

The Hidden Cost of Hiding Feelings: Emotion Suppression
and Inauthenticity in Social Anxiety

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Author's Declaration:

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Abstract

Social anxiety is associated with an unusually high level of negative affect, yet little is known about the strategies used by socially anxious individuals to manage and regulate their emotions. The present research examined differences in trait and state levels of expressive emotion suppression in high- and low- socially anxious participants, and explored possible causes and consequences of such suppression across two studies. Using self-reports of trait-like characteristics, Study 1 examined a theoretical model positing that individuals high in social anxiety would report greater emotion suppression than those low in social anxiety; and that authenticity, in turn, would predict diminished well-being. Study 2 used self-report measures administered following a brief social interaction in the laboratory to examine group differences in state-like emotion suppression and the effects of such differences on situational authenticity. Additionally, Study 2 investigated the contributions of state negative affect and acceptance of mood to help explain possible increases in emotion suppression in socially anxious participants. The results of Study 1 supported the hypothesis that diminished well-being in individuals with social anxiety is partially accounted for by low authenticity, which, in turn, is partially accounted for by high emotion suppression. Study 2 revealed that socially anxious participants suppressed their emotions more, and felt less authentic than, controls during the social interaction. However, state negative affect and acceptance of mood did not significantly mediate the relationship between group status and state-like emotion suppression. Implications of the present findings are discussed in terms of contemporary cognitive-behavioural theory and treatment, with indications for future directions for research.

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Table of Contents

List of Tables.....	v
List of Figures.....	vi
Introduction.....	1
Study 1.....	9
Method.....	10
Participants.....	10
Measures.....	11
Procedure.....	13
Results.....	13
Preliminary Analyses.....	13
Group Differences.....	13
Path Model.....	14
Study 2.....	17
Method.....	18
Participants.....	18
Measures.....	19
Procedure.....	21
Results.....	22
Preliminary Analyses.....	22
Group Differences.....	22
Mediation Analyses.....	23
Discussion.....	26
Interpretation and Discussion of Findings.....	26
Limitations.....	29
Future Directions.....	31
Implications for Treatment.....	32
Conclusion.....	33
References.....	35

List of Tables

Table 1. <i>Study 1. Demographic Characteristics of Sample</i>	41
Table 2. <i>Study 1. Correlations Among Trait Social Anxiety, Trait-like Emotion Suppression, Global Authenticity, and Well-Being</i>	42
Table 3. <i>Study 1. Means, standard deviations, and t-scores on habitual emotion suppression, authenticity, and well-being</i>	43
Table 4. <i>Study 1. Summary of Regression Analyses for Path Model</i>	44
Table 5. <i>Study 2. Demographic Characteristics of Sample</i>	45
Table 6. <i>Study 2. Correlations among Trait Social Anxiety, State Negative Affect, Mood Acceptance, State-like Emotion Suppression, and Situational Authenticity</i>	46
Table 7. <i>Study 2. Means, standard deviations, and t-scores on state-like emotion suppression, mood acceptance, and authenticity</i>	47
Table 8. <i>Study 2. Summary of Regression Analyses for State Negative Affect as Partial Mediator of the Relationship between Group and Emotion Suppression</i>	48
Table 9. <i>Study 2. Summary of Regression Analyses for State Acceptance of Mood as Partial Mediator of the Relationship between Group and Emotion Suppression</i>	49
Table 10. <i>Study 2. Summary of Regression Analyses for State Emotion Suppression as Partial Mediator of the Relationship between Group and Situational Authenticity</i>	50

List of Figures

Figure 1. <i>Gross's Process Model of Emotion Regulation</i>	51
Figure 2. <i>Study 1. Hypothesized model: Influence of social anxiety, habitual emotion suppression, and trait-like authenticity on overall well-being</i>	52
Figure 3. <i>Study 1. Path model with regression coefficients</i>	53
Figure 4. <i>Study 2. Depicting analysis of partial mediation of the relationship between Group and state Emotion Suppression by state Negative Affect</i>	54
Figure 5. <i>Study 2. Depicting analysis of partial mediation of the relationship between Group and state Emotion Suppression by state Acceptance of Mood</i>	55
Figure 6. <i>Study 2. Depicting analysis of partial mediation of the relationship between Group and state Authenticity by state Emotion Suppression</i>	56

Introduction

Social interactions, in work and in play, constitute an important part of daily life. Yet while most people engage in routine communication without difficulty, people with high levels of social anxiety endure even mundane interpersonal interactions with distress. Unlike people with specific phobias, such as a fear of heights, small spaces, or injections, socially phobic individuals can avoid the source of their anxiety only at very high costs to their personal and professional development. Instead of dealing with their anxiety by avoiding its trigger, as someone afraid of heights might by avoiding balconies, socially anxious people are often forced to rely on other methods of coping with anxiety as they attempt to maintain an adequate quality of life.

Underlying the symptoms of anxiety caused by social interaction with others or public performance is a fear of embarrassment, rejection, or humiliation (DSM-IV-TR, 2000). These feared outcomes are thought by some to be the consequences of publicly exposing flawed self-related behaviours or traits (Moscovitch, in press). For example, when anxiety is aroused in a social setting, the socially anxious individual is likely to perceive the physical signs of such arousal (e.g. trembling hands or blushing) as a potential source of embarrassment, were they to become evident to critical others (Clark & Wells, 1995). In an attempt to minimize anticipated critical evaluation by others, and thereby to help manage their anxiety, socially anxious people are known to engage in strategies known as ‘safety behaviours’ (Clark & Wells, 1995) or “self-concealment behaviours” (Moscovitch, in press) to hide their feared shortcomings and prevent imagined negative interpersonal consequences. The perception of one’s own internal arousal as a potential source of embarrassment suggests that socially anxious individuals might be habitually motivated to suppress the expression of negative emotion as a “concealment strategy” designed

to enable them to avoid attracting undesired attention from others. We suggest that such concealment may be an important means by which people with social anxiety regulate their negative emotions.

Emotion regulation has been broadly defined as the category of processes by which “individuals influence which emotions they have, when they have them, and how they experience and express them” (Gross, 1998, p. 275). Gross’s (1998) process model of emotion regulation, illustrated in Figure 1, describes emotion regulation as occurring along a temporal continuum (John & Gross, 2004), with a key distinction among emotion regulatory strategies being at what point along the emotion-generative continuum at which they arise. “Antecedent-focused” strategies constitute a wide category of behaviours enacted before the emotion response has been fully initiated; that is to say, these strategies have in common that they alter an emotion at the level of its potential. For example, a socially anxious person’s avoidance of a potentially stressful social situation would belong to the antecedent-focused category of Situation Selection. According to this model, by choosing not to engage in a situation which they expect would elicit negative emotions, the socially anxious individual is performing an emotion regulating behaviour early in the proposed continuum of emotion regulation strategies.

“Response-focused” strategies are those strategies which serve to modulate an emotion that has already been activated; that is, they are means to manage extant emotions and are therefore understood to occur at the latter end of the emotion-generative continuum. Emotion suppression is the inhibition of outward expression of one’s feelings, and it belongs to the “response-focused” category of emotion regulation strategies in Gross’s model, as depicted in Figure 1. In contrast to numerous antecedent-focused regulation strategies, suppression is one of

the few behaviours employed to cope strategically with emotions once they have been aroused¹.

An example of a response-focused emotion-regulation strategy other than suppression that might be used by people with social anxiety is the consumption of alcohol in the social setting, when the individual drinks in an attempt to reduce symptoms of anxiety that have already been aroused.

As reviewed below, converging evidence suggests that emotion suppression has been implicated in the development and maintenance of psychological disorders (e.g. Campbell-Sills, Barlow, Brown, and Hofmann, 2006; Putnam & Silk, 2005; Waller & Scheidt, 2006). However, little research to date has examined the role of emotion suppression in the etiology and persistence of social anxiety or its clinical manifestation, social phobia. Social anxiety is a fundamentally interpersonal disorder (Alden & Taylor, 2004) in that cognitive, behavioural, and physiological symptoms occur either within a social context or in response to cognitions about the social situation. A number of different emotion regulation strategies may be employed by socially anxious individuals to cope with the aversive experience of anxiety. In fact, one could overlay social anxiety symptomatology on Gross's process model at virtually any point along the emotion regulation continuum. For example, the avoidance of potentially threatening situations may be interpreted as an antecedent-focused regulation strategy in that, by avoiding the situation, the socially anxious individual avoids the unpleasant affect that the situation would have elicited in them. While numerous emotion regulatory strategies may be important to understanding social anxiety, we have chosen to focus on the response-focused emotion regulation strategy of *expressive suppression* because we believe it to be an especially important aspect of social

¹ A distinction must be drawn between suppression of *expression*, which is the strategy discussed here, and suppression of *subjective experience* (repression) of emotions, in which the individual attempts to change an internal affective state.

anxiety. Indeed, because of the emotional discomfort individuals with social anxiety experience in numerous ordinary social situations, understanding how these emotions are regulated could have far reaching implications for both diagnosis and treatment.

Cognitive models of social anxiety suggest that socially anxious individuals might judge suppression to be an adaptive anxiety management strategy because they believe that, by hiding their negative emotions, they are protecting themselves from negative evaluation and social rejection (Voncken, Alden, & Bögels, 2006). Indeed, recent research with socially anxious individuals indicates that they believe that explicit acknowledgment or disclosure of their anxiety would cause even greater negative response from others than they already expected (Voncken et al., 2006). Despite the likely ego-syntonicity of emotion suppression for the socially anxious individual, empirical evidence indicates that this emotion regulation strategy is associated with a variety of negative behavioural, experiential, and physiological outcomes. In a study examining the effects of expressive suppression of emotion in individuals with a range of anxiety and mood disorders, Campbell-Sills and colleagues (2006) found that such disorders are characterized by individuals' ineffective regulation of persistent negative emotion. Additionally, they found that attempts to suppress emotions appear to increase emotional reactivity, thereby enhancing rather than reducing the experience of negative affect (Campbell-Sills et al., 2006). Further, a recent diary study by Kashdan and Steger (2006) found that, on a daily level, expressive suppression was associated with higher levels of social anxiety and lower levels of positive affect. While these are interesting findings, it is clear that more research is needed in order to understand the relationship between social anxiety and emotion suppression.

Research on non-clinical samples has shown that expressive suppression is associated with many unfortunate consequences, some of which may be especially detrimental for

individuals with social anxiety. Expressive suppression of *positive* emotions has been found to decrease one's subjective experience of such emotions (e.g. Gross & Levenson, 1997; Richards & Gross, 1999, but also see Butler, Egloff, Wilhelm, Smith, Erickson, & Gross, 2003, for contrary findings). In contrast, suppression of negative emotions does not decrease one's internal experience of these emotions (e.g. Gross & John, 2003); in fact, employed habitually, suppression tends to increase negative affect (Gross & John, 2003). Emotion suppression has also been found to impair interpersonal communication (Butler et al., 2003; Gross & John, 2003) and memory for emotionally-oriented events (Egloff et al., 2006; Richards & Gross, 2000). Further, expressive suppression of emotion reduces rapport, inhibits relationship formation, and increases physiological stress response in one's interaction partner (Butler et al., 2003). These outcomes may enhance the awkwardness of social encounters, thereby reinforcing socially anxious individuals' fears of social incompetence (Turk, Heimberg, Luterek, Mennin, & Fresco, 2005). Additionally, and of particular relevance to the current line of inquiry, individuals who habitually regulate their emotions by suppressing them tend to report experiencing a distinct sense of inauthenticity (Gross & John, 2003) – that is, they feel an uncomfortable incongruence between internal and external representations of the self, as we describe in more detail below.

In sum, we propose that the characteristic pattern described above, in which socially anxious individuals experience increased negative emotions in a social situation and attempt to regulate these emotions by suppressing their expression has both immediate and far-reaching effects. In fact, for those with social anxiety, we expect that hiding one's feelings may ultimately amount to hiding one's self – particularly if such a strategy is regularly employed. In other words, socially anxious individuals' habitual suppression of emotions in social situations is likely to culminate in a global experience of inauthenticity.

A large literature on authenticity exists in the field of psychology, with the existential questions of defining, knowing, and operating in relation to one's "true" self being pertinent to both personality theory and clinical treatment (Kernis & Goldman, 2006; Perls, Hefferline, & Goodman, 1951; Rogers, 1961). Kernis and Goldman (2006) recently published a review of theory and research on the topic of authenticity. They conceptualize *authenticity* as comprising four broad domains of functioning. The first component is *awareness*, which refers to "possessing, and being motivated to increase, knowledge of and trust in one's motives, feelings, desires, and self-relevant cognitions" (Kernis & Goldman, 2006, p. 294). Second, *unbiased processing* is the aspect of authenticity that entails processing self-relevant information objectively, regardless of its valence. Unbiased processing contributes to an accurate sense of self, and it is by maintaining this accuracy of self-perception that one can then behave in accordance with one's "true self". *Behaviour* is the third component of authenticity described by Kernis and Goldman, and it is very much guided by *awareness* and *unbiased processing*. In essence, behaviour is authentic when it occurs as an honest communication of one's internal experience, and not as a means toward achievement of ulterior motives such as social acceptance. The behavioural component of authenticity is of greatest relevance to our current studies, as we expect that emotion suppression motivated by social anxiety amounts to inauthentic behaviour. Finally, *relational orientation* is the explicitly interpersonal aspect of authenticity. Espousing an authentic relational orientation is explained by Kernis and Goldman to entail "valuing and striving for openness, sincerity, and truthfulness in one's *close relationships* [emphasis in the original]" (Kernis & Goldman, 2006, p. 300).

In the behavioural domain, hiding one's feelings creates a discrepancy between internal and external representations of the self, and that discrepancy is experienced as inauthenticity

(e.g. Gross & John, 2004; Sheldon, Ryan, Rawsthorne & Ilardi, 1997). Inauthenticity has been found to elicit negatively valenced affect and, experienced in the long-term, inauthenticity may lead to a decrease in satisfying social interactions and relationships, self-esteem, and global well-being (Diehl, Jacobs & Hastings, 2006; Kernis, 2003; Kernis & Goldman, 2006; Sheldon, Ryan, Rawsthorne & Ilardi, 1997). On the other hand, authenticity – the inverse of inauthenticity – has been defined as an individual difference that constitutes a core element of optimal self-esteem (Kernis, 2003).

Interpersonal research indicates that the theme of authenticity may be especially relevant to social anxiety. Despite the motivation to protect oneself from disapproval from, or rejection by, the other (perhaps achieved by not allowing one's anxiety to show), the act of suppressing one's emotions itself creates psychological 'distance'. The attempts of socially anxious people to be safe in social settings often lead others to perceive them as disinterested and dissimilar (Alden & Bieling, 1998; Papsdorf & Alden, 1998), as well as aloof (Leary & Kowalski, 1995). By masking their inner experience, socially anxious people may intend to protect themselves from rejection, but simultaneously 'protect' themselves from affiliation (Voncken et al., 2006). Hence, the socially anxious individual paradoxically contributes to the interpersonal alienation he or she so fears while conveying an inaccurate message about his or her desires or intentions (Alden & Taylor, 2004; Meleshko & Alden, 1993). Phenomenologically, the socially anxious individual might be so consumed with trying to hide their anxious arousal that they are unable to share their genuine self with others and leave interpersonal interactions with the feeling that no-one really knows how they feel, what they think, or – indeed – who they really are.

In light of the theory and research presented thus far, we designed two separate studies in order to examine relationships among social anxiety, emotion suppression, and authenticity on

trait and state levels. Study 1 explores trait-like emotion suppression and inauthenticity and their impact on well-being in socially anxious and non-socially anxious individuals. Study 2 compares socially anxious and control participants' state-like emotion suppression within a laboratory-based social situation, and examines whether emotion suppression helps account for situational inauthenticity amongst socially anxious participants. In addition, Study 2 examines two possible causes of emotion suppression in socially anxious individuals: state negative affect and diminished acceptance of mood.

Study 1

Study 1 examined relationships among trait-like, self-report measures of emotion suppression, authenticity, and well-being in high and low socially anxious individuals. Our first set of hypotheses proposed that people with high trait social anxiety would report significantly greater habitual expressive suppression of emotions and lower levels of authenticity and well-being relative to low socially anxious individuals.

Second, a central goal of the current research is to better understand the mechanisms underlying the relationship between social anxiety and diminished well-being. Well-being is defined broadly as positive psychological functioning, and includes such dimensions as self-acceptance, positive relations with others, and purpose in life (Ryff, 1989). We theorized that habitual emotion suppression and resultant decrements to authenticity might help explain this relationship. Specifically, we modeled four potential pathways (one direct and three indirect; Figure 2) by which social anxiety might predict well-being. It should be noted that, while we could not determine causal direction in this model because we were examining trait-like characteristics using concurrently administered measures, we used statistical modelling to analyze this theoretically plausible model. The first pathway predicted that socially anxious people would report greater habitual emotion suppression than non-socially anxious people; that this greater habitual suppression would contribute to low perceived authenticity; and that low authenticity would, in turn, lead to decreased well-being. Because authenticity is comprised of other factors beyond behaviour, we expected that emotion suppression would only partially account for decreased authenticity in the socially anxious participants. The second proposed pathway from social anxiety to well-being is through authenticity alone. Authenticity has been found in earlier research to positively predict well-being (Diehl et al., 2006), and we expected

that low authenticity would account for some of the diminished well-being associated with social anxiety over and above any relationship to emotion suppression (for example, in the *behavioural* domain of authenticity as a result of lower self-disclosure, or in the *unbiased processing* domain, as the result of inaccurate self-perception [e.g. Clark & Wells, 1995]). The third pathway we proposed to explain social anxiety's relationship to diminished well-being was via emotion suppression; that is, we expected habitual emotion suppression to contribute to diminished well-being beyond its hypothesized impact on authenticity. (For example, Gross and Levenson, 1993, found that suppression leads to slower recovery from physiological arousal, so we might expect habitual suppression to decrease well-being through its association with attenuated recovery from physiological arousal. Similarly, Butler and colleagues, 2003, found that suppression elicits negative affective response from the suppressor's interaction partner, indicating that greater habitual suppression in socially anxious people could contribute to decreases in well-being through interpersonal tolls unrelated to authenticity). Finally, we hypothesized that social anxiety would have a direct effect on well-being, such that socially anxious people would report lower well-being due to endemic characteristics of high trait social anxiety other than emotion suppression and authenticity.

Method

Participants

Participants were 45 individuals with high trait social anxiety (HTSA; 49% female) and 57 individuals with low trait social anxiety (controls; 61% female) selected from the University of Waterloo undergraduate research participant pool. Scores from the Social Phobia Inventory (SPIN) (Connor, Davidson, Churchill, Sherwood, Foa, & Weisler, 2000) from pretesting were used to select 1) high trait socially anxious (HTSA) participants as an analogue-clinical group

and 2) low- or non-socially anxious (LTSA) individuals to serve as a control group. Scores of 30 and above on the SPIN identified HTSA participants; scores of 12 and below identified LTSA participants. The Social Interaction Anxiety Scale (Mattick & Clarke, 1998) was used at the time of participation to ensure reliability of group selection; participants selected into the HTSA group based on pretest SPIN scores who had SIAS scores at the time of study participation *lower* than 19 were to be eliminated from the study, while control participants with SIAS scores higher than 34 were to be eliminated². A cutoff score of 34 has been found previously to distinguish between clinically socially anxious and non-socially anxious individuals (Heimberg, Mueller, Holt, Hope, & Liebowitz, 1992; Brown, Turovsky, Heimberg, Juster, Brown, & Barlow, 1997). In this sample, no participants demonstrated this crossover of group membership, so all participants were retained. Average age of participants was 19.9 years old (SD = 2.50, range: 17-32). Participants identified themselves as ethnically Caucasian (57%), Chinese (18%), Middle Eastern (4%), East Indian (4%), Other Asian (5%), Korean (2%), African (1%), or Other (7%).

Measures

Emotion Regulation Questionnaire, Suppression Subscale (Gross & John, 2003). The ERQ-S is a 4-item scale used to assess habitual, or trait-like, use of the emotion regulation strategy of expressive suppression (ES). Items were rated on a 5-point Likert scale (from 1, *Strongly Disagree*, to 5, *Strongly Agree*) to create a summed total score representing habitual use of the emotion regulation strategy of expressive suppression. This scale has demonstrated strong

² These cutoffs were established following the strategy of Heimberg and colleagues (1992), such that participants selected to the HTSA group with SIAS scores lower than 1 SD above the mean of the control group (19) would be excluded. Likewise, participants originally selected to the control group whose SIAS scores were higher than 1 SD below the HTSA mean (34) were to be excluded. The participants in the present studies were part of a larger pool, and the mean and standard deviations used to establish these cutoffs were from that larger sample. The cutoff score of 34 calculated from our sample was the same as that in Heimberg and colleagues'.

internal consistency and correlates with other measures of expressive suppression (Gross & John, 2003). In the current sample, it likewise showed good internal consistency (Cronbach's $\alpha = .84$).

Authenticity Inventory (AI)-3 (Goldman & Kernis, 2004). This 45-item scale assesses overall authenticity and four theoretically distinct factors of authenticity: Awareness, Unbiased Processing, Behaviour, and Relational Orientation. Participants respond to individual items using a Likert-type scale (1-5, from *Strongly Disagree* to *Strongly Agree*). Previous research has shown that this scale demonstrates high internal consistency (Cronbach's $\alpha = .90$) and test-retest reliability for both the total scale score and individual subscale scores (Kernis & Goldman, 2006). In the present sample, the AI-3 total-scale score and subscales show acceptable internal consistency, overall: Overall Authenticity, $\alpha = .88$; Awareness, $\alpha = .79$; Unbiased Processing, $\alpha = .70$; Behavioural, $\alpha = .66$; and Relational Orientation, $\alpha = .83$.

Ryff's 18-item Psychological Well-Being Scale (PWB; Ryff & Keyes, 1995). A theoretically-driven, multicomponential operationalization of well-being, this measure taps six distinct dimensions of well-being (Self-Acceptance, Positive Relations, Environmental Mastery, Personal Growth, Autonomy, and Purpose in Life) and yields an overall well-being score. This abbreviated version of Ryff's original 120-item scale measures overall well-being by summing the 18 items to render an index composite. Previous research using the 18-item version of this scale (Clarke, Marshall, Ryff, & Wheaton, 2001) has shown that the general index has adequate internal consistency and that the individual subscales have low to modest internal consistency. In the present study, we used the overall well-being score (and not the individual subscales), which demonstrated good internal consistency in our sample ($\alpha = .88$).

Procedure

Participants were drawn from the undergraduate psychology pool at the University of Waterloo. Based on scores on the SPIN (Connor et al., 2000) completed in a pretest questionnaire session, participants were selected to the control or HTSA group. Participation entailed the completion of a series of questionnaires in a single, online session from a location of the participant's choice. For taking part in this study, participants were awarded partial credit toward a psychology course.

Results

Preliminary Analyses

Demographic characteristics of the study sample are listed in Table 1. HTSA and control participants did not differ in age, $t(100) = 1.23, p = .21$, or sex, $\chi^2(1, N = 102) = 1.60, p = .23$. The HTSA and control groups differed significantly in ethnic distribution, with a greater proportion of participants in the HTSA group identifying as ethnically Asian (38.6%) than in the control group (14.5%), which had a higher proportion of White participants (47.7% and 67.35, respectively), $\chi^2(2, N = 102) = 7.52, p < .05$. See Table 1 for a summary of participant demographic characteristics.

Trait measures

As expected, independent-samples t -tests comparing group scores on the SPIN, SPS, SIAS, and BDI-II demonstrated significant differences for each of the four symptom measures. Individuals in the HTSA group reported higher ratings than controls on the SPIN ($M_{\text{HTSA}} = 39.53; M_{\text{controls}} = 7.35, t(100) = 29.55, p < .001, d = 5.50$), SPS ($M_{\text{HTSA}} = 32.11; M_{\text{controls}} = 7.88, t(100) = 14.11, p < .001, d = 2.63$), the SIAS ($M_{\text{HTSA}} = 39.33; M_{\text{controls}} = 11.53, t(100) = 14.46, p < .001, d = 2.69$), and the BDI-II ($M_{\text{HTSA}} = 14.29; M_{\text{controls}} = 6.29, t(91) = 5.03, p < .001, d =$

0.99). Table 2 summarizes correlations among trait social anxiety (SIAS), trait-like emotion suppression, global authenticity, and overall well-being variables.

Group differences in Emotion Suppression, Authenticity, and Well-Being

To test whether HTSA participants reported greater emotion suppression, lower authenticity, and lower well-being than controls a series of independent-sample *t*-tests were conducted. As hypothesized, group status (i.e. HTSA versus control) predicted habitual emotion suppression (ES), with HTSA participants reporting significantly more suppression than control participants, $t(99) = -6.35, p = .00$. Compared to the control group, HTSA participants felt less authentic overall, $t(97) = 6.69, p = .00$, as well as in each of the four domains of authenticity. Further, HTSA participants reported lower well-being than control participants on the overall well-being, $t(98) = 7.10, p = .00$, and all well-being subscale scores. Table 3 includes means, standard deviations, *t*-scores, significance levels, and effect sizes for comparisons between the HTSA and control groups.

Path Model

We hypothesized a model (Figure 2) in which social anxiety predicts well-being through four different pathways: a direct effect of group on well-being, but also three indirect paths, one routed through authenticity, the other through emotion suppression, and the third, from group to emotion suppression to authenticity to well-being.

To test this model, we ran three separate multiple regression analyses in order to measure the proportion of variability in each dependent variable within the model that was accounted for by its predictors in the model. In the first regression, we examined the effects of group (a two-level categorical variable, with the control group coded as '0' and the HTSA group coded '1'), emotion suppression, and authenticity on well-being. In the second regression analysis, we

examined the effects of group and emotion suppression on authenticity. In the third analysis, we tested the path from group to emotion suppression. Using the tracing rule, indirect effect paths were estimated by calculating the cumulative product of the sequence of direct effects constituting the indirect path.

The beta coefficients and R^2 values for each path can be found in Table [4], and a visual representation, in Figure 2. All but one of the pathways in our model were significant. Our first hypothesized pathway predicted that the HTSA group would report greater habitual ES, which would lead to decreases in authenticity, which would, in turn, help account for their diminished well-being. Each effect within this path was significant: group significantly predicted emotion suppression ($\beta = .54, p = .00$), with HTSA participants reporting significantly greater habitual suppression; emotion suppression negatively predicted authenticity ($\beta = -.40, p = .00$), such that greater emotion suppression was associated with lower trait-like authenticity; and that authenticity was in fact a very strong predictor of well-being ($\beta = .71, p = .00$). In the second pathway of the model, we found that group directly predicted authenticity ($\beta = -.36, p = .00$), with the HTSA group reporting significantly lower authenticity than the control group, and that authenticity predicted well-being ($\beta = .71, p = .00$). In the third hypothesized pathway, we found that group predicted emotion suppression, with the HTSA group reporting significantly greater habitual ES than the control group, but that, once authenticity was accounted for, ES predicted no further variance in well-being ($\beta = .09, p > .05$), indicating that ES contributes to decreased well-being in socially anxious people for the most part through its negative impact on authenticity. Finally, the direct effect of group on well-being was significant ($\beta = -.23, p = .00$), confirming our expectation that factors beyond emotion suppression and reduced authenticity, not examined here, contribute to the diminished well-being associated with social anxiety.

In sum, we found that group has a direct effect on well-being ($r_{WB \cdot GROUP}: \beta = -.23, p = .00$), but that the indirect effect ($r_{WB \cdot AUT \cdot GROUP} + r_{WB \cdot AUT \cdot ES \cdot GROUP}$) is almost twice as great (-.41). Further, group has a direct effect on authenticity ($\beta = .36, p = .00$), but also an indirect effect (.21) on authenticity mediated by emotion suppression.

Study 2

Study 1 examined habitual emotion suppression in social anxiety, and its cumulative toll on authenticity and well-being. Reports of habitual, or trait-like, emotion suppression imply frequent situational ES and immediate consequences, yet this assumption remains to be examined in a discrete instance. Hence, the aim of Study 2 was to get a “snapshot” of comparable relationships on a situational level by examining these variables during a social experience in the laboratory designed to mimic an everyday kind of social interaction.

Previous experimental research with healthy, nonclinical samples has shown some interesting effects of situational expressive suppression of negative emotion, including increased cognitive load and decreased memory of contextual and social cues (Egloff et al., 2006; Richards & Gross, 2000), as well as impoverished responsiveness to one’s social partner (Butler et al., 2003). In Study 2, we extended these findings to examine costs to state-like authenticity as a result of situational emotion suppression. Further, situational motivation to suppress emotions has not been examined in HTSA groups. Hence, Study 2 examined self-report state measures of emotion suppression, negative affect, mood acceptance, and authenticity in HTSA and control participants during a social interaction in the laboratory.

Specifically, we hypothesized, first, that HTSA participants would report higher state ES and lower situational authenticity than control participants. Second, we examined two variables, negative affect and mood acceptance, to partially explain higher state emotion suppression in the HTSA group. Generally, we expected that HTSA individuals would suppress their emotions in part because they perceive the negative affect they experience across various social contexts as socially unacceptable. Hence, we hypothesized that self-reported negative affect would partially mediate the relationship between group status and situational ES. In addition to the emotional

motivator of negative affect, we hypothesized that low state-like acceptance of mood might be a cognitive motivator of suppression in HTSA people. That is, the subjective evaluation of one's affect state as unacceptable might prompt suppressive behaviour. Therefore, we hypothesized that mood acceptance would partially mediate the relationship between group status and ES.

In addition to better understanding what accounts for greater state-like suppression in HTSA, we examined how costly emotion suppression would be in terms of its effects on authenticity. We expected that the act of suppressing one's emotions during a social interaction would create an incongruity between inner experience and outer expression of the self. Hence, the behaviour of emotion suppression was expected to contribute to lower levels of perceived state authenticity. Specifically, we hypothesized that the relationship between group and situational authenticity would be partially mediated by state-like emotion suppression. In the Study 2 analyses, we could not determine true causal directionality because our variables of interest were not measured in the hypothesized temporal sequence; rather, we examined this set of state-like characteristics using concurrently administered measures. Nevertheless, statistical modelling allowed us to analyze our theoretically-driven questions.

Method

Participants

Participants were 30 individuals with high trait social anxiety (HTSA) (70% female) and 28 individuals with low trait social anxiety (LTSA controls) (61% female) selected from the University of Waterloo undergraduate research participant pool. Scores from the Social Phobia Inventory (SPIN; Connor et al., 2000) from pretesting were used to select 1) high trait socially anxious participants as an analogue-clinical group and 2) low- or non-socially anxious individuals to serve as a control group. Scores of 30 and above identified HTSA participants;

scores of 12 and below identified control participants. The Social Interaction Anxiety Scale (SIAS; Mattick & Clarke, 1998) was used at the time of participation to ensure reliability of group selection; participants selected into the SA group based on pretest SPIN scores who had SIAS scores at the time of study participation *lower* than 19 were to be eliminated from the study, while control participants with SIAS scores higher than 34 were to be eliminated. In this sample, 7 participants from each group demonstrated this crossover of group membership, so were eliminated from the study. Average age of participants was 19.72 years old (SD = 3.32, range: 17-39). Participants identified themselves as ethnically Caucasian (43%), Chinese (24%), East Indian (7%), African (5%), Korean (5%), Middle Eastern (3%), Other Asian (3%), Hispanic (2%), or Other (5%).

Measures

Emotion Regulation Questionnaire, Suppression Subscale (Gross & John, 2003), *adapted*. The original 4-item scale assesses habitual, or trait-like, use of the emotion regulation strategy of expressive suppression. For the present study, the original scale was adapted to capture self-reported, situational expressive suppression of emotion. For example, the item “I keep my emotions to myself” was changed to “During the interaction, I kept my emotions to myself”. The original scale demonstrated good internal consistency, and the internal consistency of the adapted measure in the present sample was likewise acceptable (Cronbach’s $\alpha = .75$), particularly given the small number of items.

Authenticity Inventory-3 (AI-3) (Goldman & Kernis, 2004), *adapted*. Items from two of the original four subscales (Behaviour and Relational Orientation) described in detail in Study 1 were adapted to measure self-reported, situational authenticity. A total state authenticity score

was derived by summing the 19 items. The adapted scale demonstrated adequate internal consistency in the current sample (Cronbach's $\alpha = .81$).

Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). This scale was used to measure participants' self-reported affect during a brief social interaction. The PANAS consists of a list of 20 different emotions, and participants rated how much they experienced each emotion using a scale of 0 ("Very slightly to Not at all") to 4 ("Extremely"). The PANAS renders a composite score for both positive and negative affect by summing the 10 items corresponding to these broad affective categories. Examples of emotions in the positive category (PANAS-P) are "Interested" and "Inspired", while emotions such as "Nervous" and "Distressed" contribute to the negative affect score (PANAS-N). In order to ascertain ratings of emotion during the interaction, participants completed the PANAS immediately after the interaction. The instructions for the scale directed participants to rate how much they felt each emotion "during the interaction you just had". Both the PANAS-N and the PANAS-P had acceptable internal consistency in the present study (Cronbach's α of .83 and .74, respectively).

Meta-Experience Scales – Acceptance subscale (MES-A) (Mayer & Stevens, 1994), adapted. This 6-item scale measures self-reported acceptance of mood. Items were altered slightly for use immediately following the experimental manipulation: whereas original scale items are worded in the present tense, adapted items ask about acceptance of mood during the social interaction. While instructions for the original scale read, "Please review your current mood and describe your thoughts and feelings about your present mood and its influence on you right now," the adapted instructions read, "Please review your mood during the "getting acquainted" conversation and describe your thoughts and feelings about your mood and its

influence on you.” The scale, as used in the present study, had good internal consistency (Cronbach’s alpha=.87).

Procedure

To mimic an everyday type of social interaction, engaged in a one-to-one “getting to know you” conversation with a peer in the laboratory. This discussion was couched in a larger laboratory experience, which included filling out questionnaires, recording of heart-rate and skin-conductance (data to be reported elsewhere), and watching a short film. The social interaction took place with a confederate, whom the participants were led to believe were in the lab to take part in a related study. One male and one female research assistant played the confederate role in the study, and all interactions took place in opposite-sex dyads. The research assistants were both blind to the purpose of the research (and therefore to group status of participants), and had been trained to engage with participants in a ‘neutral’ fashion³ in order to maintain consistent behaviour across interactions and to subtly elicit any naturally-occurring group differences in response to ambiguous social cues. Following the interaction, participants reported on their state-like suppression of emotions, focus of attention, acceptance of mood, and perceived authenticity during the interaction. Deception was used in the recruitment of participants, because we expected that knowledge of our particular focus would change participants’ behaviour, so at the end of the experiment, a debriefing took place in which all participants were informed of the true purpose of the experiment and were offered the option to withdraw their consent. No participants chose to withdraw their consent, and no adverse

³ In the hopes of achieving relatively consistent behaviour across participants, confederates were trained during four sessions and coached throughout the piloting of the study to portray neutrality. ‘Neutral’, or ambiguous, behaviour (based on Taylor & Alden, 2005) included 1) providing little verbal reassurance or encouragement, 2) minimal self-disclosure, on relatively impersonal topics such as their major or their part-time job 3) speaking in a neutral tone of voice, 4) waiting for the participant to take the lead in the discussion and, if five seconds passed, then asking a question on a relatively impersonal topic, 5) alternating direct gaze and looking away. Further, they displayed only subtle emotions; it was not the intention that they come across as hostile or unfriendly, so demonstration of affect such as a smile in response to a joke was permitted.

responses were observed. Participants were awarded partial credit toward a psychology course for their participation.

Results

Preliminary Analyses

Demographic characteristics of the study sample are listed in Table 4. HTSA and control participants did not differ in age, $t(55) = .204, p = .839$; sex, $\chi^2(1, N = 58) = .55, p = .58$; or ethnicity, $\chi^2(2, N = 58) = 3.16, p = .21$.

Trait measures

As expected, independent-samples t -tests comparing group scores on the SPIN, SPS, SIAS, and BDI-II demonstrated significant differences for each of the four symptom measures. Individuals in the HTSA group reported higher ratings than controls on the SPIN ($M_{\text{HTSA}} = 37.37; M_{\text{controls}} = 7.82, t(56) = 15.75, p < .001, d = 4.33$), SPS ($M_{\text{HTSA}} = 37.57; M_{\text{controls}} = 10.75, t(56) = 9.48, p < .001, d = 2.60$), the SIAS ($M_{\text{HTSA}} = 39.77; M_{\text{controls}} = 14.36, t(56) = 9.84, p < .001, d = 2.69$), and the BDI-II ($M_{\text{HTSA}} = 16.40; M_{\text{controls}} = 7.62, t(54) = 4.76, p < .001, d = 1.34$). Correlations among trait social anxiety (SIAS), state negative affect, mood acceptance, state-like emotion suppression, and situational authenticity are summarized in Table 5.

Group Differences in Situational Emotion Suppression, Acceptance of Mood, and Authenticity.

The HTSA group differed from the control group on all variables of interest. As hypothesized, group status predicted situational ES, with HTSA participants reporting significantly more suppression, $t(54) = -3.49, p = .001$. The HTSA group also reported lower acceptance of mood, $t(53) = 4.42, p = .00$, and lower authenticity $t(54) = 6.35, p = .00$, than the control group. Table 6 includes means and standard deviations for control and HTSA groups, t -test statistics, and effect sizes for differences in these means.

Mediation of the Relationship between Group and Emotion Suppression

We examined two variables, negative affect (NA) and acceptance of mood (MA), as potential partial mediators of the relationship between group (HTSA vs. control) and situational ES. To analyze these relationships, we followed conventional guidelines for mediation (Baron & Kenny, 1986), which specify running three separate regression analyses, testing 1) the independent variable as predictor of the mediator, 2) the independent variable as predictor of the dependent variable, and 3) the independent and mediator variables together as predictors of the dependent variable. The conditions for establishing partial mediation are that the regression coefficients from the first two analyses are significant, that the mediator in step 3 is a significant predictor of the dependent variable, and that the independent variable in step 3 with the mediator in the model is a weaker predictor of the dependent variable than it was in step 2 when entered as a predictor of the dependent variable without the mediator in the model.

Negative affect as mediator of the relationship between group and emotion suppression.

In the first regression analysis, which is graphically depicted in Figure 4, group predicted negative affect during the interaction ($\beta = .44, p < .01$), such that the HTSA group reported higher levels of NA than the control group. In step 2, the categorical variable of group status predicted emotion suppression ($\beta = .43, p < .01$), indicating greater ES among the HTSA group. In step 3, when ES was regressed on group and NA together, group ($\beta = .35, p < .05$), but not NA ($\beta = .19, p > .05$), was a significant predictor of ES, indicating that once the effect of group was accounted for, NA was not a significant mediator of the relationship between group and ES (see Table 7 for a full descriptive summary of these results). However, while not statistically significant, with a beta of .19, we interpret this null finding with some caution: given a greater sample size, it is possible that this effect would become significant. Hence, we suspect that negative affect may be

one motivating factor for situational suppression in HTSA individuals, but suppression is clearly not contingent upon the presence of NA.

Acceptance of mood as mediator of the relationship between group and emotion suppression.

In our second mediational model, which is depicted graphically in Figure 5, we explored whether acceptance of mood partially mediated the relationship between group and emotion suppression. Following conventional guidelines for mediation, we found that group predicted MA ($\beta = -.50, p < .01$), such that HTSA participants reported lower mood acceptance, and that group predicted emotion suppression ($\beta = .43, p < .01$), such that the HTSA group suppressed more than the control group. As in the previous mediational analysis, in the final step of the analysis, only group was a significant predictor of emotion suppression when both group and mood acceptance were entered as predictors of emotion suppression in a regression ($\beta = .35, p < .05$ and $\beta = -.13, p > .05$, respectively). Once again, it is unclear whether this finding indicates that the extent to which HTSA people are accepting of their current mood does not significantly account for increases in ES or if this is a subtle effect which requires a larger sample size to be detected. See Table 8 for a full descriptive summary of these results.

Mediation of the Relationship between Group and Authenticity by Emotion Suppression

We hypothesized that increased state-like suppression would contribute to decreased state-like authenticity in the HTSA group, so we analyzed state emotion suppression as a partial mediator of the relationship between group and authenticity. As depicted graphically in Figure 6 and descriptively in Table 9, in the first step, we regressed state-like authenticity on the group variable, and found that the HTSA group reported lower authenticity ($\beta = -.65, p = .00$). Next, we regressed ES on the group variable, and found that the HTSA group suppressed more than the control group ($\beta = .43, p < .01$). In step 3, we regressed state-like authenticity simultaneously on

the group variable and ES, and found that group remained a significant predictor of authenticity ($\beta = -.58, p = .00$) even with the proposed mediator in the model, while the path between ES and authenticity was not significant ($\beta = -.15, p > .05$). As in the mediational models above, it is unclear whether this finding is due to true failure of ES to help account for lower authenticity in the HTSA a group, or if it is a small but meaningful partial mediation that would be statistically significant in a larger sample.

Discussion

Interpretation and discussion of findings

We theorized that expressive suppression of emotions is a behaviour characteristic of people with social anxiety. We examined this suppression at the trait level, to learn whether HTSA individuals engage in this behaviour habitually, and on the state level, to learn whether they suppress their emotions in a single social interaction. We found that high trait socially anxious participants reported both greater habitual emotion suppression and greater situational suppression than controls. These findings support the idea that a particular style of emotion regulation is characteristic of social anxiety. Further, these results support previous findings that habitual emotion suppression plays an important role in the maintenance of mood and anxiety disorders (Campbell-Sills et al., 2006) and that day-to-day emotion suppression is positively associated with social anxiety (Kashdan & Steger, 2006).

Based on our clinical experience and the emotion regulation literature (Gross & John, 2003), we hypothesized that, perhaps as a result of emotion suppression, HTSA individuals would feel that they tend to hide their ‘true’ selves from others. Indeed, we found that HTSA participants reported considerably lower authenticity, both as a trait but also in a single social situation, than control participants. The magnitude of this effect indicates that inauthenticity is an important aspect of the phenomenology of social anxiety.

Given previous findings conveying the costs of maladaptive emotion regulation, it seemed likely that habitual suppression in socially anxious individuals would not be without its consequences. We proposed that emotion suppression and inauthenticity might partially account for reports of diminished well-being amongst socially anxious individuals. Indeed, we found that HTSA participants’ low level of perceived authenticity was an important contributor to

diminished well-being over and above its relationship with emotion suppression; emotion suppression, however, did not uniquely impact well-being, but only detracted from well-being through its negative toll on perceived authenticity. These findings indicate that authenticity may be an important construct to incorporate in future studies of emotion suppression because, while we now know that reduced authenticity is characteristic of HTSA individuals, it remains unknown what role perceived inauthenticity plays in the phenomenology of social anxiety. Additionally, we have found preliminary evidence to support the idea that HTSA individuals' perceived inauthenticity detracts from their well-being, but, likewise, have no evidence of the mechanisms by which this toll might be exacted. Possibilities abound: (a) the subjective sense that one is inauthentic could contribute to a chronic feeling of isolation, which may detract from well-being; (b) a lack of the desire to explore and know the self that contributes to authenticity may prevent HTSA individuals from learning about their wishes and desires and, therefore, prevent them from being achieved, which could lead to lower well-being; (c) the inauthentic and biased perception of the self as chronically flawed might lead to low well-being; and so on. Clearly, much remains to be understood about these relationships, and future research is needed to follow up on these exciting initial findings.

In the pair of studies presented here, we examined possible contributors to, and related costs of, emotion suppression in social anxiety during a single social interaction. While our analyses of trait-like characteristics and group differences rendered fairly clear results, our understanding of the specific contributors to diminished state-like authenticity in social anxiety remains tentative, at best. In Study 2, we expected state-like emotion suppression to contribute to situational inauthenticity in HTSA individuals. Contrary to our prediction, emotion suppression was not a significant partial mediator of the relationship between group and authenticity during

the social interaction. We interpret this result with caution, given the many possible explanations for this finding. It may be the case that, while HTSA people suppress more than non-socially anxious people and feel less authentic, suppression does not detract significantly from authenticity. However, it is also possible that this non-significant finding was due to our small sample size. In addition to possible consequences of emotion suppression, Study 2 examined state negative affect and low acceptance of mood as possible mediators of the relationship between social anxiety and situational ES. We hypothesized that HTSA participants' higher level of negative affect and lower acceptance of present mood would both be important predictors of suppression during a social interaction. While both negative affect and low mood acceptance were independently associated with HTSA group membership and state-like ES, neither explained a significant proportion of the relationship between social anxiety and emotion suppression.

We originally proposed that socially anxious individuals engage in emotion suppression in part because they perceive negative affective arousal in social settings as a flaw for which others will judge or reject them, if it becomes exposed for public scrutiny. We expected partial, rather than full, mediation, but the nonsignificant result demands some interpretation: perhaps non-significance was a consequence of insufficient power in our small sample size rather than a consequence of a true non-effect in the proposed relationship. Indeed, given a beta of .19, we suspect that the HTSA group suppressed their emotions in small part because of their aroused affect, but largely for other reasons.

We also expected that, during the social interaction, being unaccepting of one's inner state might motivate situational suppression in the HTSA group. We found a similar, but weaker, pattern in this mediational model as with negative affect: the hypothesized partial mediation of

the relationship between group and emotion suppression by mood acceptance was not significant. Again, we have sought to understand this non-significant finding: Is it the result of having used the wrong measure to capture mood acceptance or of our small sample size? Perhaps, however, a cognitive mechanism other than mood acceptance underlies this relationship, and a theoretical adjustment is required.

If negative affect and low acceptance of mood each play a minor role in state-like emotion suppression amongst socially anxious individuals, as our non-significant results imply, we might expect other characteristics of social anxiety to play a more important role. For example, suppression in socially anxious individuals might be motivated by their bias towards interpreting social events as threatening (Alden, Taylor, Mellings, & Laposa, 2008), so that while suppression might be a normal reaction to social threat, this ‘lower threshold’ for perceiving threat in socially anxious individuals might provide greater or more frequent motivation to conceal their emotions.

Limitations

Particular aspects of the research design and analyses in these two studies limit the generalizability of our results. First, with regard to sampling issues: despite our stringent selection criteria, our HTSA group may experience higher-than-normal levels of social anxiety, but they are not a clinical group and we cannot assume that our findings would replicate in a clinical sample. Second, the path model of Study 1 and the mediational analyses of Study 2 imply causal direction of effects, and we were indeed modelling causal hypotheses. However, in both studies, the relevant data were collected concurrently. We believe our findings are still interesting and may have important implications, but the causal relationships proposed here remain hypothetical. Third, in Study 2, the majority of the self-report measures employed were

modified for use in this study by changing the time-frame for which they applied. We chose to use adapted scales because of the dearth of acceptable scales for measuring the constructs of interest in the relevant time-frame. Some measures (the MES-A and PANAS-N) were originally published, and previously validated, as present-tense measures, with items phrased such that participants report their current state; others (the ERQ-S and AI-3) were originally measures of traits, which asked participants to rate their habitual behaviours and global characteristics. While the adapted measures used in Study 2 demonstrated acceptable internal consistency, and the ERQ-S had been administered in similar fashion in the past (Egloff et al., 2006), they had not been previously validated. Therefore, it is possible that our measures may have prevented us from detecting relationships that occur naturally, or may have falsely identified nonexistent relationships. Fourth, and further to the previous limitation, all data were gathered using self-report measures. A major concern about examining constructs such as emotion regulation and mood acceptance was that people would have difficulty accurately reporting such behaviours especially in an isolated instance, given that the behaviours in question, while effortful, are understood to be relatively automatic. Fifth, while Study 2 aimed to replicate an everyday type of social interaction in order to increase the external validity of this research, our attempts to maintain internal validity may have compromised this goal. While people have unexpected contact with others under all kinds of circumstances, having to sit face-to-face with a stranger and get to know him/her in a laboratory (while connected to heart-rate and skin-conductance monitors) is quite certainly beyond the scope of the ordinary. Further, the ‘neutral’ behaviour of the confederates may have been somewhat unusual, in that some common social niceties were not offered (for example, participants who were accustomed to having their nonverbal cues “pull” (Kiesler, 1996) particular comforting behaviours from social partners may not have had

these subtle cues responded to as they would have expected, given how the trained confederates were instructed to behave in the present study). Indeed, it is possible that such unfortunate results of our design would have affected control and HTSA groups differently. Additionally, it is unclear whether the kind of social interaction designed for this study is an appropriate context to test such constructs as emotion suppression and authenticity. During initial contact with a stranger, we are uncertain that anyone would accurately represent their “true self” or be open about their internal state. This issue may shed light on the differences in results between Study 1 and Study 2: while HTSA participants reported higher ES and lower authenticity than control participants during the social interaction, it may be the case that differences are greater, and more meaningful, in other contexts. Perhaps it is the effect of suppressing the expression of emotions across multiple interactions (for example, with others in a shared social circle or throughout the duration of a seminar course) that leads to the feeling of not ‘being oneself’ with others, rather than in the context of an initial introduction.

Finally, because our study included only two groups – one of socially anxious the other of non-socially anxious participants – we did not have another “clinical” group with which to compare our HTSA participants to determine unique effects of social anxiety in contrast to, say, depression or some general clinical variable. Therefore, within the confines of this design, we were unable to disentangle the unique effects of social anxiety from the effects of other symptoms or characteristics that might co-occur in our analogue-clinical group, such as depression.

Future directions

The findings presented here, along with the somewhat sparse extant literature on this topic, indicate that further research of emotion regulation and authenticity in social anxiety is

needed. In order to extend this literature, measures of emotion suppression and authenticity need to be expanded to include valid scales that capture these constructs in specific situations. Further, experimental or quasi-experimental research is needed to test causal models such as those contained here. Additionally, variations in methodology will strengthen the nomological net being constructed in this area of psychological research. For example, physiological data and observer ratings would provide for more objective information, while qualitative reports would help in the advancement of theory and the understanding of the experiential aspects of these relationships.

It seems that, in some respects, the present research is exciting because it has left us with many tantalizing questions. A future direction of particular interest to the author is the thorough investigation of the general construct of authenticity and its four components in socially anxious individuals towards increased understanding of the phenomenology of social anxiety and improvements in its treatments.

Implications for treatment

The purpose of this line of inquiry was to identify a potentially important contributor to the decreased well-being associated with social anxiety. We believe, however, that it would be a gross oversimplification to imply that simply curtailing the behaviour of emotion suppression and behaving more authentically would lead to improvements for socially anxious individuals. In other words, we do not mean to suggest that people with social anxiety should simply stop hiding their negative feelings in the social context; indeed, our findings hint at the possibility that behavioural factors alone may not be a fruitful point for intervention. Rather, we believe that the findings of the current research should be interpreted as reason to understand the particular emotion regulatory patterns in which HTSA people engage, both cognitively and behaviourally.

Treatment may be improved by explicitly addressing the cognitive mechanisms that motivate emotion suppression and contribute to inauthenticity, in addition to behavioural adjustment, and by incorporating the learning of new and more adaptive emotion regulation strategies. In this respect, the present research lends support to cognitive-behavioural treatment strategies aimed at acknowledgement and acceptance of one's present affective state, reassessment of threat stimuli, and related behavioural change.

Our findings indicate that the topic of authenticity is highly relevant to the phenomenology – and therefore the treatment – of social anxiety. Feelings of inauthenticity may be important to process in the therapy, as a long-term sense of being inauthentic may be associated with feelings of loss, isolation, and failure. Further research targeting the mechanisms of inauthenticity in social anxiety is needed before we have sufficient evidence to direct therapeutic treatment on this topic. Nonetheless, it may be a qualitatively important and fruitful topic for therapy with socially anxious clients.

Conclusion

The findings of the two studies present here add to a nascent literature on the role of emotion regulation in the maintenance and etiology of social anxiety. In summary, individuals high in social anxiety, relative to non-anxious control participants: 1) engage significantly more in the emotion regulation strategy of expressive suppression, both on a general, trait-like level and in specific social encounters, and 2) perceive themselves as being less authentic both typically and in specific social situations. Exploratory statistical modelling supported the theory that socially anxious individuals' high levels of emotion suppression contributes to their low authenticity, which, in turn, negatively impacts well-being. Each of these findings contributes importantly to our understanding of core characteristics and previously unexamined aspects of

the phenomenology of social anxiety. Future research is required to follow up on these exciting preliminary findings and better understand the specific mechanisms underlying the relationship between both social anxiety and emotion suppression and emotion suppression and inauthenticity.

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Table 1
Study 1. Demographic Characteristics of Sample

	Control (<i>n</i> = 57)	HTSA (<i>n</i> = 44)
Demographic Variable		
Gender (% female)	61.4%	48.9%
Age (M (SD))	20.16 (2.90)	19.53 (1.84)
Ethnicity		
Caucasian	67.3%	47.7%
Asian	14.5%	38.6%
Other	18.2%	13.6%

Table 2

Study 1. Correlations among Trait Social Anxiety, Trait-like Emotion Suppression, Global Authenticity, and Well-Being.

Variable	1	2	3	4	<i>p</i>
1. Trait Social Anxiety (SIAS)	–	.55	-.66	-.67	.000
2. Emotion Suppression (ERQ-S)	–	–	-.59	-.47	.000
3. Authenticity (AI-3)	–	–	–	.79	.000
4. Well-Being (Ryff's 6 dimensions)	–	–	–	–	

Table 3

Study 1. Means, standard deviations, and *t*-scores on habitual emotion suppression, authenticity, and well-being

Variable	Control (<i>n</i> = 57)		HTSA (<i>n</i> = 44)		<i>t</i> (99) ^a	<i>d</i> ^b	<i>p</i> ^c
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Emotion Suppression (ERQ-S)	11.90	4.74	17.71	4.41	-6.35*	1.29	.000
Authenticity (AI-3)							
Overall	161.18	14.14	139.84	16.96	6.69*	1.36	.000
Awareness	44.20	5.20	39.00	6.46	4.33*	0.88	.000
Unbiased processing	33.65	4.67	28.29	5.21	5.40*	1.10	.000
Behavioural	38.27	4.00	32.49	5.06	6.25*	1.27	.000
Relational Orientation	45.50	5.52	40.20	6.99	4.15*	0.84	.000
Well-Being (Ryff's 6 dimensions; R6)							
Overall	97.66	10.98	80.25	13.03	7.10*	1.44	.000
Self-Acceptance	16.16	3.02	12.95	3.65	4.70*	0.95	.000
Positive Relations	16.05	3.47	12.59	3.46	4.98*	1.01	.000
Environmental Mastery	15.05	3.11	12.14	3.65	4.24*	0.86	.000
Personal Growth	18.49	2.11	15.64	2.86	5.56*	1.13	.000
Autonomy	15.00	2.48	12.30	2.73	5.13*	1.04	.000
Purpose in Life	17.05	2.47	14.64	3.12	4.22*	0.86	.000

Note. Possible range of scales and subscales: ERQ-S, 4-16; AI-3 Overall, 45-225; AI-3 Awareness, 12-60; AI-3 Unbiased Processing, 10-50; AI-3 Behavioural, 11-55; AI-3 Relational Orientation, 12-60; R6 Overall, 18-126; all R6 subscales, 3-21.

^aAll *t*-test scores are 'equal variances not assumed'.

^bCohen's $d = t(n_1 + n_2) / [\sqrt{(df)}\sqrt{(n_1 n_2)}]$.

^c2-tailed

Table 4
Study 1. Summary of Regression Analyses for Path Model

Variable	N	B	SE B	β	R^2	p
Regression 1: Predicting Well-Being	97				.65	
Authenticity		.55	.06	.71		.000
Emotion Suppression		.24	.22	.09		.264
Group		-6.64	2.28	-.23		.004
Regression 2: Predicting Authenticity	98				.44	
Emotion Suppression		-13.42	3.38	-.36		.000
Group		-1.36	.31	-.40		.000
Regression 3: Predicting Emotion Suppression	100				.29	
Group		5.81	.92	.54		.000

Note: For the categorical variable of Group, the control group was coded '0' and the HTSA group was coded '1'; therefore, these findings indicate that HTSA group membership is positively associated with emotion suppression and negatively associated with authenticity and well-being.

Table 5
Study 2. Demographic Characteristics of Sample

	Control (<i>n</i> = 28)	HTSA (<i>n</i> = 30)
Demographic Variable		
Gender (% female)	60.7%	70.0%
Age (M (SD))	19.81 (2.42)	19.63 (4.00)
Ethnicity		
Caucasian	48.1%	40.0%
Asian	22.2%	43.3%
Other	29.6%	16.7%

Table 6

Study 2. Correlations among Trait Social Anxiety, State Negative Affect, Mood Acceptance, State-like Emotion Suppression, and Situational Authenticity.

Variable	2	(<i>p</i>)	3	(<i>p</i>)	4	(<i>p</i>)	5	(<i>p</i>)
1. Trait Social Anxiety (SIAS)	.51	(.000)	-.52	(.000)	.41	(.002)	-.65	(.000)
2. Negative Affect (PANAS-N)	–		-.49	(.000)	.34	(.010)	-.44	(.001)
3. Mood Acceptance (MES-A)	–		–		-.30	(.025)	.61	(.000)
4. Emotion Suppression (ERQ-S)	–		–		–		-.40	(.002)
5. Authenticity (AI-3, adapted)	–		–		–		–	

Table 7

Study 2. Means, standard deviations, and *t*-scores on state-like emotion suppression, mood acceptance, and authenticity.

Variable	Control (<i>n</i> = 28)		HTSA (<i>n</i> = 30)		<i>t</i> (56) ^a	<i>d</i> ^b	<i>p</i> ^c
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Emotion Suppression (ERQ-S, <i>adapted</i>)	6.88	2.70	9.47	2.83	-3.49	0.93	.001
Mood Acceptance (MES-A, <i>adapted</i>)	26.52	3.39	21.00	5.74	4.42	1.18	.000
Authenticity (AI-3, <i>adapted</i>)	68.39	6.08	55.93	8.54	6.35	1.70	.000

Note. Possible range of scales and subscales: ERQ-S *adapted*, 4-16; MES-A *adapted*, 6-30; AI-3 *adapted*, 19-95.

^aAll *t*-test scores are 'equal variances not assumed'.

^bCohen's *d* = $t(n_1 + n_2) / [\sqrt{(df)}\sqrt{(n_1 n_2)}]$.

^c 2-tailed.

Table 8

Study 2. Summary of Regression Analyses for State Negative Affect as Partial Mediator of the Relationship between Group (Control vs. HTSA) and Emotion Suppression (N = 55)

Variable	<i>B</i>	<i>SE B</i>	β	R^2	<i>p</i>
Regression 1					
Group predicting Negative Affect	4.93	1.36	.44	.20	.001
Regression 2					
Group predicting Emotion Suppression	2.58	.74	.43	.18	.001
Regression 3					
Predicting Emotion Suppression			.21	.002	
Group	2.08	.82	.35		.014
Negative affect	.10	.07	.19		.173

Note: For the categorical variable of Group, the control group was coded '0' and the HTSA group was coded '1'; therefore, these findings indicate that HTSA group membership is associated with greater negative affect and greater emotion suppression.

Table 9

Study 2. Summary of Regression Analyses for State Acceptance of Mood as Partial Mediator of the Relationship between Group (Control vs. HTSA) and Emotion Suppression (N = 54)

Variable	<i>B</i>	<i>SE B</i>	β	R^2	<i>p</i>
Regression 1					
Group predicting Mood Acceptance	-5.52	1.31	-.50	.25	.000
Regression 2					
Group predicting Emotion Suppression	2.58	.74	.43	.18	.001
Regression 3					
Step 1: Predicting Emotion Suppression				.18	.005
Group	2.08	.87	.35		.020
Mood Acceptance	-.07	.08	-.13		.381

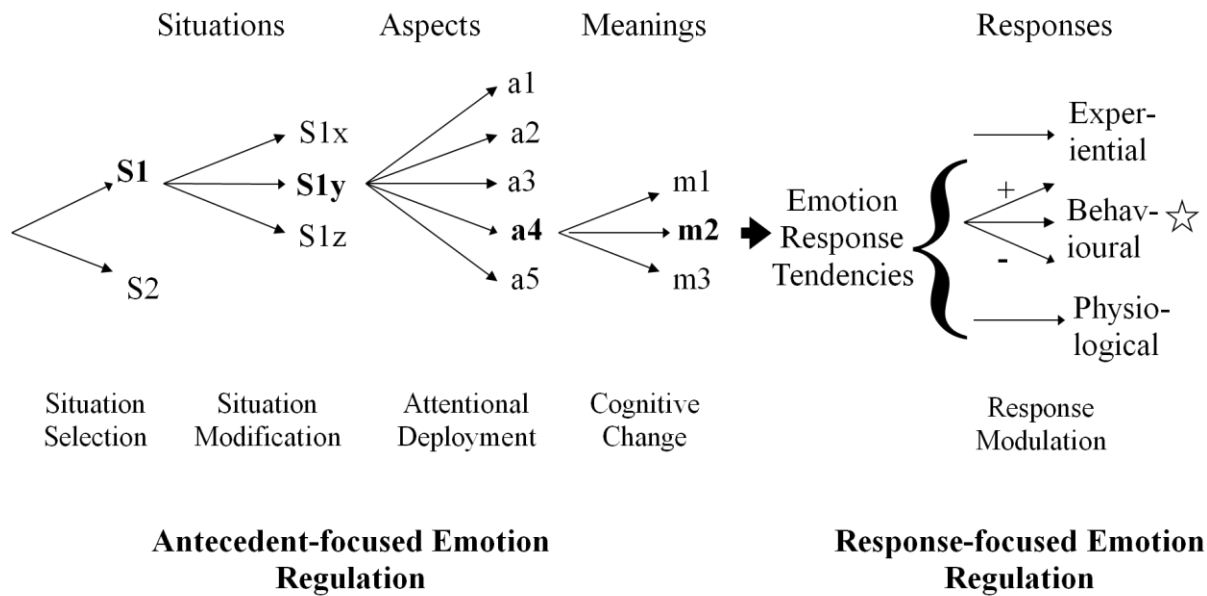
Note: For the categorical variable of Group, the control group was coded '0' and the HTSA group was coded '1'; therefore, these findings indicate that HTSA group membership is associated with lower mood acceptance and greater emotion suppression.

Table 10

Study 2. Summary of Regression Analyses for State Emotion Suppression as Partial Mediator of the Relationship between Group (Control vs. HTSA) and Situational Authenticity (N = 55)

Variable	<i>B</i>	<i>SE B</i>	β	R^2	<i>p</i>
Regression 1: Predicting					
Group predicting Emotion Suppression	2.58	.74	.43	.18	.001
Regression 2					
Group predicting Authenticity	-12.45	2.01	-.65	.42	.000
Regression 3					
Step 1: Predicting Authenticity				.43	.000
Group	-11.21	2.21	-.58		.000
Emotion Suppression	-.48	.37	-.15		.193

Note: For the categorical variable of Group, the control group was coded '0' and the HTSA group was coded '1'; therefore, these findings indicate that HTSA group membership is associated with lower authenticity and greater emotion suppression.



☆ *Expressive Suppression*

Figure 1. Gross's process model of emotion regulation (Gross, 2001). The many arrows at each point along the continuum represent the numerous specific strategies that might be chosen at each juncture. For a full explanation of this model, please see Gross and John (2003). Relevant to the present research, the expressive suppression of emotions is conceived of as a behavioural, response-focused emotion regulation strategy that occurs late in the sequence of emotion regulation strategies.

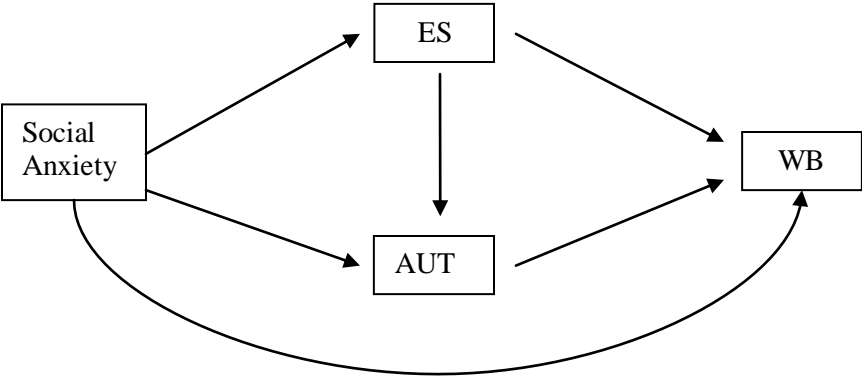


Figure 2. Study 1. Hypothesized model: Influence of social anxiety, habitual emotion suppression, and trait-like authenticity on overall well-being.

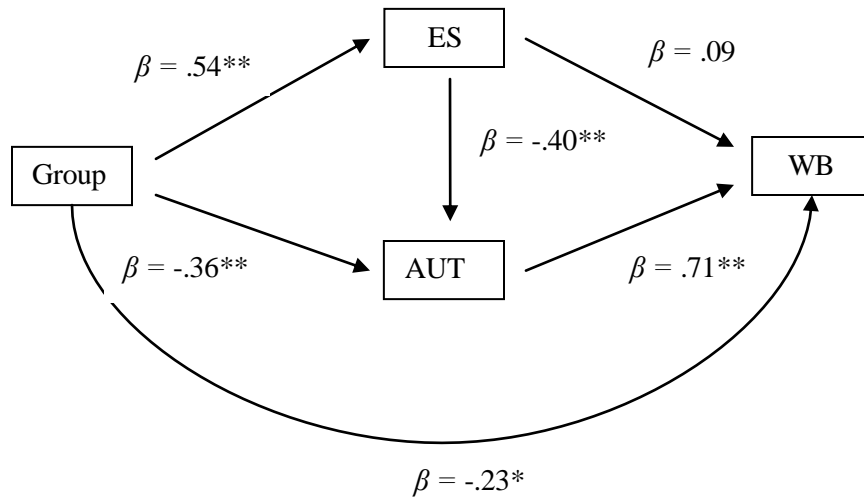


Figure 3. Study 1. Path model with regression coefficients. Three paths between Group and WB are significant: the direct path, the indirect path through AUT, and the indirect through ES and AUT.

* $p < .01$

** $p = .000$

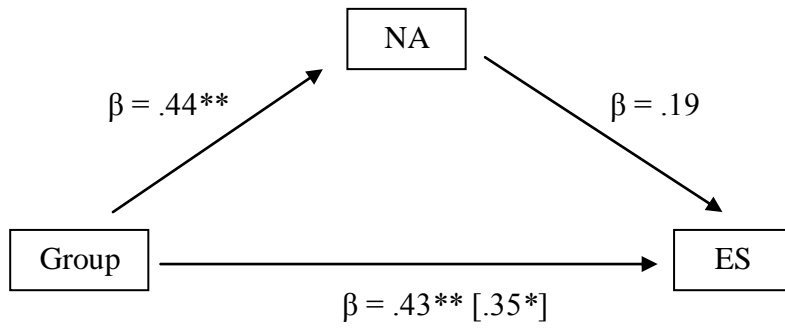


Figure 4. Study 2. The proposed partial mediation of the relationship between Group and state Emotion Suppression (ES) by state Negative Affect (NA).

* $p < .05$

** $p < .01$

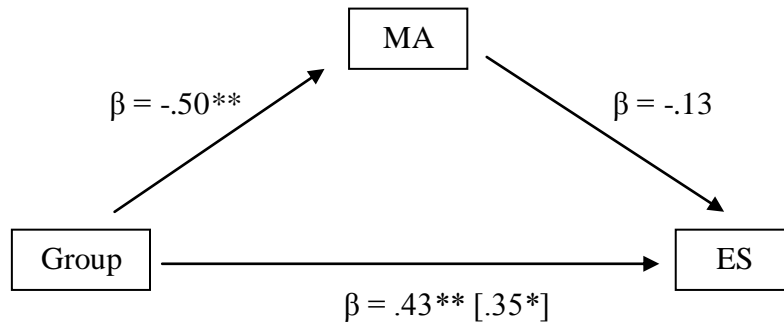


Figure 5. Study 2. The proposed partial mediation of the relationship between Group and state Emotion Suppression (ES) by state Acceptance of Mood (MA).

* $p < .05$

** $p < .01$

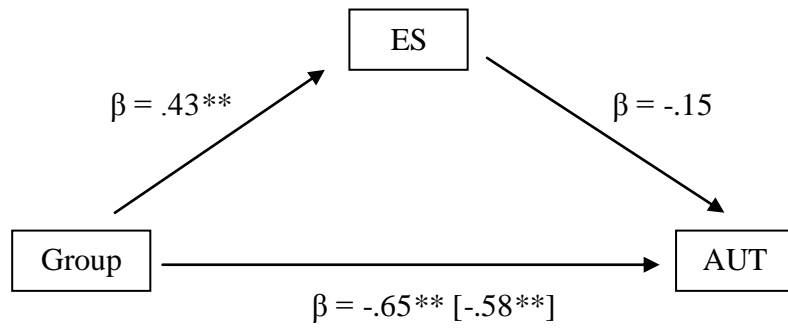


Figure 6. Study 2. The proposed partial mediation of the relationship between Group and state Authenticity (AUT) by state Emotion Suppression (ES).

** $p < .01$