Psychological Distress among Adult Women in New Zealand: The Impact of Childhood Sexual Abuse

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Abstract (200 words)

Objective: The aim of the present study was to examine the long-term impact of child sex abuse on psychological distress in a New Zealand community sample of women.

Method: A sample of 961 adult women was selected by means of a modified, three-stage, stratified method, based on an area probability sample. Respondents were interviewed in person by trained interviewers with one-hour structured interviews conducted in the respondent's home.

Results: Child sex abuse was reported by 13% of women in the present sample. Women were more vulnerable to psychological distress in adulthood if they had been victims of child sex abuse and were younger in age, less satisfied with their standard of living, and resident in urban areas. Moreover, the impact of child sex abuse predicted long-term psychological distress, even when other factors were statistically controlled.

Conclusion: The findings support research conducted in the United States demonstrating the long-term effects of child sex abuse on psychological functioning, and that the impact may be worse for urban-residing individuals. The current data support the dissemination of therapies for the treatment of child sex abuse in adulthood to the New Zealand context, but research regarding efficacy of those treatments is required.

Practice Implications: These data have several important implications for practice. Mental health professionals are reminded that child sex abuse is a common occurrence and has many sequelae in adulthood. Adults with abuse history may particularly benefit from support and therapeutic interventions from multidisciplinary teams that target general levels of psychological distress, as well as appropriate living standards and locations.

While the long-term impact of sexual abuse occurring in childhood has received substantial research attention in recent years (Briere & Runtz, 1993; Browne & Finkelhor, 1986; Fleming, Mullen, Sibthorpe, & Bammer, 1999; Kendall-Tackett, Williams, & Finkelhor, 1993; Kristensen & Lau, 2007), there has been comparatively little research on the impact of family violence and abuse outside the United States (Gershuny & Thayer, 1999; Tyler, 2002). Examination of the impact of child sexual abuse in other countries is important for designing suitable prevention programs, as well as for the dissemination of treatment manuals for use in other countries.

The trauma of child sex abuse has demonstrated long-term sequelae including, but not limited to, anxiety, depression, drug abuse, eating disorders, suicidal ideation, and attempted suicide (Browne, Keating, & O'Connor, 1998; Bulik, Prescott, & Kendler, 2001; Hernandez, 1995; Hukkanen, Sourander, Bergroth, & Piha, 1997; Kuperman, Black, & Burns, 1988; Loeb, 1997; Martin, Bergen, Richardson, Roeger, & Allison, 2004; Silverman, Reinherz, & Giaconia, 1996; Spataro, Mullen, Burgess, Wells, & Moss, 2004; Wannan & Fombonne, 1998; Witchel, 1991). However, there is some evidence to suggest that symptomatology and self-blame may be mediated by social support and socioeconomic status (Elliott & Carnes, 2001; Hazzard, Celano, Gould, & Lawry, 1995; Hyman, Gold, & Cott, 2003; Katerndahl, Burge, & Kellogg, 2005). Additionally, there is evidence to suggest that victims of child sex abuse may later demonstrate symptoms associated with diagnoses of borderline personality disorder, major depression, panic disorder, and posttraumatic stress disorder (Luntz & Widom, 1994; McLean & Gallop, 2003; Owens & Chard, 2003), as well as being associated with the perpetration of child sex abuse in adulthood (i.e., male victims in Christopher, Lutz-Zois, & Reinhardt, 2007). However, the majority of studies examining

the impact of child sexual abuse have primarily done so within community samples in the United States (e.g., Molnar, Buka, & Kessler, 2001).

One community survey of trauma by Stein, Walker, Hazen, and Forde (1997) examined the impact of sex abuse in a Canadian sample, but like many previous studies of trauma, did not distinguish between sexual abuse occurring in adulthood from that occurring in childhood (see also Breslau, Davis, Andreski, & Peterson, 1991; Norris, 1992; Ullman & Siegel, 1996; Zlotnick et al., 2006). Unfortunately, other studies of trauma impact outside the United States have been limited to specific populations where child sexual abuse has not featured as one of the events investigated. These studies have been primarily limited to samples of refugees (Gerritson et al., 2006; Hasanovic, Sinanovic, & Pavlovic, 2005; Marusic, Kozaric-Kovacic, Folnegovic-Smalc, & Ljubin, 1995; Roodenrijs, Scherpenzeel, & de Jong, 1998; Servan-Schreiber, Lin, & Birmaher, 1998) and war veterans (Beal, 1995; Cunningham & Cunningham, 1997; Grayson, Dobson, & Marshall, 1998; Skodol, Schwartz, Dohrenwend, & Levav, 1996; Sungur, Surmeli, & Ozcubukcuoglu, 1995). The relatively little amount of local data on the impact of trauma separate from war-related events (e.g., Long, Chamberlain, & Vincent, 1992; MacDonald, Chamberlain, & Long, 1997; MacDonald, Chamberlain, Long, & Flett, in press) certainly makes New Zealand no exception.

Some studies have sought to examine the incidence and impact of child sex abuse and have reported incidence rates similar to those obtained in the community (e.g., Fanslow, Robinson, Crengle, & Perese, 2007; Finkelhor, Hotaling, Lewis, & Smith, 1990; Frothingham, Barnett, Hobbs, & Wynne, 1993; Leserman, 2005). Understanding the circumstances in which child sex abuse occurs (Bulik et al., 2001; Fischer & McDonald, 1998), and opinions of child sex abuse and its perpetrators have been investigated (Back &

Lips, 1998; Duncan & Williams, 1998; Elbogen, Patry, & Scalora, 2003; Fischer, 1992; Maynard & Widerman, 1997; Mellott, Wagner, & Broussard, 1997; Rash & Winton, 2007; Smith, Fromuth, & Morris, 1997). Comparative incidence rates of child sex abuse have been obtained in Northern Ireland (Kennedy & Manwell, 1992) and Spain (Lopez, Hernandez, & Carpintero, 1995), but at least one report suggests that there may be substantial differences in incidence rates between countries (i.e., rates vary from 7% to 36% for women, and 3% to 29% for men, see Finkelhor, 1994, and Sjoegren, 1995). It seems important then, that further research on the incidence and impact of child sex abuse is conducted in community samples outside the United States. The aim of the present study was to examine the long-term impact of child sex abuse in a New Zealand community sample.

Geographic location appears to function as a moderating variable of the long-term impact of child sex abuse. Evidence suggests those living in urban environments draw an increased risk of HIV transmission and drug abuse (Cappelleri, Eckenrode, & Powers, 1993; Di Scipio, 1994; Phillips & Straussner, 1997; Wingood & DiClemente, 1997, 1998), but psychiatric morbidity among women in urban and rural New Zealand noted that a number of additional risk factors, including childhood experience of sexual abuse, were causally related to long-term pathology (i.e., Romans-Clarkson, Walton, Herbison, & Mullen, 1990). Interestingly, the Romans-Clarkson et al. study did not obtain differences in psychological distress between urban and rural geographical subgroups. Therefore, one key feature of the present study was to specifically examine differences between urban and rural residing individuals in long-term sequelae of child sex abuse.

On the basis of prior research demonstrating that young women are at an increased risk of sex abuse and related traumatic events (Breslau, Davis, Peterson, Schultz, 1997; Fanslow et. al. 2007; Norris, 1992), the present study investigated the impact of childhood

sexual abuse in a community sample of New Zealand women. It was expected that age, satisfaction with socioeconomic status (i.e., satisfaction with standard of living, and adequacy of income) and location of residence (i.e., urban and rural residence) would contribute significantly to the prediction of psychological distress following child sex abuse.

Method

Sample

Participants eligible for the study were 961 women adults aged 18 and older residing in the 14 census enumeration districts in the North and South Islands of New Zealand. The sampling procedure has been described in detail elsewhere (Flett, Millar, Long, & MacDonald, 1998). Briefly, a sample of 1500 adults was selected by means of a modified, three-stage, stratified method, based on an area probability sample. Sample sites were randomly selected on the basis of geographic region. One adult from each household was selected for inclusion and the overall response rate was 58%. This response rate was consistent with a previous survey of child sex abuse in the Australian community using similar methodology (i.e., 58% in Najman et al. 2007). The 961 women respondents were subsequently selected for analysis in the present report. Respondents were interviewed in person by trained interviewers with one-hour structured interviews conducted in the respondent's home. An informed consent procedure was adopted for the study and the entire study received approval from Massey University's Human Ethics Committee. (A complete copy of the interview questions and administration procedure available upon request from the corresponding author.) Demographic characteristics of the child sexual assault victims and non-victims are presented in Table 1.

Measures

Child Sex Abuse. A modified version of The Traumatic Stress Schedule (TTS; Norris, 1990, 1992) was used to collect incidence of child sex abuse. The item examining sex abuse was modified to distinguish between child and adult sexual assault. The resultant item assessed incidence of child sex assaults with the question "*During your childhood, did anyone ever make you have sex by using force or threatening to harm you? This involves all unwanted sexual activity*."

Psychological Distress. The Mental Health Inventory (MHI; Veit & Ware, 1983) was used to assess psychological distress. The MHI measures 24 conditions over the past month to evaluate psychological distress. The scale has a 7-point response format from 1 (*all of the time, always, extremely*) to 7 (*none of the time, never, not at all*) and assesses a discrete factor with high internal consistency one-year stability (Veit & Ware, 1983). In the present study, item-total correlations for psychological distress ranged from 0.32 to 0.76 and the standardized item alpha was 0.93.

Stressful Life Events. Respondents were asked to indicate whether or not they had experienced each of 20 life events during the 12 months preceding the survey. The life events scale was developed specifically for the present study to reflect domains of life stress shown to be significant in previous life events research (Brugha, Bebbington, Tennant, & Hurry, 1986; Singh, Lewing, Raphael, Johnson, & Walton 1986). The scale covered personal and family health, death, parenthood, personal and family legal problems, as well as changes in household composition, marital status, employment, residence, and finances.

Physical Health. Respondents were asked to complete a modified version of the Pennebaker Inventory of Limbic Languidness (PILL; Pennebaker, 1982). The PILL is a measure of current physical symptoms that has strong criterion-related validity with health-related work absences and more physician and health care center visits. Despite this,

previous studies have demonstrated that a number of list items on the full 54-item version of the PILL are highly correlated and do not contribute independently to the physical symptom total (MacDonald, Chamberlain, & Long, 1996). Highly correlated items were combined to form the 28-item version for use in the present study. For example, the original items "*acne and pimples on face*" and "*acne and pimples other than face*" were combined as a single item "*acne or pimples*". In this way, respondents were asked to indicate the experience of 28 physical symptoms and complaints over the past month, using a 5-point scale ranging from 1 (*not at all*) to 5 (*extremely*).

Chronic symptoms were also assessed. Respondents were asked whether they had experienced any of a list of 17 chronic medical problems for six months or more using a modified version of the Checklist of Serious Medical Conditions (Belloc, Breslow, & Hochstim, 1971). For example, respondents were asked, "*Please answer 'yes' or 'no' to indicate if a doctor, nurse, or other health care worker has told you whether you have asthma*". Additional questions were asked about several chronic medical conditions (e.g., diabetes, epilepsy, high blood pressure or hypertension, arthritis or rheumatism, heart trouble, cancer) using the same question format.

Results

Prevalence of Child Sex Abuse

Of the 961 respondents, 127 (13%) women reported having been sexually abused during childhood. After a log (10) transformation of the physical symptoms and psychological distress variables, group differences were tested using the analysis of variance procedure (ANOVA) for continuous data and chi-square for categorical variables. The data indicated no significant differences of level of education, access to working telephone at home and social contact. Significant differences were found for age, marital status, adequacy

of income, satisfaction with standard of living, and location of residence (i.e., urban or rural). Further significant differences were found in physical symptomatology, number of stressful life events, and psychological distress between the women who identified themselves as victims and those who reported no sex abuse in childhood (see Table 1).

Incident Characteristics

Family members were most likely to have committed sex abuse, with uncles (8%), other relatives (20%) identified as perpetrators. However, the most common response was to not identify the perpetrator of the abuse (i.e., 'unspecified' identified by 45% of the present sample). Three quarters (76%) of the victims reported that the indexed abuse incident was one in a series by the same assailant. Some victims (16%) indicated that they had received physical injuries, and 41% reported fearing that they would die as a result of the abuse. Despite these findings, only 33% of cases were reported to mental health or medical professionals.

Impact of Child Sex Abuse

The relationship between child sexual abuse and psychological distress was examined via a hierarchical multiple regression analysis. Relevant demographic, health, and contextual variables were entered on steps 1 and 2 of the analysis as control variables. The binary-coded child sexual abuse variable was then entered on the final step of the analysis. These results are summarized in Table 2. The standardized beta coefficients for each variable within the blocks are reported. Total variance explained by each step of the equation (R^2 and Adjusted R^2) is reported along with the added variance explained by each block of variables while controlling for previous blocks (ΔR^2). R was significantly different from zero at the end of each step.

At step one, the predictor variables accounted for 33% of the variability in psychological distress, F (9, 891) = 51.0, $p < .001$. Higher levels of psychological distress were associated with child sex abuse victims who were of a younger age, showed lower satisfaction with their standard of living, resided in urban settings, and demonstrated more symptoms of physical illness. At step two, with the addition of the stressful life events variable the total amount of explained variance in psychological distress was 34%, F (11, 889) = 43.7, $p < .001$. The experience of stressful life events accounted for 1% of unique variance in psychological distress when controlling for variables entered at step one, and this change in R^2 was significant, F (2, 889) = 7.5, $p < .001$. At step three, with the introduction of the child sexual abuse variable, 35% of the variance in psychological distress could be accounted for by the variables in the equation F (12, 888) = 41.5, $p < .001$. The trauma of child sex abuse accounted for 1% of unique variance in psychological distress when controlling for demographic and contextual variables entered at steps one and two, and this change in R^2 was significant, F (1, 888) = 11.4, $p < .001$. Satisfaction with standard of living, physical health, and location of residence were consistent predictors of psychological distress. In addition, child sexual abuse remained a significant predictor of psychological distress occurring in adulthood when all other predictor variables were statistically controlled.

Discussion

The present findings clearly demonstrate that adult victims of childhood sexual abuse experience long-term difficulties in psychological functioning, thereby supporting conclusions drawn in reviews in this area (e.g., Gershuny & Thayer, 1999; Molnar et al., 2001; Spataro et.al., 2004; Wolfe & Birt, 1995). Of the 961 women in the present sample, 13% had experience of sex abuse occurring in childhood. Various factors predicted

psychological distress, that is, victims were significantly more likely to be younger, less satisfied with their standard of living, more likely to live in urban areas, and have physical health symptoms.

A previous study (Mullen, Romans-Clarkson, Walton, & Herbison, 1988) reported that 13% of New Zealand women had experience of child sex abuse, a rate highly consistent with that obtained in the present study. Surveys of North American community samples of sex abuse also obtained incidence rates comparable to those found in the present study (Bernat, Ronfeldt, Calhoun, & Arias, 1998; Molnar et al., 2001). However, Najman et al. (2007) conducted a similar study among Australian adults and reported that 21% of women had experienced sexual molestation before age 16. Conversely, other studies have reported lower rates of experience in the population (Breslau et al., 1998; Hepp et al., 2006; Vrana & Lauterbach, 1994).

It remains possible, however, that the differences in study response rates hide important methodological and sample differences. For example, The Christchurch Health and Development Study (Fergusson et al. 1996) reported a prevalence rate of 17% among women assessed at 18 years, an age much lower than the average age of women in the present sample (44 years). Similarly, a study of child sex abuse among community residing New Zealand women ($N = 2855$) resident in two regions, Auckland and Waikato, reported a prevalence rate of 24%. Fanslow et al. (2007) broadly defined child sex abuse as "*Before the age of 15, do you remember if anyone in your family ever touched you sexually, or made you do something sexual that you didn't want to do?*" and did not refer to 'force' and 'threat' or mention the word 'child'. It should also be noted that women classified as "non-victims" in the present study may have experienced other trauma as children or adults. Similarly, those reporting sex abuse during childhood may have experienced additional trauma at some point

in their lives. Therefore, readers are advised to focus on the consistent predictors of psychological distress in adulthood for those who experienced child sex abuse, and interpret overall rates of prevalence with caution.

In sharp contrast to a previous study of the long-term impact of child sex abuse in a New Zealand community sample (Romans-Clarkson et al., 1990), the location of residence was a factor that consistently predicted increased psychological distress. This inconsistency may be partially attributable to the fact that the Romans-Clarkson et al. sample was drawn from Dunedin, a city in the South Island of New Zealand that is relatively untroubled by crime and has well developed health and welfare services. The urban-residing individuals in the present study may be more representative of the population given that they were drawn from the major urban centers across the whole of New Zealand, and demonstrated systematic differences to their rural counterparts as in previous studies (Di Scipio, 1994; Wingood & DiClemente, 1997, 1998).

With regards to socioeconomic status of victims of child sex abuse in this sample, less satisfaction with standard of living consistently predicted long-term psychological distress. This finding is consistent with studies demonstrating various predisposing factors for long-term psychological sequelae of child sex abuse in United States samples (e.g., Briere & Runtz, 1993; Katerndahl et al., 2005; Kendall-Tackett et al., 1993). With regards to age and physical health, younger age and more recent symptoms of physical illness predicted long-term psychological distress for women sexually abused in childhood. The same trend towards more severe impact among younger women has been observed in a number of prior community surveys (e.g., Breslau et al., 1991, 1998; Kelley, Whitley, Sipe, & Yorker, 2000; Lee & Young, 2001; Norris, 1992).

Clinical Implications

Our findings regarding the long-term impact of child sex abuse are consistent with similar studies (e.g., Molnar et al., 2001; Najman, et al., 2007). In particular, research identifying specific psychological sequelae has found child sex abuse to be related to the development of various disorders, including but not limited to, borderline personality disorder, major depression, panic disorder, and posttraumatic stress disorder (McLean & Gallop, 2003; Weiss, Longhurst, & Mazure, 1999; Stein et al., 1996). It is also common for victims of child sex abuse to present with comorbid diagnoses, an issue which is rarely addressed in the psychological literature (Owens & Chard, 2003). In fact, there is frequent comorbidity in the anxiety disorders (Kroenke, Spitzer, Williams, Monahan, & Lowe, 2007; O'Toole, Marshall, Schureck, & Dobson, 1998), with clear overlap in the criteria for panic disorder, generalized anxiety disorder, and posttraumatic stress disorder (Lee & Young, 2001).

As there is such a high degree of symptom overlap in anxiety disorders, it is possible that clinicians are underdiagnosing PTSD in the absence of a comprehensive clinical interview covering traumatic event experience. A study conducted by Cusack, Grubaugh, Knapp, & Frueh (2006) assessed the rate of missed PTSD diagnoses amongst a clinical sample, finding that 30% of the sample met DSM-IV criteria for PTSD, whilst such a diagnosis was recorded in only 3% of the clinical files. Furthermore, a history of trauma was noted in 28% of files, compared to a finding of 87%. Given that the present data indicates that child sex abuse is a significant predictor of psychological distress in adulthood, identifying such a trauma is particularly important. Moreover, the consistency in the long-term impact of abuse between the present study and previous studies supports the dissemination of empirically supported treatment approaches to the New Zealand context.

A number of studies have demonstrated the efficacy of therapies for treatment of long-term impacts of child sex abuse (Anderson, LaPorte, Brandt, & Crawford, 1997; De Luca, Boyes, Grayston, & Romano, 1995; Kreidler, 2005; Pardeck & Markward, 1995; Salter, 1995; Wolfsdorf & Zlotnick, 2001). However, these treatment approaches emphasize, and in some cases rely heavily, on bibliotherapy assignments (i.e., reading information about symptoms and treatment between sessions). Certainly, the use of bibliotherapy in cognitive and behavioral therapies has sufficient empirical support (see reviews by Kazantzis, 2000; Kazantzis, Deane, & Ronan, 2000). However, a survey of New Zealand practicing psychologists by Kazantzis and Deane (1999) showed that practitioners perceived bibliotherapy and other homework assignments to be less important in the treatment of sex abuse. That is, only an average of 32% of practitioners rated use of these interventions to be of "great importance" in the treatment of sex abuse, compared to the 82% and 69% who considered these interventions to be of "great importance" in the treatment of anxiety and depression, respectively. It seems important then, that further research is also designed to evaluate the effectiveness of therapy programs for women who have experienced sexual abuse across culturally diverse samples in different countries. It is only with such validation, that treatment manuals can be disseminated with a degree of assurance (Addis, 1997).

Limitations of the Present Study

A number of limitations have been raised above. A further limitation is that measurement of the impact of child sex abuse is restricted to psychological distress. It is not possible to determine whether respondents who reported high severity in psychological distress would have met the criteria for formal diagnosis of an anxiety or other disorder. Consequently, it is not possible to make direct comparisons with studies utilizing other

measures of the impact of child sex abuse. Unfortunately, diversity in measures of trauma impact is common among published studies (Luo, 1998).

As with most prior surveys of trauma in the community, the present study was also limited by the use of self-report measures. While clinician or independent assessment is preferable in the assessment of trauma impact, support for the self-report method was provided in a recent study that failed to find association between self-reports of traumatic events and social desirability in reporting child sex abuse (Meston, Heiman, Trapnell, & Carlin, 1999).

Despite these limitations, the present study examined a heterogeneous sample drawn from 14 geographically distinct areas across both New Zealand islands. The sample was 51% urban-residing and 48% rural-residing, with younger, middle-aged, and older adults represented. The present study demonstrated that victims of child sex abuse exhibit more severe symptoms of psychological distress. Taken together, these findings support the prior research that has demonstrated that even those women with posttraumatic symptomatology (or partial posttraumatic stress disorder diagnosis) exhibit abuse-related psychological problems (i.e., Breslau et al., 1997). Future research that incorporates a multi-method multi-trait assessment battery of mental health to assess the impact of child sex abuse and replicate these findings is warranted. The data can, at the very least, be considered instructive about the long-term impact of child sex abuse in New Zealand.

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Table 1

Demographic Characteristics of Sample

Characteristic	Total *N* = 961 (100%)		Victims *n* = 127 (13%)		Non-Victims *n* = 830 (86%)		
	n	%	*n*	%	*N*	%	
Age [*M* (*SD*)]	43.84	16.31	35.67	11.39	46.00	16.59	c
Marital Status							
Married	567	59	64	50	503	61	a
Not Married	390	41	63	50	327	39	
School Qualifications							
No School Qualification	403	42	65	51	338	41	
1 or more School Certificate Passes	213	22	22	17	191	23	
1 or more Sixth Form Certificate or UE Passes	111	12	16	13	95	11	
University Bursary or Scholarship	9	1.0	3	2	6	1	
Trade or Professional Certificate or Diploma	132	14	15	12	117	14	
University Undergraduate Degree or Diploma	42	4	2	2	40	5	
University Postgraduate Qualification	13	1	2	2	11	1	
Adequacy of Income [*M* (*SD*)]	2.43	0.85	2.13	0.90	2.48	0.83	
Satisfaction with Standard of Living [*M* (*SD*)]	3.08	0.74	2.74	0.81	3.13	0.72	c
Working Telephone							
Yes	827	86	107	84	720	87	
No	130	14	20	16	110	13	
Social Contact							
Yes	872	91	118	93	754	91	
No	84	9	8	6	76	9	
Location of Residence							
Urban	493	51	79	62	414	50	b
Rural	464	48	48	38	416	50	
Physical Symptoms [*M* (*SD*)]	1.58	0.10	1.63	0.11	1.58	0.09	c
Psychological Distress [*M* (*SD*)]	1.73	0.18	1.85	0.16	1.71	0.18	c
Stressful Life Events [*M* (*SD*)]	2.85	2.12	4.01	2.23	2.67	2.04	c

Note: Continuous data represent means and standard deviations. Missing values were not included in analyses.

Data with superscript represent statistically significant differences using Chi square tests ($^{a}p < .05$, $^{b}p < .01$, $^{c}p < .001$).

Table 2

Summary of Hierarchical Regression Analysis for Variables Predicting Psychological Distress in Victims of Child Sex Abuse

Variable	Step 1	Step 2	Step 3
Age	-.24***	-.20***	-.18***
Marital Status	.02	.02	.01
School Qualifications	-.04	-.04	-.04
Adequacy of Income	-.06	-.05	-.04
Satisfaction with Standard of Living	-.16***	-.16***	-.14***
Working Telephone	.01	.00	.01
Recent Social Contact	.02	.01	.01
Urban / Rural	-.08**	-.08**	-.07**
Physical Symptoms	.45***	.43***	.42***
Chronic Health Symptoms	-.01	-.01	-.01
Stressful Life Events	--	.11***	.10***
Child Sex Abuse	--	--	.10***
Total R	.58***	.59***	.60***
R^2	.34	.35	.36
Adjusted R^2	.33	.34	.35
ΔR^2	.34***	.01***	.01***

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