

# The Cost of ‘Being Strong’: Exploring the Relationship Between Emotional Suppression and Wellbeing

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Emotional suppression is a common emotion regulation strategy, including among individuals with chronic health conditions and within certain cultural or gendered norms. Although widely used as an emotional regulation strategy, research has consistently linked suppression to poorer wellbeing outcomes. In people with chronic health conditions in particular, evidence has strongly indicated that emotional suppression has detrimental effects on factors including physical health and disease progression. This study aimed to examine the relationship between emotional suppression and wellbeing, and to explore whether this relationship was moderated by the presence of a chronic health condition. A total of 64 participants completed measures of emotional suppression, wellbeing, and chronic health status. Correlational analyses revealed a significant negative association between emotional suppression and wellbeing. A multiple linear regression showed that emotional suppression significantly predicted lower wellbeing, and that the interaction between emotional suppression and chronic condition status was not statistically significant, though it trended in the expected direction. These findings contribute to the growing body of evidence highlighting the emotional costs of suppression and may have implications for healthcare practices and societal norms surrounding emotional expression. Clinical implications of the findings include highlighting the need for healthcare providers to consider patients’ emotional regulation strategies when supporting individuals with chronic health conditions. The study’s limited sample size and lack of cultural diversity highlight the need for caution in generalising findings. Future research should explore whether the chronicity and severity of chronic health conditions influence any variance in emotional suppression and use more balanced group sizes.

**Keywords:** emotional suppression, wellbeing, chronic health conditions, emotional regulation

There is extensive literature demonstrating that chronic health conditions (CHCs) have a significant impact on a person’s psychological, social, and physical functioning (Alonso et al., 2004; Karademas et al., 2011; Keles et al., 2007; Trindade et al., 2018). Individuals with CHCs often report psychosocial challenges, including diminished quality in interpersonal relationships, and negative emotions such as feelings of isolation and helplessness, a perceived lack of understanding from others, and concerns about being a burden (Casati et al., 2000; Karademas et al., 2020). In many social contexts, there is an implicit expectation to suppress negative emotions (Brans et al., 2013), shaped by social norms that promote the regulation of emotional expression in ways considered socially acceptable. One such regulation strategy is emotional suppression. Emotional suppression is regarded as a conscious effort to disengage with emotions, and associated cognitive experiences as means to

inhibit their felt sense within the individual (Kaplow et al., 2014). The individual will also consciously inhibit the outward expression of their emotions (Gross & Levenson, 1993). This strategy has been considered in relation to the concept of ‘being strong’ and having self-regulatory strength (Geisler & Schröder-Abé, 2015), as suppression involves a conscious effort by individuals to control their emotional responses. This expectation to ‘be strong’ mirrors the common use of war metaphors, such as ‘fighting’ an illness, often praised in relation to cancer patients (Semino et al., 2018). However, such language can also create an implicit expectation for those with CHCs to suppress their own suffering, prioritising the comfort of others over their own wellbeing. The current research aims to explore the relationship between CHCs, emotional suppression and wellbeing.

## Emotional Suppression and Wellbeing

Wellbeing is a multidimensional construct encompassing physical and mental health, low levels of distress, and good quality of life (American Psychological Association, n.d.). It is characterised by positive emotions, such as life satisfaction, and a sense of purpose, as well as the absence of psychological distress (Arslan & Coşkun, 2025; Huppert, 2009; Keyes, 2002). Research indicates that emotional regulation strategies are linked to wellbeing

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and mental health (Menefee et al., 2022) given that they consist of executive functions (goal setting and self-monitoring), balanced and flexible cognitions which pertain to internal (self-efficacy) and external stressors (adversity), and controlled expression of emotions (Bridgett et al., 2013). Emotional regulation requires metacognitive awareness of internal emotional processes, and the ability to apply efficient problem solving or acceptance/coping strategies (Chervonsky & Hunt, 2019; Menefee et al., 2022).

On the contrary, emotional suppression is associated with poorer outcomes, with increased suppression predicting negative wellbeing and worse interpersonal functioning (Chervonsky & Hunt, 2019; Gross & John, 2003; Haga et al., 2009; Vally & Ahmed, 2020). Emotional suppression actively dysregulates feelings and may become symptomatic of mental health problems including anxiety, depression, and substance misuse (Menefee et al., 2022). This may help to understand why an estimated 30% of those with a CHC also have a co-morbid mental health problem, and why 40% of referrals to NHS Talking Therapies in the UK come from those with a CHC (NCCMH, 2018). However, little research has explored this directly in relation to emotional suppression. Considering that those with CHCs may engage in suppression of emotions in order to 'be strong', the current study aims to explore the role a CHC may have in moderating wellbeing and emotional suppression. Wellbeing is crucial, as it influences various life outcomes, including interpersonal relationships, creative thinking, and physical health (Garg & Rastogi, 2009; Huppert, 2009). Therefore, exploring ways to mitigate and minimise the detrimental effects of emotional suppression on wellbeing (i.e., through the use of helpful emotional regulation strategies) may improve the outcomes not only at an individual level, but at a societal level too. It is understood that those from deprived areas are disproportionately affected by CHCs and are less likely to be in paid employment, which has worsened since the Covid-19 pandemic (Webb et al., 2024).

### **Emotional Suppression and Chronic Health Conditions (CHCs)**

Evidence strongly indicates that emotional suppression has detrimental effects on individuals with CHCs, affecting both youth and adult populations. For instance, in adolescents and young adults with chronic medical conditions, emotional regulation difficulties significantly predicted higher levels of distress, with youth facing increased risk for co-occurring mental health issues (Adams et al., 2019; Prentice et al., 2021). In adults, similar patterns emerge, though often with direct implications for disease progression and physical health outcomes. For example, in a study of individuals with chronic hepatitis C, behavioural patterns relevant to the suppression of emotional needs and wellbeing were each associated with the risk of disease progression (Sawamoto et al., 2016). For haemodialysis patients, greater emotional suppression was associated with reduced positive emotional expression, higher depression, and dissatisfaction related to managing their condition (Gillanders et al., 2008). These findings underscore the broad and detrimental impact of suppression on wellbeing across the lifespan in those who suffer CHCs, however the direct relationship between suppression, CHCs and wellbeing is scarcely studied. Given the role of wellbeing in health outcomes like survival rates (Steptoe et al., 2015), fostering emotional health is particularly critical for

individuals with chronic conditions.

Although scarcely researched, it is understood in research that those with CHCs are more likely to suppress emotions due to affiliation with weakness, perceived negative judgment from others (Rimes & Chalder, 2010), avoidance of negative and distressing cognition (Wierenga et al., 2017), and a strong desire to appear as socially compliant as possible to their healthy counterparts (Hambrook et al., 2011). It has also been found that those with chronic fatigue syndrome engage in emotional suppression due to beliefs that negative emotions are unacceptable (Rimes et al., 2016). Such findings shed insight into why those who live with CHCs suppress emotions more and are hence more vulnerable to the psychosocial impact of emotional suppression. On this premise, the current research aims to further understand the links between emotional suppression and wellbeing in those who live with a CHC.

### **The Present Study**

Although the links between emotional suppression and wellbeing have been extensively researched, research on the links to CHCs is limited. This study aimed to examine whether the relationship between emotional suppression and wellbeing is moderated by the presence of a CHC. It was hypothesised that higher levels of emotional suppression would be associated with lower levels of wellbeing. Additionally, it was predicted that the presence of a CHC would moderate this relationship, such that the negative relationship between emotional suppression and wellbeing would be stronger among individuals with a CHC. In the literature, the terms expressive suppression—defined as the repression of an experienced emotion elicited by an event (Vally & Ahmed, 2020)—and emotional suppression have both been used. For continuity, we will refer to emotional suppression in our study variables.

## **Methods**

### **Participants**

There was a total of 105 responses, 38 were removed due to incomplete responses and three were removed due to not disclosing whether or not they had been diagnosed with a CHC, leaving 64 responses. Participants' age ranged between 18 and 83 ( $M=34.239$ ,  $\pm SD=15.082$ ). The majority of the sample were British, including self-descriptions of "British", "Scottish", "English", "UK", and "Welsh" in the open 'Nationality' question (Table 1). Due to unequal group sizes, the Nationality variable was not included in present analyses. Twenty-two participants self-described as having been diagnosed with a CHC, and 42 said they had not been diagnosed with a CHC. Further demographic data (including gender) were not collected in the sample, due to limited relevance to the focus of the research question, and ethical considerations of minimising amount of data recorded. All participants gave written, informed consent before completing the survey. The study was approved by the Newcastle University School of Psychology Research Ethics Committee, with the reference number 34481/2023.

### **Materials**

Wellbeing was measured using the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS, Tennant et al., 2007), which is composed of 14 items using a five-point Likert scale (1 = *none of the time*, 5 = *all of the time*). The Warwick-Edinburgh Mental Wellbeing Scale was funded by the Scottish Government National

Programme for Improving Mental Health and Well-being,

**Table 1.** Participant nationalities, number with a CHC, whether they had experienced negative symptoms due to their CHC in the last 2 weeks prior to completing the questionnaire and self-descriptions of CHC.

Nationality	N	CHC	Self-described CHC
Bangladeshi	1	1	Autoimmune disease
Brazilian	1	0	Chronic anxiety, migraines, fatigue and pain / Hypermobility / PTSD /
British	38	12	Asthma / Sinusitis / Chronic mental health / IBS / Ulcerative colitis / Hypertension / PCOS /
Canadian	9	2	Fibromyalgia / Severe anxiety
Chilean	2	1	
Colombian	1	0	
French	1	1	Kidney stones
German	2	0	
Hong Kong	1	1	Asthma
Hungarian	1	1	
Indian	1	0	
Indonesian	1	0	
Polish	2	2	Fibromyalgia / Neuropathic pain
Swedish	1	0	
USA	2	1	

commissioned by NHS Health Scotland, developed by the University of Warwick and the University of Edinburgh, and is jointly owned by NHS Health Scotland, the University of Warwick and the University of Edinburgh. Total scores are calculated by adding all items together, with a maximum score of 70. A high score indicates positive wellbeing. The WEMWBS has reliability: Cronbach's alpha = 0.89, and high test-retest reliability (0.83) (Stewart-Brown et al., 2011).

Emotional suppression was measured using the Courtauld Emotional Control Scale (CECS, Watson & Greer, 1983), which contains 21 items using a four-point Likert scale (1 = *not at all*, 4 = *very much so*). Items 4, 12, 15, 18 were reverse scored. The CECS was split into three subscales, which measured emotional suppression in relation to anger, depression, and anxiety. The CECS had good test-retest reliability: anger subscale  $r = 0.86$ ,  $p < 0.001$ , anxiety subscale  $r = 0.84$ ,  $p < 0.01$ , depression subscale  $r = 0.89$ ,  $p < 0.001$  and total CECS score  $r = 0.95$ ,  $p < 0.001$  (Watson & Greer, 1983). Total scores were calculated by adding all items together, with a maximum score of 84. A high score indicates more emotional suppression. Internal consistency was also adequate, with Cronbach's alpha values of 0.79, 0.83, and 0.83 for anger, depression, and anxiety, respectively (Iwamitsu et al., 2005).

### Procedure

The study was completed online via Qualtrics. Participants first answered demographic questions, including their self-described nationality and presence of a CHC. This was followed by the WEMWBS and the CECS.

### Data Analysis

Descriptive and inferential statistical tests were performed using the software package R (v.4.4.3) in the RStudio environment (Posit

Team, 2025; R Core Team, 2025). Participants were grouped based on the presence or absence of a CHC. A Pearson correlation was conducted to examine the bivariate relationship between total wellbeing and emotional suppression (CECS) scores. Prior to running the moderation analysis, CECS was mean-centred to aid interpretation of main effects and minimise multicollinearity. Following this, a multiple linear regression analysis was performed to test whether the relationship between emotional suppression and wellbeing was moderated by CHC status, including the centred emotional suppression variable, CHC, and their interaction term (CECS  $\times$  CHC). A non-parametric bootstrap procedure (5,000 samples) was also conducted to obtain a more robust estimate and confidence interval for the interaction effect, given the modest sample size. Statistical significance was set at the 5% level. The correlation analysis assumed linearity and normally distributed variables. Visual inspection of the scatterplot (Figure 1) suggests an approximately linear negative association between emotional suppression and wellbeing. For the moderated regression, assumptions were assessed using the available model output. The residual distribution appeared approximately symmetric. Mean-centering the continuous predictor prior to creating the interaction term, reduced non-essential collinearity. Independence of observations was assumed based on the cross-sectional design.

### Results

Descriptives for wellbeing (WEMWBS) and the emotional suppression (CECS) total scores were calculated for the whole sample and split by category (Table 2). A Pearson's correlation indicated a significant moderate negative relationship between wellbeing and emotional suppression  $r = -0.41$ ,  $p < 0.001$ .

**Table 2.** Mean and standard deviation values for emotional suppression (CECS) and wellbeing (WEMWBS) scores, separated by chronic and no chronic health condition (CHC).

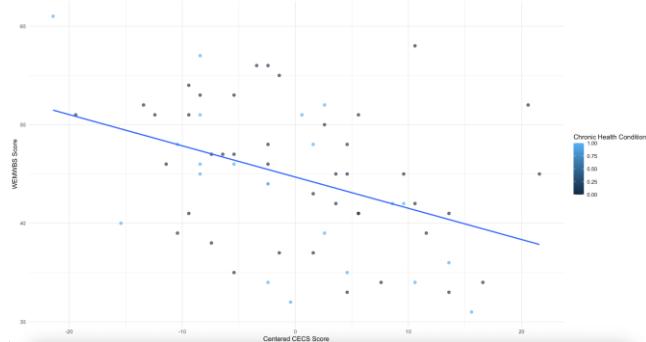
Sub-group	CECS		WEMWBS	
	Mean (SD $\pm$ )	Range	Mean (SD $\pm$ )	Range
Total	54.42 (9.49)	76.00-33.00	44.69 (7.33)	61.00-31.00
CHC	53.32 (9.39)	70.00-33.00	43.55 (8.06)	61.00-31.00
No CHC	55.00 (9.60)	76.00-35.00	45.29 (6.95)	58.00-33.00

The moderation analysis indicated that overall, the model (Table 3) explained 23% of the variance in wellbeing scores ( $R^2 = 0.229$ ) and was statistically significant ( $F(3, 60) = 5.93$ ,  $p = 0.001$ ). Higher CECS was associated with significantly lower wellbeing ( $\beta = -0.22$ ,  $SE = 0.11$ ,  $p = 0.044$ ). The main effect of CHC ( $\beta = -2.47$ ,  $SE = 1.75$ ,  $p = 0.163$ ) was not statistically significant, indicating no reliable difference in wellbeing between groups at the mean level of CECS. The interaction between CECS  $\times$  CHC was also not statistically indicated uncertainty about the effect, providing no clear evidence

**Table 3.** Regression coefficients for moderation model predicting wellbeing (WEMWBS)

Predictor	Estimate	Std. Error	t	p
(Intercept)	45.413	1.020	44.52	<0.001
CECS	-0.220	0.107	-2.050	0.044
CHC	-2.468	1.746	-1.414	0.163
CECS*CHC	-0.324	0.187	-1.729	0.089

significant ( $\beta = -0.32$ , SE = 0.19,  $p = 0.089$ ); confidence intervals based on 5000 bootstrap resamples (95% CI = -0.66, 0.06) similarly that the relationship between emotional suppression and wellbeing differed by CHC status. However, there is an indication that the negative relationship between emotional suppression and wellbeing may be slightly stronger among individuals with a CHC (Figure 1).



**Figure 1.** The relationship between emotional suppression (CECS – based on mean-centred scores) and wellbeing (WEMWBS) total scores based on presence of CHC.

*Note.* A scatterplot line graph plotting the relationship between emotional suppression and wellbeing scores, by group. CHC is represented by the colours of each point on the figure, darker colours being closer to zero (no CHC) and lighter colours being closer to 1 (CHC present).

### Discussion

The aim of our study was to examine whether the relationship between emotional suppression and wellbeing was moderated by the presence of a CHC. Consistent with the hypothesis, higher levels of emotional suppression were significantly associated with lower levels of wellbeing. However, the presence of a CHC did not independently predict wellbeing, and the interaction between emotional suppression and CHC status was not statistically significant. Nonetheless, the direction of the interaction suggests a potential trend, indicating tentative evidence that the negative association between emotional suppression and wellbeing may be stronger among those with a CHC. These findings are broadly consistent with previous research (Gross & John, 2003; Haga et al., 2009; Vally & Ahmed, 2020) highlighting the negative impact of emotional regulation difficulties on mental health outcomes among individuals with chronic medical conditions. For example, emotional regulation challenges have been found to significantly predict poorer wellbeing and increased psychological distress in adolescents and young adults with CHCs (Adams et al., 2019; Prentice et al., 2021).

Similarly, research in clinical populations has shown that suppression of emotional needs is linked to adverse outcomes; for instance, among individuals with chronic hepatitis C, greater emotional suppression was associated with a higher risk of disease progression (Sawamoto et al., 2016). In haemodialysis patients, emotional suppression has been linked to reduced positive affect, increased depressive symptoms, and lower satisfaction with condition management (Gillanders et al., 2008). Given the established role of psychological wellbeing in physical health outcomes, including survival rates (Steptoe et al., 2015), these findings reinforce the importance of promoting adaptive emotion

regulation strategies, particularly among individuals with CHCs. It is apparent that beliefs, thoughts and attitudes of emotional expression hinder the processing and expression of emotion in those with CHCs (Hambrook et al., 2011; Rimes & Chadler, 2010; Wierenga et al., 2017), hence, our understanding of this may have clinical implications for the mental health support and interventions that are offered to this population. While this study did not find a statistically significant interaction effect, the observed trends suggest that further research with larger samples may help clarify the nuanced role CHCs may play in moderating the impact of emotional suppression on wellbeing.

While nationality was recorded as a demographic variable, the uneven distribution of participants limited meaningful cross-cultural comparisons. Although prior research has suggested that emotional suppression is universally linked to negative affect across cultures (Cabello et al., 2013; Chen et al., 2020; Kuang et al., 2019), other studies have highlighted important cultural differences in emotional regulation strategies. For example, British individuals have been shown to place greater emphasis on emotional restraint compared to Americans, particularly in medical contexts (Mann, 2007), and higher levels of suppression have been reported in British samples relative to Spanish participants (Quinones et al., 2017). These findings from previous research may therefore suggest that emotional suppression may be more culturally normative in Britain, which could influence both baseline levels of suppression and its psychological impact. Consequently, the cultural homogeneity of the current sample may limit the generalisability of the findings, and our study's speculative reflections intend to highlight the need for cross-cultural research on emotional regulation and wellbeing.

### Implications

The observed association between emotional suppression and reduced wellbeing has several important implications. Clinically, the findings highlight the need for healthcare providers to consider patients' emotional regulation strategies when supporting individuals with CHCs. This could inform clinical practices that are routine in mental health services, for those with long term health conditions (NCCMH, 2018). Encouraging adaptive emotional expression may contribute to improved psychological outcomes and potentially better condition management. From a broader perspective, these results challenge societal norms that equate emotional suppression with strength. While suppression may offer short-term benefits, such as reduced physiological arousal (Liverant et al., 2022), longitudinal evidence suggests it may ultimately undermine positive affect and psychological health. Furthermore, increasing public awareness of these longer-term consequences may help shift cultural expectations surrounding emotional expression and reduce the stigma often associated with vulnerability.

### Limitations and Future Research

Several limitations should be noted. First, because data were collected at a single time point it is not possible to determine causal relationships between emotional suppression, CHC status and wellbeing. Consequently, while we can examine associations and trends, the observed moderation effect cannot be explicitly interpreted as evidence that CHC status influences the impact of emotional suppression over time. Future longitudinal research is needed to explore these potential causal pathways. Second, the

sample size was modest and predominantly British, limiting the statistical power and cross-cultural generalisability of the results. Future research should aim to recruit larger and more culturally diverse samples to better explore the potential moderating effects of culture on the relationship between emotional suppression and wellbeing. Culture has been shown to influence both the use and social consequences of suppression (Butler et al., 2007; Fernandes & Tone, 2021), making it a critical variable in future investigations. Further, additional demographic data including gender should also be explored as further variables of interest, particularly as gender differences have been found in emotional suppression (Preston et al., 2022). Additionally, although CHC status was included as a moderator, group sizes were unequal, which may have limited the ability to detect significant interaction effects. Future studies should ensure more balanced group sizes and consider other relevant contextual factors, such as symptom severity and duration, to better understand how emotional suppression operates across different chronic illness experiences.

Another limitation of note was that participants self-described their CHC, which allowed individuals to state whether they considered themselves to have a CHC. The list of CHCs is reported in Table 1. However, this left the term open to interpretation and there were limitations in using this information in data analyses. For instance, some self-described conditions may not be considered CHCs in diagnosable medical contexts or may not be relevant to emotional suppression. Further, due to the qualitative nature of this question, the data could not be analysed using inferential statistics. While the lack of a standardised definition of CHC in the study survey resulted in high heterogeneity in participants' responses of having CHCs, this also provided insight into participants' own perceptions of having a CHC. Future studies should consider operationalising a definition of CHC, to maintain consistency across the construct for research purposes. However, a strength of the paper is that the findings from the comparison between non-CHC and CHC participants, provide useful baseline data that future researchers could build on to explore emotional suppression in relation to CHCs. Future research should also consider if the chronicity and severity of CHCs influence any variance in emotional suppression, as this will have implications for how those with CHCs are understood, formulated and treated in psychological services, given that 40% of referrals to NHS mental health services are co-morbid with CHCs and mental health conditions (NCCMH, 2018).

### Conclusion

In conclusion, this study contributes to growing evidence that emotional suppression is negatively associated with psychological wellbeing. Although the interaction between suppression and chronic illness was not statistically significant, the direction of the effect suggests a possible trend that emotional regulation strategies may have differing impacts depending on health status. Crucially, these findings reinforce the importance of acknowledging and addressing emotional expression in both healthcare and societal contexts. Moving forward, fostering environments (both clinical and cultural) where open emotional expression is supported could play a vital role in improving wellbeing, especially for those managing long-term health challenges.

### Compliance with Ethical Standards

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**Disclosure of Potential Conflicts of Interest.** Maxime Levasseur has been a peer reviewer for the Journal of Happiness and Health on one occasion. She is also affiliated to CNTW NHS Foundation Trust. The other authors report no conflict of interest.

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**Ethical Approval.** All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The study was conducted in accordance with the Declaration of Helsinki and was approved by an Institutional Review Board/Ethics committee. See details under Methods.

**Informed Consent.** Consent was obtained from all participants included in the study.

**Data Sharing Statement.** The data file for this study is available upon request.

**Author Contributions.** Conception and design: ML, SD; Analysis and interpretation: ML, SD, LS; Drafting of paper: ML, SD, LS; Revision of paper: ML, SD, LS.

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