Social Exclusion, Social Pain and State Self-Esteem: The Moderating Role of Childhood

Trauma

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Abstract

The current study sought to determine the impact of being socially excluded on social pain and state self-esteem and examine the moderating role of childhood trauma. Individuals aged between 19 – 30 ($M = 24.13$, $SD = 2.89$) were recruited, with 61.5% of the sample being female (N = 299). Participants answered questionnaires concerning childhood trauma, social pain and state self-esteem, whilst also participating within the online ball-tossing game Cyberball, in which they were assigned to either the inclusion or exclusion condition. Similar to previous findings, those within the exclusion condition reported significantly higher social pain when compared with those assigned to the inclusion condition. However, a non-significant finding was reached relating to state self-esteem, as the levels of state self-esteem amongst excluded participants did not fall below those of the included cohort. Additionally, childhood trauma was found to have no moderating role on the experience of social pain or state self-esteem following exclusion. Future research should consider using different sampling methods to obtain a more representative sample. The current study may assist in furthering the understanding the detrimental effects of social exclusion and social pain. These findings may have implications for the development of interventions and treatments aimed at reducing the negative impact of social exclusion on mental health and well-being.

Keywords: Social Exclusion, Social Pain, State Self-Esteem, Childhood Trauma

Social Exclusion, Social Pain and State Self-Esteem: The Moderating Role of Childhood Trauma

Social exclusion can be defined as the rejection from others and isolation from certain social processes and can provoke powerful emotional and psychological reactions (Baumeister et el., 2007). Social exclusion can have detrimental effects, as excluded individuals face a higher risk of developing mental disorders, including social anxiety and depression (Baumeister et al., 2007; Fung & Alden, 2017). Even low levels of social exclusion can be sufficient in negatively influencing affect and reducing overall well-being (DeWall & Richman, 2011; Zadro et al., 2004). Zadro and colleagues (2004) determined that exclusion via a computer programme is sufficient in lowering self-esteem and increasing negative affect. Furthermore, it has been determined that distress can arise after a single instance of social exclusion, regardless of its intensity (Zadro et al., 2004). Social exclusion can result in the phenomenon known as social pain (Fung & Alden, 2017). Social pain is defined as the immediate, negative activation of pain affect following threatened or actual loss of social connection, for example during social exclusion (Fung & Alden, 2017; MacDonald, 2009). Lowered self-esteem and increased social pain have been identified as underlying mechanisms in several mental disorders, it is therefore crucial to examine these concepts in connection to social exclusion (Baumeister et al., 2007; Fung & Alden, 2017). Additionally, the moderating impact of childhood trauma on these relations will be examined. Childhood trauma can have pervasive effects on the psychological functioning of an individual (De Bellis & Zisk, 2014). One example being the heightened sensitivity to social stress, including instances of social exclusion, identified amongst individuals with histories of trauma (Veling et al., 2016). In the Adverse Childhood Experiences (ACE) study, more than half of participants reported at least one instance of childhood trauma, demonstrating the unfortunate commonality of this experience (Felitti et al., 1998). It is crucial to examine the moderating impact of childhood

trauma following social exclusion and its effects on social pain and state self-esteem, given the negative and widespread effects of childhood trauma.

Detrimental Effects of Social Exclusion

Individuals who are socially excluded are more likely to suffer from physical and mental illness (Baumeister et al., 2007). Social exclusion may increase maladaptive practices such as self-deflating and externalizing behaviour, which can contribute to the maintenance and development of certain disorders (Bolling et al., 2011). More concerningly, social exclusion can result in increased aggression, decreased prosocial behaviour, and in severe instances, acts of extreme violence (Twenge et al., 2007; Leary et al., 2003). Twenge and colleagues (2007) conducted several experimental studies in which participants were made to feel socially excluded. Excluded individuals were found to exhibit fewer prosocial behaviours than their socially included counterparts. For instance, the excluded cohort donated less money to a student fund, worked less cooperatively with fellow students during a game and declined to participate in further lab studies (Twenge et al., 2007). Furthermore, Leary and colleagues (2003) determined that many of the adolescents that had conducted a school shooting reported feeling severely socially excluded by their classmates prior to the event (Leary et al., 2003). Social exclusion can have a range of negative consequences, it is therefore crucial to further explore the idea in connection to social pain and state self-esteem.

The Role of Social Exclusion in Social Pain and State Self-Esteem

A negative reaction to social exclusion noted within literature is the experience of social pain (Onoda et al., 2010). Social pain has been conceptualised as the immediate, negative activation of pain affect following threatened or actual loss of social connection (Fung & Alden, 2017; MacDonald, 2009). Social pain is akin to physical pain as both share the same neural pathway, with dorsal anterior cingulate cortex (dACC) activation increasing during instances of physical and social pain (Eisenberger, 2012). This shared biological basis may be

a result of evolution, as pain signals became homogenized with social pain signals to alert the individual to social ruptures, remedy them, and avoid social exclusion (Eisenberger, 2012). Social exclusion is perceived as a loss of social rewards, such as belongingness and intimacy, thus resulting in social pain (MacDonald, 2009). Recent research examining the relation between social anxiety and social pain found that socially excluded individuals exhibited higher levels of social pain than those who were included (Fung & Alden, 2017). The social threat/reward framework suggests that personal evaluations of exclusion (i.e., social threat) and inclusion may be involved in creating perceptions of currently held social connection (i.e., social reward) (MacDonald, 2009). If perceived social connection is low, for instance following social exclusion, social pain ensues (MacDonald, 2009).

Self-esteem and social pain have been linked in prior research, as social pain may be experienced whenever an individual perceives a threat to their self-esteem (Feeney, 2005; Bernstein & Claypool, 2012). Self-esteem can be defined as the evaluation of one's worth as an individual (Orth et al., 2018). Literature has theorised that self-esteem can be significantly influenced by social interactions and an individual's perception of them (Bleckmann et al., 2022), with the most notable of these theories being the Sociometer Theory (Leary et al., 1995). This theory states that instances of social inclusion can increase self-esteem with experiences of social exclusion having the opposite effect (Leary et al., 1995). Findings by Stewart and colleagues (2017) determined that social exclusion resulted in decreased self-reported state self-esteem and it is expected that similar results will be reached within the current study.

The Moderating Effect of Childhood Trauma

Several studies have demonstrated that past social experiences can impact upon the neural response to social exclusion (Asscheman et al., 2019; Veling et al., 2016). Asscheman and colleagues (2019) found that lower peer preferred boys showed greater self-reported distress after experiencing social exclusion compared to their high peer preferred classmates.

This indicates that individual differences may exist in how people experience social exclusion, and this can be influenced by past events, such as prior social exclusion (DeWall & Richman, 2011). Individuals with histories of trauma have been found to have increased sensitivity to social stress, including instances of social exclusion (Veling et al., 2016). Every year, millions of children face maltreatment, resulting in a variety of negative consequences in later life (World Health Organization, 2006). Childhood trauma is a term used to describe a variety of early, adverse, and possibly harmful events, such as sexual, physical, emotional abuse and neglect (Reininghaus et al., 2016). As a child ages, maladaptive self-perceptions may strengthen, resulting in negative symptomatology (Berber Çelik & Odacı, 2020), including a heightened sensitivity to social exclusion (Onoda et al., 2010). Attachment theory states that childhood trauma can result in a negative view of self and difficulties in regulating emotions, therefore impacting upon normative psychological development across the lifespan (Berber Çelik & Odacı, 2020). This lack of affective regulation combined with negative perceptions of self can result in an increased sensitivity to social stressors (Veling et al., 2016). A study by Veling and colleagues (2016) found that increased sensitivity to social stress is a mechanism by which childhood trauma can increase the risk of emotional dysregulation in later life. Individuals with trauma histories may experience increased levels of social pain due to their heightened sensitivity to social stressors (Veling et al., 2016). Additionally, negative self-perceptions may be amplified following an experience of social exclusion thus reducing self-esteem (De Bellis & Zisk, 2014; Veling et al., 2016). Overall childhood trauma may moderate the effect of social exclusion on social pain and state self-esteem, as these experiences influence how individuals perceive and respond to social situations (Veling et al., 2016).

The Current Study

The aim of the current study is to further understand the effect of social exclusion on social pain and self-esteem, whilst determining if this effect is moderated by past childhood

trauma. Hypotheses 1a and 1b predict that the condition to which an individual is assigned, inclusion or exclusion, will impact on their level of social pain and state self-esteem. Heightened social pain and lowered state self-esteem expected amongst the excluded cohort. Hypothesis 2 expects that the relations between social exclusion, self-esteem and social pain will be moderated by childhood trauma. It is hypothesised that those with childhood trauma histories will experience higher social pain and lower state self-esteem in reaction to social exclusion, than those with little to no childhood trauma. This study may contribute to a better understanding of the complex interplay between social exclusion, social pain, self-esteem, and childhood trauma. The findings of this study could have important implications for the development of interventions and treatments aimed at reducing the negative impact of social exclusion on mental health and well-being, particularly for individuals who have experienced childhood trauma.

Methods
Participants

In total 299 participants were included within the final study. The current study aimed to recruit individuals aged between the ages of 18 to 30 years, however following data collection respondents age ranged between 19 and 30 ($M = 24.13$, $SD = 2.89$). Of the initial cohort of participants, 184 were female and 94 were male. Additional demographic information relating to education level and marital status were gathered and are included in the Table 1 below. Some participants did not respond to the demographic questions, and these are displayed as missing in the table below.

Table 1

Demographic Characteristics of all Participants (N = 299)

Baseline Characteristics	*N*	Percentage
Gender		
Male	94	31.4
Female	184	61.5
Missing	21	7.1
Education		
Less than a high school Diploma	4	1.3
High School Graduate or Equivalent	80	26.8
Trade/Technical/ Vocational Training	10	3.3
Bachelor's Degree	110	36.8
Master's Degree	72	24.1
Doctorate Degree	2	0.7
Missing	21	7.0
Marital Status		
Single, Never Married	162	54.2
Partner (Not Married)	106	35.5
Missing	31	10.3
Age		
19-21	51	17.1
22-24	117	39.2
25-27	61	21.3
28-30	51	17.0
Missing	19	6.4

Procedure

Participants were recruited via a convenience sampling method. The current study was created and published via the online survey tool Qualtrics. For participants to partake in the study, an online link was created for the study and distributed via the four master's students' social network and media (Ie. Instagram, Facebook and WhatsApp). Additionally, the study was uploaded to the experiment management system known as SONA. Bachelor of Psychology students at Utrecht University are required to participate in 12 hours' worth of studies using the SONA system and could earn half a credit for participating in this study. Other participants did not receive compensation for participating in the study.

Primary inclusion criteria of this study were a) the ability to understand English, as the entire experiment was conducted through English and b) participants had to be aged between 18 and 30. Once participants accessed the study through the online link they were able to read the information sheet and provide their informed consent. Following this, participants answered a variety of demographic questions and completed the Childhood Trauma Questionnaire (Bernstein et al., 2003). Participants then engaged in the Cyberball task (Williams et al., 2000) and finished with completing the Social Pain Scale (Fung & Alden, 2017) and the State Self-Esteem Scale (Heatherton & Polivy, 1991). Prior to commencement of the study, ethical clearance was obtained from the ethics board of the faculty of Social and Behavioural Sciences at Utrecht University.

Measurements

Childhood Trauma Questionnaire–Short Form. The CTQ-SF (Bernstein et al., 2003) consists of 28 items, including such items as "I got hit so hard by someone in my family that I had to see a doctor or go to the hospital" and "I thought that my parents wished I had never been born". The items are separated into five subscales containing five items each. These subscales include emotional neglect, physical neglect, sexual abuse, emotional abuse and Physical Abuse. Participants rated the items on a 5-point Likert scale ranging from "never true" (score 1) to "very often true" (score 5). Recent studies have exhibited this scale to have good reliability (Hagborg et al., 2022), with this being echoed in the current study with a reliability of $\alpha = .93$.

Social Exclusion. The Cyberball task is a computer programme that is used to simulate social exclusion (Williams et al., 2000). The participants engage in a virtual ball toss game with two other players (computer-controlled confederates). The participant was unaware that the other players tosses were controlled by a pre-programmed script, however this was revealed later in the debriefing form following completion of the experiment. The two players were

depicted as cartoon characters in the left and right side of the screen with the participant being displayed as an animated hand in the lower portion of the screen. When given the ball the participant had the option to throw it to either player. For this study the total number of tosses was set at 30 (Hartgerink et al., 2015). Within the exclusion condition participants were tossed the ball a maximum of three times at the beginning of the game and then did not receive the ball again after these passes. For the inclusion condition the participant received the ball 33% of the time. Participants were randomly assigned to exclusion and control conditions. The Cyberball task has been found to have a large average social exclusion effect size, thus confirming its reliability in creating an exclusionary effect (Hartgerink et al., 2015)

Social Pain. Social pain in response to the Cyberball task was measured using three items, these being 1) "My feelings were hurt from not being involved in the game," 2) "I was bothered by how the game went," and 3) "I felt bad being left out by other players" (Fung & Alden, 2017). Items were rated on a 9-point scale ranging from 0 "not at all" (score 1) to "very much so" (score 9). The three items have exhibited good reliability (ie. α = .93) in previous research (Fung & Alden, 2017). The reliability of the scale within this study was found to be α = .92.

State Self-Esteem. The State Self-Esteem Scale (Heatherton & Polivy, 1991) was included within the current study. This questionnaire consists of 20 items that measure an individual's level of self-worth based on positive and negative perceptions of oneself. All items were rated using a 5-point Likert scale (1= not at all, 2= a little bit, 3= somewhat, 4= very much, 5= extremely). Some items are reversed scored and these were recoded within the analyses to obtain accurate total scores. The reliability of the scale in past studies was found to be α =.92 (Heatherton & Polivy, 1991). Within the current study the reliability of the scale was determined to be α =.87.

Analyses

All analyses were conducted in IBM Statistical Package for the Social Sciences (SPSS), Version 29. Descriptive statistics were computed for all variables. The dataset was checked with all individuals over the age of 30 being removed from the dataset, as this study focused on individuals aged between 18-30. A one-way MANCOVA was performed to identify any covariance amongst the background variables of gender, age, education and marital status. To assess the differences between social pain and state self-esteem amongst the inclusion and exclusion conditions independent samples t-tests were used. Additionally, a bivariate correlation analysis was carried out on childhood trauma, social pain and state self-esteem scores within both the inclusion and exclusion condition. Finally, Hayes PROCESS analysis was used to measure the potential moderating effect that childhood trauma has on the relationship between condition, state self-esteem and social pain. All predictor variables were mean centered prior to the analyses being conducted. Bootstrapping procedure was used and set at 5000 resamples, the confidence intervals were set at 95% and the significance level at 0.05.

Results

Preliminary Analyses

The assumptions of homogeneity, homoscedasticity and normality were all met when testing assumptions using a linear regression. A one-way MANCOVA was performed to examine the relation between the background variables of gender, age, education and marital status on the two outcomes (i.e. social pain and state self-esteem). However, no variables were found to have significant covariance, with $F(1, 161)$ ranging between .619 and 3.97; $p >$ .05, so were not included within the final moderation analyses.

Descriptive statistics are provided for the study's measure outcomes in Table 2 below. Skewness showed to be acceptable for all scales, aside from the childhood trauma questionnaire. The skewness of childhood trauma questionnaire scores was found to be 1.49

(*SE* = .150), indicating that the data gathered is significantly positively skewed. This skewness was anticipated as much of the sample was predicted to have experienced little to no childhood trauma on account that this was not a clinical sample. The main analyses were conducted despite this skewness.

A correlational analysis was carried out regarding social pain, state self-esteem and childhood trauma score. Results of the correlation analysis are shown in Table 3. A low, negative Pearson product correlation was identified between social pain and state self-esteem within the inclusion condition and within the exclusion condition. This relationship proved to be non-significant. The results of this analysis can be viewed in Table 2 below.

Table 2

Descriptive Statistics Concerning the Study Variables

Variable	*N*	*M*	*SD*	*Skp*	*K*
Inclusion					
Childhood trauma	130	1.66	0.51	1.15	0.94
Social pain	91	1.20	1.61	1.55	1.97
State self-esteem	89	3.54	0.69	-0.53	-0.13
Exclusion					
Childhood trauma	126	1.72	0.64	1.62	3.63
Social pain	88	3.36	2.12	0.04	-0.90
State self-esteem	85	3.04	0.69	-0.44	0.10

Note. *M* = Mean. *SD* =Standard Deviation. *Skp* = Skewness. *K* = Kurtosis

Table 3

Correlation Table

Variables	1	2	3
Childhood trauma	-	.19	-.43
Social pain	.28	-	-.21
State self esteem	-.37	-.20	-

Note. Correlations below the diagonal represent the inclusion condition and figures above represent the exclusion condition.

Primary Analyses

This study found that on average, participants within the exclusion condition exhibited higher levels of social pain ($M = 3.36$, $SD = 2.12$) when compared with those included within the inclusion condition ($M = 1.20$, $SD = 1.61$). An independent samples t-test was conducted to compare the social pain scores for the inclusion and exclusion condition. There were significant differences in the scores between the two conditions, $t(162) = -7.67$, $p = <.001$. The magnitude of the difference in the means (*mean difference = -2.16, 95% CI : -2.71 to -1.61*) was significant. However, this mean difference amongst conditions was found to be non-significant regarding state self-esteem (*mean difference = 0.13, 95% CI : -0.61 to 0.33*). The independent samples t-test for state-self-esteem produced a non-significant result $t(172) = 1.36$, $p = .177$.

The Moderating Role of Childhood Trauma

This study assessed the moderating role of childhood trauma on the effect of the conditions, inclusion and exclusion, in relation to state self-esteem and social pain. Two separate models were created using Hayes Process Macro V4.2. The first model sought to explore the moderating effect of childhood trauma on the relation between the conditions regarding to social pain. The regression model explained 29% of the variance in total social pain scores ($F(3, 175) = 23.83$, $p < .001$). The results revealed a non-significant moderating impact of childhood trauma on social pain ($b = -0.25$, $t(175) = -0.49$, $p = .620$), see Table 4. The second model created examined the moderating role of childhood trauma on the effect of the conditions on state self-esteem. The regression model explained 17% of the variance in total state self-esteem scores, ($F(3, 170) = 11.71$, $p < .001$). Again, the results yielded a non-significant result, with childhood trauma having little to no impact on state self-esteem ($b = 0.03$. $t(164) = 0.13$, $p = .894$), see Table 5. In conclusion, Hypothesis 2 was rejected as no

significant moderating effect of childhood trauma was identified with regards to the variables of social pain and state self-esteem.

Table 4

Linear regression analysis: Childhood Trauma moderating Social Pain and Condition

Effect	Estimate	SE	95% CI		p
			LL	UL	
Constant	3.48	.046	3.39	3.57	.00
Condition	-0.09	.091	-0.27	0.09	.342
Childhood trauma	-0.47	.085	-0.64	-0.30	.00
Condition x Childhood trauma	-0.01	.169	-0.34	0.33	.96

Note. Total $N = 262$, CI = confidence interval; LL = lower limit; UL = upper limit.

Table 5

Linear regression analysis: Childhood Trauma moderating State Self-Esteem and Condition

Effect	Estimate	SE	95% CI		p
			LL	UL	
Constant	2.27	.138	1.99	2.54	.00
Condition	2.11	.275	1.57	2.65	.00
Childhood trauma	0.79	.257	0.29	1.30	.00
Condition x Childhood trauma	−0.25	.511	-1.26	0.75	.62

Note. Total $N = 262$, CI = confidence interval; LL = lower limit; UL = upper limit.

Discussion

The purpose of this study was to a) examine the impact of being socially excluded (versus included) on social pain and state self-esteem and b) identify the moderating role of childhood trauma. In line with Hypothesis 1a, results showed that individuals in the social exclusion condition reported elevated levels of social pain compared to individuals in the social inclusion condition. In contrast with Hypothesis 1b, participants experienced similar levels of state self-esteem in the two conditions. Hypothesis 2 was rejected as childhood trauma had no significant moderating impact on the relation of the conditions to social pain and state self-esteem.

Effect of Social Exclusion on Social Pain and State Self-Esteem

Hypothesis 1a sought to examine the effect of social exclusion on social pain. Prior research has demonstrated that social pain can be an underlying mechanism in certain psychopathologies, including social anxiety (Fung & Alden, 2017). Fung and Alden (2017) found that social pain is linked to the perception that social ties have already been broken, for instance after experiencing social exclusion as simulated within this study. The results were consistent with earlier studies as individuals in the exclusion condition reported higher social pain than those within the inclusion condition. A similar finding was reached in a recent study by Hudd and Moscovitch (2020). Furthermore, the current finding supports the threat/reward framework, suggesting that social threats, such as social exclusion, can result in social pain (MacDonald, 2009).

When compared to the inclusion condition, Hypothesis 1b attempted to determine whether social exclusion would impact state self-esteem. The Sociometer Theory proposed by Leary and colleagues (1995) suggests that self-esteem can be affected by interactions with others and how they are perceived. Therefore, it may be hypothesised that social inclusion can increase self-esteem whilst social exclusion can have the opposite effect (Leary et al., 1995). However, this study determined that social exclusion had a non-significant impact on participants' levels of state self-esteem. Similar results were reached in a meta-analysis conducted by Blackhart and colleagues (2010), as self-esteem levels of rejected people did not fall below those of neutral controls. This non-significant finding supports the idea that self-esteem may remain constant across time and may be unaffected by individual events, such as a singular instance of social exclusion (Orth & Robins, 2014). This finding may also be explained by the influence of moderators that were not examined in this research, such as attachment. Secure attachment has been found to buffer against the psychological effects of

social exclusion (Liddell & Courtney, 2018). Future research should examine how factors, such as attachment style, impact upon reactions to social exclusion.

Moderating Effect of Childhood Trauma on Social Pain and State Self-Esteem

The second hypothesis proposed that the relationship between social exclusion, state self-esteem and social pain is moderated by childhood trauma. It was expected that participants with high childhood trauma would experience greater social pain and lower state self-esteem in response to social exclusion, than those who experienced little to no childhood trauma. The pervasive effects of childhood trauma have been well documented within research, including a heightened sensitivity to social exclusion (Onoda et al., 2010). According to attachment theory, childhood trauma causes a negative self-view and difficulty controlling emotions (Berber Çelik & Odacı, 2020), which may influence an individual's reaction to social exclusion. It was expected that childhood trauma may moderate the effect of social pain and state self-esteem following social exclusion, as these experiences affect an individual's reaction to social stressors. (Asscheman et al., 2019; Veling et al., 2016). However, this study found no significant moderating effect of childhood trauma on social pain or self-esteem following social exclusion. The first model concerning childhood trauma, condition and social pain and the second model including state self-esteem only partially explained the variance. Future studies should consider exploring other variables, such as trauma type, as past studies have indicated that interpersonal trauma can cause an increased sensitivity to both physical and social pain (Eisenberger, 2015).

The rejection of the second hypothesis may be related to the selected participant sample. Although adverse childhood events are generally common, this was not replicated amongst the current sample. Most participants within the current study scored low on the childhood trauma questionnaire short-from (CTQ-SF) (Bernstein et al, 2003). These scores resulted in positively skewed data, indicating little to no childhood trauma amongst the sample. This low incidence

may be a result of excluding individuals with a psychiatric diagnosis, research has evidenced that this cohort tends to experience childhood trauma at greater rates. (Devi et al., 2019. Purposive sampling can be used in future research to recruit samples with higher rates of childhood trauma, so the true moderating effect of childhood trauma on social pain and state self-esteem can be determined. This strategy has several benefits, including a limited margin of error, the capacity to deliver more meaningful results, and is cost-effective. Johnson and colleagues (2020) found that this technique improved methodological rigor when used in research investigations. The impact of childhood trauma on social pain and state self-esteem may be mediated by other factors, such as social support. Perceived social support has been found to buffer against the effect of life stressors, such as social exclusion (Arslan, 2018; Cohen & Wills, 1985). Further study should be conducted on the effects of varying factors, such as social support, on social exclusion and state self-esteem. Whilst childhood trauma may not have a direct moderating effect on social pain and state self-esteem following social exclusion, it is still an important factor to consider in the complex relationships between early life experiences, social interactions, and mental health outcomes.

Strengths, Limitations and Implications for Future Research

The decision to focus on the 18-30 age group was intentional. According to May-Chahal and Cawson (2005), this cohort are proximal enough to childhood to have these experiences remain vivid in their memory. Additionally, this cohort is old enough for these negative childhood events to have had a discernible and assessable impact on their lives (May-Chahal & Cawson, 2005). The social pain scale and its reliability data can be utilized to strengthen the validity of this new scale for use in future research (Fung & Alden, 2017). Literature states that individuals tend to underestimate the negative effects of social pain until they experience it first-hand (Nordgren et al., 2011). The current study may assist in furthering the understanding the detrimental effects of social pain and assist in altering currently held

beliefs about the concept. It is vital to change these beliefs as they have been found to negatively influence how individuals react to socially distressing occurrences (Nordgren et al., 2011).

A disparity in education is apparent within the sample, with over 60% possessing a a bachelor's degree or higher. A study by Hanel and Vione (2016) suggests it is problematic to generalize findings from student and highly educated samples to the public. This high level of education exhibited by the present cohort not only effects the generalizability of the findings, but may be a factor in the low levels of childhood trauma amongst the participants. A recent study by Assari (2020) demonstrated that those from highly educated backgrounds experienced fewer traumatic events in childhood, than their lesser-educated counterparts. Further research should include a variety of individuals with different levels of education to obtain more generalizable and accurate results. Additionally, this study relied on self-reports which have been noted as producing biased results in some instances (Podsakoff et al., 2003). One explanation of this may be explained by social desirability. Crowne and Marlowe (1964) first described this concept as the propensity for people to portray themselves favourably, regardless of their true feelings regarding a situation or subject. This is problematic as not only does it bias results, but it can also conceal the true relation between variables, which may have been the case within this study (Podsakoff et al., 2003).

Social pain has been consistently linked with the development of psychopathologies, such as social anxiety (Fung & Alden, 2017). Fung and Alden (2017) identified social pain to be an underlying mechanism in the development of social anxiety. As a result, the findings of this study and subsequent research into this concept will contribute to a better understanding of the aetiology of this condition and to the development of therapeutic strategies. Although the moderating effect of childhood trauma on state self-esteem did not reach statistical significance, prior research has shown that traumatic life events tend to affect how one

perceives social exclusion (Hudd & Moscovitch, 2021). These findings may have implications for the development of interventions and treatments aimed at reducing the negative impact of social exclusion on mental health and well-being.

Conclusion

The current study examined the effects of social exclusion on social pain and state self-esteem, with a significant finding regarding social pain emerging. Unfortunately, no statistically significant link was observed between state self-esteem and social exclusion, possibly because self-esteem is regarded as a relatively stable personality trait across time (Blackhart et al., 2010). The moderating effect of childhood trauma on social pain and self-esteem between the two conditions was shown to be non-significant. Despite these findings and the aforementioned limitations, this study highlighted the need for further research into this area using more representative samples. Furthermore, the current study contributed to the body of scientific knowledge concerning the concept of social pain, and future research may serve to guide treatment strategies for mental disorders stemming from negative reactions to social exclusion.

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