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The Effects of Social Support on ACEs and Mental Health in Ireland

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ABSTRACT

The aim of this study is to determine the moderating effect of perceived social support on the relationships between ACEs and depression/anxiety, and PTSD symptoms in older adults in Ireland. Moderated regression analysis was used to evaluate these relationships in a sample of 535 residents of Ireland, aged 50 or above. The results show statistically significant predictive relationships between ACEs and mental health outcomes as well as a significant moderating effect of perceived social support. These findings suggest that ACEs in Ireland should be considered and measures to increase perceived social support should be implemented.

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Adverse childhood experiences; social support; mental health; moderated regression analysis

Introduction

Numerous studies indicate that childhood abuse, neglect, and household dysfunction, commonly referred to as adverse childhood experiences (ACEs), have lasting negative impacts on mental health (Anda et al., 2002; Dube et al., 2001; Felitti et al., 1998; Friedman et al., 2002). Across several ACE studies, an average of 62% of participants had experienced at least one ACE event during childhood (Hughes et al., 2017). In a recent study with a nationally representative sample of adults living in Ireland, it was found that 65% of people had experienced at least one ACE event in their first 18 years of life, and dose-response associations existed between the number of ACE exposures (comparing differences in cases of one, two, three, and four types of ACE events) and one’s likelihood of meeting diagnostic requirements for a variety of mental health disorders including major depressive disorder, generalized anxiety disorder, posttraumatic stress

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disorder (PTSD), and Complex PTSD (CPTSD) (McCutchen et al., 2022). There is limited information about rates of ACEs among older adults in Ireland. The Irish Longitudinal Study on Aging (TILDA) is a nationally representative longitudinal study of adults aged 50 and older, and it was found that just 24% of participants had experienced an ACE (Ward et al., 2020). This relatively low figure may be explained by the fact that older adults were only asked about a small number of ACE events (physical abuse, parental drug or alcohol abuse, sexual abuse, and family poverty). There is little reason to believe that older adults living in Ireland today have experienced substantially fewer ACEs than their younger counterparts. Additionally, a study of older adults in the United States found that those who experienced childhood adversity had higher odds of having mood disorders, anxiety, and personality disorders (Raposo et al., 2014). Therefore, it is important that a more comprehensive assessment of ACEs among older adults in Ireland is performed.

A key factor in addressing the issue of ACEs and their impact on mental health is the consideration of social factors that may prevent or decrease symptoms of anxiety, depression, and posttraumatic stress. Research shows that social support can have a buffering effect on psychological distress (Cohen & Wills, 1985). Additionally, perceived social support has been shown to be a stronger buffer than received social support (Evans et al., 2013). Perceived social support is conceptualized as an individual's belief that social support is available to them when necessary. Low levels of perceived social support have also been found to increase the risk of experiencing trauma symptoms (Brewin et al., 2000; Evans et al., 2013). While there is limited information, Von Cheong et al. (2017) found that older Irish adults who had experienced ACEs had higher odds of depressive symptoms when perceived social support was low.

It is important to evaluate the impacts of a broader range ACEs than previous studies with older adult population in Ireland have assessed. Additionally, if increased perceived social support significantly decreases the relationship between ACEs and outcomes related to psychological distress, increasing the perception of social support should be included as a preventative measure in practice. The aim of this study is to examine the moderating effect of perceived social support on the relationships between ACEs and depression/anxiety, and CPTSD symptoms in older adults in Ireland.

Method

Participants and procedures

The study used a cross-sectional design to evaluate information regarding social support, ACEs, and mental health using standardized

questionnaires. The data were collected as part of a larger project on the long-term impact of early-life adversity, including those affected by welfare-related compulsory social measures and placements in Ireland and Switzerland. The original study was conducted and organized by the University of Zurich (UZH) in collaboration with University College Dublin (UCD), the National College of Ireland, and Ulster University. It was approved by the ethics committees of the UZH (ID 18.6.1) and UCD (ID HS-18-30-Carr).

Participants were recruited through advertisements and flyers. Physical flyers were posted on notice boards in public areas across Ireland, such as libraries, shopping centers, community centers, adult education centers, and universities. Digital flyers were posted online, and radio interviews were used to advertise the study. Due to the nature of the original project, participants who had spent time in institutional care in Ireland/Northern Ireland in childhood or adolescence were purposively recruited. Institutional survivors were targeted by focusing on specific websites and social media groups of survivor support groups. In order to target both institutional survivors and the matched controls, two separate versions of the flyer were created. Both versions of the flyer gave potential participants a short overview of the study with the focus on general resilience or institutional survivors depending on the target audience.

Eligible participants were Irish native English speakers aged 50 years or older. Participants completed a screening to ensure they met the inclusion criteria and were ineligible if they had diagnosis of dementia or other cognitive impairment, were under 50 years of age, non-fluent English speakers, or not an Irish resident. Participants were only directed to the questionnaire if informed consent had been given. If participants indicated that they had been in institutional care in their childhood or adolescence, they were also directed to additional questionnaires (e.g., Social Acknowledgement as Victim or Survivor Questionnaire [SAQ]), during the survey. The questionnaires were randomized within sections for each participant. During the survey, participants received direct downloads of PDF documents containing the purpose and procedure of study, their informed consent form, a debriefing document, and a list of support options. The survey was programmed through a survey company called Qualtrics and was also available as a pen-and-paper version to avoid selection bias. The survey took approximately 60 min to complete.

The sample consisted of 535 participants. Ages ranged from 50 to 86 years and 90% of the sample was under the age of 70 ($M=60$, $SD=7.12$). Fifty-eight percent of the participants were female, 98% were Irish (rather than British or Northern Irish), and 5% had lived in an institution during childhood or adolescence.

Measures

Adverse childhood experiences

Exposure to ACEs were measured using the Adverse Childhood Experiences – International Questionnaire (ACE-IQ; WHO, 2018). The ACE-IQ contains 48 items within 8 domains: (1) marriage and family demographics, (2) protection, (3) neglect, (4) household dysfunction, (5) abuse (emotional, physical, and sexual), (6) peer violence, (7) community violence, and (8) collective violence. For this study, the ACE score was calculated using the binary method outlined by the World Health Organization (WHO, 2018). For this calculation, items are grouped into 13 categories: (1) emotional abuse; (2) physical abuse; (3) sexual abuse; (4) violence against household members; (5) living with household members who were substance abusers; (6) living with household members who were mentally ill or suicidal; (7) living with household members who were imprisoned; (8) one or no parents, parental separation or divorce; (9) emotional neglect; (10) physical neglect; (11) bullying; (12) community violence; and (13) collective violence. Each category is scored as (0) = no and (1) = yes. A category is scored as (1) = yes if the participant answers in the affirmative (once, a few times, many times) to one of the items within that category. ACE scores range from 0 to 13 with higher scores indicating higher ACE exposure. The ACE-IQ has been validated in several settings (Christoforou & Ferreira, 2020; Ho et al., 2019; Kidman et al., 2019).

Anxiety and depression

The Patient Health Questionnaire-4 (PHQ-4; Kroenke et al., 2009) was used to measure symptoms of anxiety and depression. The questionnaire lists four items that correspond with the Diagnostic and Statistical Manual of Mental Disorders, 4th Revision (DSM-IV) core diagnostic criteria of both generalized anxiety disorder and depressive disorders. Items are scored on a scale of (0) = not at all, (1) = several days, (2) = more than half the days, and (3) = nearly every day. The PHQ-4 has a possible score range from 0 to 12, where higher scores indicate higher symptom severity (Kroenke et al., 2009). Research has shown that this measure produces scores with good internal consistency varying between $\alpha = .82$ and $.85$ (Kroenke et al., 2009; Löwe et al., 2010). Internal reliability for the current study was good ($\alpha = .89$).

PTSD and CPTSD. The International Trauma Questionnaire (ITQ; Cloitre et al., 2018) was used to measure symptoms of ICD-11 PTSD and CPTSD. The ITQ includes six items measuring PTSD symptoms across the three

symptom clusters of Reexperiencing in the here and now, Avoidance, and Sense of Current Threat, and six items measuring Disturbances in Self-Organization (DSO) symptoms (indicators of CPTSD) across the three clusters of Affective Dysregulation, Negative Self-Concept, and Disturbed Relationships. Respondents indicate how much they have been bothered by each PTSD symptom during the past month and how they typically feel, think about oneself, and relate to others for each DSO symptom. A five-point Likert scale ranging from 0 (*Not at all*) to 4 (*Extremely*) is used for each item. A total score of ICD-11 CPTSD is obtained by summing the 12 ITQ items. Scores range from 0 to 48 with higher scores reflecting higher levels of CPTSD. The psychometric properties of the ITQ scores have been supported in general population samples (Cloitre et al., 2018; Hyland et al., 2021), and the internal reliability of the scale scores in the current sample was excellent ($\alpha = .94$).

Social support

Perceived social support was measured using the Interpersonal Support Evaluation List-12 (ISEL-12; Cohen et al., 1985). Participants are asked to indicate to what extent statements are true for them (e.g., Item 1, “If I wanted to go on a trip for a day (for example to the beach, the country, or the mountains), I would have a hard time finding someone to go with me.”). Items are scored on a scale of (1) = definitely false, (2) = probably false, (3) = probably true, and (4) = definitely true (Cohen et al., 1985). Overall social support is represented by the total score with higher scores indicate more perceived social support. Merz et al. (2014) found acceptable internal consistency ($\alpha \geq .70$) for the ISEL-12 in a large study with $N=5313$ Hispanic/Latino participants. Internal reliability for the current study was good ($\alpha = .82$).

Data analysis

Descriptive statistics were used to determine the proportion of the sample participants exposed to an ACE, as well as the mean number of ACEs, and the mean levels of anxiety/depression symptoms and CPTSD symptoms. Two models were assessed using moderated regression analysis which were performed using the PROCESS macro in SPSS 28 (Hayes, 2012). Each model included ACEs as the predictor variable (total ACE score) and perceived social support (ISEL score) as the moderator, and the outcome variables were anxiety/depression (PHQ-4 score) and CPTSD (ITQ score) symptom levels.

Table 1. ACE frequencies (N = 535).

	Females	Males	Total	Total percentage
Any ACE	287	213	501	94
Emotional neglect	54	26	80	15
Physical neglect	64	39	103	19
Alcohol/drug abuse ^a	65	27	92	17
Mental illness/suicidal ^a	68	34	103	19
Prison ^a	5	10	15	3
One or no parents/separation or divorce	117	116	233	44
Treated violently ^a /witnessed violence	169	123	293	55
Emotional abuse	169	104	274	51
Physical abuse	172	124	297	56
Sexual abuse	82	28	111	21
Bullying	173	120	294	55
Community violence	112	130	243	45
Collective violence	20	19	39	7

Note: ^aHousehold member.

Table 2. Moderation regression analysis of the effect of perceived social support on the relationships between ACEs and mental health.

	R ²	R ² change	B	SE	t	CI 95%
Anxiety/depression	.34***					
ACEs			.86***	.13	6.53	.60/1.12
Social support			-.05	.03	-1.71	-.11/.01
ACEs with social support		.02***	-.02***	.01	-3.66	-.03/-.01
CPTSD	.44***					
ACEs			3.57***	.44	8.12	2.71/4.43
Social support			-.15	.10	-1.49	-.34/.05
ACEs with social support		.02***	-.07***	.02	-4.01	-.11/-.04

Note: B = unstandardized beta; CI = confidence interval; N = 532; statistical significance: * $p < .05$; ** $p < .01$; *** $p < .001$.

Results

Descriptive

The mean number of ACEs experienced by participants was 4.08 ($SD = 2.70$). Ninety-four percent of respondents experienced at least one ACE event and 53% experienced four or more. Table 1 shows the frequencies of individual ACEs reported by participants. The mean PHQ score was 2.51 ($SD = 2.92$), and the mean ITQ score was 10.10 ($SD = 10.57$). The mean ISEL score was 23.97 ($SD = 6.78$).

Moderated regression analysis

The moderated regression model for anxiety/depression symptoms was significant, $F(3, 528) = 90.39$, $p < .001$, $R^2 = .34$. ACEs were a significant predictor of higher anxiety/depression scores, and social support was not (see Table 2). Social support did have a significant moderating effect on the relationship between ACEs and anxiety/depression, $B = -.02$, $t(528) = -3.66$, $p < .001$.

The model for CPTSD symptoms was also significant, $F(3, 528) = 137.74$, $p < .001$, $R^2 = .44$. ACEs were a significant predictor of higher CPTSD scores and the relationship between social support and CPTSD was not significant. Again, social support had a significant moderating effect on the relationship between ACEs and CPTSD symptoms, $B = -.02$, $t(528) = -4.01$, $p < .001$.

Figure 1 shows the moderating effects of perceived social support on both anxiety/depression symptoms and CPTSD symptoms. In both cases, the effect for ACEs was strongest for those with the lowest levels of perceived social support.

Discussion

The primary aim of this study was to extend current understandings about the level of ACE exposure among older Irish adults, and test whether perceived social support moderated the effect of ACEs on symptoms of mental ill-health among older adults. A substantially higher proportion of older adults in this sample reported having experienced an ACE event (94%) than in the TILDA study (24%; Ward et al., 2020). This is likely due to a much broader range of ACEs included in this study, such as neglect, mental illness, witnessing domestic violence, and bullying. The current sample also reported higher rates of exposure to specific ACEs that were measured in both studies, such as sexual abuse (21% vs. 6%), physical abuse (56% vs. 7%), and parental alcohol or drug use (17% vs. 9%). Notably, the proportion of older adults in this study exposed to an ACE was also higher than recent estimates from the general population (65%; McCutchen et al., 2022). The higher rate of ACE exposures in this sample is likely explainable based on two factors. First, the non-representative nature of the sample and purposive selection of some adults with a history of childhood trauma almost certainly increased the prevalence of ACE exposure. Second, the ACE questionnaire used in this study included multiple items to measure exposure to each ACE category. For example, while there were two questions regarding sexual abuse included in the TILDA study, participants in this study answered four questions regarding various types of sexual abuse. While sampling and measurement discrepancies may account for the larger number of ACE exposed older adults in this study, we believe it reasonable to assume that the true rate of ACE exposed older adults is higher than the 24% identified in the TILDA study, and likely to be at least as high as estimates from the general adult population.

The moderated regression analyses showed that ACEs were positive and strongly correlated with levels of both anxiety/depression and CPTSD symptoms. This is consistent with an extensive literature on the adverse

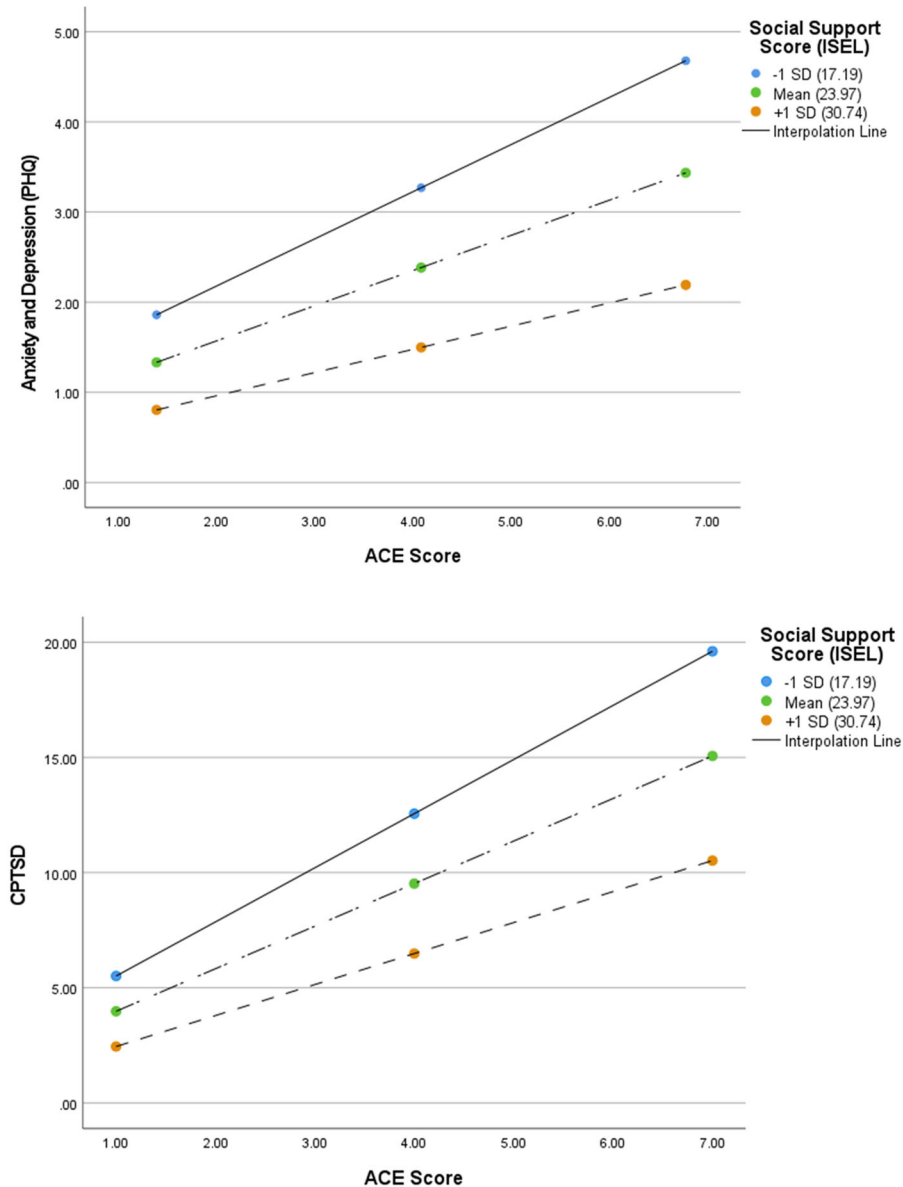


Figure 1. Moderation regression analysis of the effect of perceived social support on the relationships between ACEs and mental health.

long-term impact of ACEs on adult mental health (Anda et al., 2002; Dube et al., 2001; Felitti et al., 1998; Friedman et al., 2002). Notably, however, our results showed that although perceived levels of social support did not directly affect mental health, it did moderate the impact of ACEs. Specifically, we found that for older adults with higher scores in perceived social support, the negative effect of ACE on anxiety/depression and CPTSD symptoms was minimal. This is in line with previous research

regarding the moderating role of perceived social support in the relationship between ACEs and depression among older Irish adults (Von Cheong et al., 2017). These findings support the practical use of increasing perceived social support as mitigation measure for older adults who have a history of childhood adversity. Research has shown that training in social skills and cognitive reframing of social relations in younger years will likely increase an individual's perceived social resources later in life that can be used as a preventative measure (Brand et al., 1995; Sehmi et al., 2020). There is limited information regarding measures that can be used to increase perceived social support during older adulthood. However, the use technology-based tools designed to support social relations in older adults is increasing and showing promising effectiveness (Czaja et al., 2018).

Several limitations should be noted. As discussed, the non-representative nature of the sample means that findings may not generalize to the entire older adult population in Ireland. However, given the limited data available on this cohort of the population, current findings are valuable. Additionally, our measures of mental health were restricted to assessments of anxiety/depression and CPTSD symptoms. Ideally a more extensive assessment of mental health could have been performed to obtain a more complete picture of the moderating effects of perceived social support.

In conclusion, the rates and long-term impacts of ACEs in older adults should be considered. Additionally, preventative measures and intervention to increase perceived social support should continue to be developed and implemented across all stages of life.

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Ethics statement

The study was organized and conducted by the University of Zürich, in collaboration with University College Dublin, National College of Ireland, and Ulster University. The study was conducted with the informed consent of all participants in accordance with the Declaration of Helsinki. The study protocol was approved by the Ethics Committee of the Faculty of Arts and Social Sciences in the University of Zürich, Switzerland (ID 18.6.1) and the Human Research Ethics Committee – Humanities in University College Dublin (ID HS-18-30-Carr).

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Data availability statement

The data that support the findings of this study are openly available in the Open Science Framework (OSF) at <http://doi.org/10.17605/OSF.IO/YAX74>, identifier: DOI 10.17605/OSF.IO/YAX74.—

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