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## CHILD MALTREATMENT AND ADULT PSYCHOPATHOLOGY IN AN IRISH CONTEXT

Mark Fitzhenry<sup>1,2</sup>, Elizabeth Harte<sup>1,2</sup>, Alan Carr<sup>1,3</sup>, Mairi Keenleyside<sup>2</sup>, Kevin O'Hanrahan<sup>1,2</sup>, Megan Daly White<sup>1,2</sup>, Jennifer Hayes<sup>2</sup>, Paul Cahill<sup>1,2</sup>, Hester Noonan<sup>2</sup>, Helen O'Shea<sup>2</sup>, Avril McCullagh<sup>2</sup>, Shaun McGuinness<sup>2</sup>, Catherine Rodgers<sup>2</sup>, Neal Whelan<sup>2</sup>, Noel Sheppard<sup>2</sup>, Stephen Browne<sup>2</sup>

<sup>1</sup> School of Psychology, University College Dublin.

<sup>2</sup> Health Service Executive, Ireland

<sup>3</sup> Clanwilliam institute, Dublin

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**Correspondence address:** Alan Carr, Professor of Clinical Psychology, School of Psychology, Newman Building, University College Dublin, Belfield, Dublin 4, Ireland. E. [alan.carr@ucd.ie](mailto:alan.carr@ucd.ie). P. +353-1-716-8740. Fax. +353-1-716-1181

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**Emails:** [kevin.p.ohanrahan@gmail.com](mailto:kevin.p.ohanrahan@gmail.com), [megandalywhite@gmail.com](mailto:megandalywhite@gmail.com), [Alan.Carr@ucd.ie](mailto:Alan.Carr@ucd.ie), [cahillpaul@gmail.com](mailto:cahillpaul@gmail.com), [Mairi.keenleyside@hse.ie](mailto:Mairi.keenleyside@hse.ie), [mark.fitzhenry@hotmail.com](mailto:mark.fitzhenry@hotmail.com), [Elizabeth.harte@gmail.com](mailto:Elizabeth.harte@gmail.com), [Jennifer.Hayes@hse.ie](mailto:Jennifer.Hayes@hse.ie), [avril.mccullagh1@hse.ie](mailto:avril.mccullagh1@hse.ie), [shaunmcguinness90@gmail.com](mailto:shaunmcguinness90@gmail.com), [hesternoonan@yahoo.ie](mailto:hesternoonan@yahoo.ie), [helenhayesoshea@yahoo.co.uk](mailto:helenhayesoshea@yahoo.co.uk), [nealwhelan1@gmail.com](mailto:nealwhelan1@gmail.com), [Noel.Sheppard@hse.ie](mailto:Noel.Sheppard@hse.ie), [Stephen.Browne@hse.ie](mailto:Stephen.Browne@hse.ie)

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**ABSTRACT**

One-hundred-ninety-nine adult mental health service users were interviewed with a protocol that included the Childhood Trauma Questionnaire, the Structured Clinical Interviews for Axis I and II DSM-IV disorders, the Global Assessment of Functioning scale, the SCORE family assessment measure, the Camberwell Assessment of Need Short Appraisal Schedule, and the Readiness for Psychotherapy Index. Compared to a U.S. normative sample, Irish clinical cases had higher levels of maltreatment. Cases with comorbid axis I and II disorders reported more child maltreatment than those with axis I disorders only. There was no association between types of CM and types of psychopathology. Current family adjustment and service needs (but not global functioning and motivation for psychotherapy) were correlated with a CM history. It was concluded that child maltreatment may contribute to the development of adult psychopathology, and higher levels of trauma are associated with co-morbid personality disorder, greater service needs and poorer family adjustment. A history of child maltreatment should routinely be determined when assessing adult mental health service users, especially those with personality disorders and where appropriate evidence-based psychotherapy which addresses childhood trauma should be offered.

## INTRODUCTION

Children who have experienced maltreatment are more likely to develop psychopathology in adulthood including depressive, anxiety, psychotic, substance use, and personality disorders (Carr et al., 2013; Teicher & Samson, 2013). In this context, childhood maltreatment (CM) refers to physical, sexual, and emotional abuse, and physical and emotional neglect. Community studies consistently show a relationship between a history of CM and risk for mood, anxiety, and substance use disorders. For example, in a series of meta-analyses of 118 studies involving over 3 million respondents, Teicher and Samson (2013) found that exposure to sexual abuse, in some instances combined with other forms of CM, approximately doubled the odds of developing depressive, anxiety, and substance use disorders, and quadrupled the odds of developing posttraumatic stress disorder.

Systematic reviews of studies of adults with psychosis have found that between a third and a half have experienced physical or sexual abuse (Matheson et al., 2013; Morgan & Fisher 2007, Read et al., 2005; Varese et al., 2012). High rates of CM have been found in studies of personality disorders. For example, in a study of 600 cases, Battle et al. (2004) found rates of child abuse and neglect were 73% and 83% respectively.

There is some evidence that specific forms of CM may be associated with specific types of psychopathology. In a systematic review of 44 international studies involving 145,407 participants, Carr et al. (2013) concluded that physical and sexual abuse, and neglect were associated with mood and anxiety disorders; emotional abuse was associated with personality disorders and psychosis; and physical neglect was associated with personality disorders.

To date few Irish studies of CM and adult psychopathology have been conducted. A literature search revealed that only one such investigation had been published. In a study of 247 adult survivors of multiple forms of institutional child abuse, Carr et al. (2010) found

that 81.7% met the diagnostic criteria for an anxiety, mood, substance use, or personality disorder.

Currently there are no studies of adult mental health service users in Ireland which document the association between child maltreatment and adult psychopathology found in international studies. Addressing this gap in knowledge was the primary reason for the present study. There are also no Irish studies which evaluate the association between child maltreatment and personality disorders, or which assess the association between differing types of child maltreatment and differing psychiatric disorders found in international studies. Replicating these findings in an Irish context was a second reason for conducting the current study. A final reason for conducting the present study was to determine if there was an association between a history of child maltreatment and factors which have implications for treatment, specifically personal and family adjustment, level of service needs, and motivation for psychotherapy. We expected that child maltreatment would be associated with poorer personal and family adjustment, a greater level of service need and stronger motivation to engage in psychotherapy.

In summary the present study had four aims. The first was to determine the level of childhood maltreatment among adult mental health service users in an Irish context. The second was to establish whether or not levels of childhood maltreatment were higher among service users with DSM axis I psychiatric disorders and comorbid axis II personality disorders, compared to those with axis I disorders only. The third was to investigate the association between particular types of CM and specific types of adult psychopathology. The final aim was to determine if there was an association between CM on the one hand, and global functioning, current family adjustment, service needs, and motivation for psychotherapy on the other.

## METHOD

The study was conducted with ethical approval of the Irish Health Service Executive (HSE) and University College Dublin, and informed consent of participants. Data collection occurred between July 2011 and June 2014 in the public mental health service in the south east of Ireland.

### **Sample recruitment, representativeness and size**

Consecutive referrals for inpatient and outpatient care at the HSE Waterford mental health service were accepted over a 3 year period into the study unless they were under 18 years; had an intellectual disability or acquired brain injury; were inappropriately referred to the service with problems such as homelessness or neurological illness; or were unable or unwilling to provide informed consent or to complete the assessment protocol.

Referrals to the survey included 221 inpatients and 428 outpatients. One hundred inpatients and 99 outpatients met the inclusion criteria, and data from these cases were analyzed. Referrals to the study were probably representative of referrals to other public mental health services in Ireland. Because of the exclusion criteria, the sample studied was probably not fully representative of all referrals to the service. Participants were probably higher functioning than those who were excluded.

Power analyses showed that (1) a sample of 191 cases would permit small effect sizes of 0.2 to be detected by two tailed t-tests comparing 2 groups with a power of 0.80 and a significance level of .05; and (2) a sample of 199 would permit effect sizes of 0.25 to be detected in one-way ANOVAs involving 5 groups with a power of 0.80 and a significance level of .05. Thus, the sample was sufficiently large to detect relatively small effect sizes in the planned analyses.

## Participants

With regard to demographic characteristics, 52.8% were male; 47.2% were female; and the mean age was 40.2 years (SD = 14.0, Range = 18 - 75 years). With regard to family status, 37.2% were married, cohabiting, or in a relationship; 54.3% had children; and the average number of children was 1.31 (SD = 1.61, Range = 1 - 7 children). The unemployment rate was 46.2% and employed participants came from a range of socio-economic groups.

Participants had attended mental health services for an average of 7.3 years (SD = 10.05 years), and the average duration of past inpatient treatment was 2.7 months (SD = 6.32). Of 199 cases, 196 (98.4%) met the diagnostic criteria for a current or lifetime DSM-IV axis I disorder, and 77 (38.7%) of these met the criteria for a comorbid DSM-IV axis II personality disorder. The axis I disorder rates were 64.8% for anxiety disorders, 55.8% for depressive disorders, 46.2% for alcohol and substance use disorders, 22.1% for psychotic disorders, 9.5% for bipolar disorders, 4% for eating disorders, and 2% for adjustment disorders. The personality disorder rates were 13.6% for avoidant, 9.5% for obsessive compulsive and for borderline, 8.5% for paranoid, 8% for antisocial, 3.5% for narcissistic, 3% for dependent and for schizoid, 1% for schizotypal, and 0.5% for histrionic and for personality disorder not otherwise specified.

## Assessment protocol

The assessment protocol included the instruments listed below.

**Childhood Trauma Questionnaire** (CTQ, Bernstein & Fink, 1998). This 28-item self-report scale was used to assess recollections of childhood maltreatment and yielded scores for physical abuse, sexual abuse, emotional abuse, physical neglect, emotional

neglect, and denial. Responses to items were given on five-point likert scales. Cut-off scores and norms based on data from large samples were used in the present study (Scher et al., 2001).

**Structured clinical Interviews for DSM-IV TR I disorders** (SCID I, First et al., 1996). This structured clinical interview was used to diagnose DSM-IV axis I mood, anxiety, psychotic, alcohol / substance use, eating, and adjustment disorders.

**Structured clinical Interviews for DSM-IV TR II disorders** (SCID II, First et al., 1997). This structured clinical interview was used to diagnose DSM-IV axis II paranoid, schizoid, schizotypal, antisocial, borderline, histrionic, avoidant, dependent, and obsessive-compulsive personality disorders.

**Global Assessment of Functioning rating scale** (GAF, Luborsky, 1962). This 100-point rating scale was used to provide a single score indicating overall social, psychological, and occupational adjustment. GAF ratings were made by members of the research team based on information acquired during completion of the SCID I and II.

**Systemic Clinical Outcome and Routine Evaluation** (SCORE, Cahill et al., 2010; Fay et al., 2013; Stratton et al., 2010). This 28-item self-report scale was used to assess current family functioning. It yielded an overall index for family adjustment based on items in the domains of family strengths, difficulties, and communication.

**Camberwell Assessment of Need Short Appraisal Schedule – Patient version** (CANSAS, Trauer et al., 2008). Three-point response formats (no need, met need and unmet need) were used for all 22 items of this scale. It yielded a single summary score for overall level of unmet service needs.

**Readiness for Psychotherapy Index** (RPI, Ogrondniczuk et al., 2009). This 20-item scale assessed readiness to engage in psychotherapy. It yielded an overall score based on items in the domains of distress, perseverance, openness, and disinterest.

Responses to items were given on five-point likert scales.

There is evidence in the sources cited above for the validity of all instruments. All dependent variables were reliably assessed. DSM diagnoses based on the SCID I and II had adequate inter-rater reliability. Kappa coefficients using data from pairs of raters for 19 cases ranged from 0.6 to 1.0, with the majority of values being above 0.7. The GAF had high inter-rater reliability. The intraclass coefficient from pairs of raters for 19 cases was 0.98. There were acceptable levels of internal consistency reliability for self-report scales. The CTQ alpha reliability coefficients were 0.94 for total maltreatment, 0.87 for physical abuse, 0.95 for sexual abuse, 0.85 for emotional abuse, 0.76 for physical neglect, and 0.91 for emotional neglect. The alpha reliability coefficients for the CANSAS, SCORE, and RPI were 0.95, 0.76, and 0.85 respectively.

## **Procedure**

Recruitment was conducted in collaboration with administrative and clinical staff at inpatient and outpatient centers. Research team interviewers were trained in administration and scoring of all instruments, notably the SCID I and II diagnostic interviews. All interviewers had primary degrees in psychology. Interviews were conducted at University Hospital Waterford or Saint Patrick's Hospital, Waterford.

## **Data management**

Data were entered item-by-item into an SPSS file and verified by checking ranges for all items. There were missing values in 38 cases. In these cases, values for fewer than 20% of items were missing. In cases with missing data, for multi-item scales, scale means were substituted for missing items. No values were substituted for missing diagnoses. With few exceptions continuous variables in this study were normally distributed, justifying the use

of parametric statistical tests. Data were analyzed with Version 20 of the Statistical Package for the Social Sciences. In analyses where multiple t-tests, chi square tests, analyses of variance (ANOVA), or correlations were conducted, the false discovery rate was used to control for type 1 error (Benjamini & Hochberg, 1995).

## **RESULTS**

### **Comparison of clinical cases and normal controls**

To determine whether clinical cases reported higher levels of CM than normal controls, mean CTQ scores of 199 clinical cases were compared to those of a normative sample of 971 cases described in Scher et al. (2001). This U.S. sample was 54% white; 63% female; aged 18-65 years; 51% of cases were married; and 57% had secondary school or technical college education. The clinical sample was all white; 47.2% female; aged 18 to 75; 34% of cases were married; and 32% had secondary school or technical college education. The main demographic differences between the samples was their ethnicity and marital status. From Table 1 it may be seen that means of the two groups differed significantly on all CTQ scales. Clinical cases reported greater CM. Effect sizes were medium to large and ranged from  $d = 0.59$  to  $1.21$ . The largest effect sizes occurred for total maltreatment, emotional abuse, and emotional neglect.

### **Comparison of cases with and without personality disorders**

To determine whether levels of CM were higher among cases with both axis I psychiatric disorders and comorbid axis II personality disorders, mean scores of 119 cases with axis I disorders only, were compared with those of 77 cases who had both axis I and II disorder on all CTQ scales. From Table 2 it may be seen that means of the two groups differed significantly on all CTQ scales. Cases with both axis I psychiatric disorders and comorbid

axis II personality disorders reported greater CM, except for physical neglect. Significant effect sizes were small to medium and ranged from  $d = 0.31$  to  $0.50$ . The largest effect size occurred on the emotional neglect scale.

To determine whether rates of CM were higher among the 77 cases with both axis I psychiatric disorders and comorbid axis II personality disorders, or the 119 cases with axis I psychiatric disorders only, cases in both groups were classified as having experienced child maltreatment using CTQ cut-off scores, and rates of maltreatment for the 2 groups were compared. The following cut-off scores for CTQ scales were used in classifying cases as maltreated: physical abuse 11, sexual abuse 9, emotional abuse 13, physical neglect 10, emotional neglect 14, and total child maltreatment 52. These cut-off scores were two standard deviations above the mean for combined male and female normative community samples from a large community study of 1007 18-65 year old men and women in Memphis, USA (Scher et al., 2001). From Table 3 it may be seen that rates of emotional abuse and neglect were significantly higher among cases with personality disorders (48.1% and 44.2%), than those without comorbid personality disorders (26.9% and 24.4%).

It is unlikely that these significant intergroup differences on CTQ variables were due to demographic factors since patients with and without personality disorders had very similar profiles in terms of gender, marital status, number of children, socioeconomic status, and duration of psychiatric treatment. However, compared to patients without personality disorders, those with personality disorders were younger (Axis I and II disorder group: Mean = 35.68 (SD = 12.31); Axis I disorder group: Mean = 43.31 (SD = 14.07),  $t(194) = 3.89$ ,  $p = .0001$ ).

### **Comparison of cases with broad categories of disorders on CTQ scales**

To determine whether levels of CM were higher among cases with broad categories of DSM disorders, cases were classified into 5 overlapping, non-exclusive groups. Groups were non-exclusive because of the high comorbidity rate within the overall sample. Group 1 contained 147 cases with mood disorders. Group 2 contained 129 cases with anxiety disorders. Group 3 contained 44 cases with psychotic disorders. Group 4 contained 92 cases with alcohol and substance use disorders. Group 5 contained 78 cases with personality disorders. One-way ANOVAs showed that variation in mean CTQ scores of the 5 groups was not significant. The 5 groups did not differ significantly from each other on any CTQ scales. Thus, in this sample there was not a specific association between types of CM and types of psychopathology.

### **Correlation between child maltreatment and global functioning, family adjustment, service needs, and motivation for psychotherapy**

To evaluate the degree of association between CM on the one hand, and global functioning, current family adjustment, service needs, and motivation for psychotherapy on the other, correlations were computed between CTQ scales and totals for the GAF, SCORE, CANSAS, and RPI. From Table 4 it may be seen that CM was associated with current family adjustment and service needs, but not global functioning and motivation for psychotherapy. The SCORE overall family adjustment index had significant correlations with the CTQ total maltreatment scale; the physical and emotional abuse scales; and the physical and emotional neglect scales. The CANSAS index of unmet service needs had significant correlations with all CTQ scales. Correlations between CTQ and both the GAF index of global functioning and the RPI overall index of motivation for psychotherapy were not statistically significant.

## DISCUSSION

The four aims of this study were to determine the level of CM among adult mental health service users in an Irish context; to establish if levels of CM were higher among service users with comorbid DSM-IV axis I and II disorders; to assess the association between types of CM and types of psychopathology; and to determine if global functioning, current family adjustment, service needs, and motivation for psychotherapy were associated with a CM history. There were four key findings. First, compared to a U.S. normative sample, Irish clinical cases had higher levels of CM. Second, cases with comorbid axis I and II disorders reported more CM than those with axis I disorders only. Third, we found no association between types of CM and types of psychopathology in adulthood. Fourth, current family adjustment and unmet service needs (but not global functioning and motivation for psychotherapy) were significantly correlated with a CM history.

The finding of a high rate of CM in our sample of adult mental health service users, and a particularly high rate among cases with co-morbid axis I and II disorders is consistent with results in the international literature. Other similar studies have consistently reported high rates of CM among adults with mental health problems and a dose-response relationship between CM and adult psychopathology (e.g. Carr, 2013; Teicher & Samson, 2013). The lack of association between specific types of CM and types of psychopathology is novel. In a systematic review, Carr et al. (2013) concluded that physical and sexual abuse and neglect were associated with mood and anxiety disorders; emotional abuse was associated with personality disorders and psychosis; and physical neglect was associated with personality disorders. In our study specific types of CM did not confer vulnerability for specific types of psychopathology in adulthood. The association which we found between CM on the one hand, and current family adjustment and unmet service needs on the other, is in line with other similar findings on psychosocial

adjustment in adult survivors of CM (Carr et al., 2013; Teicher & Samson, 2013). However our finding on a lack of association between child maltreatment and both global functioning and motivation for psychotherapy is puzzling.

This study had limitations. It had all of the shortcomings of a retrospective (as opposed to a prospective) study. Participants' current mental state may have compromised the accuracy with which they reported recollections of child maltreatment. There was no independent corroboration of self-reported child maltreatment. There were small numbers of cases with specific disorders, therefore analyses had to focus on associations between types of maltreatment and broad categories of psychopathology (e.g. mood disorders, anxiety disorders etc.). High rates of comorbidity necessitated the comparison of non-exclusive groups when evaluating the association between types of maltreatment and types of psychopathology. Thus, the assumption of independence of observations in ANOVAs used to investigate variation in means of these groups was violated. A prospective study with a larger sample and independent corroboration of self-reported maltreatment would overcome these limitations. In evaluating levels of child maltreatment in the sample of participants in the current study, a comparison was made with normative CTQ data from a U.S. sample (Scher et al., 2001). It would have been more valid to use data from an Irish normative sample, but such data were unavailable. However, available epidemiological data do not indicate that there are extensive differences between European and North American rates of child maltreatment (Stoltenborgh, 2011, 2012, 2013a,b) and adult mental health problems (Kessler et al., 2009). This partly justifies the use of U.S. normative data.

The current study is one of only two such studies to be conducted in Ireland. Unlike the previous study which examined rates of psychopathology in adult survivors of institutional abuse (Carr et al., 2010), the current study examined rates of CM in adult

mental health service users. The principal contribution of the current study was to document the very high rate of CM among adults using psychiatric services in the Irish public health sector, particularly those with personality disorders, and to show that these vulnerable individuals have very significant family adjustment problems and a high level of unmet service needs. This finding has clear implications for policy and practice in the Irish public mental health service. A history of child maltreatment should be routinely assessed, and where appropriate evidence-based psychotherapy which addresses childhood trauma should be offered (Carr, 2009).

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**Table 1. Comparison of clinical cases with normal controls on Childhood Trauma Questionnaire scales**

Scale		Clinical cases	Normal Controls	t	d (95% CI)
		N = 199	N = 971		
<b>Total Maltreatment</b>	M	47.27	31.74	15.52**	1.21 (0.47, 1.95)
	SD	21.66	10.17		
<b>Physical Abuse</b>	M	8.35	6.64	7.25**	0.59 (0.39, 0.74)
	SD	5.05	2.42		
<b>Sexual Abuse</b>	M	8.02	5.46	10.85**	0.85 (0.67, 1.02)
	SD	5.87	2.01		
<b>Emotional Abuse</b>	M	11.16	6.74	14.88**	1.16 (0.94, 1.38)
	SD	5.85	3.25		
<b>Physical neglect</b>	M	8.24	6.19	9.97**	0.78 (0.63, 0.93)
	SD	4.33	2.14		
<b>Emotional neglect</b>	M	11.51	6.91	14.60**	1.14 (0.91, 1.37)
	SD	5.88	3.56		

**Note:** M = mean. SD = Standard deviation. t = t-test statistic. d = Cohen's d effect size. CI = confidence interval. \*\*p<.01. Normal control data are from Scher et al. (2001). Scores on all scales for the Childhood Trauma Questionnaire may range from 5 to 25, except the total maltreatment scale on which scores may range from 25 to 125.

**Table 2. Comparison of mean scores of cases with and without personality disorders on Childhood Trauma Questionnaire scales**

Scale		Cases with	Cases without	t	d
		Personality Disorders	Personality Disorders		
		N = 77	N = 119		
<b>Total Maltreatment</b>	M	52.66	43.34	2.97**	0.44
	SD	20.35	22.15		
<b>Physical Abuse</b>	M	9.32	7.67	2.23*	0.33
	SD	5.61	4.67		
<b>Sexual Abuse</b>	M	9.06	7.26	2.09*	0.31
	SD	6.70	5.26		
<b>Emotional Abuse</b>	M	12.87	10.02	3.39**	0.50
	SD	5.78	5.74		
<b>Physical neglect</b>	M	8.81	7.76	1.65	0.24
	SD	4.53	4.23		
<b>Emotional neglect</b>	M	12.59	10.59	2.35*	0.35
	SD	5.29	6.15		

**Note:** M = mean. SD = Standard deviation. t = t-test statistic. d = Cohen's d effect size. CI = confidence interval. \*p<.05. \*\*p<.01. Scores on all scales for the Childhood Trauma Questionnaire may range from 5 to 25, except the total maltreatment scale on which scores may range from 25 to 125.

**Table 3. Rates of child maltreatment among cases with and without personality disorders**

		Cases with	Cases without	Chi Square	Odds Ratio 95%CI
		Personality Disorders N = 77	Personality Disorders N = 119		
Total maltreatment	f	33	34	4.08	1.88 (1.03, 3.42)
	%	42.86	28.57		
Physical abuse	f	22	25	1.47	1.50 (0.78, 2.92)
	%	28.57	21.01		
Sexual abuse	f	24	24	2.95	1.79 (0.93, 3.46)
	%	31.17	20.17		
Emotional abuse	f	37	32	8.93*	2.52 (1.38, 4.59)
	%	48.05	26.89		
Physical neglect	f	25	27	2.19	1.64 (0.86, 3.11)
	%	32.47	22.69		
Emotional neglect	f	34	29	8.17*	2.45 (1.33, 4.54)
	%	44.16	24.37		

**Note:** The following cut-off scores for CTQ scales were used in classifying cases as maltreated: total maltreatment 52, physical abuse 11, sexual abuse 9, emotional abuse 13, physical neglect 10, and emotional neglect 14. Cut-off scores were two standard deviations above the mean for combined male and female normative community samples from a large community study of 1007 18-65 year old men and women in Memphis, USA (Scher et al., 2001). \*p<.05.

**Table 4. Correlations between Childhood Trauma Questionnaire (CTQ) and the Global Assessment of Functioning (GAF) scale, Systemic Clinical Outcomes and Routine Evaluation (SCORE), patient version of the Camberwell Assessment of Need Short Appraisal Schedule (CANSAS) and Readiness for Psychotherapy Index (RPI).**

Variable	Total Maltreatment	Physical Abuse	Sexual Abuse	Emotional Abuse	Physical Neglect	Emotional Neglect
<b>GAF</b> - Global functioning	-11	-11	-02	-13	-13	-08
<b>SCORE</b> - Family adjustment	33**	21**	12	39**	28**	32**
<b>CANSAS</b> - Service needs	25**	27**	17*	23**	17*	17*
<b>RPI</b> - Motivation for psychotherapy	-02	08	-02	03	-03	-11

**Note:** N = 199. All values are Pearson product moment correlations. \*p<.05. \*\* p<.01