

Abuse and neglect in adolescents of Jammu, India: The role of gender, family structure, and parental education



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ABSTRACT

The present study aimed to assess the factor structure of the childhood trauma questionnaire (CTQ; Bernstein & Fink, 1998), and use it to describe the prevalence of abuse and neglect in Indian adolescents, and its associations with gender, family structure (nuclear vs. joint), and level of parental education. Participants were 702 adolescents from Jammu in the age range of 13–17 years (41.5% female). We found acceptance for a four-factor intercorrelated model for the CTQ with emotional abuse, physical abuse, sexual abuse, and neglect (5 emotional neglect and 2 physical neglect items) factors following a confirmatory factor analysis (CFA). Forty-one to sixty-one percent of adolescents reported maltreatment which is higher in comparison with CTQ based studies from the West. Analysis of CFA with covariates (MIMIC model) indicated that males, and adolescents of less educated mothers' and from joint families reported higher abuse and neglect, and sexual abuse, respectively, while fathers' education level was not associated with abuse or neglect. Implications of these findings are highlighted.

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1. Introduction

A plethora of studies have documented that exposure to childhood abuse and neglect increases the risk for psychiatric disorders, including mood and anxiety disorders (Phillips, Hammen, Brennan, Najman, & Bor, 2005), substance use disorders (Moran, Vuchinich, & Hall, 2004), personality disorders (Lobbestael, Arntz, & Bernstein, 2010), and psychosis (Morgan & Fisher, 2007). However, most of these studies have been performed in the developed nations while research on child abuse and neglect from the developing nations is scarce. One among them is India, where over the past few decades the issue of child abuse and neglect has been highlighted as an area of concern but well-conducted studies on its prevalence are still rare.

1.1. Child abuse and neglect in India and reports from Western countries

The largest survey on child abuse conducted in India was carried out in 13 states (out of 28) by the Ministry of Women and

Child Development. It indicated that in the age group of 13–18 years, 23.2% of children not going to school face physical abuse and 26.5% face emotional abuse in family settings, while 30.5% of school-going children in this age face corporal punishment at school and 49.9% reported sexual abuse (Kacker, Varadan, & Kumar, 2007). Other studies conducted in India including the International Society for the Prevention of Child Abuse and Neglect (ISPCAN) survey, report the use of harsh physical disciplining methods by parents in 29% of the children (Runyan et al., 2010), and self-reports of physical punishment by 70% of the children with neglect rates of 35% (Zolotor et al., 2009). Still others report that 18–21% of adolescents face psychological or sexual violence (Deb & Modak, 2010). The rates of maltreatment documented from studies in western nations are 7–22% for emotional maltreatment (reviewed in Chamberland, Fallon, Black, & Trocme, 2011), for sexual abuse it is 0–53% for women and 0–60% for men (Pereda, Guilera, Forns, & Gomez-Benito, 2009), while for supervisory neglect it is 41.5% and for physical neglect 11.8% (from the US; Hussey, Chang, & Kotch, 2006). Other studies using standardized measures like the childhood trauma questionnaire (CTQ; Bernstein & Fink, 1998; Bernstein et al., 2003) conducted on a community sample of 2504 German adolescents and adults indicated that 15% faced emotional abuse (EA), 12% physical abuse (PA), 12.6% sexual abuse (SA), 49.5% emotional neglect (EN), and 48.4% physical neglect (PN; Häuser, Schmutzer, Brähler, & Glaesmer, 2011). Another study based on the CTQ carried out among 433 undergraduate students in Canada

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showed that 33.8% faced EA, 19% PA, 15.6% SA, 41.3% EN, and 15.5% PN (Paivio & Cramer, 2004). However, the comparability of these figures with those from India is unknown.

Although the Indian studies give an impression of the prevalence of child abuse in India, they may not be generalizable to all states of India as several were not included. Notably, none of the studies included data from the state of Jammu and Kashmir. Some may argue and rightly so, that the reasons for high rates of child abuse and neglect are common across the country including poverty, low literacy rates, and patriarchal society, and hence generalizations can be made. However, Jammu, the winter capital of the Jammu and Kashmir, in particular has in recent times witnessed migration from many corners of the state owing to past terrorist activities in the state, for financial and educational reasons, and job opportunities. Additionally, owing to its special legislative status under 'Article 370 of the Constitution of India' this state often lags behind the rest of India in executing important legislations. For example, corporal punishment in schools is prohibited in all states of India since 2009, except for in Jammu and Kashmir (South Asia Initiative to End Violence against Children [SAIEVA], 2011). Past studies highlight the increased risk of violence against children in societies which are in transition due to conflict or post-war (cf. Djeddah, Facchin, Ranzato, & Romer, 2000). Such reasons make it pertinent to explore the rates of maltreatment among children and adolescents of Jammu. To the best of our knowledge no research has been carried out in the field of child abuse and neglect in Jammu.

Important issues noteworthy about the studies performed on child maltreatment in India are the use of small samples and the high variability in prevalence rates observed across the studies. Furthermore, the studies relied on information obtained from non-standardized instruments, thus hampering reliable comparison of prevalence rates within the nation and with those from studies in other countries. Given the limitations of the studies performed in India until now, it becomes imperative to assess child abuse and neglect in a sizeable sample using standardized measures that would truly characterize abuse and neglect in adolescents of India. In doing so, better child-welfare policy formulation at the national and international level would be facilitated.

1.2. Childhood trauma questionnaire and its factor structure

One such measure is the childhood trauma questionnaire (CTQ, Bernstein & Fink, 1998) and it was employed in the present study. Bernstein and Fink (1998) empirically derived the five-factor intercorrelated model of the CTQ measuring childhood abuse and neglect in adolescents and adults (details in section on measures). Studies using confirmatory factor analysis (CFA) based on diverse populations (e.g., adolescents, substance-abusers, sex-workers, and community dwellers) and across nations (e.g., Canada, Norway, Netherlands, and United States of America) have replicated the original factor structure which includes the dimensions of emotional abuse (EA), physical abuse (PA), sexual abuse (SA), emotional neglect (EN), and physical neglect (PN). The only difference observed among these studies is in error covariance, cross-loadings or item deletion (Bernstein et al., 2003; Dovran et al., 2013; Forde, Baron, Scher, & Stein, 2012; Thombs, Lewis, Bernstein, Medrano, & Hatch, 2007; Thombs, Bernstein, Lobbstaël, & Artz, 2009). Further attesting to the CTQ's original construct validity, studies have found no difference in the factor structure across gender, race, or clinical and non-clinical samples (e.g., Bernstein et al., 2003; Forde et al., 2012; Thombs et al., 2007). However, not all studies using the scale have reproduced the original factor structure. The dimension of PN is often reported to be weak, in terms of item factor loadings. Two recent studies from South Korea and Sweden indicated that the reverse scored items of PN (items 2 and 26) load on EN rather than PN (Gerdner & Allgulander, 2009; Kim, Park, Yang, & Oh, 2011). On

the other hand there are studies which have failed to replicate the five-factor model of CTQ. Some studies obtained a four-factor structure suggestive of either a combination of EA and PA in a Swedish sample (Lundgren, Gerdner, & Lundqvist, 2002) or the exclusion of PN when its items failed to load on to the respective factor as was done in a study on sex workers in The Netherlands (Villano et al., 2004). In the absence of a legal definition of child abuse and neglect in India and a validated instrument for its assessment, a first essential aim of this study was to test the validity of the CTQ factors in adolescents from Jammu, and also use it to estimate the prevalence of the different types of maltreatment in the study sample.

1.3. Gender, family structure, and parental education as correlates of child abuse and neglect

Apart from reliably establishing the rates of abuse and neglect in Jammu adolescents, it is also important to determine their demographic correlates to gain insight in factors potentially important for identification and prevention. Several studies, including one from India (cf. Deb & Modak, 2010), reported differences in rates of abuse and neglect across gender. Most studies indicate that males face more PA as compared to females (e.g., studies from Taiwan, India, and South Korea; Chen & Wei, 2011; Kacker et al., 2007; Lee & Kim, 2011), and females face more SA (e.g., from Germany; Häuser et al., 2011; Pereda et al., 2009). Conversely, higher levels of PA in females were reported in a nationally representative study from the US (Keyes et al., 2012) and higher levels of SA in males in studies from Malaysia, India, and China, respectively (Choo, Dunne, Marret, Fleming, & Wong, 2011; Kacker et al., 2007; Leung, Wong, Chen, & Tang, 2008). Notably, the latter are all developing nations in Asia and the results stand in contrast to findings from western continents. These studies further suggest that the reason for higher SA in males may be the absence of a safety net which girls inadvertently come under as they are kept under strict vigilance by the adults as compared to boys. Of the few studies that assessed gender differences in EA and neglect some indicate a preponderance of females over males (among South Korea youth; Lee & Kim, 2011) and neglect (among a nationally representative adult sample from the US; Keyes et al., 2012), while others show the opposite (among Malaysian adolescents: Choo et al., 2011), and still others reflect found no gender difference on EA (among German adolescents and adults; Häuser et al., 2011). The study of gender differences in neglect is pertinent in India due to the social problem of 'girl-child neglect' wherein having a male child is preferred over having a female child, and the latter is often neglected in favor of her male siblings. An early report (Poffenberger, 1981) and more recently documented by the 2007 national survey indicated that nearly 71% of girls report neglect in India (Kacker et al., 2007). However, the latter report failed to take into consideration males as victims of possible neglect. Given these findings we expected to find higher levels of PA and SA in males, higher levels of neglect reported by females, but no gender differences in EA.

Another important correlate is family structure which has a specific meaning in the Indian society. The system of joint family found in India has grandparents, parents, children and/or other extended family members living under one roof with a common pool of resources for survival and growth. Traditionally its nature is strictly hierarchical and patrilineal (Segal, 1999). While the debate on pros and cons of the breakdown of joint families into nuclear family units continues, a study on child victimization indicated that children from single or nuclear families are physically and sexually more victimized than their counterparts residing in a joint family (Deb & Modak, 2010). On the other hand, a study from Turkey indicated that parental recognition of EA is lower in large families (Uslu, Kapci, Yildirim, & Oney, 2010), while a study from the US pointed toward high rates of child neglect in larger families (Brown, Cohen,

Johnson, & Salzinger, 1998). However, since studies from India (e.g., Deb & Modak, 2010) and the presence of more adults (e.g., grandparents) in a joint family set-up gives an impression of being more beneficial for an adolescent, we explored if residing in such a set-up was a protective factor for the adolescent.

Parental level of education especially maternal education is another factor which has received much attention in the field of child abuse and neglect. The protective role of higher parental education vis-à-vis abuse and neglect of children is relevant to explore in the Indian society where education level shows large disparities across the population. With the mother being the primary caretaker in most cases, the relevance of her level of education and awareness for the well-being of the child have been emphasized (Brown et al., 1998; Kotch et al., 1995). The relevance of fathers' education with regard to child maltreatment is reflected in studies most related to PA (for a review see Guterma, Lee, Lee, Waldfogel, & Rathouz, 2009), SA (Lebanon; Usta & Farver, 2010), and neglect (Turkey; Polat et al., 2010). Of interest in the present study is to assess if higher maternal education has a potential mitigating role in child abuse and neglect, in a strong patriarchal society like India. In this situation where the onus of child-care lies primarily on the mother while the father is largely the bread-winner, exploring the role of fathers level of education vis-à-vis child maltreatment becomes essential. Additionally, it is important to study the effect of parental level of education especially on PA and SA, in a society where harsh punishments are employed and sanctioned to discipline the child and incidents of SA are often silenced to maintain the dignity of the family.

1.4. Study aims

Against this background, the present study had three aims. First, to assess the original five-factor intercorrelated structure of the CTQ (Bernstein & Fink, 1998) in a sizeable sample of Indian adolescents using confirmatory factor analysis (CFA), cognizant of the weak PN factor reported in the literature. Since no study from India has ever assessed the factor structure of the CTQ, we hypothesized that the original five-factor structure would be found in the present study. The second aim was to assess the prevalence of abuse and neglect using the CTQ. While the CTQ definition of abuse is similar to that used by the Government of India report on child abuse (Kacker et al., 2007), use of the CTQ allows direct comparisons with international studies that used the same measure. Based on evidence from previous studies performed in India, it was hypothesized that in the present study the prevalence of abuse and neglect in adolescents would be higher when compared with studies from the west using the CTQ. Our third aim was to assess the relation of adolescent-reported abuse and neglect with demographic factors namely, gender, family structure, and maternal, and paternal level of education. For this we employed a multiple indicator multiple causes (MIMIC) structural equation model with gender, family structure (nuclear vs. joint), mothers, and fathers level of education as covariates and their relation with the latent factors of abuse and neglect obtained from the CFA of the CTQ. We further hypothesized that gender would be related to the factors of abuse and neglect, with males reporting more abuse (even SA; Choo et al., 2011; Kacker et al., 2007; Leung et al., 2008) than females, and females reporting more neglect as compared to males in line with the social problem of 'girl-child neglect' often reported in India. Given the conflicting findings from previous studies formulating a specific hypothesis on effects of family arrangement is difficult. However, it was hypothesized that more maltreatment would be reported by adolescents residing in nuclear families as compared to joint families under the expectation that the presence of grandparents and other adults in the home would have a protective effect. Further, in line with existing literature it was hypothesized that

maternal and paternal education would be related to factors of abuse and neglect, with adolescents with higher educated mothers or fathers reporting less abuse and neglect as compared to their counterparts with less educated mothers or fathers.

2. Method

2.1. Participants

Participants were 702 adolescents (41.5% female) in the age range of 13–17 years ($M = 15.24$, $SD = 1.46$) studying in grade 8–12 from four public (non-government) schools of Jammu, Jammu and Kashmir. Of these participants, 54.6% were residing in a nuclear family set-up (mean family size of 4.3 persons), while 45.6% came from a joint family set-up ($M = 7.5$ persons). Among those living in a nuclear family, 3.7% were from a single-parent family, while in the joint-family setup 6% of adolescents reported the presence of a single parent, and 0.01% reported the absence of parents. No inquiry about the death and/or absence of parent(s) was conducted. Of the adolescents, 96% reported their mothers' education, 93.2% reported fathers' education, 98.3% reported mothers' occupation, and 95.6% reported fathers' occupation. Higher secondary school (12 years of formal schooling) completion or above was reported for 66.4% of mothers and 77.8% of fathers, while secondary school (10 years of formal schooling) or lower was reported for the remainder. Most fathers (80.2%) were reported to be government officials or businessmen, while most mothers (80.9%) were reported to be house-wives. Most adolescents (81%) reported being Hindu by religious affiliation, followed by Sikh and Muslim (13.7% and 4%, respectively).

2.2. Procedure

Data were collected from schools using English as the teaching language. While the first author called out the statements in the questionnaire (to a class-room of students not more than 35), the participants were asked to select the most appropriate option. The process was facilitated by assistance provided by two graduate student volunteers who were acquainted with the nature of the study, and the sample under consideration. Care was taken not to interrupt the curriculum of the school and participants were told about the purpose of the study and the conditions of consent, confidentiality and anonymity were reiterated. In the absence of an ethical committee at University of Jammu, Jammu the study was discussed in detail with the school authorities and permission was sought for the conduct of the research. The study was conducted in line with the ethical guidelines laid down by VU University, Amsterdam, The Netherlands where it was designed and analyzed. All participants were given refreshments after the completion of the questionnaires. No record of refusal to participate was kept.

2.3. Measures

2.3.1. Demographics

A sheet was prepared inquiring about the participant's age, gender, family structure (nuclear or joint), parents' educational level, and religious affiliation. Family structure was constructed based on family members other than mother, father, and children residing with the participant for at least the past one year. In addition, participants reported the total number of people residing in their home since one year. Dummy coding was carried out for gender (0 = female, 1 = male), family structure (0 = nuclear, 1 = joint), and each parent's education level (0 = secondary or lower, 1 = higher secondary school or above). The religions enumerated were based on the five major groups enlisted by the Census of India-2001 (Government of India, 2010) namely, (i) Hinduism, (ii) Islam, (iii)

Table 1
Mean, SD, skewness, kurtosis, and standardized factor loadings for the five-factor, the four-factor models of the CTQ.

Items of CTQ	Mean/SD (skewness/kurtosis)	Factor loadings	
		Five factor model	Four factor model
<i>Emotional abuse (EA; $\alpha = 0.59$)</i>			
3. Called names by family	8.73/3.56 (1.18/1.66)	0.42	0.42
8. Parents wished had never been born	1.94/1.22 (1.0/−0.17)	0.52	0.52
14. Family said hurtful things	1.50/1.08 (2.13/3.41)	0.55	0.56
18. Felt hated by family	1.84/1.22 (1.27/0.09)	0.51	0.51
25. Was emotionally abused	1.53/1.05 (2.03/3.18)	0.36	0.36
<i>Physical abuse (PA; $\alpha = 0.71$)</i>			
9. Hit hard enough to see a doctor	1.91/1.23 (1.09/−0.01)	0.53	0.53
11. Hit hard enough to leave bruises	1.63/1.16 (1.83/2.21)	0.66	0.66
12. Punished with hard objects	1.51/1.03 (2.04/3.22)	0.56	0.56
15. Was physically abused	1.65/1.14 (1.65/1.56)	0.57	0.57
17. Hit badly enough to be noticed	1.59/1.03 (1.76/2.37)	0.58	0.58
<i>Sexual abuse (SA; $\alpha = 0.74$)</i>			
20. Was touched sexually	7.27/3.52 (2.03/4.19)	0.61	0.61
21. Hurt if did not do something sexual	1.50/1.05 (2.14/3.56)	0.60	0.60
23. Made to do sexual things	1.34/0.91 (2.93/7.93)	0.64	0.64
24. Was molested	1.58/1.14 (1.87/2.28)	0.58	0.58
27. Was sexually abused	1.49/1.01 (2.03/3.16)	0.60	0.60
<i>Emotional neglect (EN; $\alpha = 0.72$)</i>			
5. Made to feel important ^R	11.61/4.74 (0.46/−0.72)	0.57	0.56 ^a
7. Felt loved ^R	2.36/1.30 (0.56/−0.87)	0.48	0.47 ^a
13. Was looked out for ^R	2.63/1.53 (0.38/−1.36)	0.58	0.57 ^a
19. Family felt close ^R	2.47/1.47 (0.58/−1.09)	0.64	0.64 ^a
28. Family was a source of strength ^R	2.19/1.34 (0.79/−0.67)	0.67	0.68 ^a
<i>Physical neglect (PN; $\alpha = 0.44$)</i>			
1. Not enough to eat	1.97/1.24 (1.02/−0.29)	0.15	–
2. Got taken care of ^R	8.79/3.09 (0.77/0.39)	0.49	0.51 ^a
4. Parents were drunk and high	1.56/1.05 (1.86/2.50)	0.23	–
6. Wore dirty clothes	2.29/1.32 (0.64/−0.88)	0.27	–
26. Got taken to doctor ^R	1.29/0.81 (3.09/9.05)	0.64	0.69 ^a

Note: Number preceding the CTQ statement depicts the chronology of presentation of the items during administration. Superscript R = reverse scored item. NEG = latent factor of neglect.

^a The factor loadings of latent factor of neglect in the four-factor intercorrelated model. All factor loadings are significant at $p < 0.001$.

Christianity, (iv) Sikhism, (v) Buddhism, and (vi) Other. Detail about religious affiliation was collected with the sole purpose of emphasizing the inclusion of all major religious groups as a proxy for highlighting the diversity of the sample.

2.3.2. Childhood trauma questionnaire (CTQ; Bernstein & Fink, 1998; Bernstein et al., 2003)

The CTQ is a 28-item retrospective self-report measuring five types of childhood experiences, namely emotional abuse (EA), physical abuse (PA), sexual abuse (SA), emotional neglect (EN), and physical neglect (PN). These dimensions are assessed by five items each and there are three additional items to gauge the likelihood of underreporting or denial of abuse and neglect (e.g., *I had a perfect childhood*). For the present study, the items of denial were not included in the analyses. The CTQ can be completed by participants aged 12 and above who are asked to respond to items on a 5-point Likert scale from 'Never true' to 'Very often true' (1–5) with the precursor statement being "When I was growing up". Dichotomous measures of 'no EA/PA/SA/EN/PN' indicated by '0' and 'presence of EA/PA/SA/EN/PN' indicated by '1' for all the five dimensions of abuse and neglect were created using the classification specified by the authors of the CTQ (cf. Bernstein & Fink, 1998), for assessing prevalence rates. The CTQ demonstrates good reliability, including an internal consistency reliability coefficient ranging from a median 0.66 to 0.92 across a range of seven different samples, and test–retest reliability coefficient ranging from 0.79 to 0.86 over an average period of 3.6 months (Bernstein et al., 2003). In addition, convergent validity was indicated by significant correlations of CTQ scores with other trauma measures like clinician-rated interviews and therapist ratings of abuse and neglect (Bernstein & Fink, 1998;

Bernstein et al., 2003). Cronbach alphas (α) of the original dimensions of abuse and neglect on CTQ in the present study were low to moderate (see Table 1).

2.4. Data analysis

Descriptive statistics were obtained using IBM SPSS version 20.0. Mplus 6.11 software (Muthén & Muthén, 2010) was used to run the CFA, and the MIMIC model, an application of structural equation modeling (Muthén, 1989). The latter was to determine the effect of gender, family structure, mothers', and fathers' level of education on the latent CTQ factors. The MIMIC model was carried out in two steps. First, we estimated the fit of the CTQ factor structure in our adolescent sample based on the existing five-factor intercorrelated model (Bernstein & Fink, 1998). The assumptions of univariate (no skewness/kurtosis values > 1.35) and multivariate normality were not met. Thus, we used maximum likelihood estimation with robust standard errors (MLR) in CFA which calculates the scaled chi-square statistic ($Y-B \chi^2$; Yuan & Bentler, 2000), and is robust to non-normality. For the CFA model estimation, error covariances were fixed to zero while all the factors were inter-correlated. We used robust versions of goodness-of-fit indices which included the comparative fit index (CFI), Tucker–Lewis index, (TLI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR). As recommended by Hu and Bentler (1999) excellent (or adequate) fit of models is obtained when CFI and TLI ≥ 0.95 (0.90–0.94), RMSEA < 0.06 (to 0.08), and SRMR < 0.08 (to 0.10). Second, after obtaining the best fitting model, the covariates namely gender, family structure, mother's, and father's education were added to the CFA model and simultaneous

Table 2
Factor correlations of the four-factor model of the CTQ.

Factors of the four-factor model of the CTQ	EA	PA	SA	NEG
EA	–			
PA	0.78***	–		
SA	0.59***	0.57***	–	
NEG	0.20***	0.16***	0.14**	–

Note: EA, emotional abuse; PA, physical abuse; SA, sexual abuse; NEG, neglect.

** $p < 0.01$.

*** $p < 0.001$.

tests of the relation between the covariates and the latent factors of CTQ was carried out.

3. Results

Missing data were found on the two categorical variables of mothers' education ($N=38$) and fathers' education ($N=48$). Little's MCAR test indicated that the data missing were completely at random, $\chi^2(25, N=702)=21.39, p > 0.05$. Since no missing data was found on the CTQ we used the full sample data-set ($N=702$) for the CFA model and for gauging the prevalence of abuse and neglect. Further, assessment of the MIMIC model was based on the sample after list-wise deleting the missing data ($N=53$). No age ($t=1.25, p > 0.05$) or gender ($\chi^2=0.09, p > 0.05$) difference was found between adolescents who did and did not provide information on parental education.

3.1. Factor structure of the CTQ

The existing five-factor intercorrelated model of the CTQ (Bernstein & Fink, 1998; Bernstein et al., 2003) was tested in the adolescent sample using CFA. The model fit revealed a weak fit, $Y-B \chi^2(265, N=702)=725.70, CFI/TLI=0.88/0.86, RMSEA=0.04$ [90% CI=0.04–0.05], SRMR=0.06. The correlation between EN and PN was nearly 1 ($r=0.996$), and three of the factor loadings on PN were less than 0.30 (see Table 1). Given this, and considering the weak factor structure of PN along with its two items (items 2 and 26, see Table 1) loading on EN, we decided to re-run CFA on the model with a four-factor intercorrelated model of EA, PA, SA and Neglect (NEG), with the latter comprising of 7 items derived from both neglect scales (cf. Table 1). This model showed an adequate fit to the data, $Y-B \chi^2(203, N=702)=439.24, CFI/TLI=0.94/0.93, RMSEA=0.03$ [90% CI=0.03–0.04], SRMR=0.04. The standardized factor loadings and factor intercorrelations are presented in Tables 1 and 2, respectively.

3.2. Prevalence of abuse and neglect

Based on the CTQ classification (cf. Bernstein & Fink, 1998), 45.7% of the adolescents (36.4% female vs. 52.3% male) reported to have experienced some form of EA, 40.5% adolescents (24.7% female vs. 51.6% male) reported to have faced PA. SA was reported by 48% of the participants (34.7% female vs. 57.4% male). Finally, 60.1% (54% female vs. 64.5% male) reported that they had experienced EN, and 57.8% (49.8% female vs. 63.5% male) reported experiences of PN.

Based on z -tests for proportions when the current findings were compared with the study employing the CTQ in the German sample (cf. Häuser et al., 2011), significant differences were found on EA ($z=17.43, p < 0.001$), PA ($z=17.28, p < 0.001$), SA ($z=20.59, p < 0.001$), EN ($z=4.97, p < 0.001$), and PN ($z=4.40, p < 0.001$) with the current sample displaying higher percentages on all maltreatment subtypes. Similarly, the present sample had higher percentages on EA ($z=4.03, p < 0.001$), PA ($z=8.13, p < 0.001$), SA ($z=12.60, p < 0.001$), EN ($z=6.26, p < 0.001$), and PN

($z=16.58, p < 0.001$), when compared with the Canadian undergraduate student sample (cf. Paivio & Cramer, 2004). Based on t -tests (comparison of means from the two samples), the present sample showed significantly higher scores than the US adult community sample ($N=579$; cf. Bernstein et al., 2003) on PA ($t=5.30, p < 0.001$), SA ($t=2.48, p < 0.05$), EN ($t=8.08, p < 0.001$), and PN ($t=15.92, p < 0.001$). However, no difference was found on EA ($t=1.10, p > 0.05$). Since the dimension of PN was found to be weak in the CFA (see section above), it was no longer taken up in the analyses.

3.3. MIMIC model

For the MIMIC model, we first tested measurement equivalence of the CTQ across gender, family structure, maternal education, and paternal education. The addition of the four covariates to the CFA model lead to the formation of a model (cf. Fig. 1) with an adequate fit without alterations in the factor structure of CTQ, $Y-B \chi^2[275, N=649]=513.45, CFI/TLI=0.94/0.93, RMSEA=0.03$ [90% CI=0.03–0.04], SRMR=0.04. The standardized factor loadings are presented in Table 1.

Second, we addressed the associations between the four covariates with the four latent factors. The covariates gender and mothers education significantly affected dimensions of abuse (EA, PA, and SA) and neglect, indicating that male adolescents reported higher mean scores of abuse as compared to females, and similarly adolescents with less educated mothers faced more abuse and neglect than adolescents with more educated mothers. Family structure had a significant positive effect on SA, with adolescents residing in a joint family set-up reporting higher mean scores on SA than those living in a nuclear family. Fathers' level of education did not significantly affect any of the abuse or neglect factors in the present study. Table 3 shows the association between the covariates, and the abuse and neglect factors in the MIMIC model.

4. Discussion

The current study is the first to assess prevalence rates of abuse and neglect among adolescents of Jammu, India using a standardized questionnaire, the CTQ, while also looking at the relation of abuse and neglect with gender, family structure, and parental education.

4.1. Factor structure of the CTQ

Our initial hypothesis regarding the factor structure of CTQ was rejected, and instead of a five-factor intercorrelated model we found a better fit and parsimony in a four-factor intercorrelated model with EA, PA, SA, and NEG as the latent factors. The weak factor loading of three items of PN (see Table 1) in the present study has been previously reported in a study on sex-workers by Villano et al. (2004). Other CFA based studies have also highlighted the relatively weak factor loadings of these items when compared with the other factor loadings of the CTQ in both adolescents and adults (Bernstein et al., 2003; Thombs et al., 2009). Further, a look at the content of the two of the three items of PN with low factor loadings namely, 'I didn't have enough to eat', and 'I had to wear dirty clothes', suggests that while these items reflect limitations in addressing tangible needs, these seem more likely to be associated with financial weakness (e.g., not having enough to eat due to lack of money) in a highly stratified society like India rather than deliberate physical neglect. The third statement 'My parents were too drunk or high to take care of family', too may fall void, if some other family member (e.g., grandparent, uncle) shoulders the family responsibility in the absence of well-functioning parents (cf. Gerdner & Allgulander, 2009), often seen in a collectivistic society like India. The two items

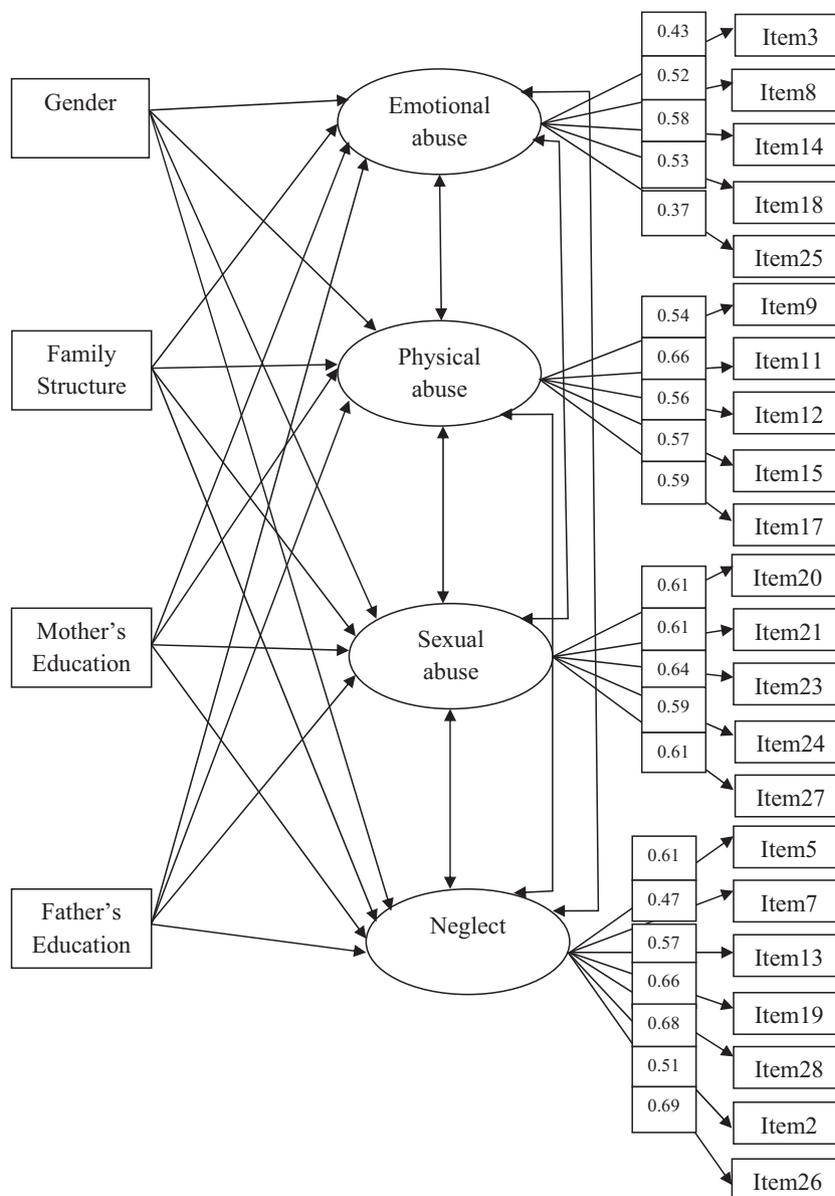


Fig. 1. MIMIC model depicting association between the abuse and neglect factors, and covariates of gender, family structure, mothers', and fathers' education. *Note:* The values represent factor loadings significant at $p < 0.05$ level.

which did load well on PN primarily focus on complete absence of care and protection akin to the content of EN items. These were eventually added with the items on EN to form a reliable category of neglect, indicating that they lacked discriminant validity with EN in the present study. Notably, the two items are reverse-coded as are the items of EN while the other three items of PN are straight-coded, and thus the presence of common method variance cannot be negated (cf. Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). However, the main reason for exclusion of PN as a separate construct was its high correlation with EN suggestive of an overlap either in the content or due to method bias. Addition of the two PN items (items 2 and 26) to EN which was renamed 'neglect (NEG)', is in line with more recent studies which employed a principal component analysis and indicated that items 2 and 26 of PN (see Table 1) load on the EN factor of the CTQ (Gerdner & Allgulander, 2009; Kim et al., 2011). Additionally, Wright et al. (2001) using CFA highlighted the same results albeit in a male sample. Furthermore, the correlation between the factors was highest between EA and PA, and lowest between SA and neglect. The factor intercorrelations found in the

present study can be compared with studies indicating the same trend (lowest correlation between SA and EN, followed by SA and PN) across diverse populations including adolescents (cf. Bernstein et al., 2003; Forde et al., 2012).

4.2. Prevalence rates of abuse and neglect in Indian adolescents

In line with our hypothesis, the present study found up to a threefold increase in the rate of abuse and neglect in adolescents from Jammu when compared with studies addressing adolescents, undergraduate students, and adults from Western countries using the CTQ. Comparison of the present results with the national survey and other Indian studies (e.g., Deb & Modak, 2010; Kacker et al., 2007) was not possible owing to differences in measurement tools and/or type of sample. Future studies using standardized measures should focus on the comparison of abuse and neglect in Jammu and Kashmir with the other states in India. The high rate of PA and EA in the present study can be attributed to the societal sanctioning of physical punishment and verbal assaults, under the garb of

Table 3
Unstandardized regression coefficients of types of abuse and neglect on gender, family structure, mothers', and fathers' level of education in a MIMIC model.

Factors of CTQ	Covariates	Estimates (B)	S.E.	z-Tests	Direction of effect
EA	Gender	0.35	0.11	3.01**	M > F
	Family structure	0.18	0.11	1.69	–
	Mother's education	–0.43	0.12	3.47***	S > HS
	Father's education	0.13	0.14	0.95	–
PA	Gender	0.51	0.11	4.81***	M > F
	Family structure	–0.03	0.09	0.31	–
	Mother's education	–0.26	0.11	2.39*	S > HS
	Father's education	–0.11	0.13	0.82	–
SA	Gender	0.46	0.09	5.25***	M > F
	Family structure	0.20	0.10	2.07*	JF > NF
	Mother's education	–0.32	0.11	2.79**	S > HS
	Father's education	0.03	0.13	0.20	–
NEG	Gender	0.18	0.09	1.91	–
	Family structure	0.03	0.09	0.38	–
	Mother's education	–0.38	0.11	3.53***	S > HS
	Father's education	–0.18	0.12	1.55	–

Note. EA, emotional abuse; PA, physical abuse; SA, sexual abuse; NEG, neglect. B > G = male adolescents have a higher mean score than females. S > HS = adolescents with mothers' educated up to secondary school have higher score than those with mothers' educated up to higher secondary school. JF > NF = adolescents in joint family have higher score than those residing in nuclear family.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

disciplinary practices both at home and at school (Nair et al., 2009; Runyan et al., 2010) and likely increased in the absence of a ban on corporal punishment at schools in Jammu and Kashmir as is in the rest of India as is also emphasized by some reports (SAIEVA, 2011). On the other hand, the high rate of SA may point toward the willingness by adolescents to report incidents of SA in a society which is likely to silence it as it is thought to bring stigma to the family (cf. Kacker et al., 2007). The current study thus adds to the existing literature in elucidating the sizable nature of the problem of adolescent maltreatment in India. The size of the problem becomes all the more impressive considering that India houses about 440 million individuals under the age of 18 years (Kacker et al., 2007).

4.3. Effect of gender, family structure, and parental education on abuse and neglect

Our hypothesis that types of abuse would be elevated in males was supported. Using a MIMIC model, it was found that gender had a positive relation with all factors of abuse indicative of male adolescents having higher scores than female adolescents. The results are corroborated by findings from other studies indicating a higher prevalence of PA in males than in females (Chen & Wei, 2011; Choo et al., 2011; Kacker et al., 2007). The preponderance of males scoring over females on EA is in line with a study on Malaysian adolescents where males reported higher victimization on EA (Choo et al., 2011). Also, the survey on child abuse in India showed more boys (57.9%) than girls (42.1%) reporting EA in six Indian states (Kacker et al., 2007). Noteworthy is the higher reporting of SA by males than females, which is contrary to trends depicted by many western studies but in line with some studies from Asia (Choo et al., 2011; Leung et al., 2008). The report on child abuse in India also indicated that 52.9% boys and 47.1% girls faced SA (Kacker et al., 2007). The present study thus provides further evidence that male adolescents are at elevated risk for SA, possibly due to the denial of existence of SA in males and a related absence of supervision by adults. Further, no difference across gender was found on neglect, and hence our hypothesis of females reporting higher on neglect than males was rejected. This finding may be interpreted in light of our sampling from relatively expensive schools that are considered better as far as quality of education is concerned. Girls sent to these schools may be less likely to face the neglect while being

part of a relatively privileged group. However, the findings warrant future research to focus on whether 'girl-child neglect' is witnessed among all strata of the Indian society or is limited to some. Another important aim for future research is to look at potential gender related differences in severity of abuse and neglect.

Our hypothesis that living in a joint family set-up would be more favorable than living in a nuclear family was rejected. In the present study, adolescents from a joint family set-up endorsed higher rates of SA than those from nuclear families. One factor which may have played an indirect role is the larger number of people living under one roof as is also stated in earlier studies (Uslu et al., 2010; Zuravin, 1986). Notably in the present study the average household size of 7.5 in joint family set-up was higher than the national average of 4.8 individuals per household (cf. International Institute for Population Sciences and Macro International, 2007). However, in the present study we did not inquire about the size of the house in which the adolescent resided nor the number of people with whom the adolescents shared their room. Future research should consider these factors when assessing the role of family structure (nuclear vs. joint) in child maltreatment. No association was found between family structure and EA, PA or NEG in the present study.

Finally, we addressed the association of parental education with abuse and neglect. While higher levels of maternal education appeared to be associated with lower levels of adolescent reported abuse and neglect, paternal level of education was not associated with any form of abuse or neglect. The result pinpoints the importance of a higher level of maternal education in curbing incidents of child maltreatment as also documented in past studies (Brown et al., 1998; Kotch et al., 1995). Importantly, this finding can play a vital role in primary level interventions. On the other hand, the apparent absence of influence of fathers' level of education on the prevalence of abuse and neglect may be due to a general lack of direct involvement of fathers in child care in the Indian society (cf. Segal, 1999). Since the father is ascribed the role of a breadwinner and not of child care, his level of education may fail to effect maltreatment in the child.

Some limitations of the present study should be noted. First, the sole dependence on self-report for assessing abuse and neglect, and family correlates is a methodological limitation as associations found in this study may to some extent reflect source overlap. Second, the sample comprising adolescents from public schools of

Jammu is limited in terms of the diversity of the sample especially with regard to socio-economic status and parental attitudes, and hence the results cannot be generalized to the population of Indian adolescents at large. Third, in the present study joint family may have been a proxy for household density, and additional questions on the number of people sharing a bed/room, size of the house or neighborhood density could have been more informative. The present results regarding the joint family setup and its association with SA may be marred by this limitation.

5. Conclusions and implications

Notwithstanding the limitations, the present findings further our understanding of the extensive nature of abuse and neglect in Indian adolescents. The study begins to answer the call for more empirical based work from developing nations (cf. Pinheiro, 2006; Zolotor et al., 2009) by gauging the factor structure of a standardized questionnaire measuring abuse and neglect, and the role of important covariates of abuse and neglect in a sample of Indian adolescents. Given the salience of gender and parental education in relation to abuse and neglect, our findings may have implications for intervention. First, interventions should focus on imparting awareness regarding the high rates and negative consequences of maltreatment in both girls and boys, among children, parents, teachers, etc. Second, focus should be on factors such as parenting skills including the active involvement of the father in child-care. Third, at a secondary level the enumerated factors can be used to identify at risk children. Fourth, at a policy level legislation protecting the rights and welfare of children should be laid down and stringently implemented.

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