



Effects of Childhood Trauma and Perfectionism on Stress, Mood, Defeat and Entrapment



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Abstract

Adverse experiences in early life significantly impact an individual's long-term physical and mental health. Socially prescribed perfectionism has also been found to be associated with negative outcomes, including suicide risk. However, less is known about how these variables interact or their mechanisms of action in daily life. The current research explores the main and interactive effects of childhood trauma and socially prescribed perfectionism on measures of perceived stress, mood, defeat and entrapment as well as indirect effects. Three studies (cross-sectional survey and two 7-day intensive longitudinal designs) are reported. Participants completed the Childhood Trauma Questionnaire and measures of socially prescribed perfectionism, history of suicide thoughts and behaviours, perceived stress, mood, defeat and entrapment. The results showed that childhood trauma and socially prescribed perfectionism were associated with higher levels of perceived stress, negative mood, defeat, entrapment and less positive mood in adulthood across the three studies. Childhood trauma and socially prescribed perfectionism also indirectly affected daily negative mood through daily perceived stress levels and daily feelings of entrapment through daily levels of defeat. Interventions aimed at mitigating the negative effects of childhood trauma and socially prescribed perfectionism ought to target modifiable risk factors such as perceived stress, mood, defeat and entrapment.

Plain Language Summary

Experiences of abuse, neglect or other difficult events in childhood can have lasting effects on both mental and physical health. People who feel pressured to meet other people's high expectations – a pattern known as socially prescribed perfectionism – also tend to experience more stress and emotional difficulties, and may be at higher risk of suicidal thoughts. This research looked at how childhood trauma and perfectionism might work together to influence people's day-to-day feelings and mental health. Across three studies – one large survey and two week-long daily diary studies – adults completed questionnaires about their childhood experiences, perfectionism, stress, mood and feelings of defeat or being trapped. The findings showed that both childhood trauma and perfectionism were linked to higher stress, more negative mood and stronger feelings of defeat and entrapment, as well as fewer positive emotions. The studies also found that the effects of trauma and perfectionism on daily feelings of being trapped were partly explained by daily feelings of defeat and stress. These results suggest that helping people manage stress, improve mood and reduce feelings of defeat and entrapment may lessen some of the long-term emotional effects of childhood trauma and perfectionism.

Keywords

maltreatment, early life adversity, suicide, integrated motivational-volitional model adverse childhood experiences

Received: 12 February 2025; revised: 19 April 2026; accepted: 22 April 2026

Introduction

Adverse experiences in early life have been shown to significantly impact an individual's long-term health and well-being (Danese & McEwen, 2012; Finlay et al., 2022; Gartland et al., 2022; O'Connor, Thayer & Vedhara, 2021; Waehrer et al., 2020). Research indicates that exposure to maltreatment can lead to lasting alterations in the nervous,

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endocrine and immune systems (Danese & McEwen, 2012; Pakulak et al., 2018) and is associated with higher mortality rates compared to individuals who have not experienced such adversity (Bellis et al., 2015). Specifically, childhood trauma is linked to severe negative effects on mental and physical health, psychological well-being, perceived stress and the development of chronic health conditions in adulthood (e.g. Betz et al., 2021; Finlay et al., 2022; Pakulak et al., 2018; Watters & Martin, 2021). It has also been found to increase the risk of suicide and mental disorders (Fergusson et al., 2013; McKay et al., 2021; Noteboom et al., 2021; O'Connor et al., 2018, 2020).

It has been theorised that childhood trauma may also have its pernicious effects on health and well-being through increased sensitisation to stress, such that childhood trauma produces lasting neurobiological changes that alter the stress response, leading to heightened perceived stress and increased anticipation of threat (Betz et al., 2021; LoPilato et al., 2019; Lovallo, 2013; McLaughlin et al., 2010; Teicher & Samson, 2016). Stress can be understood as a multifaceted process comprising several interrelated aspects (Lazarus & Folkman, 1984; Segerstrom & O'Connor, 2012; Ursin & Eriksen, 2004). These include stressors (i.e. events or conditions perceived as threatening or overwhelming), and the resulting stress response (Inauen et al., 2025; Ursin & Eriksen, 2004) which can be psychological, physiological and/or behavioural. In the current research, stress is operationalised as the degree to which situations in one's life are appraised as stressful and here is referred to as perceived stress (i.e. perceptions of how unpredictable, uncontrollable and overloaded people feel; cf., Cohen et al., 1983) and is distinct from other measures that assess specific stressors in one's environment (e.g. an exam, an interview, a disagreement with one's boss). In this context, mood is considered as a psychological response to a stressful event.

LoPilato and colleagues (2019) found that childhood adversity was associated with increased perceived stress in a subsample of females, which in turn predicted higher morning cortisol levels. A study by Betz et al. (2021), using data from the Biomarker Project of the Midlife Development in the United States (MIDUS) study, found further evidence linking childhood trauma to higher subjective stress. Moreover, the stress sensitisation theory posits that early adversity lowers an individual's tolerance for stress, thereby heightening vulnerability to psychopathology when later stressors occur (Kendler et al., 2004). As such, individuals who have been exposed to childhood trauma are likely to experience greater levels of perceived stress and to have a more negative psychological response to stressful events (e.g. triggering more negative mood, anxiety or hopelessness) (Glaser et al., 2006).

As outlined above, the sensitisation to stress theory posits that childhood trauma influences the interpretation and experience of stressors, such that adults with trauma histories are more likely to appraise daily situations as overwhelming, uncontrollable and personally threatening. Moreover, it is also predicted that childhood trauma will

have indirect effects on mental health outcomes (e.g. negative mood) through higher levels of perceived stress. This is consistent with a recent study by Wang, Keyworth and O'Connor (2025) that found that in addition to main effects, childhood trauma had indirect effects on depression, anxiety, defeat and entrapment through perceived stress as well as stress appraisals. However, a limitation of the latter study was that the assessments were retrospective over the past 7 days. Therefore, taken together, one of the aims of the current study was to investigate the main and indirect effects of childhood trauma on negative and positive mood, and whether the effects of trauma were mediated through perceptions of stress in naturalistic settings using a daily diary design.

There is also a growing body of evidence that has suggested that childhood trauma is a vulnerability factor for the development of perfectionistic traits and behaviours later in life (Hewitt & Flett, 2002, 2017). For example, the Social Reaction Model of Perfectionism (Flett et al., 2002) argues that the development of perfectionistic traits and behaviours later in life may develop, in part, as a result of adverse experiences early in life. Moreover, there is research that has shown that trait perfectionism is also an important risk factor for a range of health outcomes, and a large amount of this empirical effort has focused attention on the relationship between trait perfectionism and mental health outcomes, including suicide risk (e.g. Flett et al., 2014, 2022; O'Connor, 2007). However, a paucity of work has investigated the individual or interactive effects of adverse early life experiences and perfectionism in the same study.

One study that investigated adverse childhood experiences and perfectionism together was conducted by Chen et al. (2019). This cross-sectional investigation found exposure to adverse childhood experiences was associated with higher levels of socially prescribed perfectionism – the tendency to believe others have high or unrealistic expectations for you and a belief that one has failed to meet these high expectations (Hewitt & Flett, 1991). This type of perfectionism is a key predictor of suicidal thoughts and behaviours (Flett et al., 2014; Hewitt et al., 2006; O'Connor, 2007; Smith et al., 2018). For example, a meta-analysis exploring the relationship between different dimensions of perfectionism and suicidality reported robust evidence that socially prescribed perfectionism was associated with suicide ideation and attempts (Smith et al., 2018). Moreover, these authors also found that it was socially prescribed perfectionism alone (and not other dimensions) that predicted longitudinal increases in suicide ideation (Smith et al., 2018). More recently, Zhao et al. (2024) showed that only socially prescribed perfectionism had a significant direct path to suicide ideation and, O'Connor et al., 2021 found that socially prescribed perfectionism was related to dysregulation of the stress response system (i.e. hypothalamic-pituitary-adrenal axis functioning) in individuals vulnerable to suicide.

Hewitt and Flett's (2002) integrated model of perfectionism and stress proposes that perfectionism shapes exposure to stress, through stress generation, influences

appraisal and anticipation of stressors, intensifies reactions and perpetuates stress through maladaptive coping. Individuals high in perfectionism actively create stressful circumstances through rigid standards, procrastination, interpersonal conflict, or over-commitment, and as a result are likely to experience greater perceived stress. It is also argued that perfectionism contributes to greater stress anticipation, whereby, it leads to hypervigilance about possible failures and rejections. Minor setbacks can be perceived as catastrophic failures, with disproportionate effects on negative and positive mood, self-worth and functioning. In other words, in addition to the direct effects of socially prescribed perfectionism on negative mental health outcomes, it may also have indirect effects through influencing perceptions of stress. Therefore, another aim of the current study was to explore this possibility further and to test whether socially prescribed perfectionism also has indirect effects on positive and negative mood by influencing perceived stress levels.

Next we move focus from stress-based models of mental health to a distinct framework explaining suicidal ideation and behaviour. A leading model of suicidal behaviour, the Integrated Motivational-Volitional (IMV) Model, conceptualises suicide as a behaviour that results from a complex interplay of factors and provides a detailed map of the pathway from ideation to behaviour through defeat and entrapment (O'Connor & Kirtley, 2018). The IMV model proposes that the central predictor of a suicide attempt is an individual's intention to engage in suicidal behaviour. Feelings of defeat/humiliation trigger feelings of entrapment, which in turn lead to suicidal thoughts which serve as a means of escaping unbearable mental pain. Throughout this process, there are stage-specific moderators that facilitate or prevent progress to the next stage, with motivational moderators (e.g. thwarted belongingness, burdensomeness and goals) predicting ideation and volitional moderators (e.g. exposure to suicidal behaviour and impulsivity) governing behavioural enactment (Branley-Bell et al., 2019; O'Connor & Kirtley, 2018; Rogerson, O'Connor, & O'Connor, 2024).

Moreover, the model begins with the pre-motivational phase that sets the backdrop for suicidal ideation by focussing on the contextual and personal factors influencing an individual's vulnerability to experiencing distress. These factors can include underlying vulnerabilities such as personality traits (e.g. perfectionism) and environmental and life circumstances such as early life adversity. These underlying vulnerabilities are hypothesised to render individuals differentially sensitive to environmental signals that indicate defeat and entrapment. It has also been suggested that those who are high on self-critical or perfectionistic traits are more likely to perceive defeat and less likely to accept this defeat (Sturman, 2011). A recent cross-sectional study by Moscardini et al. (2023) explored whether socially prescribed perfectionism was an important factor to consider within the pre-motivational phase and found that it was significantly associated with defeat as well as other suicide-related vulnerability factors. Another study by Maydom et al. (2024) found that childhood trauma was associated with higher

levels of stress, defeat and entrapment, as well as a history of suicide ideation and attempts.

However, to date, within the context of the IMV model, limited research has investigated the effects of early life adversity and perfectionism in the same study or explored whether the negative effects of childhood trauma on important indicators of suicide risk (such as perceived stress, mood, defeat or entrapment) are moderated by socially prescribed perfectionism. As outlined earlier, it is theorised that trait perfectionism is a general vulnerability factor for stress-related psychopathology (Flett et al., 2022; Hewitt & Flett, 2002). Individuals high in perfectionism often adopt avoidant and maladaptive strategies, such as denial, procrastination, rumination, substance use, instead of problem-focused strategies or seeking social support (Flett et al., 2014, 2022; O'Connor et al., 2007). Individuals high in socially prescribed perfectionism may also misinterpret neutral or supportive feedback as criticism, perpetuating feelings of rejection, alienation and withdrawal (Hewitt & Flett, 2002). As a result, they may feel powerless against external demands and not have strong protective social support networks. Therefore, given the general vulnerabilities outlined above, it is likely that individuals high in socially prescribed perfectionism may be especially susceptible to the negative psychological impact of childhood trauma, such that individuals with a history of childhood trauma and who are also high in socially prescribed perfectionism, will exhibit greater risk of suicide vulnerability.

In sum, the current research, using data from three separate studies, aimed to explore the main and interactive effects of childhood trauma and socially prescribed perfectionism on measures of perceived stress, mood and feelings of defeat and entrapment. The following pre-registered hypotheses were tested:

1. Childhood trauma will be positively associated with perceived stress, depressive symptoms (measured in Study 1 only), negative mood, defeat and entrapment, and negatively associated with positive mood.
2. Socially prescribed perfectionism will be positively associated with perceived stress, depressive symptoms (measured in Study 1 only), negative mood, defeat and entrapment and negatively associated with positive mood.
3. Effects of childhood trauma and socially prescribed perfectionism on entrapment will be mediated through defeat (see Figure 1).
4. Effects of childhood trauma and socially prescribed perfectionism on negative/positive mood will be mediated through perceived stress (see Figure 1).
5. Socially prescribed perfectionism will moderate the childhood trauma-psychological outcomes (perceived stress/depressive symptoms [study 1 only]/negative mood/positive mood/defeat/entrapment) relationships such that associations will be stronger at higher compared to the lower levels of socially prescribed perfectionism.

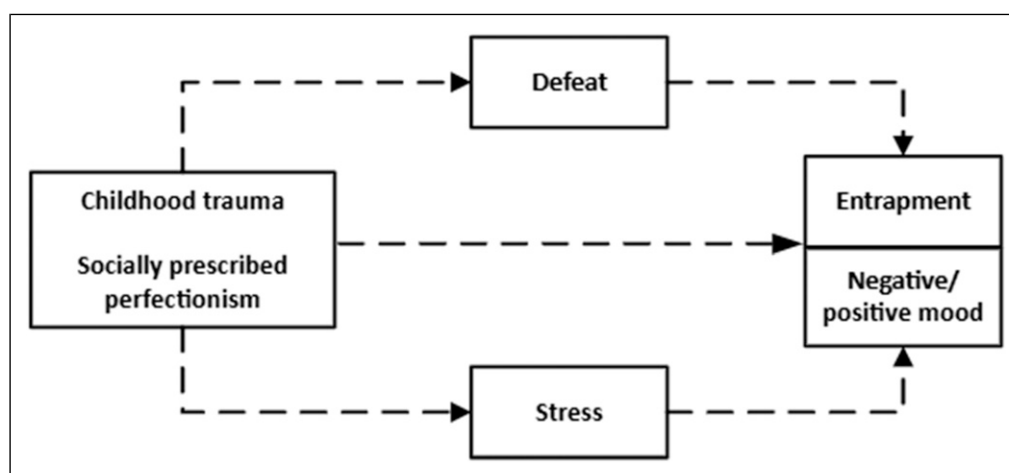


Figure 1. Overview of the hypothesised indirect effects of childhood trauma and socially prescribed perfectionism on feelings of entrapment and mood through feelings of defeat and perceived stress, respectively. *Note.* In Study 1 depressive symptoms are measured instead of negative mood

Transparency and Openness

The main study hypotheses and analysis plan for each of the three studies reported in this paper were preregistered on AsPredicted (<https://aspredicted.org/ytjp-3spy.pdf>). Studies 1 and 2 are secondary data analyses of previously reported studies (O'Connor et al., 2017, 2020) and study 3 reports data from a new study. We followed the Journal Article Reporting Standards and report how we determined our sample sizes, data exclusions and measures in the studies. In Study 2 and 3, the multilevel analysis and multilevel mediation were performed using HLM7 and the MLMed Macro in SPSS. However, we have provided the R code for each of four main models tested in Supplemental materials. The datasets for each of the studies are available at <https://figshare.com/s/0c44d0d6fdd0c0931269>. The studies received ethical approval from relevant committees as outlined in each study method section.

STUDY 1

Method

Design and Participants. One hundred and 60 participants were recruited for a study exploring the relationship between suicide vulnerability and cortisol reactivity to stress (see O'Connor et al., 2017). The original study aimed to determine whether heightened or blunted cortisol reactivity to stress was associated with a history of suicide ideation and/or suicide attempt in comparison to healthy controls (O'Connor et al., 2017). Therefore, our recruitment strategy targeted individuals with a history of suicidal thoughts and behaviour as well as individuals without a history of suicidal thoughts and behaviours. A formal power analysis was not calculated; instead we aimed to recruit a sample size comparable to two related studies that utilised a laboratory stress-induction protocol in suicide vulnerable groups

($N = 138$, Giletta et al., 2015; $N = 208$, Melhem et al., 2016). This study was conducted at a university in the north of England. Background questionnaire measures (including questions about suicide history, see below) were completed at the beginning of the study. Participants were recruited to the study in response to a local advertising campaign on websites (e.g. Gumtree and Twitter), via posters, flyers and emails. Eligible participants were required to be at least 18 years old and to understand English. Of the 160 participants recruited, the current analyses are based on 159 participants who completed the childhood trauma and socially prescribed perfectionism measures at baseline. Participants were aged between 18 and 62 years of age ($M = 26.84$ years, $SD = 9.32$ years). The sample consisted of 100 (62.8%) females and 59 (37.2%) males and 106 (67%) participants had a history of suicide ideation and/or attempt. This study was approved by the Research Ethics Committee of the University's School of Psychology (#13-0025) and the US Department of Defense Human Research Protections Office.

Measures

Background Questionnaire. The background questionnaire consisted of a range of questions including on age, sex and ethnicity. Suicidal ideation and attempt were assessed using the Self-Injurious Thoughts and Behaviors Interview (SITBI; Nock et al., 2007; e.g. 'Have you ever had thoughts of killing yourself?'). The SITBI has been found to have good reliability and validity (e.g. Nock et al., 2007). Participants were considered to have a history of suicide attempt if they reported attempting to take their own life in the past (lifetime) or a history of suicide ideation if they reported having thoughts of ending their life in the past 12 months (but not acting on these thoughts).

Childhood Trauma. Childhood trauma was assessed using the Childhood Trauma Questionnaire (CTQ;

Bernstein et al., 2003). A brief 28-item self-report inventory was used to assess for a history of abuse or neglect in childhood or adolescence. The CTQ has been found to have good reliability and validity (e.g. Bernstein et al., 2003). The CTQ has five subscales assessing emotional abuse, physical abuse, sexual abuse, emotional neglect and physical neglect (e.g. 'I thought that my parents wished I had never been born', 'I was punished with a belt, a board, a cord, or some other hard object') with five items for each subscale (1 = 'never true', 5 = 'very often true'). The total CTQ score was computed by summing each of the subscale scores. The Cronbach's alpha in the current sample for the total scale was 0.93.

Socially Prescribed Perfectionism. Socially prescribed perfectionism was assessed using the 15-item scale from the Multidimensional Perfectionism Scale (Hewitt & Flett, 1991, 1996). The Multidimensional Perfectionism Scale has been shown to have good reliability and validity (Hewitt & Flett, 1991, 1996; O'Connor et al., 2007). Socially prescribed perfectionism (SPP) measures the degree of belief that others hold unrealistically high expectations of one's behaviour and that they would only be satisfied with these standards (e.g. 'The people around me expect me to succeed at everything I do'). Each item is rated on a scale from 1 = 'strongly disagree' to 7 = 'strongly agree'. The total SPP score was computed by summing the items (after relevant items were reversed). The Cronbach's alpha in the current sample for the total scale was 0.89.

Perceived Stress. Perceived stress was measured using the Perceived Stress Scale (PSS; Cohen et al., 1983). It has been shown to have good reliability and validity (Cohen et al., 1983). The PSS is a 4-item measure which asks participants about their stress over the past month (e.g. 'In the last month, how often have you felt that you were unable to control the important things in your life?'). Items are scored on a scale of 0 (never) to 4 (very often). Two items are reverse-scored before all items are summed. Cronbach's α was .85.

Depressive Symptoms. Depressive symptoms were measured using the Beck Depression Inventory which has been shown to have good reliability and validity (BDI-II; Beck et al., 1996). The BDI-II consists of 21 items scored on a scale of 0–3, with higher scores indicating more severe symptoms of depression. The items measure symptoms over the last fortnight ($\alpha = .93$) and are summed to create a total score.

Defeat and Entrapment. The Defeat and Entrapment Scales (Gilbert and Allan, 1998) were used to measure the respective factors. These scales have been found to be reliable and valid (Gilbert and Allan, 1998). Each scale consists of 16 items, with higher scores indicating greater feelings of defeat/entrapment. The defeat scale measures individuals' perceptions of failed struggle and losing rank (e.g. 'I feel that I have not made it in life'). Items are

answered using a 5-point scale ranging from 0 ('never') to 4 ('always') and answered according to how the participant has felt over the last 7 days. A total score is calculated by summing all items (after reversing relevant items). Internal consistency was $\alpha = .97$. The entrapment scale measures motivation to escape (e.g. 'I am in a situation I feel trapped in'). The scale measures internal and external entrapment, as well as providing an overall total entrapment score. Items are rated on a five-point scale from 0 ('Not at all like me') to 4 ('Extremely like me'). A total score is calculated by summing all items (after reversing relevant items). Cronbach's α was .95.

Data Analysis. Pearson Product Moment correlations were used to test whether childhood trauma and socially prescribed perfectionism were positively associated with perceived stress, depressive symptoms, defeat and entrapment. Hayes Model 1 using the PROCESS macro in SPSS was used to investigate whether socially prescribed perfectionism moderated the childhood trauma-stress/depressive symptoms/defeat/entrapment relationships (Hayes, 2022). In these analyses, separate models were tested for each outcome (perceived stress, depressive symptoms, defeat and entrapment) with childhood trauma serving as the predictor and socially prescribed perfectionism serving as the moderator. Hayes Model 4 using the PROCESS macro in SPSS was used to run the mediation analyses (see Figure 1). In these analyses, simple mediation models were run for childhood trauma or socially prescribed perfectionism as predictors testing their indirect effects on depressive symptoms through perceived stress and on entrapment through defeat. In order to account for multiple testing, we have adopted a more conservative p value to indicate statistical significance ($p < 0.01$).

Results

Descriptive statistics for the main study variables are presented in Table 1.

Associations Between Childhood Trauma and Socially Prescribed Perfectionism and Perceived Stress, Depressive Symptoms, Defeat and Entrapment

Correlational analyses indicated that childhood trauma and socially prescribed perfectionism were significantly positively associated with perceived stress, depressive symptoms, defeat and entrapment (see Table 1).

Main and Moderating Effects of Childhood Trauma and Socially Prescribed Perfectionism

The results of moderation analyses showed significant main effects of childhood trauma and socially prescribed perfectionism on all study variables, however, the effects of childhood trauma on perceived stress,

Table 1. Descriptive Statistics and Pearson's Correlations Between Main Study Variables (Study 1)

		Mean	SD	1.	2.	3.	4.	5.	6.
1.	Childhood trauma	44.43	18.36	---					
2.	Social perfectionism	58.58	17.29	0.25*	---				
3.	Stress	8.69	3.61	.29**	0.50**	---			
4.	Depressive symptoms	18.11	12.58	0.35**	0.49**	0.72**	---		
5.	Defeat	26.72	16.39	0.39**	0.47**	0.71**	0.79**	---	
6.	Entrapment	23.92	17.57	0.43**	0.49**	0.70**	0.78**	0.86**	---

Note. * $p < 0.01$; ** $p < 0.001$.

depressive symptoms, defeat and entrapment were not moderated by socially prescribed perfectionism (Supplemental Table 1).

Indirect effects of Childhood Trauma and Socially Prescribed Perfectionism

The indirect effects of childhood trauma and socially prescribed perfectionism on depressive symptoms through perceived stress and on entrapment through defeat showed there was an effect of childhood trauma on entrapment through defeat ($b = 0.303$, 95% CI [0.182, 0.439]) and on depressive symptoms through perceived stress ($b = 0.137$, 95% CI [0.064, 0.205]). Similarly, there were effects of socially prescribed perfectionism on entrapment through defeat ($b = 0.392$, 95% CI [0.278, 0.502]) and on depressive symptoms mediated through perceived stress ($b = 0.230$, 95% CI [0.157–0.308]). See Supplemental Table 2.

Discussion

Four main findings emerged from this study. First, higher levels of childhood trauma and socially prescribed perfectionism were significantly associated with higher levels of perceived stress, depressive symptoms, defeat and entrapment. Second, socially prescribed perfectionism did not moderate the childhood trauma-psychological outcomes relationships. Third, mediation analyses found clear evidence that there were indirect effects of childhood trauma and socially prescribed perfectionism on entrapment through higher levels of defeat. Fourth, mediation analyses also found that there were indirect effects of childhood trauma and socially prescribed perfectionism on depressive symptoms through higher levels of perceived stress. It is also notable that the effect sizes (as indicated by the standardised regression coefficients) for the main effects of childhood trauma and socially prescribed perfectionism are considered small to medium following the Cohen-like conventions (Cohen, 1988), and that socially prescribed perfectionism is a stronger predictor of outcomes than childhood trauma. Similarly, the standardised indirect effects tended to be small to moderate across the outcomes.

The positive associations between childhood trauma and socially prescribed perfectionism and the different psychological outcomes are consistent with a growing

body of research (Betz et al., 2021; Flett et al., 2014, 2022; Rogerson, Wilding, et al., 2024). Exposure to adverse early life experiences has been shown to be reliably associated with higher levels of perceived stress and depressive symptoms in adulthood (e.g. Betz et al., 2021; Rogerson, Wilding, et al., 2024; Tinajero et al., 2020; Watters et al., 2023). Similarly, socially prescribed perfectionism has been shown to have destructive effects in adulthood by influencing aspects of the self and personal identity that affect the stress process (Flett et al., 2022; Hewitt & Flett, 2002). The associations between socially prescribed perfectionism and perceived stress are also consistent with the stress mechanisms outlined in Hewitt and Flett's (2002) model of stress and perfectionism. Taken together, these findings are important given the well-established effects of stress on endocrine functioning, the autonomic nervous system, gene expression and chronic health outcomes, as well as on mental health and suicide risk (O'Connor et al., 2021). However, it was surprising that there was no evidence that the associations between childhood trauma and the psychological outcomes were exacerbated by increasing levels of socially prescribed perfectionism. This is contrary to our prediction. Nevertheless, it would be useful to confirm these null findings in another study before drawing firm conclusions.

The current study also found evidence of indirect effects of childhood trauma and socially prescribed perfectionism on entrapment and depressive symptoms through defeat and perceived stress, respectively. These former results provide further support for one of the main tenets of the IMV model, that feelings of defeat trigger feelings of entrapment (which then in turn predict suicide ideation). Moreover, these findings also show that two important pre-motivational variables – childhood trauma and socially prescribed perfectionism – may influence entrapment, a key indicator of suicide risk, by precipitating more intense feelings of defeat. Similarly, the latter results indicate that childhood trauma and socially prescribed perfectionism influence depressive symptomology by altering perceptions of stress.

The current study has several strengths, not least the recruitment of participants from a range of backgrounds that included two-thirds of individuals who reported they had a history of suicide ideation or attempt. However, we recognise that a cross-sectional design can have substantial shortcomings. For example, it relies on a single snap-shot, precludes the ability to determine temporal precedence,

and is prone to common method variance and low external validity. Therefore, in Study 2, we aimed to replicate the current findings using a 7-day diary design that also included a daily measure of positive mood as well as negative mood (instead of the Beck Depression Inventory which was deemed not suitable for daily use). Moreover, a daily diary design was adopted to help offset the limitations of the cross-sectional design as it allows for the sampling of variables of interest over an extended period of time, over more and less stressful days, and provides a more realistic assessment of the study variables in naturalistic settings and separates the assessment of the predictor variables from the assessment of the mediator/outcomes variables. In the next study participants completed online daily diaries once per day before going to bed for 7 consecutive days.

STUDY 2

Method

Design & Participants. One hundred and 53 participants were recruited to a study investigating relations between childhood trauma, suicide vulnerability and cortisol levels (O'Connor et al., 2020). The original study aimed to improve understanding of the pathways through which childhood trauma, stress and daily cortisol levels contributed to suicide vulnerability (O'Connor et al., 2020). This study was conducted in a university in the north of England and employed a 7-day, interval contingent daily diary design whereby participants completed an online daily diary once a day before bed. Background questionnaire measures (including questions about suicide history, see below) were also completed at the beginning of the study. Participants were recruited to the study using the same approach as used in Study 1. Eligible participants were required to be at least 18 years old and to understand English.

Of the 153 participants recruited, the current analyses are based on 150 participants who completed the childhood trauma and perfectionism measures at baseline and completed daily diaries. Participants were aged between 18 and 60 years of age ($M = 27.57$ years, $SD = 8.85$ years). The sample consisted of 105 (70%) females and 45 (30%) males and 103 (69%) participants had a history of suicide ideation and/or attempt. The original study was designed to maximise the reliability of the main outcome measure (i.e. cortisol levels) and was informed by expert consensus guidelines; see O'Connor et al., 2020, p. 95). As a result, a formal power analysis was not conducted to inform the sample size. This study was approved by the Research Ethics Committee of the University's School of Psychology (#14-0155) and the US Department of Defense Human Research Protections Office.

Measures. The background questionnaire consisted of a range of questions, including age, sex, ethnicity and suicidal history. Childhood trauma and socially prescribed perfectionism were assessed using the same measures as

Study 1. Both scales were shown to have good internal consistency in the current sample (CTQ's $\alpha = 0.87$, SPP's $\alpha = 0.90$).

End of Day Daily Diary Questionnaires. Perceived stress was measured using a modified Perceived Stress Scale (PSS; Cohen et al., 1983) for daily use. It has been found to have good reliability and validity (O'Connor et al., 2020). The daily PSS is a 4-item measure that asks participants about their stress over the past day (i.e. participants were asked 'How often have you felt this way today' and then presented with the 4 items (e.g. 'that you were unable to control the important things in your life?')). Items are scored on a scale of 0 (never) to 4 (very often) and summed to create a total score. Two items are reverse-scored before all items are summed. The within-person and between-person Omega reliability coefficients for the PSS in the current sample were 0.60 and 0.91, respectively.

Positive and negative mood were measured using the Positive and Negative Affect Schedule – Short Form (PANAS-SF; Mackinnon et al., 1999). The PANAS-SF has been shown to have good reliability and validity (Mackinnon et al., 1999; Willroth et al., 2020). Participants were asked to indicate the degree to which they have experienced 10 feelings and emotions over the course of the day, ranging from 'very slightly' or 'not at all' (1) to 'extremely' (5). Five items measured positive affect (e.g. 'excited') and five items measured negative affect (e.g. 'upset') with the items summed to create a total score. The within-person and between-person Omega reliability coefficients for the positive mood in the current sample were 0.79 and 0.95, respectively. The within-person and between-person Omega reliability coefficients for the negative mood sample were 0.80 and 0.96, respectively.

Defeat and entrapment were assessed by asking participants to rate the extent to which they have felt both 'defeated' and 'trapped' over the course of the day, ranging from 'very slightly' or 'not at all' (1) to 'extremely' (5). These daily measures of defeat and entrapment have good face validity and have been shown to have good concurrent validity (i.e. both measures have been found to significantly correlate with the Defeat and Entrapment Scales (Gilbert and Allan, 1998); $r = 0.54$, $p < 0.001$, $r = 0.53$, $p < 0.001$, respectively). Multilevel reliability was evaluated following standard procedures for intensive longitudinal data (Bolger & Laurenceau, 2013). The daily defeat measure showed an intraclass coefficient (ICC) of 0.54, indicating substantial within-person variability. The Spearman–Brown person-mean reliability was high (0.88), and within-person reliability via split-half correlations corrected with the Spearman–Brown formula was acceptable (0.75), supporting the use of this single-item measure of defeat. The daily entrapment measure showed an intraclass coefficient (ICC) of .43, indicating substantial within-person variability. The Spearman–Brown person-mean reliability was high (.90), and within-person reliability via split-half correlations corrected with the Spearman–Brown

formula was acceptable (.67), supporting the use of this single-item measure of entrapment.

Data Analysis. The data were analysed using multilevel modelling (HLM 7, [Raudenbush et al., 2011](#)). Overall, participants completed 966 diary days out of a maximum of 1050 days representing a completion rate of 92%. Participants who failed to complete less than two diaries were excluded. Little's Missing Completely at Random (MCAR) test confirmed that the data were missing at random (Chi-Square = 11.925, $p = .749$). Given the high completion rates, we elected not to replace the missing data from these diary days. The data were considered to have a two-level hierarchical structure. The Level 2 variables were grand mean centred (childhood trauma, socially prescribed perfectionism) and were assumed to be fixed. The Level 1 variables (perceived stress, positive and negative mood, defeat and entrapment) were uncentred and modelled as random effects. The main analyses were conducted in two steps. In step one, the level 2 effects of childhood trauma and socially prescribed perfectionism on daily perceived stress, positive and negative mood, defeat and entrapment were tested in separate models (i.e. the analyses were run with childhood trauma as the predictor, and then run with socially prescribed perfectionism as the predictor for each of the outcome variables). In step 2, the main effects of childhood trauma and socially prescribed perfectionism were entered into the models as Level 2 variables together with the childhood trauma $\times$ socially prescribed perfectionism multiplicative interaction term to explore whether socially prescribed perfectionism moderated the effects of childhood trauma on each of the Level 1 variables. Finally, multilevel mediation was used to test whether there were (i) indirect effects of childhood trauma and socially prescribed perfectionism (separately) on daily entrapment via daily defeat and (ii) indirect effects of childhood trauma and socially prescribed perfectionism on positive/negative mood via perceived stress levels. Mediation analyses were conducted using the MLmed macro for SPSS ([Hayes & Rockwood, 2020](#); [Rockwood, 2017](#)), which estimates multilevel mediation models using restricted maximum likelihood (REML). Separate models were estimated for each proposed mediator and outcome (i.e. childhood trauma-defeat-entrapment, childhood trauma-perceived stress-negative mood, childhood trauma-perceived stress-positive mood; and the same for socially prescribed perfectionism). Indirect effects were tested using the Monte Carlo method for assessing mediation. In the current study, 20,000 Monte Carlo samples were drawn to construct bias-corrected 95% confidence intervals. In these analyses, the mediating variables (i.e. daily defeat and daily perceived stress) should be considered to be person-specific averages, consistent with Preacher's position 'if X is a level-2 variable, then any indirect effect exerted by X must involve only level-2 variables or level-2 components of level-1 variables' ([Preacher, 2015](#); p. 842).

Results

Descriptive statistics for the main study variables are presented in [Table 2](#).

Effects of Childhood Trauma and Socially Prescribed Perfectionism on Daily Perceived Stress, Mood, Defeat and Entrapment

Multilevel modelling found that higher levels of childhood trauma were significantly associated with higher average daily perceived stress, negative mood, defeat and entrapment but not positive mood ([Supplemental Table 3](#)). Similarly, higher levels of socially prescribed perfectionism were significantly associated with higher average daily perceived stress, negative mood, defeat and entrapment but not positive mood (see [Supplemental Table 3](#)).

Interactive Effects of Childhood Trauma and Socially Prescribed Perfectionism

Multilevel modelling was also used to explore whether socially prescribed perfectionism moderated the effects of childhood trauma on each of the Level 1 variables. The results of these analyses found no evidence of moderation (Step 2, [Supplemental Table 3](#)).

Indirect Effects of Childhood Trauma and Socially Prescribed Perfectionism

The results of multilevel mediation analysis found that the effect of childhood trauma on entrapment had an indirect effect through the person-specific average of daily defeat and the effect on negative and positive mood through the person-specific average of daily perceived stress (see [Table 3](#)). Similarly, the effect of socially prescribed perfectionism on entrapment had an indirect effect through the person-specific average of daily defeat and the effect on negative and positive mood through person-specific average of daily perceived stress (See [Table 3](#)).

Discussion

The results of this 7-day daily diary study have replicated the main findings from Study 1 in naturalistic settings. Childhood trauma and socially prescribed perfectionism were found to be significantly associated with higher daily perceived stress, negative mood, defeat and entrapment. Again, socially prescribed perfectionism was not found to moderate any of the childhood trauma-daily psychological outcomes relationships. However, clear evidence was observed for the indirect effects of childhood trauma and socially prescribed perfectionism on daily feelings of entrapment through higher mean levels of daily feelings of defeat. It is also notable that the effect sizes (as indicated by the standardised regression coefficients) for the main effects of childhood trauma and socially prescribed perfectionism are again considered small to medium ([Cohen, 1988](#)), and with the exception of entrapment, socially prescribed perfectionism is a marginally stronger predictor of outcomes than childhood trauma. Furthermore, the standardised indirect effects were lower for childhood

Table 2. Descriptive Statistics for Daily (Level 1) and Between-Person (Level 2) Measures Across 7 Days in Study 2 and Study 3

Variables	Study 2		Study 3	
	Mean	SD	Mean	SD
Level 1				
Stress*	10.76	3.62	2.27	1.08
Negative mood	10.57	5.22	7.77	3.40
Positive mood	12.06	4.76	11.72	4.61
Defeat	1.96	1.27	1.50	0.89
Trapped	1.93	1.29	1.29	0.69
Level 2				
Age	27.57	8.85	21.71	7.33
Gender (% female)	70.00	--	84.40	--
Childhood trauma	42.16	16.37	34.08	11.02
Socially prescribed perfectionism	59.08	17.18	52.32	14.71

Note. * = Perceived Stress Scale in Study 2 and single-item measure in Study 3.

trauma compared to socially prescribed perfectionism, although, they remained within the small range. We also found clear evidence for the indirect effects of childhood trauma and socially prescribed perfectionism on daily negative and positive moods through higher mean levels of

daily perceived stress. These findings demonstrate that being exposed to adverse early life experiences and having the tendency to believe others have excessively high or unrealistic expectations for you influence important daily processes in adulthood. Moreover, this study is the first to

Table 3. Indirect Effects of Childhood Trauma (Upper Panel) and Socially Prescribed Perfectionism (Lower Panel) on Daily Entrapment Through Daily Defeat and on Daily Negative and Positive Mood Through Daily Stress (Study 2)

	b	SE	t/Z	β	p	95% CI
Childhood trauma						
Defeat – entrapment						
Direct effect	0.005	0.003	1.783	0.071	0.076	−0.006, 0.011
Indirect effect	0.016	0.004	3.998	0.214	<0.001	0.087, 0.024
Total effect	0.022	0.003	8.839	0.185	<0.001	0.016, 0.027
Stress – negative mood						
Direct effect	0.019	0.013	1.428	0.062	0.155	−0.007, 0.046
Indirect effect	0.042	0.015	2.822	0.137	0.004	0.014, 0.072
Total effect	0.054	0.011	5.316	0.169	<0.001	0.030, 0.075
Stress – positive mood						
Direct effect	0.001	0.015	0.092	0.005	0.926	−0.029, 0.032
Indirect effect	−0.027	0.010	−2.686	−0.096	0.007	−0.049, −0.008
Total effect	−0.030	0.009	−3.231	−0.103	<0.001	−0.048, −0.011
Socially prescribed perfectionism						
Defeat – entrapment						
Direct effect	0.001	0.003	0.310	0.012	0.756	−0.005, 0.007
Indirect effect	0.018	0.004	4.506	0.249	<0.001	0.010, 0.026
Total effect	0.019	0.003	7.942	0.250	<0.001	0.013, 0.024
Stress – negative mood						
Direct effect	0.006	0.013	0.472	0.021	0.637	−0.020, 0.033
Indirect effect	0.058	0.015	3.899	0.194	0.001	0.030, 0.089
Total effect	0.059	0.011	6.154	0.194	<0.001	0.040, 0.081
Stress – positive mood						
Direct effect	−0.001	0.015	−0.111	−0.006	0.911	−0.032, 0.029
Indirect effect	−0.037	0.010	−3.552	−0.134	0.001	−0.059, −0.018
Total effect	−0.040	0.009	−4.554	−0.145	<0.001	−0.057, −0.021

Note. b = unstandardised regression coefficient, β = standardised regression coefficient.

show that childhood trauma and socially prescribed perfectionism can indirectly impact feelings of entrapment through higher feelings of defeat in daily life, providing clear support for the IMV model, and the important role played by key contextual and individual differences pre-motivational factors.

Nevertheless, next we wanted to replicate these findings and improve on the study design. Therefore, we conducted an additional study that asked participants to complete diaries twice per day, once at 1pm and then again before going to bed. This design would help minimise recall bias and yield more precise assessments by requiring participants to complete measures twice daily, each time reflecting on their experiences from the previous 4 hours.

STUDY 3

Method

Design & Participants. Four hundred and five participants were recruited for a study exploring the relations between childhood trauma, daily perceived stress and well-being. This study was conducted entirely remotely in the United Kingdom and employed an interval contingent daily diary design whereby participants completed an online diary twice per day, once at 1 pm and then before going to bed. Background questionnaire measures were completed online at the beginning of the study (as described in Study 1). Participants were recruited through the university's participant pool scheme, through advertisements via social media, online posters and word of mouth. Eligible participants were required to be at least 18 years old and to understand English and to be able to complete the study online on a computer or smartphone.

Of the 405 recruited, the current analyses are based on 378 participants who completed the childhood trauma questionnaire and socially prescribed perfectionism measure at baseline and took part in the 7-day diary study. Participants were aged between 18 and 68 years of age ($M = 21.71$ years, $SD = 7.35$ years). The sample consisted of 317 (84.4%) females and 59 (15.6%) males, and 97 (25.9%) participants had a history of suicide ideation and/or attempt. The prevalence of suicide ideation and/or attempt is lower than in Study 1 and 2; however, this percentage is comparable to recent data published from the UK Adult Psychiatric Morbidity Survey reporting that 25.2% of UK adults reported suicide ideation in their lifetime (Butt et al. (2025)). The sample size was determined using a summary-statistics-based power analysis to detect a cross level effect ((Murayama et al., 2022)) informed by the smallest significant effect observed in Study 2. The power analysis showed that a minimum sample of 301 was required to achieve 80% power ($t = -1.98$, $df = 148$). Therefore, to account for attrition and drop out, the study aimed to recruit 350 participants. The study was approved by the University Department's Research Ethics Committee (PSYC-699).

Measures. The background questionnaire consisted of a range of questions, including age, sex, ethnicity and suicide history. Childhood trauma and socially prescribed perfectionism were assessed using the same measures as in Study 1. Both scales were shown to have good internal consistency in the current sample (CTQ's $\alpha = 0.92$, SPS's $\alpha = 0.88$).

Daily Diary Questionnaires. Perceived stress was measured using a single item 'How stressed have you felt during the last 4 hours?' on 1 to 5 scale (1 = being 'not at all stressed' and 5 = being 'extremely stressed'). This measure has been shown to be valid and reliable (Littman et al., 2006; O'Connor & Ferguson, 2016). A similar single-item stress measure was used in a recent study (O'Connor & Rogerson, 2024) alongside the Hassles Scale from the Hassles and Uplifts Scale (DeLongis et al., 1988) and both measures were found to be significantly correlated ($r = 0.50$, $p < 0.001$) providing further evidence of validity. The daily stress measure showed an intraclass coefficient (ICC) of 0.38, indicating substantial within-person variability. The Spearman–Brown person-mean reliability was high (0.88), and within-person reliability via split-half correlations (between odd- and even-day stress scores within each person) corrected with the Spearman–Brown formula was acceptable (0.73), supporting the use of this single-item measure of perceived stress.

Positive and negative mood were measured using the Positive and Negative Affect Schedule – Short Form (PNAS-SF; Mackinnon et al., 1999). THE PANAS-SF has been shown to have good reliability and validity (Mackinnon et al., 1999; Willroth et al., 2020). Participants were asked to indicate the degree to which they have experienced 10 feelings and emotions in the last 4 hours, ranging from 'very slightly' or 'not at all' (1) to 'extremely' (5). Five items measured positive affect (e.g. 'excited') and five items measured negative affect (e.g. 'upset') with the items summed to create a total score. The within-person and between-person Omega reliability coefficients for the positive mood scale in the current sample were 0.83 and 0.95, respectively. The within-person and between-person Omega reliability coefficients for the negative mood scale in the current sample were 0.78 and 0.93, respectively.

Defeat and entrapment were assessed using same measures as in Study 2 and asking participants to rate the extent to which they have felt both 'defeated' and 'trapped' over the last 4 hours, ranging from 'very slightly' or 'not at all' (1) to 'extremely' (5). As reported earlier, these daily measures of defeat and entrapment have good face validity and have been shown to have good concurrent validity with the Defeat and Entrapment Scales (Gilbert and Allan, 1998). The daily defeat measure showed an intraclass coefficient (ICC) of 0.33, indicating substantial within-person variability. The Spearman–Brown person-mean reliability was high (0.84), and within-person reliability via split-half correlations corrected with the Spearman–Brown formula was acceptable (0.66), supporting the use of defeat as

both a between-person and within-person predictor. The daily entrapment measure showed an intraclass coefficient (ICC) of 0.43, indicating substantial within-person variability. The Spearman–Brown person-mean reliability was high (0.90), and within-person reliability via split-half correlations corrected with the Spearman–Brown formula was acceptable (0.67), supporting the use of entrapment as both a between-person and within-person predictor.

Data Analysis. The data were analysed using multilevel modelling (HLM 7, Raudenbush, Brky, Cheong, Congdon, & du Toit, 2011) and followed the same two step approach as outlined in Study 2. Participants completed 4332 diaries from a maximum of 5292 diaries (i.e. 82% completion rate; 11.46 diary entries per participant). Similar to Study 2, given the high completion rates, we elected not to replace the missing data from these diary days. The Level 2 variables were grand mean centred (childhood trauma, socially prescribed perfectionism) and were assumed to be fixed. The Level 1 variables (perceived stress, positive and negative mood, defeat and entrapment) were uncentred and modelled as random effects. The multilevel mediation analysis was again completed using the MLmed computational macro for SPSS using the same parameters as described in Study 2 to test whether there were (i) indirect effects of childhood trauma and socially prescribed perfectionism (separately) on positive/negative mood via the person-specific average of perceived stress levels and (ii) indirect effects of childhood trauma and socially prescribed perfectionism on daily entrapment via the person-specific average of daily defeat (Rockwood, 2017). These analyses tested whether today's person-specific average of defeat scores mediated the effects of childhood trauma or socially prescribed perfectionism on today's entrapment scores.

Results

Descriptive statistics for the main study variables are presented in Table 3.

Effects of Childhood Trauma and Socially Prescribed Perfectionism on Perceived Stress, Mood, Defeat and Entrapment

The results of the multilevel modelling analyses found that higher levels of childhood trauma were significantly associated with higher average daily perceived stress, negative mood, defeat and entrapment, together with lower average positive mood (Supplemental Table 4). Similarly, higher levels of socially prescribed perfectionism were also significantly associated with higher average daily perceived stress, negative mood, defeat and entrapment, together with lower average positive mood (Supplemental Table 4).

Interactive Effects of Childhood Trauma and Socially Prescribed Perfectionism

In keeping with the findings from Study 2, socially prescribed perfectionism did not moderate the effects of childhood trauma on any of the Level 1 variables (see Step 2 in Supplemental Table 4).

Indirect Effects of Childhood Trauma and Socially Prescribed Perfectionism

The results of multilevel mediation analysis found that the effects of childhood trauma on entrapment had indirect effects through the person-specific average of defeat and the effects on negative mood through the person-specific average of perceived stress levels (Table 4). However, no indirect effects were found for positive mood. Similarly, the effects of socially prescribed perfectionism on entrapment had indirect effects through the person-specific average of defeat and the effects on negative mood had indirect effects through the person-specific average of perceived stress. However, again, no indirect effects were found for positive mood (Table 4).

Discussion

The results of this second 7-day daily diary study have replicated and extended the main findings from Study 2 in a younger sample and using a twice daily assessment design. Again, we found strong support for four of our five hypotheses. Childhood trauma and socially prescribed perfectionism were found to be significantly associated with each of the daily psychological outcome variables including daily positive mood. Moreover, four of the six indirect pathways tested were found to be statistically significant. However, the current study found that neither childhood trauma nor socially prescribed perfectionism had indirect effects on positive mood through daily perceived stress. This is contrary to Study 2, and highlights the need to investigate further before firm conclusions about the pathways towards positive mood can be confirmed. In addition, socially prescribed perfectionism was found to not moderate any of the childhood trauma-daily psychological outcomes relationships. Finally, it is worth noting that broadly speaking, the magnitude and pattern of effect sizes for the main effects of childhood trauma and socially prescribed on the outcomes were similar to Study 2 (small to medium) and with the exception of positive mood, socially prescribed perfectionism was a marginally stronger predictor than childhood trauma. Furthermore, the standardised indirect effects were generally in the small range across outcomes, with the exception of positive mood, for which the effect was non-significant.

General Discussion

Early life adversity, including childhood trauma, is widely recognised to have significant long-term negative effects on mental and physical health, psychological well-being,

Table 4. Indirect Effects of Childhood Trauma (Upper Panel) and Socially Prescribed Perfectionism (Lower Panel) on Daily Entrapment Through Defeat and on Daily Negative and Positive Mood Through Stress (Study 3)

	b	SE	t/Z	β	p	95% CI
Childhood trauma						
Defeat – entrapment						
Direct effect	0.004	0.001	3.156	0.071	0.002	0.001, 0.007
Indirect effect	0.008	0.001	5.015	0.138	<0.001	0.005, 0.011
Total effect	0.013	0.001	14.42	0.214	<0.001	0.011, 0.016
Stress – negative mood						
Direct effect	0.017	0.007	2.348	0.057	0.019	0.002, 0.032
Indirect effect	0.034	0.008	4.246	0.113	<0.001	0.019, 0.050
Total effect	0.050	0.006	11.051	0.166	<0.001	0.039, 0.063
Stress – positive mood						
Direct effect	−0.044	0.014	−2.965	−0.106	0.003	−0.073, −0.014
Indirect effect	−0.001	0.003	0.521	0.004	0.601	−0.004, 0.008
Total effect	−0.046	0.006	−7.339	−0.111	<0.001	−0.057, −0.033
Socially prescribed perfectionism						
Defeat – entrapment						
Direct effect	0.003	0.001	2.914	0.066	0.003	0.001, 0.005
Indirect effect	0.006	0.001	5.392	0.146	<0.001	0.004, 0.009
Total effect	0.010	0.001	14.475	0.215	<0.001	0.009, 0.012
Stress – negative mood						
Direct effect	0.014	0.005	2.508	0.061	0.012	0.003, 0.025
Indirect effect	0.033	0.006	5.540	0.144	<0.001	0.022, 0.045
Total effect	0.049	0.004	14.331	0.213	<0.001	0.042, 0.056
Stress – positive mood						
Direct effect	−0.028	0.011	−2.529	−0.091	0.011	−0.051, −0.006
Indirect effect	−0.001	0.003	0.594	0.006	0.551	−0.004, 0.008
Total effect	−0.028	0.05	−5.973	−0.090	<0.001	−0.038, −0.019

Note. b = unstandardised regression coefficient, β = standardised regression coefficient.

chronic illnesses and suicide risk in adulthood (Betz et al., 2021; Danese & McEwen, 2012; Finlay et al., 2022; O'Connor, Thayer, & Vedhara, 2021; Waehrer et al., 2020). Increasing evidence highlights stress-related processes as key mechanisms through which early life adversity harms health over time. The current programme of research, using two targeted populations in Studies 1 and 2 and a younger population in Study 3 to enhance generalisability, found that childhood trauma is reliably and robustly associated with higher levels of perceived stress, negative mood, defeat, entrapment and less positive mood in adulthood across three separate studies using a range of study designs. Moreover, childhood trauma was also found to consistently impact on daily negative mood through higher levels of daily perceived stress.

The finding that childhood trauma significantly affected daily functioning by influencing daily perceived stress and mood processes is important and suggests that childhood trauma predisposes individuals to poorer health outcomes by impacting the daily stress experience. This is consistent with the stress sensitisation theory outlined earlier, whereby, individuals who have been exposed to childhood trauma are likely to experience greater levels of perceived stress and to have a more negative psychological response to stressful events (Betz et al., 2021; LoPilato et al., 2019; Lavallo, 2013; McLaughlin et al., 2010). Across three

studies, we found clear evidence that the effects of childhood trauma on daily negative mood were mediated through higher perceived stress. This is concerning for a number of reasons. First, it is well established that higher levels of daily stress and negative mood can trigger increases in health risk behaviours (e.g. high-fat food consumption, alcohol intake and smoking) while inhibiting engagement in health protective behaviours (e.g. physical activity, fruit and vegetable consumption) which are likely to be damaging for health if maintained over time (Araiza & Lobel, 2018; Cardi et al., 2015; Hill et al., 2022). Second, alongside the behavioural effects of daily stress and negative mood, there are also the negative influences of stress on physiological processes such as hypothalamic-pituitary-adrenal (HPA) axis regulation and cortisol dynamics, the autonomic nervous system, inflammation and gene expression (O'Connor et al., 2021). Over time, such repetitive activation may lead to tissue damage and contribute to future ill-health by placing excessive pressure on various bodily systems, including the HPA axis, leading to allostatic load and overload (McEwen, 2006). Therefore, it is likely that childhood trauma influences daily stress processes that then affect health via two distinct but interacting pathways: a direct, biological pathway and an indirect, behavioural pathway (O'Connor et al., 2021). These pathways are likely to operate in a bi-directional

fashion, with changes in behaviour impacting biology, and changes in biology influencing behavioural changes which affect health.

This research also found evidence that suggests socially prescribed perfectionism may yield its pernicious effects on physical and mental health through influencing similar stress-related daily processes. Interestingly, inspection of the effect sizes (i.e. standardised regression coefficients) across the three studies suggests that socially prescribed perfectionism, compared to childhood trauma, tended to exert a larger influence on both stress and negative mood outcomes. This pattern implies that the ongoing cognitive and emotional pressures associated with meeting perceived external expectations may have a stronger proximal impact on individuals' daily psychological functioning than the more distal effects of early adverse experiences. This is a particularly noteworthy observation, as it highlights the potential importance of perfectionistic tendencies as a maintaining or amplifying factor in emotional distress.

More broadly, the current findings are consistent with [Hewitt and Flett's \(2002\)](#) integrated model of perfectionism and stress, and the reasoning that individuals high on socially prescribed perfectionism think, feel and behave in ways that generate stress and trigger negative mood, which subsequently increases the risk of adverse mental and physical health conditions ([Hewitt & Flett, 2002](#)). Two longitudinal studies in the workplace showed that socially prescribed perfectionism predicted increases in role stress and inefficacy over time, as well as increases in burnout ([Childs & Stoeber, 2012](#)). Work by [Dunkley and colleagues \(2014\)](#) exploring higher order conceptualisations of perfectionism (i.e. personal standards and self-criticism) have shown that individuals who had both higher personal standards and self-criticism were more emotionally reactive to event stress, had more negative social interactions, and engaged in more avoidant coping.

As outlined earlier, socially prescribed perfectionism may contribute to stress vulnerability and adverse mental and physical effects through repetitive thinking about future events (i.e. stress anticipation or worry) or about past events (i.e. stress perpetuation or rumination). Individuals with high levels of perfectionism frequently rely on avoidant or maladaptive coping strategies – such as denial, procrastination, rumination or substance use – rather than employing problem-focused approaches or seeking social support ([Flett et al., 2014, 2022](#); [O'Connor et al., 2007](#)). As a result, engagement in maladaptive strategies such as repetitive negative thinking is likely to be a key variable transmitting negative effects for health and well-being. Relatedly, [Ottaviani et al. \(2016\)](#) have found clear evidence that negative thought processes such as worry and rumination (known as perseverative cognition) adversely affect cardiovascular, autonomic, and endocrine system activity and there is a large body of work linking rumination to depression and depressive relapses (e.g. [Nolen-Hoeksema, 1991](#); [Nolen-Hoeksema et al., 2008](#)). Future research ought to explore further the extent to which

socially prescribed perfectionism influences these repetitive thinking-focused variables in daily life alongside measures of physiological markers of stress in the context of mental and physical health outcomes.

The second central aim of this paper was to investigate whether two pre-motivational factors, childhood trauma, as a contextual factor, and socially prescribed perfectionism, as a personal factor, influenced the defeat-entrapment pathway outlined in the IMV model of suicide. As described earlier, the IMV model proposes that the central predictor of a suicide attempt is an individual's intention to engage in suicidal behaviour ([O'Connor & Kirtley, 2018](#)). Feelings of defeat trigger feelings of entrapment, which in turn predicts suicide ideation. Therefore, entrapment is considered to be an important proximal predictor of suicide ideation. Across the three studies reported here, we found robust evidence that childhood trauma and socially prescribed perfectionism indirectly impacted upon feelings of entrapment through higher feelings of defeat. The latter finding is consistent with the Social Disconnection Model of Perfectionism that argues that perfectionism leads to maladaptive interpersonal behaviours that erode social bonds, leaving individuals high in perfectionism isolated and vulnerable to depression and suicidality ([Hewitt et al., 2006](#)). Specifically, the model argues that loneliness, rejection sensitivity and interpersonal alienation are pathways that link perfectionism, and especially socially prescribed perfectionism to depression, anxiety, hopelessness, suicide ideation and disordered eating. The social disconnection becomes a cycle, with perfectionism leading to interpersonal tension, withdrawal, reduced support, increased negative affect and even stronger perfectionistic striving.

These findings are also notable and novel as they improve our understanding of how these two important variables (childhood trauma and socially prescribed perfectionism) may increase the risk of suicide at a daily level during the early part of the IMV's motivational phase, before potential suicide ideation formation. Previously, [Maydom et al., 2024](#); [Rogerson et al., 2024](#) found that childhood trauma was associated with higher levels of defeat and entrapment, however, the indirect pathway from trauma to defeat to entrapment was not investigated. [Moscardini et al. \(2023\)](#), in a cross-sectional survey, investigated how socially prescribed perfectionism may be an important vulnerability factor for the development of defeat. This study found that socially prescribed perfectionism was significantly related to defeat through negative social comparison and rejection sensitivity (also consistent with the Social Disconnection Theory of Perfectionism). Therefore, it would be fruitful for future research to explore further these, and other factors that may bridge the gap between childhood trauma, socially prescribed perfectionism and the development of defeat. Rumination has also been identified as an important mediating variable between socially prescribed perfectionism and emotional distress ([O'Connor et al., 2007](#); [Xie et al., 2019](#)) and between childhood trauma and distress ([Kim et al., 2017](#); [O'Connor et al., 2025](#)). The extent to which patterns of

attachment explain the aforementioned relationship should also be explored (Zortea et al., 2019).

It is notable that across the three studies, we found that socially prescribed perfectionism did not moderate any of the childhood trauma-daily psychological outcomes relationships. This was contrary to our predictions and suggests that, despite the well documented negative influence of trait perfectionism on stress generation and perpetuation, on the use of avoidant and maladaptive strategies and social relationships, that socially prescribed perfectionism did not interact with childhood trauma to predict negative psychological outcomes (Flett et al., 2014, 2022; Hewitt & Flett, 2002). It remains a possibility that other dimensions of trait perfectionism (e.g. self-oriented perfectionism, other-oriented perfectionism, concern over mistakes, etc.) may interact with history of childhood trauma leading to greater physical and mental health vulnerabilities. Alternatively, it may well be the case, that the relationship between childhood trauma and negative outcomes is mediated through socially prescribed perfectionism. The Social Reaction Model of Perfectionism (Flett et al., 2002) argues that the development of perfectionistic traits and behaviours later in life may develop, in part, as a result of adverse experiences early in life. Of course, it is also possible that the absence of the predicted moderating effects may be because some of the studies were underpowered to detect these typically smaller interaction effects. Consequently, we conducted a sensitivity analysis informed by Mathieu et al. (2012)'s work, and found that the power for interactions in Studies 1 and 2 is .42, which is underpowered, and for study 3 it is .90, which is fully powered. Therefore, lack of power cannot explain the null interaction effects in the largest, final study, whereas it may have played a role in Studies 1 and 2. Future research ought to explore further the potential indirect effects of childhood trauma on physical and mental health outcomes (including suicide behaviour measures) through the development of perfectionistic traits utilising larger scale, longitudinal designs that can better account for temporal precedence such that childhood trauma is measured before perfectionistic traits.

The current findings may have implications for interventions aimed at mitigating the negative impacts of childhood trauma and socially prescribed perfectionism. They suggest that such interventions should incorporate components that target modifiable factors such as perceived stress and negative mood. For example, Prudenzi et al. (2021) suggested that acceptance and commitment approaches could benefit stress and distress and a recent review by Rogerson, Wilding, et al. (2024) confirmed mindfulness, meditation and relaxation strategies as effective stress management interventions. Therefore, future research ought to investigate the effectiveness of interventions at reducing stress levels in the context of childhood trauma and socially prescribed perfectionism. Moreover, interventions aimed at reducing perceptions of entrapment and defeat should be prioritised as they are likely to be key in reducing future suicide ideation, particularly in individuals with a history of suicide thoughts and behaviours (O'Connor et al., 2023). Such interventions may take the form of targeting coping

abilities, with evidence that improving more positive trait factors such as hope and resilience may reduce the impact of perceptions of entrapment (Wetherall et al., 2018). Cognitive behavioural therapy has been used to successfully improve levels of defeat in vulnerable individuals (e.g. Murata et al., 2019).

In the terms of perfectionism, Flett and colleagues (2022) have argued that there is an urgent need to adopt preventative approaches that incorporate proactive efforts to reduce levels of socially prescribed perfectionism and its damaging effects on people's lives. They suggest this should be done in a number of different ways. For example, prevention efforts should select methods to help reduce the impact of the internalisation of social pressures to be perfect and to help individuals manage the demands placed on them. There is also the need for interventions to focus on changing the social and work environments that increase exposure to unrealistic pressures, as well as the individuals experience of socially prescribed perfectionism (Flett et al., 2022). Cognitive behavioural treatments for perfectionism have also been shown to be effective. For example, Egan and Shafran (2017) argue that perfectionism should be treated as a transdiagnostic process. Using a combination of psychoeducation and cognitive behaviour therapy, these treatments target the unrelenting high standards, self-criticism and fear of mistakes that maintains the perfectionism, and have been shown to be effective (Egan & Shafran, 2017).

We recognise that the current studies have several limitations. We acknowledge that the Childhood Trauma Questionnaire is a retrospective self-report tool that is subject to demand characteristics, social desirability, repression and memory biases, and as such, we cannot confirm the veracity of the reports. However, in the context of history of trauma, it has been argued that retrospective self-report tools may lead to an underestimation of actual occurrence (Hardt & Rutter, 2004). Similarly, we are aware of the limitations of self-report measures of variables such as perceived stress and that there may be some conceptual overlap between the single-item measure of perceived stress used in Study 3 and the measure of negative affect given the former asks participants to rate how they 'felt'. That said, this measure still included an explicit appraisal component by asking participants to evaluate how much stress they had experienced. We also note that the sample sizes included in the first two studies may be considered relatively small. However, it is important to recognise that these studies included a good representation of hard-to-reach individuals with a suicide history and a broad age range.

To conclude, the current programme of research found that childhood trauma and socially prescribed perfectionism are reliably and robustly associated with higher levels of perceived stress, negative mood, defeat, entrapment and less positive mood in adulthood across three separate studies using a range of study designs. Childhood trauma and socially prescribed perfectionism significantly affected average (mean) daily mood through mean daily perceived stress levels and influenced average (mean) daily feelings of entrapment through mean daily levels of defeat. Interventions aimed at mitigating the negative

effects of childhood trauma and socially prescribed perfectionism ought to target modifiable risk factors such as stress, mood, defeat and entrapment.

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Ethical Considerations

Each of the studies were approved by the Research Ethics Committee of the University's School of Psychology (Study 1: #13-0025, Study 2: #14-0155, Study 3: PSYC-699)

Consent to Participate

All participants provided written informed consent prior to participating.

Author Contributions

Daryl O'Connor: conceptualisation, data curation, formal analysis, funding acquisition, methodology, resources, visualisation, project administration, supervision, and writing—original draft, writing—review & editing. Dawn Branley-Bell: methodology, data curation, project administration, investigation, data curation, writing—review & edit. Eamonn Ferguson: funding acquisition, methodology, writing—review & editing. Jessica Green: methodology, data curation, project administration, investigation, writing—review & edit. Rory O'Connor: funding acquisition, methodology, resources, writing—review & editing.

Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Study 1 and 2 were funded on a grant awarded from US Department of Defense (US DOD W81XWH-12-1-0007). This research was also supported by funding from The Mindstep Foundation. The funders had no role in the writing of the manuscript.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Open Science Statement



The study preregistration is available from <https://aspredicted.org/ytjp-3spy.pdf> and datasets for each of the studies are available at <https://figshare.com/s/0c44d0d6fdd0c0931269>. The multilevel analysis and multilevel mediation were performed using HLM7 and the MLMed Macro in SPSS. However, we have provided the R code for each of four main models tested in Studies 1 and 2 in the [Supplemental materials](#).

Supplemental Material

Supplemental material for this article is available online.

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