with a history of childhood physical or sexual abuse. Based on the hypothesis to the effect that the more knowledge a person has of a problem, the more easily he will prevent it in future, psychoeducational intervention can help abused JSO give a meaning to and step back from the traumatic experiences that they suffered. On the one hand, because it raises awareness of the consequences of the sexual assault committed, psychoeducational intervention can contribute to develop more positive feelings about oneself among abused JSO, who might see a clearer link between their own experiences of victimization and how they feel or behave towards others. On the other hand, because it pushes participants to identify the early mechanisms of aggressive acts (of a sexual nature in the case of the cycle of sexual abuse), psychoeducational intervention can provide more rational explanations to JSO likely to help them understand what might have provoked the maltreatment they suffered and to cease blaming themselves for it.

Another way of interpreting the positive results observed for JSO who suffered abuse rests on the types of activity and content they were offered. Though earlier traumatic experiences were not covered directly in the psychoeducational group program, activities aimed at identifying the trigger mechanisms of sexual assault likely referred to the sort of maltreatment suffered by some JSO. It is possible, then, that the program indirectly allows participants to deal with traumatic experiences of the past and to share them with others through the expression of emotions. In other words, the group mode can prove beneficial to abused JSO if they learn that others have had experiences similar to theirs. If so, the JSO might feel less alone, thereby attenuating the stigmatization generally associated with their problem. Finally, the structure offered by the psychoeducational group, that is, organized discussions with clear rules to be respected by all, can foster creation of a safe environment where JSO feel more at ease to open up to others and are more receptive to feedback from them (Yalom, 1995).

Results regarding place of residence of program participants before and after arrest for sexual assault suggest a possible explanation for the more pronounced

improvement among abused JSO. After being arrested for sexual assault, 22 JSO in the sample were placed in foster homes by youth protection services or juvenile justice, which brought the proportion of participants in foster homes over the duration of the intervention to nearly one-third of the sample (30.5%). Moreover, our analyses revealed that this type of living environment was significantly more common among abused participants than among their non-abused counterparts (see Table 1). Hence, it is plausible that the maltreatment compromising the safety and development of these youths ceased when they were placed in foster homes, thereby instilling a greater sense of security and, by the same token, fostering a more favourable response to the intervention. However, our study design does not allow ruling out the possibility that the results stemmed quite simply from a certain improvement related to the cessation of maltreatment or to the passage of time.

Not only do our study results invite us to consider types of childhood maltreatment other than sexual abuse in the prevention and treatment of JSO, they also indicate that psychologically abused JSO might benefit more from the psychoeducational group program if it were enhanced. This is because, among the associated factors identified in our study, presence of psychological abuse predicted a significantly smaller improvement in symptoms on the anger scale. In this regard, it might be appropriate to add content or a specific module to be covered in the course of the intervention, or thereafter, aimed at helping psychologically abused JSO develop attitudes and practise skills that would enable them both to diminish their anger symptoms and to manage them more effectively. This reminds us that, within the context of intervention regarding sexual assault, adolescents are likely to present after-effects associated with a host of adverse life events or conditions and that, for this reason, greater openness is called for towards the concept of trauma-informed care. Though the application of this concept is recommended more and more in the delivery of mental health care and services (Substance Abuse and Mental Health Services Administration, 2012), there has been little integration of it where JSO are concerned.

One last observation that can be made about our study results is to the effect that quality of parent-adolescent relationship does not seem to have an influence on the progression of JSO who receive a psychoeducational group intervention. A first interpretation of this points to the developmental period of adolescence when the role of parents wanes gradually as teens establish autonomy and is eclipsed by that of same-age peers, who gain more and more importance in their eyes (Bukowski, Buhrmester, & Underwood, 2011). A second interpretation has to do instead with the contextual elements of placement and psychoeducational intervention, both of which can have an influence on the progression of JSO equal to, if not greater than, that of parents, particularly by providing a safe and secure climate favourable to the

establishment of positive relationships. The contextual element of protection refers to the fact that for some JSO in the sample who had a problematic or negative relationship with a parent, being placed in a foster home in the course of intervention ($n = 7$) might explain why they improved considerably. The contextual element of intervention refers to the mechanisms of therapeutic change, such as the therapeutic alliance and the group environment, which can come into play and influence the progression of JSO positively.

Finally, though this last observation attests to a near total lack of influence by the parent-adolescent relationship, it would definitely be overly hasty of us to conclude that parents do not play an important role in the progression of JSO. Such a conclusion would run counter to best practice in the field of juvenile delinquency, which places great importance on parental involvement in intervention (Lafortune et al., 2006; Letourneau et al., 2009). Indeed, it could be that the static portrait of the parent-adolescent relationship used in our study was too limited to account for the complexity of this dynamic and its influence on the progression of JSO. It would seem pertinent, then, to consider evaluating change in the parent-adolescent relationship during intervention on the assumption that improvement in this regard might explain a more positive progression among JSO.

CONCLUSION

Our study is innovative in that it is the first to examine the influence of child maltreatment and quality of parent-adolescent relationship on the progression of JSO in the course of a psychoeducational intervention. However, it is not without limitations, beginning with the small sample size and the racial/ethnic homogeneousness of participants, both of which diminish the generalizability of results. It would be wise to bear these points in mind in future research.

There are three other key limitations. First, some of our significant results could have emanated from a statistical effect. Indeed, according to the phenomenon of statistical regression toward the mean, individuals with a more negative profile at the start of intervention are expected to progress more markedly. Examining the profiles reported at program entry, we observed significantly higher scores on the depression scale for physically abused JSO and on the sexual concerns scale for both sexually abused JSO and those with a more negative relationship with their father. Consequently, the threat to internal validity posed by a possible statistical effect might apply to three of the seven significant results obtained in response to our study's second objective.

Second, it is difficult to interpret some of our results with certainty, particularly those involving quality of parent-adolescent relationship. Consequently, further research seems necessary in order to verify the hypotheses put forth on the basis of our observations, which we formulate here as research questions: Can improvement in the parent-adolescent relationship in the course of intervention explain a more pronounced progression among certain JSO? Does the contextual element of placement at time of intervention allow explaining a more pronounced progression among JSO from dysfunctional families? Can characteristics of the psychoeducational intervention context, such as the therapeutic alliance and the group environment, explain the progression of participating JSO?

Third, the study involved a single group of participants under treatment. Adding a comparison group in future studies would serve a double purpose: to inform on program effectiveness and to help identify moderating variables of the effects observed, that is, associated factors exclusive to the psychoeducational group program. Moreover, adding a comparison group would facilitate interpretation of results by making it possible to control the potential effects of regression toward the mean, passage of time, and maturation of sample. Finally, it is important to note that the results are generalizable only to Caucasian adolescents who complete a psychoeducational group program.

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