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Social, family and trauma risk factors for common disorders in Israeli youth.

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Abstract

Trauma exposure needs to be differentiated from trauma impacts in models of psychological disorder. Early life trauma experience is well established as a risk for psychological disorder in teenage and adult years. However, trauma experience is a broad category including personal (eg familial abuse, peer violence) and non-personal such as social deprivation and political violence related trauma. These factors are examined together in the Israeli context to gain understanding of their impact on emotional and behavioral disorders.

Method

This study examined self-report trauma experience, psychosocial risks and psychological disorder by questionnaire in 108 Israeli youth (aged 12-16). This comprised an underprivileged group from social services and a comparison group. Standardised questionnaires were used in translation to assess demographics, prior personal trauma, political violence trauma, parental bonding in earlier childhood and emotional and behavioural disorder. The aim was to see how social deprivation, ethnicity, poor parenting and peer problems related to exposure to personal trauma events, and whether this impinged on political violence trauma and psychological disorder.

Results

Exposure to a range of personal childhood trauma events was related to peer problems and affectionless control from father and more common in Israeli Arab youth. Exposure to political trauma was more common among those less socially deprived. A dose-effect of political trauma on psychological disorder was supported. Logistic regression showed social deprivation, exposure to political trauma and peer problems provided the best model for conduct disorder and exposure to political violence and peer problems provided the best model for hyperactive disorder. Personal childhood trauma did not add to the models.

Discussion

All youth are vulnerable to disorder in conflict situations. Understanding issues of social deprivation, relationship with parents and peers and ethnicity add additional risks for psychological disorder in the Israeli context.

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Introduction

Trauma exposure needs to be differentiated from trauma impacts in models of psychological disorder. Traumatic events are well established as interfering with health child development and leading to life-long risks for clinical disorder (Ardino 2011; Antonia Bifulco et al. 2014; van der Kolk et al. 2005). Much of the study of early trauma relates to neglect and abuse within families (Antonia Bifulco et al. 2014). Trauma can also be non-personal and politically motivated such as in terrorism or war (Slone and Shechner 2009; Slone et al. 2017). Or relate to environmental factors such as social deprivation and exclusion in underprivileged communities (Rosshandler, Hall, and Canetti 2016).

There is evidence of multiples of such trauma (Adverse Childhood Experiences) increasing risks of clinical disorder and poor health in later life (Felitti 2002). These dose-effect models show damage to development (van der Kolk et al. 2005), impaired attachment styles (Antonia Bifulco and Thomas 2012) and reduced opportunities due to social disadvantage (Roy, Rutter, and Pickles 2000). This is encapsulated in the 'developmental psychopathology' models developed by Cicchetti and colleagues (Cicchetti 2015).

With all trauma experience, impacts are greater when the trauma is life-threatening and repeated (Cicero, Noonan, and Silva 2011). Higher doses can lead to psychological and physical impairments (van der Kolk 2017). But impacts can also differ on an individual basis due to prior vulnerability due to non-optimal parenting practices (Neuner et al. 2004; Qouta et al. 2007; Wayment 2006). Determining the impact of trauma needs to take into account type and amount of trauma as well as social and psychological models of psychological disorder.

Israel Context

There is substantial research into the high prevalence of trauma from political events in Israel and Palestine/Gaza. In just over a decade there were two major military offences – the Israel Hezbollah war in Northern Israel in the summer of 2006 and Cast Lead Operation in the winter of 2008 (Klodnick et al. 2014; Ron 2014). Despite the volatile context, the incidence of Post-traumatic stress disorder in children and adolescents is low e.g 3% (Dyregrov and Yule 2006; Ruth Pat-

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Horenczyk et al. 2009). What is more common are psychological and behavioral impacts. Girls experience anxiety and depression (Slone and Shechner 2009) and boys participate in high-risk behaviors such as bullying, smoking and truancy (Harel-Fisch et al. 2012). Overall, boys are exposed to more trauma as victims, witnesses and perpetrators (Marie-Alsana, Haj-Yahia, and Greenbaum 2006).

Post traumatic stress disorder is often the focus of investigation in the Israeli context (Al-Krenawi, Graham, and Kanat-Maymon 2009; Farbstein et al. 2010). Other Israel based studies have examined trauma impact on emotional disorders such as anxiety and depression (Baker and Shalhoub-Kevorkian 1999; Cohen and Eid 2007; Farbstein et al. 2010), aggressive behaviour (Al-Krenawi, Graham, and Kanat-Maymon 2009; R. Pat-Horenczyk, Abramovitz, et al. 2007; Yablon, Itzhaky, and Pagorek-Eshel 2011; Klodnick et al. 2014; Marie-Alsana, Haj-Yahia, and Greenbaum 2006). Few have investigated behavior disorders such as conduct or attention deficit/hyperactive disorder (Farbstein et al. 2010). Conduct disorder features aggressive behavior towards other, stealing, destruction of property (Loeber et al. 2000). Some of the characteristics of Attention-deficit/Hyperactive disorder (ADHD) is an ongoing inability to focus on tasks, easily distracted, and fidgeting. Both conditions impact daily functioning (Goldman et al. 1998) Factors known to contribute to clinical disorders in Israeli young people who are also exposed to political violence are male gender (Laufer and Solomon 2006) lower socio-economic status (Yablon, Itzhaky, and Pagorek-Eshel 2011) and exposure to family violence (Al-Krenawi, Graham, and Kanat-Maymon 2009; Garbarino, Kostelny, and Dubrow 1991).

However, many of these studies fail to differentiate between Israeli communities of Arab or Jew (R. Pat-Horenczyk, Peled, et al. 2007; Schiff et al. 2010; R. Pat-Horenczyk et al. 2009). (Yablon, Itzhaky, & Pagorek-Eshel, 2011) despite the Israeli Arab population experiencing greater political, economic and social challenges (Al-Krenawi, Graham, and Kanat-Maymon 2009; Ron 2014).

Current Study

This study undertaken in 2007-2008 focuses on the exposure to political violence in Israeli youth, across Jewish, Arab and Druze communities. It also looks at the association of personal trauma and familial and peer risks for disorder, emotional, conduct and ADHD disorder. This is the first stage of

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a quasi-experimental study examining risk and resilience factors in high risk youth and impact of a cycling program. The cycling program was 8 months long and consisted of a weekly coach led bike ride with lessons on bike maintenance and bike riding skills (Lawrence 2012).

We hypothesize that

- i) Social deprivation, having poor childhood care and being exposed to personal trauma events predicts emotional and behavioural disorder and problems with peers.
- ii) Political violence relates to emotional and behavioural disorder with dose effects on number of trauma experiences and disorder.
- iii) Personal trauma increases risk of political trauma exposure.

METHOD

Sample

A high-risk group (from social services) and a comparison group (from school/leisure activities) of Israeli adolescents were selected to investigate risk and disorder by self-report questionnaires across Jewish and Arab Israeli groups. The overall group was from mixed socio-economic families located in northern and middle Israel. A high rate of personal trauma in the young people were expected given the family difficulties relevant to social service involvement and a high rate of political violence trauma. The study areas experienced two conflicts - Cast Lead Operation in November and December 2008 and the 2006 bombing of Northern Israel (Ron 2014; Palmieri et al. 2008).

Sample selection

The wider study was a prospective investigation of a cycling intervention offered to children referred to social services. The study involved 108 young people, with 3 to 1 ratio of boys to girls, aged 12-16 (mean 12.8, SD 1.67) from North Israel. Just over half (N=60) were recruited from social services for having background family problems to participate in a cycling program. The remainder (N=48) were a comparison group, who were recruited through schools and leisure clubs

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for similar demographic characteristics but who were not involved in the cycling. There were few girls involved in the cycling program at the time of this study because the Druze did not see cycling as appropriate for girls and therefore there are fewer girls in the sample overall.

This study used purposive sampling (Patton, 1987) dictated by the young people in the cycling programmes who were referred by social services because of problematic family circumstances. The high risk nature of the sample can be helpful for an analysis of psychological disorder but has the drawback of not being representative. So findings need to be treated with some caution as not necessarily representative.

Power calculation

The power calculation was undertaken using G*Power, an online power and sample size calculator¹. The expected association and derived effect size of variables calculated from previous studies in relation to disorder were utilised. The effect size was calculated from Stein and colleagues (2000) study of parental care and control using the PBI and major depression (Stein et al., 2000). This found that depressed children had significantly poorer maternal care than non-depressed (OR=3) with similar figures for father (OR=2.5). Higher ratios were obtained for affectionless-control indices. A conservative effect size of 0.63 was calculated. Using the estimated effect size of .63, the sample size required to reject the null hypothesis at this effect size was 52.

Ethical approval

Initial ethical clearance was given by Royal Holloway, University of London UK, Ethics Committee, where the researchers were based. Local ethical clearance was gained through partnering organizations. One-to-One Israel commissioned this study and facilitated ethical clearance to work with their participants and with partner organization YMCA. A staff member from the local YMCA facilitated ethical clearance from his organization and supported data collection. Participation in

¹ (<http://www.psych.uni-duesseldorf.de/aap/projects/gpower/>)

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the study was voluntary and no one declined to be involved. Signed parental consents were obtained prior to participation in the project.

Measures

Self-report questionnaires were used. These were standardised measures with preference given to ones used before in Israeli research. The questionnaire was piloted, revised and re-tested. The final questionnaire was translated into Arab and Hebrew and back-translated prior to data collection. The young people were given the choice to do the questionnaire in the language they felt most comfortable reading. The project was aided by a trilingual local research assistant who assisted the young people through the questions. Questionnaires were administered during the leisure group or the cycling activities and all who were approached cooperated. This paper examines the total group with controls for group membership applied.

Demographic questionnaire:

Questions were included on gender, ethnicity, parental employment and type of housing and household composition. A 'social deprivation index' was created using the variables of father unemployed, or having three or fewer rooms in the house or bedroom sharing (Galobardes et al. 2006).

Exposure to Personal Trauma

This included one section of the UCLA-PTSD Index for DSM-IV-child version (Pynoos et al. 1998) measure (Criterion A) previously used in an Israeli study (R. Pat-Horenczyk, Abramovitz, et al. 2007). It involved seven items about prior personal traumatic events, such as being in a serious car accident, seeing a dead body, being physically attacked at home (hit punched or kicked hard) or sexual abuse (touching private sexual body parts). The scale also included being beaten up, shot at or threatened to be hurt badly in town (self or witnessing). Each item was rated as 'yes/no'. The full scale (0-7) as well as the presence of any one such event was utilised in the analysis. The Cronbach's alpha for internal consistency in the UCLA-PTSD Index falls in the range of 0.90, and its

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test-retest reliability is 0.84 (Roussos et al. 2005). In a previous Israeli study, the internal consistency was similarly satisfactory (Cronbach's Alpha=0.90) (R. Pat-Horenczyk, Abramovitz, et al. 2007). When the internal reliability of the scale was tested for the data collected in this study, the Cronbach's alpha was 0.90.

Exposure to Terrorism (political violence trauma)

This tool is used to determine exposure to bombing events in the Israeli context (R. Pat-Horenczyk 2005). Items asked for 'yes' or 'no' responses to eight statements including: "I was at the place of a bombing", "Someone close to me was hurt in a bombing", "I lost someone close in a bombing". The more times the respondent answers 'yes' to items, the higher the 'dose' of exposure to political violence traumatic events. These items were previously used in another Israeli study (Chemtob, Nakashima, and Hamada 2002). The tool has been translated, back translated and has a high internal consistency (Cronbach's alpha= 0.90). When the internal reliability was tested for this study, an alpha of 0.76 was obtained.

Strengths and Difficulties Questionnaire

The SDQ is a self-report measure to screen for the presence of Conduct, Hyperactivity and Emotional disorder (Goodman 2001). In addition, it includes items for problems with peers and positive social behaviour. It has been widely used in the UK for detecting disorders in children and young people and is the only tool to be tested in a national survey to determine population disorder rates in the UK. It consists of 25 Likert scale items, with 5 statements for each disorder or behaviour. There is a total score which indicates global difficulty, but then each component disorder e.g. Hyperactivity, has a summed score and an established cut-off point. The score indicates if a 'normal', 'borderline' or clinical level of symptomatology is reached. When a young person has clinical level symptoms it can affect their ability to function at school, home and with peers. The SDQ has shown good reliability and validity. Its internal consistency as determined in UK studies is satisfactory (mean Cronbach alpha 0.73) Scores accurately detected psychiatric diagnosis when compared to clinical interview diagnosis.

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The SDQ has not been used in Hebrew before but has been previously translated into Arabic (Goodman 2001). The Cronbach's alpha for this study was calculated as 0.63 for the total difficulties score. Whilst this is rather below the usual acceptable level (eg 0.70) for a single construct, its lower level may reflect the number of disorders covered. The usual solution of deleting items to improve internal consistency was rejected since the measure uses carefully tested items to constitute disorder and using the established cut-off scores was considered more important than the internal reliability. However, this rather low internal reliability is acknowledged as a potential limitation of the study.

In the analysis, the presence of any one disorder at borderline or case level was utilised. Additionally, the presence of Emotional disorder, Conduct disorder or Hyperactive disorder at borderline or case level was utilised (to maximise numbers). The SDQ was additionally used to determine peer problems – this involved items concerning how well the child integrated with peers and lack of popularity – this was included as a psychosocial risk factor (not a disorder factor) in the analysis.

Parental bonding Instrument

The Parental Bonding instrument is a self-administered questionnaire that measures a child's retrospective perception of their parent's care and control in their first 16 years (Parker, Tupling, and Brown 1979). However, it was used in this study to capture *current* perception of parental care and control. The 25 item scale contains 12 'care' items and 13 'control' items and measures mother and fathers separately. Neglectful, authoritarian parenting are combined to derive the affectionless control variable (Parker, Tupling, and Brown 1979). There is high internal consistency and good test-retest reliability for the published scale which is also found in several Israeli based studies for adults (Canetti and Bachar 1997; Diamond et al. 2005). The Cronbach's alpha calculated for the PBI in this study was 0.75 for care and 0.66 for control. In the analysis affectionless control from mother, father and from either parent was included. There were missing values due to either a mother or father not being present in childhood however all children had at least one parental figure in the home.

Statistical Analysis

All data was entered into SPSS 21 for analysis. The first stage used Pearson's r correlations to determine the strongest associations between variables. Next, data was analysed using chi-square statistics to examine dichotomous risk factors as related to different outcomes. Significance levels at $p < .05$ or below were utilised, with one-sided test findings provided for those at threshold levels. Finally, binary logistic regression was used to model dichotomized disorder outcomes and to find the most parsimonious fit of risk variables to disorder.

Missing Data: A small proportion of individual items in scales (e.g. under 5%) were missing. In line with recommended practice, the mean score across the sample for that item was inserted to assure no undue biasing of the total score. There were 8 young people who did not report on mothers and 24 who did not report on fathers because of separation. This means that for analysis of childhood scales the total numbers is lower than for the total sample.

Results

Prevalence of risks factors and disorder

In the total sample of 108, there was a preponderance of boys $n = 79$ (73%). This gender imbalance is a noted limitation to the study. The sample had only slightly more Jews $n = 61$ (57%) than Arabs $n = 47$ (43%), when using national distinctions. In terms of religion, in addition to the 57% Jewish, the remaining religious affiliations were – Christian (33%); Druze (22%) and Muslims (7%). Druze is a distinct monotheistic religion formed in the tenth century in Egypt and related to Islam. National distinctions were used due to the small sample.

Most of the sample had fathers in employment (83%) and more than half of the mothers were employed (60%). In terms of living conditions, only a quarter of the sample (24%) had five or more rooms in the house, with 45% having three or fewer with half the adolescents sharing a bedroom. However, nearly all homes had telephones, televisions and computers. Half of the sample scored on

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the social deprivation index of father unemployed, having 3 or fewer rooms in the house and sharing a bedroom.

All the children had at least one parental figure in the home. A quarter of the children were from single parent families. For 19%, mother alone ran the household and for 7% fathers alone.

A third of the young people had problems with reported care or control from their parents in childhood. When the combined index of affectionless-control was examined, 15% of mothers and 19% of father's were reported to have such poor parenting. This rate is similar to a prior Israeli study (Canetti et al. 1997).

Fifty-six percent of the youth had been exposed to a prior traumatic event, 40% to a political violence related event and 67% had exposure to either a prior or a political related traumatic event. There were 23% of the young people who had a clinical case level disorder which means that symptoms may impair functioning (Goodman et al. 2003). In terms of specific disorders, the most common (at borderline level was conduct disorder at 31% (33/108) with emotional disorder at 14% (15/108) and the least common was ADHD at 7% (8/108). Peer problems were experienced by 19% of the young people at case level.

Social risk factors and exposure to trauma or terrorism events

The relationship of demographic and social risk factors to the experience of at least one exposure of trauma or political violence using Chi square analysis is shown in Table 1. Having at least one trauma event was significantly more common for the Arab youth ($p < .0001$), for those with peer problems ($p < .02$) and somewhat higher in those with affectionless control from fathers ($p < .05$, exact test). Exposure to a political violence event was significantly higher only for those *without*

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social deprivation i.e. those more affluent in the sample ($p < .007$). (This may be because of higher bombing rates in Northern Israel which is an affluent Israeli-Arab area). None of the other risk factors was associated. Neither was ethnicity or social deprivation related to any of the other risk factors identified.

Table 1 here

Childhood risk factors, deprivation and any SDQ disorder

SDQ disorder was unrelated to gender or ethnicity (see table 2). The expected higher rate of emotional disorder in girls was apparent but not at significant levels. SDQ borderline/case disorder was related to father's affectionless control ($p < .006$) and to any affectionless control ($p < .01$), with a trend in relating to peer problems ($p < .06$). However, any SDQ disorder overall was unrelated to the presence of any one personal trauma or political violence event exposure but hyperactive disorder in particular related to terrorist event exposure ($p < .04$). When type of disorder was examined in relation to psychosocial risk factors there was a trend for both emotional disorder and conduct disorder to relate to social deprivation ($p < .04$, single-sided test). Emotional disorder was not related to any other risk factor. Conduct disorder also related to peer problems. Hyperactive disorder related to peer problems, political violence events and affectionless control from both father and either parent (see table 2)

Table 2 here

Dose-response effects were observed for both personal trauma and political violence exposure scores (see figure 1) and SDQ ratings of any borderline/case disorder. However, there was a significant association only for political violence trauma events ($\chi^2 = 7.609$, 2df, $p < .02$). For personal trauma this indicated only a trend ($\chi^2 = 4.966$, 2df, $p = .08$).

Figure 1 here

Psychosocial risks for specific disorder outcomes

Binary logistic regression was used to examine psychosocial risks for specific disorder outcomes (see table 3). Emotional disorder was excluded given no predictors were shown in earlier analysis. Conduct disorder was best modelled by the social deprivation index, exposure to political violence event and peer problems. Hyperactive disorder was best predicted by exposure to political violence and peer problems. When group membership was added to the regressions as a control factor for group bias and the same findings remained.

Table 3 here

Discussion

The first hypothesis was partially confirmed. Social deprivation, having poor childhood care and being exposed to personal trauma events predicted behavioural disorder and problems with peers. Emotional disorder did not add to the model. Personal trauma was related to parental affectionless control, peer problems and SDQ disorder overall, and this was more common in socially deprived Arabs. This model follows a developmental psychopathology model whereby damage from parental problem care and personal trauma is associated with peer difficulties and overall disorder. The fact this occurred more often in deprived families potentially under greater stress shows the implications of social factors.

None of the factors related to emotional disorder as might be expected. Given the higher propensity of boys in the sample and some support for increased risk in girls (Rudolph 2002) it is understandable that behavioural disorder (conduct or ADHD) played a greater part in the analysis. But prior research would expect associations of affectionless control (particularly from mothers) and trauma experience to increase risk (A. Bifulco 2010). A reasonable conclusion cannot be made on current evidence and further investigation is required.

The second hypothesis was confirmed. Political violence events had a direct relationship to disorder, with a dose effect confirmed. This held for both conduct disorder and ADHD. The third

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hypothesis was not confirmed. Personal trauma did *not* increase risk of political trauma. There was no additional impact of personal trauma to disorder although peer issues did add to the model. It was the affluent youth who experienced the highest incident of political trauma and they were less likely to have personal trauma. Overall, Arab villages are not equipped to deal with war, have no emergency shelters or secure rooms (Ron 2014). The entire population experiences political conflict but these populations have a physical vulnerability as well. Being in a higher income bracket means a family may have more personal and physical resources overall but they are not completely immune to the impacts of political violence.

Strengths of the study include its use of standardised measures, translated both into Hebrew and Arabic to investigate risk across these divides, as well as a high cooperation rate. Limitations include the cross-sectional nature of this analysis which limits the ability to determine time order and any causal effect. Also given all measures were self-report this may be open to biases from recall, or from the effects of symptoms. It should be noted that lower thresholds of disorder (at borderline/case level) were utilised which may have influenced findings. The study would benefit from replication using clinical interviews and more intensive assessment, for example of childhood and trauma experience.

Conclusion

Types of trauma - personal or non-personal, need to be taken into account when investigating psychological disorder with a much wider remit than the more restricted trauma disorder (PTSD). Political violence exposure in conflict environments is an important risk factor for behavioural disorders in young people. This finding has important implications for these young people given their general risk of delinquency and antisocial behaviour as a result of living in these environments (Harel-Fisch et al. 2012; Klodnick et al. 2014). Links between behavior disorders in conflict settings vary depending upon prior risk factors with higher-risk families requiring additional support to deal with the impacts of conflict.

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Figure 1: Dose effect of number and type of trauma event and SDQ disorder (borderline or case).

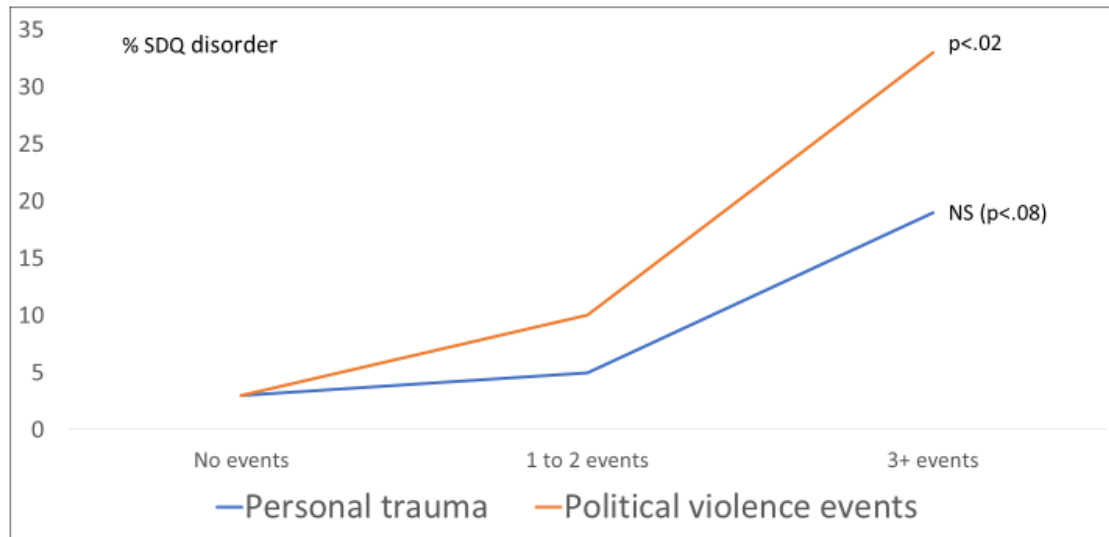


Table 1 Risk factors for personal and terrorism event exposure (Chi square analysis)

Characteristic or Risk variable	Exposure to personal trauma event (n=59)		Exposure to political violence event (n=43)	
	% (n)	χ^2 , df, p<	% (n)	χ^2 , df, p<
Male (n=79)	52±3% (41)	.88, 1, p=.38	38±3% (30)	.356, 1, p=.65
Female (n=29)	62±5% (18)		45±5% (13)	
Jewish (n=61)	38±3% (23)	16.19, 1, p<.0001	38±3% (23)	.364, 1, p=.55
Arab (n=47)	77±3% (36)		43±4% (20)	
Social deprivation present (n=54)	54±4% (29)	.037, 1, p=1.00	28±3% (15)	6.98, 1, p<.011
Absent (n=54)	56±4% (30)		52±4% (28)	
Peer problems present (n=21)	76±5% (16)	4.88, 1, p<.03	29±5% (6)	1.46, 1, p=.32
Absent (n=87)	49±3% (43)		43±3% (37)	
Mother affectionless control Present* (n=15)	67±6% (10)	1.01, 1, p=.406	33±6% (5)	.34, 1, p=.77
Absent (n=85)	53±3% (45)		39±3% (33)	

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Father affectionless control	81±5%	5.370, 1,	50±7% (8)	.754, 1, p=.41
Present* (n=16)	(13)	p<.02	40±3% (27)	
Absent (n=68)	56±3%			
	(38)			
Any affectionless control	70±5%	3.65, 1, p<.09	41±6% (9)	
Present* (n=20)	(14)	(p<.04, 1-	40±3% (34)	.006, 1, p=1.00
Absent (n=82)	56±3%	sided test)		
	(46)			

*Where parent was absent from household, the index was rated as 'absent'.

Table 2 Risk factors in relation to SDQ borderline/case disorder**(Chi-square analysis) ±**

Risk variable	Any SDQ borderline/ca se(n=25) % (n)	Emotional (n=15) % (n)	Conduct (n=33) % (n)	Hyperactive (n=8) % (n)
Male (n=79)	24±9% (19)	11±7% (9)	29±10% (23)	8±6% (6)
Female (n=29)	21±15% (6)	21±15% (6)	35±17% (10)	7±9% (2)
χ^2 , df, p<	.13, 1, p=.80	.28,1,p=.64	.28, 1, p=.64	.01. 1, p=1.00
Jewish (n=61)	20±10% (12)	12±8% (7)	30±12% (18)	7±6%(4)
Arab (n=47)	28±13% (13)	17±11% (8)	32±13% (15)	9±8% (4)
χ^2 , df, p<	.95, 1, p=.36	.68, 1,p=.41	.07, 1, p=.83	.14, 1, p=.72
Social deprivation present (n=54)	24±11% (13)	20±11% (11)	39±13% (21)	9±8% (5)
Absent (n=54)	22±11% (12)	7±7% (4)	22±11% (12)	6±6% (3)
χ^2 , df, p<	.05, 1, p=1.00	3.79, 1, p<.04 , (Exact test)	3.53. 1, p<.04 , (Exact test)	.540, 1, p=.71
Peer problems present (n=21)	8±12% (8)	14±15% (3)	62±21% (13)	24±18% (5)
Absent (n=87)	20±8% (17)	14±7% (12)	23±9% (20)	3±4% (3)
χ^2 , df, p<	3.27, 1, p<.06, (Exact test)	.003,1, p=1.00	12.07, 1, p<.001	10.25, 1, p<.001
Trauma event present (n=59)	27±11% (16)	15±9% (9)	31±12% (18)	10±8% (6)
Absent (n=49)	18±11% (9)	12±9% (6)	31±13% (15)	4±5% (2)

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χ^2 , df, p<	1.15, 1, p=.36	.36, 1, p=.78	.000, 1, p=1.00	1.44, 1, p=.28
Political violence event present (n=43) Absent (n=64) χ^2 , df, p<	26±13% (11) 22±10% (14) .197, 1, p=.65	16±11% (7) 13±8% (8) .305, 1, p=.58	35±14%% (15) 27±11% (17) .85, 2, p=.39	14±10% (6) 3±4% (2) 4.36, 1, p<.04 , (Exact test)
Mother affectionless control Present n=15 Absent n=93 χ^2 , df, p<	40±25% (6) 20±8% (19) 2.78,1,p=.09, (Exact test)	13±17% (2) 14±7% (13) .004, 1,p=.65	40±25% (6) 29±9%(27) 0.732, 1,p=.38	0±0% (0) 9±6% (8) 1.39, 1, p=.59
Father affectionless control Present n=16 Absent n=92 χ^2 , df, p<	50±25% (8) 19±8% (17) 7.613, 1, p<.006	19±19% (3) 13±7% (12) .37, 1, p=.69	38±24% (6) 29±9% (27) .427, 1, p=.56	25± 21%(4) 4± 4%(4) 8.47, 1, p<.01
Either parent affectionless control Present n=22 Absent n=86 χ^2 , df, p<	46±21% (10) 17±8% (15) 7.27,1, p<.01	18±16% (4) 13±7% (11) 0.42, 1, p=.502	41±21% (9) 28±9% (24) 1.39, 1, p=.300	18±16% (4) 5±5% (4) 4.67, 1, p<.05

Table 3 Binary logistic regression testing risk factors and specific disorder outcome

(SDQ borderline or case level disorder)

A. Conduct disorder

	OR	Wald	df	Sig.
Social Deprivation index	4.05	6.22	1	.01
Any affectionless control parent	.96	.003	1	.95
Exposure to political violence event	3.26	4.75	1	.02
Exposure to trauma event	.460	2.17	1	.14
Peer problems	9.80	11.99	1	.001
Group control	1.35	.33	1	.56

Social deprivation, exposure to terrorism and peer problems provide the best model. Goodness of fit 77.6%

B. Hyperactive disorder

	OR	Wald	df	Sig.
Social Deprivation index	.60	.26	1	.60
Any affectionless control parent	1.16	.02	1	.88
Exposure to political violence event	9.20	4.57	1	.03
Exposure to trauma event	1.36	.10	1	.74

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Peer problems	15.85	5.60	1	.01
Group control	1.19	.038	1	.84

Exposure to terrorist event and peer disorder provides the best model. Goodness of fit 93.5%