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ORIGINAL RESEARCH

An examination of childhood trauma in individuals attending an adult mental health service

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Objectives. Childhood sexual abuse has previously been associated with adult mental health difficulties, however, few studies have evaluated all forms of childhood maltreatment in individuals attending adult mental health services. Consequently, this study investigates the association of five forms of childhood trauma with a range of clinical symptoms and mental health disorders in 136 individuals attending a mental health service in Ireland utilising the Childhood Trauma Questionnaire (CTQ).

Method. One hundred and thirty-six patients attending the Roscommon Mental Health Services completed the CTQ and a number of additional psychometric instruments evaluating illness severity, impulsivity, disability and the presence of a personality disorder(s) (PD) to ascertain the prevalence of childhood trauma and any potential associations between childhood trauma and a range of demographic and clinical factors.

Result. Seventy-six per cent of individuals reported childhood trauma, with emotional neglect most frequently reported (61%). Individuals who had experienced childhood trauma had higher rates of clinical symptoms, distress and impulsivity. Substance abuse and paranoid, borderline and antisocial PDs most associated with childhood trauma.

Conclusion. This study demonstrates the need to routinely elicit information on all forms of childhood traumatic experiences from patients.

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Key words: Childhood abuse, mental health, neglect, personality disorder.

Introduction

In recent years, there has been an increased awareness of childhood trauma and in particular childhood sexual abuse (CSA) and its adverse effects on individuals' mental health in adulthood (Tonmyr *et al.* 2005; Afifi *et al.* 2006; Zlotnicka *et al.* 2008). A recent population-based study in Ireland, reported rates of CSA involving physical contact, in 20% of girls and 16% of boys (McGee *et al.* 2011). In the United Kingdom, when 'severe maltreatment' (including sexual, physical and emotional abuse and severe neglect) during childhood was examined by the National Society for the Protection of Cruelty to Children, 25% of young adults admitted to suffering severe maltreatment in childhood, with the authors, suggesting that this figure was probably an under-estimate (Radford *et al.* 2011).

In adult mental health services, prevalence rates of CSA range from 22–85% and rates of physical abuse range from 17–87% of individuals with these rates somewhat higher in females (Read *et al.* 2004). To date, there are few prevalence studies evaluating the rates of other common forms of childhood maltreatment (i.e. emotional abuse, physical and emotional neglect) in individuals attending adult mental health services.

Childhood trauma and most frequently CSA or physical abuse in childhood has been associated with increased psychopathology and psychiatric disorder in adulthood. In particular, childhood trauma, including physical abuse, CSA and emotional abuse has been associated with increased rates of depression in adulthood (Goldberg, 1994; Kinard, 1995; Ferguson & Dacey, 1997; Chapman *et al.* 2004). Similarly, childhood trauma and in particular CSA have been suggested as potential risk factors for the development of borderline personality disorder (PD; Park *et al.* 1994; Silk *et al.* 1995). More recent findings have, however, suggested that multiple types of childhood trauma (e.g. emotional, physical and sexual abuse) may be significant predictors of borderline PD (Huang *et al.* 2012) with some studies suggesting that physical abuse or neglect, may potentially have a more significant aetiological role for the development of borderline PD than CSA (Widom *et al.* 2009).

Although many studies have investigated the putative association of one form of childhood trauma (often CSA or physical abuse) and mental health, fewer

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studies to date have evaluated a range of childhood traumas (including CSA, physical and emotional abuse, physical and emotional neglect) and their negative association with adult psychopathology. In relation to those studies that have been undertaken, childhood maltreatment of all forms have been associated with depression, suicide attempts, alcohol misuse and psycho-active substance misuse (Dube *et al.* 2003; Chapman *et al.* 2004; Min *et al.* 2007; Wu *et al.* 2010; Min *et al.* 2013). Furthermore, increasing numbers of traumatic experiences (including parental separation, mental illness in the household and criminal household members in addition to childhood abuse or neglect) have been associated with poorer levels of psychosocial functioning (Wu *et al.* 2010) and greater levels of psychological distress and recurrent depressive disorder (RDD; Chapman *et al.* 2004).

In Ireland, few studies to date have examined the association between childhood trauma and the prevalence of adult mental health difficulties. However, both physical abuse (Kelleher *et al.* 2008; Kelleher *et al.* 2013) and CSA (Murphy *et al.* 2013) have both been associated with higher rates of psychotic experiences in adolescents.

In this study, we wanted to assess the prevalence of childhood trauma including sexual, emotional and physical abuse and emotional and physical neglect among individuals attending a general adult mental health service. We also endeavoured to explore the presence of childhood trauma across a range of mental health disorders (both Axis I and Axis II disorders) in individuals attending inpatient and outpatient services and ascertain if there were any associations between childhood trauma and a range of clinical and socio-demographic factors.

Method

Participants

Individuals were recruited from both the inpatient and outpatient services of Roscommon Mental Health Services, Ireland. All consecutively admitted individuals to the Department of Psychiatry, Roscommon County Hospital between September 2010 and March 2011 (n = 98) were invited to participate in this study. All consecutively attending individuals from two outpatient clinics (both scheduled weekly) attached to the Roscommon Mental Health Services between March 2011 and June 2011 (n = 115) were also invited to participate (total n = 213). Sixty-eight individuals in this latter group had previously been treated on one or more occasions as an inpatient in an adult mental health inpatient unit.

Demographic and clinical data were obtained from clinical interview with participants and clinical note review. All individuals were diagnosed according to the Diagnostic and Statistics Manual IV Revised (DSM-IV-TR) diagnostic criteria by their treating consultant psychiatrist. The presence of a PD(s) was evaluated by the Structured Clinical Interview for DSM-IV Axis II (SCID-II) PDs and was undertaken by trained clinicians (psychiatrists with considerable experience in psychiatry T.O., Z.N., B.H.).

Exclusion criteria included individuals <18 years of age, the presence of an intellectual disability (intelligence quotient <70), a diagnosis of dementia and the presence of acute psychosis. Individuals admitted to hospital with an acute psychotic episode or mania, were interviewed for the study before the end of their admission where possible, when their psychotic or manic episode had significantly resolved and thus if capable and agreeable to consent, they were included in the study.

Each participant provided written informed consent and the study was approved by the Roscommon County Hospital ethics committee. On completion of the assessment, psychotherapeutic support was offered if necessary.

Instruments

Childhood Trauma Questionnaire (CTQ)

The CTQ is a 28-item self-report retrospective inventory that measures childhood or adolescent trauma (Bernstein & Fink, 1998). The CTQ has five subscales: emotional, physical and sexual abuse and emotional and physical neglect. A minimisation or denial scale is included. Each item is measured on a 5-point Likert scale ranging from 'never true' to 'very often true', and each subscale consists of five items. The CTQ items reflect common definitions of child abuse and neglect as found in the childhood trauma literature (Crouch & Milner, 1993; Malinosky-Rummell & Hansen, 1993; Finkelhor, 1994; Knutson, 1995). The CTQ has demonstrated good internal consistency (r = 0.63–0.95) and criterion-related validity (r = 0.50–0.75).

Symptom Checklist-90-Revised (SCL-90-R)

The SCL-90-R is a 90-item self-report instrument that evaluates nine primary symptom dimensions [somatization (SOM), obsessive-compulsive (OC), interpersonal sensitivity (IS), depression (DEP), anxiety (ANX), hostility (HOS), phobic anxiety (PHOB), paranoid ideation (PAR), psychoticism (PSY)] and a global health score [Global Severity Index (GSI)], and is designed to provide an overview of a patient's symptoms and their intensity at a specific point in time (Derogatis, 1994). Each item consists of a 5-point rating scale ranging from 'not at All' to 'extremely'.

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Barratt Impulsiveness Scale (BIS-11)

The BIS-11 is a 30-item self-report questionnaire that evaluates three sub-scales of impulsiveness: attention, motor and non-planning impulsiveness (Patton *et al.* 1995). Each item is measured on a 4-point Likert scale ranging from 'rarely/never' to 'almost always/always'.

Sheehan Disability Scale (SDS)

The SDS is a brief self-report tool that evaluates on a 10-point anchored visual analogue scale, functional impairment on three inter-related domains; work/school, social and family life (Rush, 2000).

SCID-II PD

The SCID-II is a semi-structured diagnostic interview for assessing the 10 DSM-IV Axis II PDs, as well as depressive personality disorder and passive-aggressive PD (First *et al.* 1997).

Data analysis

Statistical analysis was performed using the Statistical Package for Social Sciences 19.0 for Windows (SPSS Inc., USA). We utilised the student *t*-test or analysis of co-variance for parametric data and the χ^2-test for non-parametric categorical data where appropriate. We used the Pearson's Product Moment Correlation (r) to determine the correlation between the various test variables (e.g. CTQ and SCL-90-R total and subscale scores). We utilised a p-value of <0.01 for determining significance for correlation analysis due to the number of variables being tested. Logistic regression was undertaken with the experience of childhood trauma or a form of childhood trauma as the dependent variable, and gender, age, diagnosis (Axis I disorder – schizophrenia, bipolar disorder, depression, anxiety disorder, alcohol or substance misuse) or borderline PD or antisocial PD), total BIS score, total SDS score and GSI from the SCL-90-R as the dependent variables.

Results

Of the 213 individuals invited to participate, 27 were excluded. Reasons for exclusion included intellectual disability ($n = 7$), dementia ($n = 4$), acute psychosis ($n = 14$), and individuals been unattainable due to very brief inpatient admission stays of <24 hours ($n = 2$). Of the remaining 186 people, 136 individuals (73%) agreed to participate in this study, including 60 inpatients and 76 outpatients. Fifty-six individuals in the outpatient group (74%) had previously had one or more admissions to an acute adult inpatient mental health unit. It was therefore decided to combine the inpatient and outpatient group for most comparisons. Demographic and clinical data were as follows: the mean age of participants was 45 years (S.D. = 15), with 70 individuals (51.5%) being male. Forty-nine per cent of the sample was single followed by married (36%), and most individuals (75%) were unemployed. RDD (47%) was the most common Axis I disorder, followed by schizophrenia (21%) and bipolar affective disorder (14%). The most prevalent Axis II disorders was avoidant PD (34%), followed by passive aggressive PD (24%), paranoid PD (24%) and borderline PD (23%). The most common psychotropic medications prescribed were antipsychotics (76%), followed by antidepressants (74%).

One hundred and three individuals (76%) reported some form of childhood trauma, with no statistical difference in the frequency of trauma between men and women (Table 1). Emotional neglect was the most frequent type of childhood trauma reported (61%), followed by emotional abuse (47%), physical neglect (47%), physical abuse (28%) and sexual abuse (24%), with no significant difference in frequency in the

Table 1. *Childhood trauma severity in both genders*

Childhood trauma	Total group [*n* (%)]	Female [*n* (%)]	Male [*n* (%)]
Any form of trauma	103 (75.7)	46 (69.7)	57 (81.4)
Sexual abuse			
Total	33 (24.3)	14 (21.2)	19 (27.2)
Low to moderate	8 (5.9)	2 (3.0)	6 (8.6)
Moderate to severe	10 (7.4)	4 (6.1)	6 (8.6)
Severe to extreme	15 (11)	8 (12.1)	7 (10.0)
Emotional abuse			
Total	56 (47.2)	24 (36.4)	32 (45.8)
Low to moderate	18 (13.2)	5 (7.6)	13 (18.6)
Moderate to severe	16 (11.8)	7 (10.6)	9 (12.9)
Severe to extreme	22 (16.2)	12 (18.2)	10 (14.3)
Physical abuse			
Total	38 (28.0)	13 (19.7)	25 (35.7)
Low to moderate	14 (10.3)	6 (9.1)	8 (11.4)
Moderate to severe	5 (3.7)	1 (1.5)	4 (5.7)
Severe to extreme	19 (14.0)	6 (9.1)	13 (18.6)
Emotional neglect			
Total	83 (61.0)	41 (62.1)	42 (60.0)
Low to moderate	34 (25.0)	21 (31.8)	13 (18.6)
Moderate to severe	25 (18.4)	8 (12.1)	17 (24.3)
Severe to extreme	24 (17.6)	12 (18.2)	12 (17.1)
Physical neglect			
Total	64 (47.1)	25 (37.9)	39 (55.7)
Low to moderate	30 (22.1)	13 (19.7)	17 (24.3)
Moderate to severe	19 (14.0)	7 (10.6)	12 (17.1)
Severe to extreme	15 (11.0)	5 (7.6)	10 (14.3)

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prevalence of any of these childhood traumas between men and women (Table 1). For men who reported physical abuse and for women who reported sexual abuse (physical abuse = 52%; sexual abuse = 57%) over 50% of these individuals reported that the abuse suffered was in the 'severe to extreme' range. All individuals, who reported sexual abuse, also suffered at least one additional form of childhood trauma with 46% of individuals reporting that they suffered all four other forms of childhood trauma. The number of forms of childhood trauma reported by study participants was: none = 30 (22.1%); 1 = 28 (20.6%); 2 = 27 (19.9%); 3 = 15 (11.0%); 4 = 18 (13.2%); 5 = 15 (11.0%).

No difference in age, marital status, employment status, education level achieved and family structure was ascertained between individuals who had suffered childhood trauma compared with those who did not (Table 2), however, individuals who suffered childhood trauma had more inpatient admissions to adult mental health units ($t = 5.36$, $p < 0.001$). Individuals who suffered childhood trauma, had no difference in the rate or type of Axis I disorders, but had higher rates of several PDs including passive aggressive, paranoid, borderline and antisocial PD ($p < 0.01$) when compared with those who did not report trauma. The prevalence of the five childhood maltreatment categories for both Axis I and Axis II disorders at different degrees of severity are further presented in Tables 3 and 4. Axis I psychiatric disorders were divided into five groups: schizophrenia, bipolar disorder, RDD, anxiety disorders and alcohol/substance abuse or dependence. The highest rate of childhood trauma was reported in individuals with alcohol and/or substance abuse or dependence (92%), however, this was not significantly different to individuals with other Axis I disorders ($\chi^2 = 5.531$, df = 4, $p = 0.237$). Individuals with a primary diagnosis of anxiety disorders had lower levels of childhood trauma (50%), and none reported sexual abuse, however, only eight individuals were included in this group (Table 3). Of the 85 individuals diagnosed with PD, 73 (87%) reported childhood trauma, with particularly high rates in individuals diagnosed with antisocial PD (100%), passive aggressive PD (97%), paranoid PD (97%) and borderline PD (94%). The highest rate of CSA was ascertained in individuals with antisocial PD (62%), and significantly higher rates of CSA were demonstrated for individuals with antisocial PD compared with those without antisocial PD. No other PD was significantly associated with CSA. Several PDs were associated with physical abuse, physical neglect, emotional abuse and emotional neglect (Table 4). Many individuals who fulfilled diagnostic criteria for one PD also fulfilled diagnostic criteria for one or more other PDs (60.3%), making interpretations regarding individual PDs more difficult.

Insufficient numbers were present to investigate if sub-categories of childhood trauma were associated with the presence or absence of Axis I and II disorders. Sufficient data was available ($n > 15$) to examine individuals with dual diagnoses for individuals diagnosed with RDD and co-morbid avoidant, obsessive-compulsive, passive-aggressive and paranoid, PD. Individuals with RDD who also had co-morbid obsessive-compulsive PD, had higher rates of CSA (75%; $\chi^2 = 4.233$; $p = 0.040$), physical abuse (83.3%; $\chi^2 = 5.440$; $p = 0.02$) and emotional neglect (68.4%; $\chi^2 = 3.859$; $p = 0.049$) compared with those with RDD alone.

Individuals who were inpatients at the time of data collection reported higher rates compared with outpatients, of CSA (60.6% *v.* 39.4%; $\chi^2 = 4.693$; $p = 0.03$), emotional abuse (57.1% *v.* 42.9%; $\chi^2 = 6.403$; $p = 0.011$), physical abuse (57.9% *v.* 42.1%; $\chi^2 = 3.948$; $p = 0.047$) and physical neglect (54.7% *v.* 45.3%; $\chi^2 = 5.330$; $p = 0.021$). When we compared all individuals who were previously admitted to an inpatient adult mental health unit ($n = 114$) to individuals only ever treated as outpatients ($n = 22$), the only significant finding remaining was a higher rates of childhood emotional neglect in the inpatient group (89.2% *v.* 10.8%; $\chi^2 = 4.062$; $p = 0.044$).

Significant higher scores were demonstrated on the BIS-11 total ($t = 1.605$, $p = 0.022$) and motor impulsivity scales ($t = 1.519$, $p = 0.044$), and on the SDS total ($t = 1.981$, $p = 0.056$) and SDS family/home responsibilities scales ($t = 2.215$, $p = 0.029$) for individuals who suffered childhood trauma compared with those who did not (Table 2). Both the Global Symptom Index (GSI) and nine symptom domains of the SCL-90-R (SOM, OC, IS, DEP, ANX, HOS, PHOB, PAR, PSY), revealed higher scores in individuals who suffered childhood trauma ($p < 0.01$). These findings were replicated for all five forms of childhood trauma ($p < 0.01$) apart from CSA in the SOM, DEP and ANX domains, which failed to reach statistical significance.

Logistic regression demonstrated that total BIS scores were predictive of individuals having suffered physical abuse in childhood ($B = 0.085$, $p = 0.008$, OR = 1.09, 95% CI 1.03–1.16). SCL-90-R GSI scores were predictive of individuals having suffered physical neglect in childhood ($B = 1.03$, $p = 0.002$, OR = 2.81, 95% CI 1.48–5.3), with no evidence for age, gender, type of Axis I disorder and total SDS score predicting childhood trauma. Evaluating Axis II disorders using this model (substituting Axis I D/O with borderline PD or antisocial PD in the model); we found borderline PD was predictive of having suffered any form of childhood trauma ($B = 1.14$, $p = 0.045$, OR = 3.13, 95% CI 1.03–9.55); having suffered emotional abuse ($B = 1.57$, $p = 0.006$, OR 4.79, 95% CI 1.58, 14.50), physical abuse ($B = 1.58$, $p = 0.004$, OR = 4.87, 95% CI

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Table 2. *Comparing clinical factors in individuals who did and did not suffer childhood trauma*

	No childhood trauma (n = 30)	Childhood trauma (n = 103)	χ^2, df	p
Axis I disorders				
Schizophrenia (n = 29)	7 (23.3)	22 (21.4)	9.508; 5	0.218
Bipolar affective disorder (n = 18)	3 (10.0)	15 (14.6)		
Depression (n = 62)	14 (46.7)	48 (46.6)		
Anxiety disorders (n = 8)	4 (13.3)	4 (3.9)		
Alcohol/substance use disorder (n = 13)	1 (3.3)	12 (11.7)		
Other (n = 3)	1 (3.3)	2 (2.0)		
Axis II disorders±				
Avoidant PD (n = 46)	9 (30.0)	37 (35.9)	0.495; 1	0.482
Dependent PD (n = 9)	1 (3.3)	8 (7.8)	0.780; 1	0.377
Obsessive compulsive PD (n = 25)	3 (10.0)	22 (21.4)	2.139; 1	0.144
Passive aggressive PD (n = 32)	1 (3.3)	31 (30.1)	9.519; 1	0.002
Depressive PD (n = 18)	3 (10.0)	15 (14.6)	0.484; 1	0.487
Paranoid PD (n = 32)	1 (3.3)	31 (30.1)	9.519; 1	0.002
Schizotypal PD (n = 6)	1 (3.3)	5 (4.9)	0.146; 1	0.703
Schizoid PD (n = 4)	1 (3.3)	3 (2.9)	0.009; 1	0.926
Histrionic PD (n = 2)	0 (0.0)	2 (1.9)	0.609; 1	0.435
Narcissistic PD (n = 15)	2 (6.7)	13 (12.6)	0.907; 1	0.341
Borderline PD (n = 31)	2 (6.7)	29 (28.2)	6.338; 1	0.012
Antisocial PD (n = 13)	0 (0.0)	13 (12.6)	4.381; 1	0.036
	Mean (S.D.)	Mean (S.D.)	t	p
Number of hospital admission	1.33 (1.77)	4.93 (5.99)	5.353	< 0.0001
Age	41.7 (16.9)	45.2 (14.2)	1.112	0.268
BIS IIA				
Total	66.0 (10.6)	71.0 (10.2)	1.605	0.022
Non-planning	27.2 (4.3)	28.7 (4.5)	2.034	0.111
Motor	20.5 (5.5)	22.8 (5.2)	1.519	0.044
Attention	18.3 (4.2)	19.6 (3.9)	2.312	0.131
SDS				
Total	9.7 (11.0)	14.25 (10.8)	1.981	0.056
Work/school	3.2 (4.2)	4.4 (4.1)	1.349	0.180
Social life	3.4 (4.1)	5.0 (4.0)	1.835	0.069
Family/home responsibilities	3.1 (3.7)	4.9 (3.9)	2.215	0.029
SCL-90-R				
SCL-90-R GSI	0.95 (0.74)	1.48 (0.90)	2.922	0.004
SCL-90-R SOM	0.90 (0.67)	1.32 (0.98)	2.650	0.010
SCL-90-R OC	1.08 (0.99)	1.70 (1.0)	2.955	0.004
SCL-90-R IS	1.0 (1.0)	1.66 (1.03)	3.042	0.003
SCL-90-R DEP	1.31 (0.99)	1.91 (1.11)	2.634	0.009
SCL-90-R ANX	1.13 (0.99)	1.53 (1.10)	1.738	0.085
SCL-90-R HOS	0.55 (0.79)	1.01 (0.93)	2.633	0.011
SCL-90-R PHOB	0.71 (0.88)	1.17 (1.14)	2.307	0.025
SCL-90-R PAR	0.75 (0.80)	1.40 (1.06)	3.587	0.001
SCL-90-R PSY	0.55 (0.62)	1.09 (0.94)	3.637	0.001

BIS, Barratt Impulsiveness Scale; SDS, Sheehan Disability Scale; SCL-90-R, The Symptom Checklist-90-R; SOM, somatization; OC, obsessive-compulsive; IS, interpersonal sensitivity; DEP, depression; ANX, anxiety; HOS, hostility; PHOB, phobic anxiety; PAR, paranoid ideation; PSY, psychoticism; GSI, Global Severity Index. Data are number (percentage) or mean (±S.D.), when appropriate. Abuse suffered indicates patients with childhood trauma history (includes sexual, physical, emotional abuse and emotional, physical neglect). *p-values by t-tests for independent samples or χ^2. (In the analysis, both tests, t-tests for independent samples and U-Mann–Whitney, were conducted and they revealed equal results. Statistically stronger tests were selected).

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Table 3. *Childhood trauma in individuals with Axis I disorders*

	Sexual abuse [*n* (%)]	Emotional abuse [*n* (%)]	Physical abuse [*n* (%)]	Emotional neglect [*n* (%)]	Physical neglect [*n* (%)]	Childhood trauma (total) [*n* (%)]
Schizophrenia ($n = 29$)						
Total	7 (24.1)	12 (41.3)	9 (31.0)	14 (48.2)	13 (44.7)	22 (75.9)
Low to moderate	2 (6.9)	3 (10.3)	4 (13.8)	7 (24.1)	7 (24.1)	
Moderate to severe	1 (3.4)	6 (20.7)	2 (6.9)	4 (13.8)	3 (10.3)	
Severe to extreme	4 (13.8)	3 (10.3)	3 (10.3)	3 (10.3)	3 (10.3)	
Bipolar disorder ($n = 19$)						
Total	5 (27.8)	6 (31.6)	3 (16.7)	13 (72.2)	7 (38.9)	15 (78.9)
Low to moderate	0 (0.0)	1 (5.3)	1 (5.6)	4 (22.2)	2 (11.1)	
Moderate to severe	4 (22.2)	2 (10.5)	0 (0.0)	5 (27.8)	3 (16.7)	
Severe to extreme	1 (5.6)	3 (15.8)	2 (11.1)	4 (22.2)	2 (11.1)	
Depression ($n = 64$)						
Total	15 (24.2)	28 (45.2)	16 (25.8)	40 (64.5)	28 (45.2)	48 (75.0)
Low to moderate	6 (9.7)	11 (17.7)	6 (9.7)	18 (29.0)	10 (16.1)	
Moderate to severe	3 (4.8)	5 (8.1)	2 (3.2)	10 (16.1)	11 (17.7)	
Severe to extreme	6 (9.7)	12 (19.4)	8 (12.9)	12 (19.4)	7 (11.3)	
Anxiety disorders ($n = 8$)						
Total	0 (0.0)	3 (37.5)	2 (25.0)	3 (37.5)	3 (37.5)	4 (50.0)
Low to moderate	0 (0.0)	1 (12.5)	1 (12.5)	1 (12.5)	2 (25.0)	
Moderate to severe	0 (0.0)	2 (25.0)	1 (12.5)	1 (12.5)	0 (0.0)	
Severe to extreme	0 (0.0)	0 (0.0)	0 (0.0)	1 (12.5)	1 (12.5)	
Alcohol/substance-use disorders ($n = 13$)						
Total	6 (46.2)	7 (53.8)	7 (53.8)	11 (84.6)	12 (92.3)	12 (92.3)
Low to moderate	0 (0.0)	2 (15.4)	1 (7.7)	4 (30.8)	9 (69.2)	
Moderate to severe	2 (15.4)	1 (7.7)	0 (0.0)	4 (30.8)	1 (7.7)	
Severe to extreme	4 (30.8)	4 (30.8)	6 (46.2)	3 (23.1)	2 (15.4)	

One individual, with hypochondriacal disorder, one with organic induced personality change and one with anorexia nervosa are not included above.

1.65–14.39) and emotional neglect ($B = 1.41$, $p = 0.025$, OR 4.08, 95% CI 1.20–13.90). Antisocial PD was predictive of having suffered CSA ($B = 1.614$, $p = 0.021$, OR = 5.02, 95% CI 1.28–19.71), physical abuse ($B = 2.11$, $p = 0.015$, OR = 8.26, 95% CI 1.51–45.07) and emotional abuse ($B = 2.19$, $p = 0.047$, OR = 8.92, 95% CI 1.03–76.87) in childhood.

The number of reported types of childhood traumas was significantly associated with both perceived level of disability ($F = 4.28$, df = 5, $p = 0.001$) and GSI ($F = 9.40$, df = 5, $p < 0.0001$), when we classified individuals by the number of trauma categories (0–5) they experienced and examined if a 'dose–response relationship' existed with their present symptomatology as measured by the SDS perceived level of disability and SCL-90-R global severity index (GSI).

The correlation between experiencing one form of childhood trauma and another were medium to large in magnitude and are detailed in Table 5. The highest correlation notes was found between emotional abuse and physical abuse ($r = 0.65$, $p < 0.0001$) and the lowest correlation were found between emotional neglect and CSA ($r = 0.382$, $p < 0.0001$). Correlations between the SCL-90-R, BIS-11 (not the non-planning subscale) and SDS were also medium to large in magnitude, with the highest correlation noted between the SCL-90-R GSI scale and the SDS total score scale ($r = 0.579$, $p < 0.001$).

Discussion

This study demonstrated high levels of childhood trauma in both male and female (approximately three-quarters of the sample) attendees of adult mental health services (inpatient or outpatient), with emotional neglect and abuse the most common types of traumas experienced. There was a 'dose–response' relationship between the number of types of childhood trauma experienced and the severity of subjective psychopathology. All forms of childhood trauma were associated with higher levels of symptom severity, independent of symptom dimension or psychiatric diagnosis (except for a lower incidence of childhood trauma in individuals with anxiety symptoms), in individuals attending adult mental health services.

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Table 4. *Childhood trauma in individuals with Axis II disorders*

	Sexual abuse [*n* (%)]	Emotional abuse [*n* (%)]	Physical abuse [*n* (%)]	Emotional neglect [*n* (%)]	Physical neglect [*n* (%)]	Childhood trauma (total) [*n* (%)]
Avoidant PD (*n* = 46)						
Total	14 (30.4)	28 (60.8)**	17 (36.9)	34 (73.9)*	28 (60.8)*	37 (80.4)
Low to moderate	1 (2.2)	7 (15.2)	4 (8.7)	11 (23.9)	14 (30.4)	
Moderate to severe	6 (13.0)	7 (15.2)	3 (6.5)	11 (23.9)	7 (15.2)	
Severe to extreme	7 (15.4)	14 (30.4)	10 (21.7)	12 (26.1)	7 (15.2)	
Dependent PD (*n* = 9)						
Total	4 (44.4)	6 (66.6)	4 (44.4)	8 (88.8)	6 (66.6)	8 (88.9)
Low to moderate	1 (11.1)	2 (22.2)	0 (0.00)	3 (33.3)	3 (33.3)	
Moderate to severe	2 (22.2)	0 (0.00)	1 (11.1)	1 (11.1)	1 (11.1)	
Severe to extreme	1 (11.1)	4 (44.4)	3 (33.3)	4 (44.4)	2 (22.2)	
Obsessive compulsive PD (*n* = 25)						
Total	8 (32.0)	14 (56.0)	6 (24.0)	19 (76.0)	13 (52.0)	22 (88.0)
Low to moderate	3 (12.0)	8 (32.0)	2 (8.0)	7 (28.0)	3 (12.0)	
Moderate to severe	2 (8.0)	2 (8.0)	1 (4.0)	6 (24.0)	5 (20.0)	
Severe to extreme	3 (12.0)	4 (16.0)	3 (12.0)	6 (24.0)	5 (20.0)	
Passive aggressive PD (*n* = 32)						
Total	10 (31.3)	21 (65.6)**	15 (46.9)**	26 (81.4)**	24 (75.1)***	31 (96.9)***
Low to moderate	2 (6.3)	9 (28.1)	9 (28.1)	6 (18.8)	11 (34.4)	
Moderate to severe	3 (9.4)	5 (15.6)	2 (6.3)	10 (31.3)	7 (21.9)	
Severe to extreme	5 (15.6)	7 (21.9)	4 (12.5)	10 (31.3)	6 (18.8)	
Depressive PD (*n* = 19)						
Total	5 (27.9)	11 (61.1)	6 (33.4)	12 (66.7)	12 (66.7)	15 (78.9)
Low to moderate	1 (5.6)	2 (11.1)	0 (0.00)	4 (22.2)	6 (33.3)	
Moderate to severe	1 (5.6)	4 (22.2)	3 (16.7)	3 (16.7)	1 (5.6)	
Severe to extreme	3 (16.7)	5 (27.8)	3 (16.7)	5 (27.8)	5 (27.8)	
Paranoid PD (*n* = 32)						
Total	11 (34.3)	20 (62.5)**	13 (40.7)	26 (81.3)**	27 (84.4)****	31 (96.6)***
Low to moderate	1 (3.1)	5 (15.6)	5 (15.6)	10 (31.3)	13 (40.6)	
Moderate to severe	5 (15.6)	5 (15.6)	2 (6.3)	9 (28.1)	8 (25.0)	
Severe to extreme	5 (15.6)	10 (31.3)	6 (18.8)	7 (21.9)	6 (18.8)	
Narcissistic PD (*n* = 15)						
Total	5 (33.4)	10 (66.6)*	6 (40.0)	9 (59.9)	9 (60.0)	13 (86.7)
Low to moderate	1 (6.7)	5 (33.3)	2 (13.3)	5 (33.3)	4 (26.7)	
Moderate to severe	3 (20.0)	0 (0.00)	1 (6.7)	2 (13.3)	3 (20.0)	
Severe to extreme	1 (6.7)	5 (33.3)	3 (20.0)	2 (13.3)	2 (13.3)	
Borderline PD (*n* = 31)						
Total	11 (35.6)	24 (77.4)****	19 (61.4)****	26 (83.9)**	23 (74.2)***	29 (93.5)*
Low to moderate	2 (6.5)	4 (12.9)	6 (19.4)	11 (35.5)	7 (22.6)	
Moderate to severe	3 (9.7)	8 (25.8)	2 (6.5)	9 (29.0)	7 (22.6)	
Severe to extreme	6 (19.4)	12 (38.7)	11 (35.5)	6 (19.4)	9 (29.0)	
Antisocial PD (*n* = 13)						
Total	8 (61.6)***	12 (92.4)****	11 (84.6)****	13 (100)**	10 (76.9)*	13 (100)**
Low to moderate	2 (15.4)	3 (23.1)	4 (30.8)	6 (46.1)	2 (15.4)	
Moderate to severe	1 (7.7)	3 (23.1)	0 (0.00)	3 (23.1)	3 (23.1)	
Severe to extreme	5 (38.5)	6 (46.2)	7 (53.8)	4 (30.8)	5 (38.5)	

PD, personality disorder. We excluded individuals with schizotypal PD (*n* = 6), schizoid PD (*n* = 4) and histrionic PD (*n* = 2) from all statistical analysis due to the low numbers. Associations between the types of trauma and each PD are presented with values of *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$; ****$p < 0.0001$ (χ^2 analysis was utilised). Due to low numbers, subcategories of each type of childhood trauma and their association with each personality disorder were not compared.

In this study, over half the cohort suffered emotional neglect, half suffered emotional abuse or physical neglect and a quarter suffered CSA or physical abuse in childhood. These rates of CSA and physical abuse are consistent with previous reports (Chu & Dill, 1990); however, we report somewhat higher rates of physical

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Table 5. *Correlation between childhood trauma and psychometric measures*

	Sexual abuse	Emotional abuse	Physical abuse	Emotional neglect	Physical neglect	CTQ score
Childhood trauma						
Sexual abuse	1	0.474***	0.469***	0.382***	0.541***	0.733***
Emotional abuse	0.474***	1	0.646***	0.533***	0.504***	0.828***
Physical abuse	0.469***	0.646***	1	0.439***	0.579***	0.786***
Emotional neglect	0.382***	0.533***	0.439***	1	0.516***	0.763***
Physical neglect	0.541***	0.504***	0.579***	0.516***	1	0.776***
CTQ score	0.733***	0.828***	0.786***	0.763***	0.776***	1
SDS						
Total	0.223*	0.409***	0.334***	0.272**	0.269**	0.392***
Work/school	0.247**	0.320***	0.248**	0.178*	0.224*	0.315***
Social life	0.164	0.368***	0.321***	0.206*	0.196*	0.326***
Family/home responsibilities	0.194*	0.427***	0.341***	0.361***	0.313***	0.427***
BIS						
Total	0.168	0.407***	0.370***	0.181*	0.268**	0.355***
Non-planning	0.098	0.292**	0.269**	0.038	0.145	0.212*
Motor	0.159	0.352**	0.335*	0.133	0.251	0.311**
Attention	0.121	0.274**	0.223*	0.255**	0.209*	0.281**
SCL-90-R						
SCL-90-R GSI	0.246**	0.441***	0.339***	0.376***	0.422***	0.469***
SCL-90-R SOM	0.155	0.364***	0.305***	0.292**	0.327***	0.371***
SCL-90-R OC	0.163	0.340***	0.245**	0.333***	0.330***	0.365***
SCL-90-R IS	0.241**	0.452***	0.250**	0.383***	0.398***	0.449***
SCL-90-R DEP	0.128	0.402***	0.286**	0.386***	0.312***	0.396***
SCL-90-R ANX	0.192*	0.336***	0.299**	0.295**	0.362***	0.379***
SCL-90-R HOS	0.348***	0.336***	0.309***	0.276**	0.392***	0.422***
SCL-90-R PHOB	0.215*	0.425***	0.385***	0.315***	0.403***	0.444***
SCL-90-R PAR	0.356**	0.404***	0.316***	0.338***	0.475***	0.481***
SCL-90-R PSY	0.314***	0.404***	0.333***	0.295**	0.412***	0.448***

CTQ, Childhood Trauma Questionnaire; SDS, Sheehan Disability Scale; BIS, Barratt Impulsiveness Scale; SCL-90-R, The Symptom Checklist-90-R; SOM, somatization; OC, obsessivecompulsive; IS, interpersonal sensitivity; DEP, depression; ANX, anxiety; HOS, hostility; PHOB, phobic anxiety; PAR, paranoid ideation; PSY, psychoticism; GSI, Global Severity Index. Correlation (r) is significant at the level: *$p < 0.01$; **$p < 0.001$; ***$p < 0.0001$.

neglect and emotional abuse compared with other studies of similar populations (Gould *et al.* 1994; Simon *et al.* 2009). More than half of the participants in this study experienced more than one type of childhood trauma, with significant correlations demonstrated between experiencing different forms of childhood trauma. This is consistent with other studies demonstrating that individuals who experience one form of childhood trauma are very likely to suffer other forms of childhood trauma (Dong *et al.* 2004; Finkelhor *et al.* 2007). The prevalence rates of individuals suffering multiple forms of childhood trauma is somewhat higher than some other studies (Swett & Halpert, 1993; Edwards *et al.* 2003), which may be due to the use of a very sensitive questionnaire (CTQ). Consequently, examination of particular types of abuse in isolation may not be the optimum method of examining the association between childhood trauma and mental health problems in adulthood as our research indicates that there may be a complex interplay of childhood traumas in many individuals.

In addition, we demonstrated a 'dose–response' relationship between the number of forms of traumatic experiences suffered and levels of disability, symptom severity and number of inpatient psychiatric admissions. These findings are consistent with previous research showing increasing exposure to different childhood traumas associated with greater adverse health outcomes including greater levels of depression, alcohol dependence, psycho-active substance misuse, medical problems, aggression and lower levels of quality of life (Chapman *et al.* 2004; Anda *et al.* 2006; Wu *et al.* 2010).

Contrary to other studies, where CSA and physical abuse has been demonstrated to be more prevalent in women (Springer *et al.* 2003), men in our study reported slightly higher levels (albeit not statistically significant) of CSA, physical abuse and physical and emotional neglect compared with females. A possible tentative

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explanation for these high rates of childhood trauma and CSA might be the history of abuse by clergy and institutions that occurred in Ireland up to ~1990. Additionally, it has been postulated that male childhood abuse survivors previously did not report childhood trauma and that as a coping strategy; they denied the impact of CSA on their lives (Holmes *et al.* 1997). However, with enhanced awareness of childhood abuse and greater counselling services now available in Ireland, more men have potentially been able to disclose their experiences.

Previous studies have reported that childhood trauma, and in particular CSA, have been associated with an increased prevalence of a variety of symptoms of mental illness and mental health disorders (Saunders *et al.* 1992), rather than any specific symptom or Axis I disorder (Kendall-Tackett *et al.* 1993). Similarly, in this study, except for anxiety disorders (where we had low numbers to investigate accurately), high rates of childhood traumas were reported by individuals who were diagnosed with a range of Axis I disorders. Individuals who experienced a history of childhood maltreatment reported significantly more frequent lifetime inpatient psychiatric admissions. This finding is consistent with previous literature (Finestone *et al.* 2000; Chartier *et al.* 2007) and suggests that individuals who have experienced childhood maltreatment have higher health care utilisation. Recent research has also linked childhood trauma and the development of psychosis (Van Winkel *et al.* 2013), and although three times as many patients with schizophrenia reported childhood trauma compared with those who did not, the rate of childhood trauma was similar across Axis I disorders.

In keeping with previous findings (Grover *et al.* 2007), childhood trauma was a very frequent finding (87%) in individuals who fulfilled diagnostic criteria for a PD, with particularly high rates noted in individuals with passive-aggressive, paranoid, borderline and antisocial PDs. Our findings of childhood trauma in individuals with PDs are somewhat higher than those of other studies (Zimmerman *et al.* 2005), however, our increased rates may be in some part be due to our patient cohort including both inpatients and outpatients unlike other cohorts, which were predominantly outpatient in nature (Zimmerman *et al.* 2005).

CSA has previously been suggested as a significant factor in the aetiology of borderline PD (Byrne *et al.* 1990; Paris, *et al.* 1994; Silk *et al.* 1995; Khalily & Hallahan, 2010). Thirty-five per cent of individuals with borderline PD in this study previously experienced CSA, however, due to the cross-sectional nature of this study, it is not possible to infer if CSA was either causative or a contributory factor for the development of borderline PD. Indeed, other forms of childhood trauma were more prevalent in this group than CSA. It has previously been suggested that multiple types of childhood trauma (e.g. emotional, physical and sexual abuse) are significant predictors of borderline PD (Huang *et al.* 2012) with reports that experiencing physical abuse and neglect, but not CSA are risk factors for the development of borderline PD (Widom *et al.* 2009). Taken together, these findings suggest that the aetiology of borderline PD is very complex and involves, in addition to possibly genetic and biological factors, several psychosocial factors including perhaps multiple childhood trauma experiences and not just CSA alone (Joyce *et al.* 2003; Huang *et al.* 2012). There are a number of therapeutic strategies suggested that may potentially be beneficial in individuals with borderline PD who have a history of childhood trauma including schema focused therapy (Khalily & Hallahan, 2010). Having an awareness of the various forms of childhood trauma suffered by individuals, may increase the therapist's ability to engage in such therapy in this cohort of individuals.

The only PD that was significantly more associated (compared with individuals with other PDs) with the experience of CSA in this study was antisocial PD. However, as with borderline PD, high rates of all childhood traumas in all categories were present, with all 13 individuals experiencing at least one form of childhood trauma. Our results finding an association between antisocial PD and CSA are consistent with some previous research (Luntz & Widom, 1994; Bergen *et al.* 2004). However, other studies suggest that other forms of childhood trauma such as physical abuse but not CSA are aetiologically associated with antisocial PD (Bernstein *et al.* 1998). As with borderline PD, the aetiology appears to be complex, although it is possible that CSA has a specific association in addition to other psychosocial factors in the aetiology of antisocial PD. As there were only 13 individuals fulfilling criteria for antisocial PD, caution is required in these interpretations. As in other studies (Fossati *et al.* 2000), due to the high rates of co-morbidities between Axis II diagnoses, separating out associations between specific childhood traumas and specific PDs is difficult. However, this study indicates a strong association between particular types of PDs and childhood trauma.

Our findings confirm previous reports of an association between childhood maltreatment and impulsivity (Brodsky *et al.* 2001; Roy, 2005). However, due to the cross-sectional design of this study, it is not possible to infer any causality between childhood maltreatment and impulsivity. It is possible, for example, that being impulsive could be a consequence of experiencing childhood trauma or alternatively being impulsive may make certain individuals more susceptible to experiencing trauma.

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An important component of this study was the examination of multiple forms of childhood trauma and the assessment of varying degrees of severity of these traumas rather than examining only the presence or absence of CSA or physical abuse. Individuals disclose more experiences, when they have more opportunities to report, and when given multiple cues about the type of experiences researchers are investigating, compared with one single question (Finkelhor, 1986). Consequently, we believe that the risk of under-reporting all types of childhood trauma, despite the sensitive nature of this research topic is reduced in this study. No one requested psychotherapeutic support after completion of the study. It is, however, possible that some who refused to participate (27% of the entire sample), decided to do so due to the sensitive nature of this topic. There is also a risk of recall bias regarding the retrospective reports of childhood trauma; however, where psychometric instruments are of high quality the risk of recall bias is significantly reduced (Bernstein *et al.* 1994; Hardt & Rutter, 2004). Furthermore, recent evidence suggests that memories of specific childhood experiences are predominantly accurate (Lindsay *et al.* 2010). Consequently, we believe that the utilisation of a sensitive instrument such as the CTQ enables researchers or clinicans to attain more accurate findings in relation to individuals suffering childhood trauma.

Limitations

This study has a number of limitations. First, the sample size for individuals with anxiety disorders, alcohol or substance misuse/dependence and some Axis II disorders is modest, and a larger cohort of individuals would be required to examine accurately the association of childhood trauma and these disorders. Second, our data in relation to the 50 individuals who declined to participate is limited, and consequently they may have differed on certain clinical (presence of a PD) or demographic data compared with those individuals who participated in the study. Third, sociodemographic variables were not significantly associated with the occurrence of childhood trauma or the presence of Axis I or II disorders, however, an in-depth evaluation of other important sociodemographic factors including childhood adversities (Reigstad *et al.* 2006), as childhood trauma should not be considered as an isolated experience (Horwitz *et al.* 2001). Fourth, as this is a cross-sectional study, no causality can be inferred between suffering childhood maltreatment and developing an Axis I or II disorder. Most individuals diagnosed via the SCID-II interview, did not have a prior diagnosis of a PD in their clinical notes, particularly those fulfilling diagnostic criteria for a passive-aggressive or avoidant PD, consequently despite fulfilling criteria for these conditions, difficulties relating to the presence of these PDs may not have been significant. Finally, post-traumatic stress disorder appears under-reported compared with previous studies (Fitzpatrick *et al.* 2010) and this may relate to it either not being the primary diagnosis, not being diagnosed as no formal psychometric instrument (i.e. SCID-1) was utilised or because only the current Axis I diagnosis was requested off their treating consultant psychiatrist. Thus, individuals may previously have fulfilled diagnostic criteria for PTSD, but no longer satisfied these criteria at study entry.

Conclusion

Childhood trauma was extremely prevalent among both men and women attending an Irish adult mental health service, who suffered from a wide range of Axis I and II disorders. Childhood trauma was associated with significant psychopathology and distress with a 'dose–response' relationship noted between the number of forms of childhood trauma experienced and the level of distress and symptom severity found. Thus, examining the prevalence of particular types of abuse in isolation may not be the optimum method of evaluating the association between childhood trauma and mental health problems in adulthood due to the complex interplay of childhood traumas in many individuals. Consequently, utilising a sensitive instrument such as the CTQ can inform the clinician of the various forms of trauma and degree of severity of such trauma experienced by their patient.

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