School of Population Health

The Effect of the Fears of Positive and Negative Evaluation on Emotional and Cognitive Outcomes in Imagined and In Vivo Social Evaluative Situations

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Declaration

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgment has been made.

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

The research presented and reported in this thesis was conducted in accordance with the National Health and Medical Research Council National Statement on Ethical Conduct in Human Research (2007) – updated March 2014. The proposed research study received human research ethics approval from the Curtin University Human Research Ethics Committee (EC00262), Approval Numbers: HRE2021-0231 and HRE2018-0349

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Abstract

Social anxiety is characterised by excessive fear and avoidance of social and performance situations and is one of the most common mental health disorders. Cognitive behavioural models of social anxiety have proposed that cognitive biases, such as the fear of negative evaluation (FNE) are key vulnerability factors in the development and maintenance of social anxiety disorder. Although FNE has been supported throughout the literature, theorists have proposed the bivalent fear of evaluation (BFOE) model, whereby socially anxious individuals fear evaluation in general at both ends of the valence spectrum, positive and negative. There is preliminary evidence that the fears of positive and negative evaluation are distinct constructs that separately and uniquely predict social anxiety symptoms. However, majority of the evidence for the BFOE model is cross-sectional and correlational, highlighting the need for experimental investigation. In line with this, the overarching purpose of the present research program was to test hypotheses derived from the BFOE model by exploring how individuals respond to positive and negative feedback in social evaluative situations.

Two studies were completed in this research program that examined how individuals respond to positive and negative feedback in imagery-based social-evaluative situations (Study 1), and then how they respond when given positive and negative feedback on their social performance *in vivo* (Study 2). The aim of Study 1 was to examine whether different levels of trait fear of positive evaluation (FPE) and trait FNE led to different emotional reactions to positive and negative feedback, compared to a neutral feedback control condition, in imaginal social-evaluative situations. Participants (*n* = 194) listened to a range of vignettes and 'imagined' themselves in the social evaluative situations that were being described where they received positive, negative, or neutral feedback in a variety of settings (e.g., giving a presentation at university, a job interview). Participants then completed self-reports on their experience of positive and negative emotions. The key finding of Study 1 was that variation in FPE had no moderating effects on the relationship between feedback valance (positive, negative, neutral) and positive affect. Higher trait FPE was associated with greater positive affect and less negative affect. This finding did not support the BFOE model, as participants generally reported more positive emotion in relation positive feedback, and less positive emotion in relation to negative feedback, regardless of trait FPE.

The aim of Study 2 was to determine whether FPE and FNE impact on state anxiety and repetitive negative thinking (RNT) in low versus high socially anxious individuals. Participants from low (*n* = 80) and high (*n* = 72) social anxiety groups presented an impromptu two-minute speech on a controversial topic in small groups. Participants rated their own and others' performance and were then given one of three types of false feedback: positive, negative or no feedback. State anxiety, RNT, state FNE, and state FPE were measured once prior to presentations and again prior to an

anticipated group discussion about their performance. The key finding of Study 2 was that the FNE was a strong and significant predictor of increased state anxiety and RNT, while the FPE was a weak and non-significant predictor of both outcome variables.

Although this research has several limitations, together these novel manipulations and findings increase our understanding of the role of FPE in social anxiety. The broader implication of our findings suggest that clinical interventions may be most effective by seeking to modify trait FNE by challenging the perceived probability and cost of negative evaluation, in addition to the clients' capacity to cope with negative evaluation. Targeting FPE may not further improve outcomes.

Chapter 1: General Introduction

This thesis is comprised of two complimentary studies that aim to increase understanding of the role of the fear of positive evaluation (FPE) in social anxiety. The existing evidence of the unique contribution of FPE to social anxiety comes mostly from correlational and cross-sectional research, and there remains a need for corroboration of these findings through experimental methods.

Social anxiety is a common experience that can range from moderate, transient distress to debilitating and enduring fear of social situations (American Psychiatric Association, 2013; Rapee, 1995). Social anxiety disorder (SAD) is among the three most prevalent mental disorders, behind specific phobia and major depressive disorder, and has high comorbidity with generalised anxiety, depression and substance use disorders (Kessler et al., 2012; Spence & Rapee, 2016). In Australia, 8% of people will meet the criteria for a SAD diagnosis within their lifetime, with many people also impacted at a non-clinical level (Kessler et al., 2005; McEvoy et al., 2011). Severe social anxiety symptoms often result in impairments across many domains of an individual's life, including education, friendships, employment, and romantic and workplace relationships (Rodebaugh, 2009).

Individuals with SAD tend to interpret social information in an overly negative way and fear situations within which they are the focus of attention (e.g., public speaking or participating in meetings at work/school) (Clark & Wells, 1995). Studies have found that individuals with high trait social anxiety perceive themselves as socially incompetent and hold maladaptive beliefs that others are critical evaluators who hold unattainable and rigid standards for their social performance (Moscovitch & Hofmann, 2007). Therefore, when individuals with high trait social anxiety enter social situations, they expect others to criticise and thus reject them (Moscovitch & Hofmann, 2007). These beliefs result in individuals coping with these performance and social situations by avoiding them, which results in short-term reductions in anxiety but prevents any chance for disconfirmation of these negative beliefs (Clark & Wells, 1995; Heimberg et al., 2010).

Prominent cognitive-behavioural models of social anxiety have posited the importance of cognitive biases as key components in the development and maintenance of social anxiety symptoms (Spence & Rapee, 2016). These cognitive biases reinforce the unhelpful beliefs those with high trait social anxiety have about themselves and social-evaluative situations (Clark & Wells, 1995; Rapee & Heimberg, 1997). Rapee and Heimberg (1997) proposed that those with high trait social anxiety form a biased mental representation of themselves from the observer perspective (i.e., as seen by others), then focus their attentional resources on the negative aspects of themselves and their audience and monitor their social environment for signals of negative evaluation from others. This ultimately increases the perception of threat and therefore anxiety symptoms (Rapee & Heimberg, 1997). This fear of negative evaluation (FNE) has been labelled by cognitive-behavioural

models as the core cognitive vulnerability underpinning social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997).

FNE is characterised as the distress and worry associated with negative evaluation, including being embarrassed, rejected, or criticised by others in social situations (Weeks et al., 2005). A strong relationship between FNE and social anxiety has been found among clinical and non-clinical adult samples (Fay et al., 2008; Fergus et al., 2009; Weeks, Heimberg, Rodebaugh, & Norton, 2008). While empirical support for FNE in social anxiety has been robust, some researchers have suggested that cognitive-behavioural models may discount an important part of socially anxious cognition: socially anxious individuals may fear evaluation in general, experiencing both fear of negative and positive evaluation (Weeks, Heimberg, & Rodebaugh, 2008).

In line with this concept, Weeks and Howell (2012) developed the bivalent fear of evaluation (BFOE) model. The BFOE model proposes that the fear of positive evaluation (FPE) also represents a core feature of social anxiety. FPE specifically refers to the dread associated with being evaluated favourably by others in social situations (e.g., receiving praise) (Weeks & Howell, 2012). According to the model, such positive evaluation invites direct social comparison of the self to others and therefore causes a person to feel highly conspicuous and the centre of attention (Weeks & Howell, 2012). FPE has been found to be associated with social anxiety after covarying for FNE (Weeks & Howell, 2012). The theoretical basis of the BFOE model in part is guided by psycho-evolutionary accounts of social anxiety whereby fears of positive and negative evaluation serve different adaptive goals. Such theories suggest that individuals with SAD perceive their position on the social hierarchy as lower than that of others. Therefore, their goal is to maintain a stable position on this hierarchy while avoiding either downwards shifts (from negative evaluation) that could lead to being ostracised from the group, or upwards shifts (from positive evaluation) that could lead to conflict with other group members and social rivals (Gilbert, 2001).

In an early experimental investigation of the effects of positive feedback in social anxiety, Wallace and Alden (1995) examined the way that positive and negative social experiences affected the discrepancy between self-efficacy and others' standards. In this laboratory-based study participants were randomly assigned to receive either positive, negative or no feedback during a manipulated social interaction with one of the research assistants. Socially anxious participants experienced increased anxiety after receiving positive feedback (Wallace & Alden, 1995). This finding was interpreted as evidence for a potential fear of receiving positive evaluation, as participants feared others' expectations of their future performance would increase and that these higher expectations would not be met (Wallace & Alden, 1995).

In contrast to this early experimental work, most of the evidence for FPE as a distinct cognitive feature from FNE has come from cross-sectional psychometric studies (Reichenberger & Blechert, 2018). Weeks, Heimberg, and Rodebaugh (2008) developed the fear of positive evaluation scale (FPES) and found that FPE was significantly and positively associated with social anxiety, while FPE and FNE were distinct constructs and positively correlated with one another (Weeks, Heimberg, & Rodebaugh 2008). In a study by Reichenberger and Blechert (2018), after covarying for FNE, FPE explained unique variance in socially anxious symptomology (e.g., emotions and avoidance behaviour), along with personality and quality of life. Specifically, they found that individuals with higher FPE also reported higher avoidance tendencies and lower approach tendencies (Reichenberger & Blechert, 2018). However, this correlational data precludes causal inferences and, while FPE accounts for additional variance with the BFOE model, it falls short of providing causal evidence for such an association for which experimental evidence is required.

Few experimental studies have been conducted to investigate relationships between FPE, FNE, and social anxiety. In one such study, individuals with SAD and demographically matched healthy controls completed a computerised social simulation task involving video clips of actors giving positive and negative social feedback to the participants (Weeks et al., 2019). Results showed that self-reported state anxiety following social feedback was uniquely related to FPE following positive social feedback, while FNE was uniquely related to social anxiety following negative social feedback. Additionally, compared to healthy controls, individuals with SAD displayed greater gaze avoidance in response to both the positive and negative feedback in the video clips. Healthy controls did not demonstrate the same gaze avoidance following positive feedback (Weeks et al., 2019). However, this study did not include a neutral social stimuli condition for comparison with the positive and negative social feedback conditions, so the possibility that people high in social anxiety avoid all social attention independent of feedback could not be ruled out. Reichenberger et al. (2019) exposed 35 healthy controls and individuals with a SAD diagnosis to short social-evaluative video clips, in which actors expressed either negative, positive, or neutral statements. Participant reactivity was concurrently recorded using a range of measures (valence, arousal, and approval ratings). Participants additionally completed measures of FNE and FPE. The researchers found that FPE scores uniquely discriminated between those with SAD from healthy controls, even after covarying for FNE. While both these studies provided support for FPE and the BFOE model, such support from experimental research is limited.

Other research findings have suggested that FPE may not directly contribute to social anxiety. In a recent study, Johnson et al. (2020) examined whether FPE and FNE prospectively predicted social anxiety disorder symptoms over a 12-week period among a sample of individuals

with SAD. The researchers found that FPE and FNE both prospectively predicted each other, however FNE but not FPE directly predicted future social anxiety severity. FPE only indirectly predicted social anxiety severity via FNE (Johnson et al., 2020). This suggests the possibility that FNE has a direct relationship with social anxiety and that the indirect relationship between FPE and social anxiety severity could be explained as delayed FNE. Specifically, these findings suggest that a socially anxious individual will experience higher levels of social anxiety if they believe positive feedback increases the risk of future negative evaluation (e.g., their incompetence being revealed to others), but fear of positive evaluation per se is unlikely to lead to higher social anxiety (Reichenberger & Blechert, 2018).

The relative lack of experimental evidence for a unique relationship between FPE and social anxiety has implications for cognitive-behavioural SAD treatments. While existing treatments focus on FNE as the core maintenance factor (Reichenberger & Blechert, 2018), FPE has not been targeted by therapeutic interventions (Weeks & Howell, 2014). Experimental evidence for distinct positive and negative evaluative fears would allow for stronger causal inferences than cross-sectional correlational evidence and may justify new treatment protocols to target FPE (Reichenberger & Blechert, 2018). Given there is some evidence that FPE is less responsive to current cognitive-behavioural treatments than other social anxiety symptoms (Fergus et al., 2009; McEvoy et al., 2020), establishing whether FPE represents a truly distinct cognitive construct is clinically important. If FPE uniquely contributes to social anxiety symptoms, techniques such as cognitive restructuring and behavioural experiments may need to be applied in situations associated with positive social-evaluative feedback. On the other hand, if FPE does not uniquely contribute to social anxiety symptoms, or if the relationship is only indirect via FNE as has been found in a recent clinical trial (Johnson et al., 2020), then focusing clinical time on FPE may be less efficient and effective.

The aim of this program of experimental research is to test hypotheses derived from the BFOE model (Weeks & Howell, 2012) by exploring how individuals respond to positive and negative feedback in social-evaluative situations. In Study 1 this was conducted in the context of an online experiment in which participants listened to imaginal social-evaluative scenarios. Study 2 extends Study 1 by examining how individuals respond when given positive and negative feedback on their social performance *in vivo*. As most of the evidence for the BFOE model is cross-sectional and correlational, these experimental studies provide a significant and unique contribution to the literature.

This thesis is comprised of four chapters. Chapter 2 presents Study 1 in which variation in trait FPE and FNE are assessed as potential moderators of affective responses following undergraduate students receiving positive, negative, and neutral feedback on their imaginal social

performance. Chapter 3 presents Study 2, which explores the effect of FPE and FNE on state anxiety and repetitive negative thinking in high and low socially anxious individuals receiving actual feedback following a social-evaluative stressor. Chapter 4 provides a general discussion of the key research findings from the two studies, theoretical and clinical implications, study strengths and limitations and recommendations for future research.

Chapter 2: Trait FPE and FNE as Potential Moderators of Affect, Following Positive, Negative, or Neutral Feedback in Imaginal Social Evaluative Scenarios (Study 1)

Distinctions are often made between clinical and nonclinical levels of social anxiety, although there is evidence that social anxiety is dimensional in nature and may be best represented along a continuum (Kollman et al., 2006). Research has found SAD to be unique among the anxiety disorders with respect to being characterised by high levels of negative affect and low levels of positive affect (Brown et al., 2007; Kashdan, 2007). An emerging area of focus within the SAD literature has noted this positivity impairment as a significant feature of SAD, with results of a meta-analysis outlining the association between social anxiety and impoverished positive affect in social situations (Kashdan et al. 2011; Weeks & Howell, 2012). In response to social interactions and daily stressors (e.g., work stress), low positive affect has been found to predict social anxiety uniquely and prospectively, after covarying for negative affect (Brown et al., 1998; Gilboa-Schechtman et al., 2014; Hughes et al., 2006). Research in this area suggests that both FPE and FNE are associated with tendencies to experience dampened positive affect as well as increased negative affect while engaging with others (Weeks and Howell, 2012). In a study by Weeks, Heimberg, Rodebaugh and Norton (2008) positive affect was found to relate strongly, uniquely, and negatively to FPE and FNE, consistent with the BFOE model. It is therefore possible that FPE plays an important role in the positive affect deficits previously linked to social anxiety (Kashdan, 2007).

Psychometric research has shown that higher levels of both FNE and FPE are generally associated with both higher negative and lower positive affect (Wang et al., 2012, Weeks & Howell, 2012; Weeks et al., 2010). Meanwhile, laboratory-based research has mainly investigated affective reactivity, assessing whether standardised social stimuli elicit increased affective responses in individuals. In a study by Weeks and Zoccola (2015) a standardised social stress test in the form of an evaluated speech task was completed by undergraduate students to compare physiological responses associated with FPE and FNE. The relationships between FPE and FNE and changes in state anxiety/affect in response to perceived social evaluation during the speech were also examined. Weeks and Zoccola (2015) found FPE but not FNE to uniquely predict increases in mean heart rate during the speech. Both FPE and FNE were uniquely related to increases in negative affect and state anxiety during the speech (Weeks & Zoccola, 2015). However, this study did not explicitly assess whether positive feedback led to more state anxiety or more intense affective responses as a function of variation in levels FPE.

Reichenberger et al. (2018) conducted two ecological momentary assessment (EMA) studies to investigate day-to-day correlates of FPE and FNE and their contributions to positive and negative affect in an undergraduate sample (Study 1), and a replication and extension to increase

generalisability with a more diverse sample (Study 2), in response to different types of daily stressors (e.g., work, and daily hassles). Consistent with the BFOE model, the findings revealed that negative affect was higher among individuals with high trait FNE and high trait FPE (Reichenberger et al., 2018). In contrast to the BFOE model, diminished positive affect was associated with pronounced FNE but not with pronounced FPE. This finding that FNE was associated with less positive affect while FPE was not inconsistent with Weeks and Zoccola's (2015) finding that both FPE and FNE were associated with negative affect, which is more in line with the predictions of the BFOE model. This finding indicates that in daily social-evaluative situations heightened trait FPE is *not* associated with difficulties with positive affect.

The existing literature around the unique contributions of FPE to social anxiety is varied, with an ongoing debate surrounding whether FPE exists as a distinct construct from FNE, contributing to the maintenance of social anxiety, or simply existing as the fear of future negative evaluation (Reichenberger and Blechert, 2018). Several studies have found that while FPE and FNE are correlated with each another, each construct accounts for unique variance in social anxiety symptoms among clinical and non-clinical samples (Reichenberger et al., 2019; Weeks, Heimberg, Rodebaugh, & Norton, 2008; Weeks et al., 2013; Weks et al., 2019). These previous findings present varying accounts of the contributions of FPE to positive and negative affect; therefore, Study 1 sought to determine whether FPE predicts negative reactions to specific scenarios involving positive social-evaluative outcomes. This was achieved by using social anxiety dimensionally to explore the unique contributions of FPE in social anxiety using an imagery approach, where participants 'imagine' themselves in social -valuative situations and receive positive, negative, or neutral feedback in a variety of settings (e.g., giving a presentation at university, a job interview). Imagery can be a way of vividly representing alternative scenarios to individuals. This imagery approach was employed as there is evidence that people tend to respond to vignettes in more similar ways as they would when faced with the same situation in their real life compared to when they are asked directly how they would respond, and there is some evidence that they are also less likely to give socially desirable responses when compared to other in vivo research methods (Hughes, 1998; Leighton, 2010).

Consistent with the BFOE model (Weeks & Howell, 2012), the first hypothesis is that FPE will moderate the relationship between type of feedback (positive vs. negative vs. neutral) and affective responses such that, at low levels of FPE, positive feedback should lead to low negative and high positive affect, and at high levels of FPE, positive feedback should lead to high negative and low positive affect. An alternative to this hypothesis, consistent with traditional models of social anxiety, that do not account for FPE, is that positive feedback will simply result in more positive affect and

less negative affect. The second hypothesis, consistent with traditional models of social anxiety (Rapee & Heimberg, 1997), is that negative feedback should lead to more negative affect and less positive affect than the positive and neutral feedback conditions, with this effect more pronounced at high compared to low levels of FNE. We further investigated whether FNE moderated these relationships, such that the impacts on positive and negative affect were stronger for individual higher on FNE than those who were lower on FNE.

Method

Research design

A three by two within-groups design was used for this study. The independent variable (IV) was feedback valence, with three levels: negative feedback, positive feedback, and neutral feedback (control). The moderator variables used to test hypotheses one and two were trait FPE and trait FNE. All participants responded to a randomly ordered set of 6 vignettes from a total of 18 vignettes (6 positive, 6 negative and 6 neutral feedback conditions, with half social interaction and half social performance scenarios) that were delivered online.

Participants

Participants were 194 undergraduate psychology students from Curtin University receiving course credit for their participation. A G*Power (Faul et al., 2009) a priori power analysis confirmed that a minimum of 168 participants was needed to detect a small to medium effect (*f* = .15; power = 80%; alpha = .05) (Faul et al., 2009). The mean age of participants was 21.31 (*SD* = 4.22, range = 17 - 46) and 68% were female. Over half of participants identified as Caucasian (61%), with other participants identified as Asian (19%), African (9%), and other (4%). Eight participants (4%) did not disclose their ethnicity.

Measures/Materials

Positive and Negative Affect Schedule for Children

The *Positive and Negative Affect Schedule for Children* (PANAS-C) was used to assess anticipated emotional reactions to the different social scenarios. The PANAS-C is a 10-item self-report measure of positive affect (PA) and negative affect (NA) (Ebesutani et al., 2012; Sanmartin et al., 2018). Two columns of positive (“happy”, “proud”) and negative (“angry”, “afraid”) feelings/emotions are presented, and participants are asked to indicate the extent to which they felt each feeling/emotion at the time, on a scale of 1 (*very slightly or not at all*) to 5 (*extremely*). The PANAS-C has demonstrated good internal reliability and content validity. The PANAS-C provided the best face validity for the purpose of assessing positive and negative emotions as we needed in this study, the emotions assessed by this scale seemed the most appropriate for participants responding following each different scenarios in which performance or interaction was required. This version

has been validated in young adult populations (Ebesutani et al., 2012; Sanmartin et al., 2018). Internal consistency for the PANAS-C was excellent in our current sample (PA, α = .95, NA, α = .86).

Fear of Positive and Negative Evaluation

The *Fear of Positive Evaluation Scale* (FPES) is a 10-item Likert-type self-report measure of fear of positive evaluation in various social situations (Weeks, Heimberg, & Rodebaugh, 2008). Items (e.g., "I feel uneasy when I receive praise from authority figures") are rated on scale ranging from 0 (*not at all true*) to 9 (*very true*). The FPES has demonstrated content validity and high internal consistency (α = .80, Weeks, Heimberg, & Rodebaugh, 2008). Internal consistency for the FPES was high in our current sample (α = .82).

The Brief Fear of Negative Evaluation Scale (BFNE-S) is an 8-item Likert-type self-report measure of a person's tolerance for the chance they might be judged unfavourably by others (Leary, 1983). Items (e.g., "I often worry that I will say or do the wrong things") are rated on a scale ranging from 1 (*not at all characteristic of me*) to 5 (*extremely characteristic of me*). Internal consistency for the BFNES was excellent in our current sample (α = .96).

Social Anxiety Measures

Social Interaction Anxiety Scale (SIAS-6) and *Social Phobia Scale* (SPS-6) are short forms of the original SIAS and SPS scales (Peters et al., 2012). The SIAS-6 and SPS-6 are 6-item self-report measures, with SIAS-6 items assessing social interaction anxiety (e.g., "I tense up if I meet an acquaintance on the street") and the SPS-6 assessing anxiety in performance situations (e.g., "I worry about shaking or trembling when I'm watched by other people"). These companion measures were designed to capture variation in social interactive and performance facets of social anxiety. Internal consistencies for the social interaction anxiety items (α = .84) and social performance anxiety items (α = .90) were excellent in our current sample.

Comprehension Questions

After responding to each scenario and the corresponding questions participants were presented with a single comprehension question about the scenario to ensure they were reading and paying attention. The participants were made aware at the commencement of the vignette task that a comprehension question would be asked at the conclusion of each scenario.

Social Evaluative Vignettes

Six vignettes with three valence levels for each (total of 18 vignettes) were designed with an equal number of social interaction and performance situations to capture these broad dimensions of social fears. Social interaction situations depicted one-on-one and group discussion settings, whereas social performance situations were those where an individual is the focus of attention (e.g., speech task, job interview). We also incorporated different types of feedback across the three levels

of feedback valence: positive, negative, and neutral into each vignette. For each of the six scenarios participants were presented with only one type of feedback for that scenario (e.g., for scenario one the participant would receive only positive feedback). The vignettes describe a range of situations from a first-person perspective in which each participant is asked to imagine themselves in a social-evaluative situation including giving a presentation at university, completing a job interview, asking a question in a tutorial class, attending a party, entering a lecture theatre late, and ordering a coffee at a new coffee shop. Towards the end, each vignette describes the participant being given feedback by an individual (e.g., tutorial teacher, lecturer, stranger) within the scenario, this feedback is either positive, negative, or neutral. Each vignette was independently reviewed and validated by 11 post-graduate research students, who were not directly involved in the study. Reviewers were asked to rate each of the 18 vignette scenarios across three dimensions: real world believability, clarity, and valence of feedback. Real world believability assessed if the vignette simulated aspects of a real-world situation that could be encountered by undergraduates on a 5-point Likert scale from 1 (*not at all believable*) to 5 (*extremely believable*); *M* = 4.37 (*SD* = .87). Clarity assessed how clear and easy to understand the vignettes were on a 5-point Likert scale from 1 (*limited clarity – needs major revision*) to 5 (*good clarity*); *M* = 4.68 (*SD* = .58). Valence of feedback assessed how positive or negative the feedback was on a 9-point Likert scale from -4 (*extremely negative*) to 4 (*extremely positive*); positive condition *M* = 3.18 (*SD* = 0.98), negative condition *M* = -2.03 (*SD* = 1.42), neutral condition *M* = .64 (*SD* = 1.31). Based on the feedback from these reviewers' minor changes were made to improve clarity. During the study, vignettes were presented to participants via audio recordings.

Procedure

The project was approved by Curtin University's Human Research Ethics Committee (HRE2021-0231). Recruitment occurred through the Curtin Psychology undergraduate participant pool. There were no specific restrictions on participation. Participants received an information sheet and consent form informing them that this study would be investigating social anxiety in real life situations and that they would be asked to listen to several different scenarios and image themselves in the scenario and then respond to a range of questions. Participants were then directed to the study within Qualtrics, an online data-collection website where they completed all study measures within a single session. To mitigate against any possible sequence effects, the order of the scenarios was randomly allocated and counterbalanced across the six possible combinations of scenario feedback conditions (Pos-Neg-Neut, Pos-Neut-Neg, Neut-Pos-Neg, Neut-Neg-Pos, Neg-Pos-Neut, Neg-Neut-Pos). Participants were presented with a total of six scenarios, for each scenario they received only one type of feedback; positive, negative, or neutral (i.e., For scenario one a

participant received positive feedback and for scenario two they received negative feedback). Following each scenario participants also completed the state version of the PANAS-C. After responding to all 6 scenarios participants completed the FPES, BFNE-S, SIAS-6, and SPS-6 to assess their fear positive evaluation, fear of negative evaluation, and social interaction and performance anxiety, respectively.

Statistical Analysis

PROCESS macro version 3.5 for SPSS (Hayes, 2020) was used to test the hypotheses that trait FPE/trait FNE moderate the relationship between feedback valence and positive affect/negative affect. Given the distinct, while correlated relationships between FPE and FNE, the moderation analysis covaried for FNE when testing the effects of FPE and vice versa. To avoid multicollinearity issues with the interaction term, the moderator variables were standardised, and a simple moderator analysis was performed.

Results

Participant Flow

A total of 196 participants completed the online survey, however two participants who spent less than 10 minutes on the study were excluded, as this timeframe was deemed to be the minimum time that a participant would need to listen to each scenario and then respond to each of the corresponding questions. Therefore, data from a total of 194 participants was used for analysis. All 194 participants responded to a scenario with positive, negative, and neutral feedback across both the social performance and social interaction scenarios.

Comprehension Questions

Frequencies were run on the accuracy of participants' responses to the comprehension questions. Overall, across all scenarios 87.2% of participants correctly answered the comprehension questions. Participants' data were removed if they answered < 50% of the comprehension questions correctly (n = 8). Analyses were run with and without these participants and the strength, direction, and pattern of significant findings were not impacted. Therefore, the results using data from all 194 participants have been reported.

Social Interaction and Social Performance Anxiety

Scores on the SIAS-6 ranged from 0 to 23, M = 8.82 (SD = 5.50), and scores on the SPS-6 ranged from 0 to 24, M = 9.55 (SD = 6.51). When considering norms among undergraduate samples for these measures more broadly, these have been observed as: SIAS-6; M = 5.99 (SD = 4.62), SPS-6; M = 5.71 (SD = 5.06) (Peters et al. 2012). This highlights higher average social interaction (d = 0.56) and performance (d = 0.66) anxiety for the current sample.

To examine the association between the fear of positive evaluation, fear of negative evaluation and social performance and interaction anxiety measures, bivariate correlations were

completed. Consistent with theoretical models of social anxiety, FNE and FPE were found to be positively correlated with one another and both social anxiety measures (See Table 1).

Table 1

Bivariate Correlations Between Fears of Evaluation and Social Anxiety Measures

Variable	*M*	*SD*	1	2	3	4
1. FPES	34.12	14.14	-			
2. BFNE-S	27.97	8.75	.64***	-		
3. SIAS-6	8.96	5.54	.65***	.58***	-	
4. SPS-6	9.69	6.57	.63***	.69***	.69***	-

Note. N = 186. FPES = Fear of Positive Evaluation Scale (trait); BFNE-S = Brief Fear of Negative Evaluation – Straightforward Items (trait); SIAS-6 = Social Interaction Anxiety Scale Short Form; SPS-6 = Social Phobia Scale Short Form

*** = p <.001

Does FPE Moderate the Relationship Between Feedback Valence and Positive Affect?

To examine the extent to which individual's dispositional fear of positive evaluation impacts positive emotional reactions to different feedback, data were subject to a multiple regression with the predictor variable of feedback valence (positive vs. negative vs. neutral), the moderator variable of trait FPE, the outcome variable of positive affect, after covarying for the fear of negative evaluation. The overall model was significant R^2 = .10, F(4, 1159) = 31.36, p = <.001, but the feedback valence by trait FPE interaction was not statistically significant; t(1159) = .71, b = .15, p = .474.

Feedback valence was a significant predictor of positive affect; t(1159) = -10.88, b = -2.32, p = <.001, such that participants in the positive feedback condition reported higher positive affect across all levels of trait FPE. Trait FPE was not a significant predictor of positive affect; t(1159) = -.21, b = -.27, p = .225, such that those with higher average trait FPE did not significantly report lower positive affect in response to all feedback conditions, compared to those with lower average trait FPE (See Figure 1). As we covaried for trait FNE in this model, trait FPE did not appear to account for a significant effect on positive affect beyond that explained by trait FNE.

Higher trait FPE was associated with more positive affect and less negative affect. As there was no moderating effect of FPE by feedback valence type, this does not support the BFOE as participants generally reported more positive emotion in relation positive feedback, and less positive emotion in relation to negative feedback regardless of trait FPE. This is inconsistent with the prediction that higher trait FPE will lead to lower positive emotion in response to positive feedback from a social-evaluative situation. However, this pattern of findings is consistent with traditional models of social anxiety that do not account for FPE, in that positive feedback should lead to higher positive emotion.

Does FNE Moderate the Relationship Between Feedback Valence and Negative Affect?

To examine the extent to which individual differences in participants' dispositional fear of negative evaluation impact negative emotional reactions to different feedback, data were subject to a multiple regression with the predictor variable of feedback valence (positive vs. negative vs. neutral), the moderator variable of trait FNE, the outcome variable of negative affect, after covarying for the fear of positive evaluation. The overall model was significant, R^2 = .07**,** $F(4, 1159)$ = 23.57, p = <.001, but the feedback valence by trait FNE interaction was not statistically significant; $t(1159)$ = .95, b = .15, p = .34.

Feedback valence was a significant predictor of negative affect; $t(1159)$ = 3.15, b = .51 p = < .01, such that participants reported higher negative affect across all levels of trait FNE in response to the negative feedback condition. Trait FNE was also a significant predictor of increased negative affect; $t(1159)$ = 3.61, b = .61, p = <.001, such that those with higher average trait FNE reported higher negative affect in response to all feedback conditions, compared to those with lower average trait FNE, with the highest negative affect in response to negative feedback (See Figure 2). Higher trait FNE was associated with more negative affect and less positive affect and this effect was more pronounced among those with higher trait FNE, with this pattern of findings providing some support for the traditional models of social anxiety.

Figure 1

Simple Slopes for Positive Affect

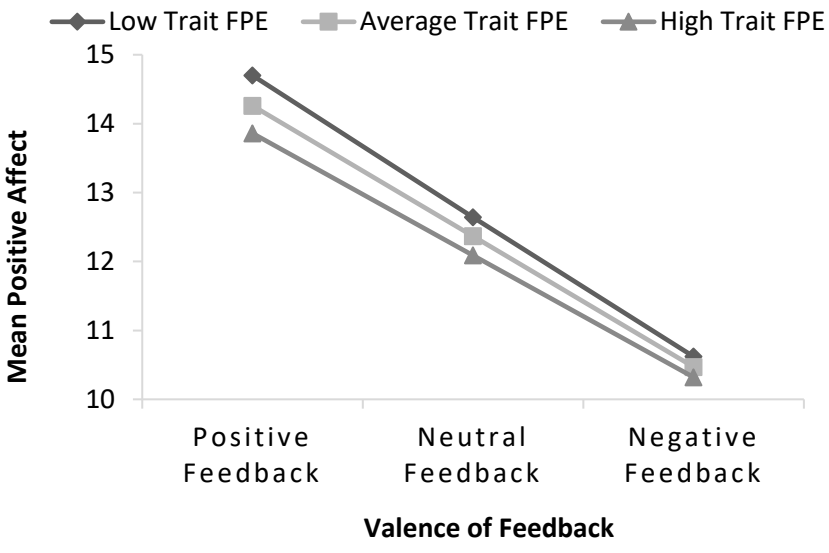
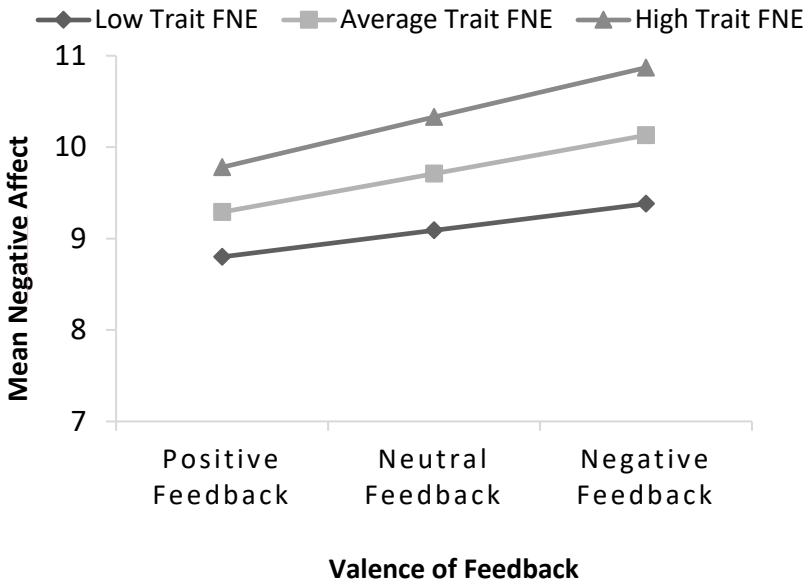


Figure 2

Simple Slopes for Negative Affect



Discussion

The aim of the present study was to examine whether different levels of trait FPE and trait FNE led to different emotional reactions to positive and negative feedback in imaginal social-evaluative situations. This was achieved by using social anxiety dimensionally to explore the unique contributions of FPE in social anxiety using an imagery approach, where participants 'imagine' themselves in social evaluative situations and receive positive, negative, or neutral feedback in a variety of social evaluative settings (e.g., giving a presentation at university, a job interview).

Our first hypothesis, in line with the predictions of the BFOE model, was that trait FPE would moderate the relationship between feedback condition and affect, such that higher levels of FPE would be associated with higher levels of negative affect and lower levels of positive affect in response to positive feedback compared to the no feedback condition. The pattern of effects observed was that higher trait FPE was associated with higher positive affect and lower negative affect, even in response to positive feedback, whereas higher FNE was associated with higher negative affect and lower positive affect across all scenarios. Of most direct relevance to the predictions of the BFOE model, there was no evidence of an interaction between positive affect and trait FPE. This is inconsistent with the prediction that higher fear of positive evaluation will lead to lower positive reactions in response to positive feedback from social evaluative situations. However, the alternative hypothesis, consistent with traditional models of social anxiety that emphasise FNE as the core cognitive vulnerability factor (Rapee & Heimberg, 1997), that do not account FPE, would simply result in higher positive and lower negative affect, was supported. In terms of the pattern of

descriptive means, higher levels of FPE were not significantly associated with the lowest levels of positive affect across all conditions. It appears that trait FPE did not explain the effect of positive affect beyond that of trait FNE. This could provide support for the role of FPE as a delayed account of FNE (Reichenberger & Blechert, 2018).

The second hypothesis, consistent with traditional models of social anxiety (Rapee & Heimberg, 1997), was that negative feedback would lead to more negative affect and less positive affect than the positive and neutral feedback conditions, with this effect more pronounced at high compared to low levels of FNE. Consistent with this hypothesis, participants with higher average trait FNE reported higher negative affect in response to all feedback conditions, compared to those with lower average trait FNE, with the highest negative affect in response to negative feedback. There was no evidence of an interaction between negative affect and trait FNE.

Our findings were partially consistent with previous research by Weeks and Zoccola (2015), who examined state responses to an impromptu speech task. Trait FPE was expected to impact positive affect across the speech phase (pre-speech or post-speech), such that higher levels of trait FPE would be associated with a decrease in positive affect in response to the speech, whereas lower levels of trait FPE would be associated with an increase in positive affect. Weeks and Zoccola's (2015) results showed that positive affect increased from the pre-speech relaxation phase to the speech task for participants with low FPE. Participants with high trait FPE experienced greater increases in negative affect and state anxiety in responses to social threat compared to individuals with low FPE, but participants with high trait FPE experienced no significant change in positive affect and high trait FNE was not associated with positive affect responses. In line with our study, participants with higher trait FPE experienced greater increases in negative affect in response to positive feedback when compared low trait FPE individuals, however our participants with high trait FPE did demonstrate changes positive affect, as it was elevated in the positive feedback condition. This finding suggests that FPE may not be associated with diminished positive affect in response to positive feedback.

The present study extended Weeks and Zoccola's (2015) study by including a control condition without any clear social evaluation and a feedback manipulation. This extension allowed us to assess whether FPE resulted in less positive reactions to receiving positive feedback than the negative and no feedback conditions, rather than only investigating relationships between trait FPE and trait FNE and emotional reaction to a general social-evaluative stressor. The present study found no evidence that trait FPE altered the degree of positive reaction as a function of positive or negative feedback.

Our findings were inconsistent with a cross-sectional survey study by Weeks and Howell (2012) in which undergraduates completed a battery of measures of FPE, FNE, anxiety and positive and

negative affect. Consistent with the BFOE model (Weeks & Howell, 2012), the results revealed that FPE and FNE were positively correlated with negative affect and were negatively correlated with positive affect. Our participants' trait levels of FPE (*M*s = 23.39 vs. 34.12, SDs = 12.4 vs. 14.17) and FNE (*M*s = 20.09 vs. 27.97, SDs = 7.30 vs. 8.77) were somewhat higher than in the Weeks and Howell (2012) study, so we could have expected to see more pronounced effects, such that there would be interactions between affective responses and trait FPE/FNE. However, this pattern of findings was not observed in the present study. This discrepancy may have resulted from methodological differences, with cross-sectional findings not necessarily replicating in prospective and experimental studies (e.g., Maxwell & Cole, 2007).

Several limitations to the present study must be noted. The present data were obtained in a non-clinical undergraduate sample. Although social anxiety research using non-clinical populations can be used to inform investigations of clinical populations, it is unclear whether our findings could be generalised to treatment seeking individuals with a clinical diagnosis of SAD. Therefore, replicating the present study in a sample with clinical levels of social anxiety would be essential to establish generalisability of the findings. The participants in our sample were also primarily Caucasian and female, therefore replication of this study in a more ethnically and gender diverse sample is important for establishing generalisability. Additionally, the study included participants engaging with 'imaginal' scenarios, therefore it must be noted that while the vividness of the scenarios (positive, negative, and neutral) did not intentionally differ, the participants may have different levels of imagination and therefore may have 'imagined' the given scenarios in varying ways. In future research it would be important to consider accounting for these differing levels of imagination and independently assessing 'vividness' of the study materials.

Importantly, there are some advantages to using an imagery approach, as fear is often driven by what people imagine will happen in a given situation or how they imagine they will respond. However, individuals' predictions about how they will respond may differ from their actual reactions if they were to encounter the situation in vivo. For this reason, it is important to examine social-evaluative situations that involve actual positive and negative feedback to determine if the pattern of effects observed in this study are replicated.

These limitations notwithstanding, the present study raises important questions for future research. First, the non-significant trend across the simple slopes of higher levels of FPE associated with lower levels of positive affect warrants further investigation among clinical participants and individuals with elevated trait levels of FPE. It may be that a significant effect is observed amongst individuals with more debilitating fears of positive evaluation. Second, although we used vignettes, as there is evidence that they reduce socially desirable responding (Hughes, 1998; Leighton, 2010),

this is still an indirect assessment of actual experiences in social-evaluative scenarios. It is important for these relationships to be examined in experimental designs to allow for stronger causal inferences.

Chapter 3: The Effect of Fear of Positive and Negative Evaluation on Repetitive Negative Thinking and State Anxiety in High and Low Socially Anxious Undergraduate Students (Study 2)

Although vignette studies have advantages over asking people directly about their opinions (Hughes, 1998), there is evidence that imagery approaches do not always reflect responses elicited in real life situations (Burns & Rapee, 2006). Therefore, with Study 2 we examined how individuals responded when given positive and negative feedback on their social performance *in vivo*. As socially anxious individuals tend to engage in anticipatory processing, in which they think in detail about what they believe will happen in an upcoming feared social situation (e.g., giving a speech), it was important to follow up beyond 'imagining' a social situation by having participants actually engage in a social-evaluative situation (Clark & Wells, 1995). We examined this experience in vivo by tapping into more acute measures of anxiety and assessing two central emotional and cognitive processes of social anxiety; state anxiety and repetitive negative thinking (RNT).

RNT is defined as the focused and persistent cognitive processing of negative aspects of an individual's current, past, or future social experiences (Ehring et al., 2011). RNT is a transdiagnostic construct, capturing repetitive thinking processes characteristic of mental health disorders including SAD, such as worry, rumination and post-event processing (Clark & Wells, 1995; Ehring & Watkins, 2008). The relationship between social anxiety and rumination/post-event processing has been examined for specific events and showed that socially anxious individuals consistently engage in more rumination/post-event processing following presentation tasks (Kocovski et al., 2011). Furthermore, this relationship is specific to social events as they have the potential for negative evaluation (Kocovski et al., 2011). RNT, along with state anxiety and FNE, is a well-established mechanism contributing to the development and maintenance of SAD and other clinical disorders and has been shown to be positively associated with social anxiety in undergraduate samples (Clark & Wells, 1995; McEvoy et al., 2010), whereas FPE still remains a contested maintaining factor for social anxiety (Reichenberger et al., 2018).

The predictive utility of FNE and FPE have demonstrated using a longitudinal design with undergraduate students. Rodebaugh et al. (2012) found FNE and FPE to be distinct constructs of social anxiety, although they did note that they could not rule out the possibility that FPE sometimes reflects delayed FNE. Other studies have found evidence for more traditional cognitive behavioural models of social anxiety that place FNE as the core vulnerability factor of social anxiety maintenance for clinical and non-clinical anxiety samples (Bautista & Hope, 2015; Barber & Moscovitch, 2016). Two experimental studies have investigated FPE among high and low socially anxious undergraduate students (Barber & Moscovitch, 2016; Bautista & Hope, 2015). Barber and Moscovitch (2016) found that levels of self-rated anxiety about receiving positive vs. negative evaluation in anticipation of

receiving public feedback were inconsistent with the BFOE Model, in that all participants, including those with high levels of social anxiety, rated the prospect of positive evaluation as anxiety-*reducing* rather than anxiety-provoking. A similar pattern of effects was observed in a study by Bautista and Hope (2015) in which participants engaged in computer-mediated communication via instant messaging software. The researchers found that participants with high social anxiety experienced more negative thoughts and state anxiety in response to negative feedback, compared to those with low social anxiety. Across all participants, positive thoughts were higher when they received clearly positive feedback compared to when the feedback was more ambiguously positive. These past studies included different types of feedback (positive vs. negative), however they did not also assess the impact of no feedback or uncertain feedback (neutral) feedback on individuals' anxiety. The impact of trait FNE and FPE on these relationships is also unknown. To address these presently unanswered questions, Study 2 investigated hypotheses based on the BFOE Model by assessing responses to positive feedback, negative social feedback, and no feedback controls after completing a social stressor task.

The aim of this study was to determine whether fears of negative and positive evaluation impact on state anxiety and RNT in low versus high socially anxious individuals when they receive either positive, negative, or no feedback in response to a social-evaluative stressor. This was achieved by participants in small groups completing an impromptu speech task and receiving either false positive, negative, or no feedback on their performance, after which they were ostensibly expecting to meet with the group to discuss their presentation and feedback. Consistent with the BFOE model (Weeks & Howell, 2012), the first hypothesis predicts that high socially anxious participants will experience negative emotional reactions in the form of higher state anxiety and more RNT after receiving both positive and negative post-performance feedback, compared to a no feedback control group, whereas low socially anxious participants will instead only show negative reactions to negative feedback (i.e. higher state anxiety and RNT, although lower than high socially anxious individuals) and will exhibit low/no negative reactions to positive feedback (i.e. low state anxiety and RNT). If this effect is observed, we will also assess an additional prediction of the BFOE model, that this effect will remain statistically significant after controlling for state FNE.

A second and alternative hypothesis is that consistent with traditional models which suggest FNE is the core cognitive vulnerability factor for social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997), state anxiety and RNT will be significantly higher among individuals receiving negative but not positive post-performance feedback, compared to a no feedback control group, and this effect should be more pronounced in the high compared to the low social anxiety group. If this

pattern of findings is observed, then we will test the additional prediction informed by traditional models that this effect will remain statistically significant after controlling for state FPE.

Method

Research Design

An experimental three by two between-groups design was employed for this study. The first independent variable was feedback type, with three levels: negative feedback, positive feedback, and no feedback (control). The second independent variable was social anxiety group, with two levels: low social anxiety group and high social anxiety group. The two dependent variables were state anxiety and RNT. State FNE and, state FPE, measured prior to receiving feedback were used as control variables. The following were used to assess differences across groups and assess the success of randomisation between the feedback type groups: social interaction anxiety, fear of public speaking, trait FNE, trait FPE, depression, anxiety, and stress.

Participants

For the present study, we recruited participants based on their prior levels of social anxiety, as either high or low, resulting in one group of high socially anxious participants and one group of low socially anxious participants. To achieve this, our recruitment was led by initial screening of 480 undergraduate psychology students at Curtin University on the Social Phobia Scale (Mattick & Clarke, 1998). Those who scored $\leq$ 21 (the undergraduate normative mean) or $\geq$ 32 (one standard deviation above the undergraduate normative mean) were considered eligible for participation (Carleton et al., 2014). One hundred and fifty-three high and low socially anxious participants were randomly allocated to the negative, positive, or no feedback condition. One participant was excluded from analysis due to incomplete measures. The final sample consisted of 80 low socially anxious participants, 25 were in the negative feedback condition (9 male, mean age = 23.0, *SD* = 6.7), 28 were in the positive feedback condition (12 male, mean age = 22.6, *SD* = 7.8), and 27 were in the no feedback condition (12 male, mean age = 24.9, *SD* = 8.4), and 72 high socially anxious participants, 22 were in the negative feedback condition (3 male, mean age = 20.5, *SD* = 2.2), 25 were in the positive feedback condition (2 male, mean age = 21.0, *SD* = 4.7), and 25 were in the no feedback condition (6 male, mean age = 21.1, *SD* = 4.4). See Table 2 for further demographic data. Participants received course credit for their participation. An a priori G*Power analysis (Faul et al., 2009) demonstrated that 128 participants were required to have 80% power to detect a medium effect size effect (*f* = .25) with an α of .05. After applying the design effect based on an expected intraclass correlation (ICC) of $\leq$ .05 (design effect = 1.15), the minimum number of participants needed after accounting for data clustering by group, was 139.5. Additional participants were

recruited to account for any potential missing data or dropouts, with the final sample size of 153 adequate to detect medium effects.

Table 2

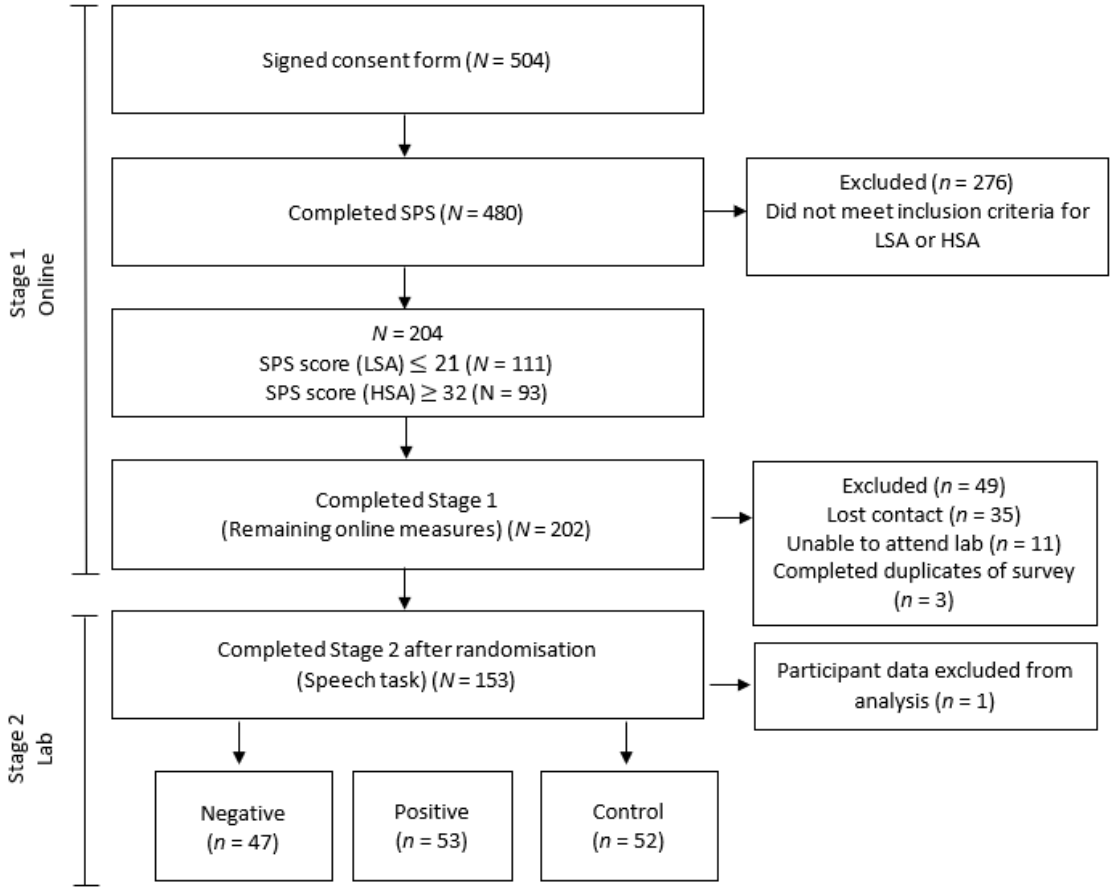
Demographic Characteristics for Participants Across Conditions

	Condition		
	Negative	Positive	Control
Age (years)			
M(*SD*)	21.8 (*5.2*)	21.9 (*6.5*)	23.1 (*7.0*)
Range	18-46	18-50	17-48
Gender *n* (%)			
Female	35 (75)	37 (70)	34 (65)
Male	12 (25)	14 (26)	18 (35)
Non-binary	0 (0)	1 (2)	0 (0)
Did not disclose	0 (0)	1 (2)	0 (0)
Ethnicity *n* (%)			
Caucasian	33 (70)	35 (66)	28 (54)
Asian	7 (15)	11 (21)	11 (21)
Other	7 (15)	7 (13)	12 (23)
Did not disclose	0 (0)	0 (0)	1 (2)

Recruitment was conducted via Curtin University's research participant pool, with eligible participants from the pre-screen then invited to participate in the study. Figure 3 demonstrates the flow of participants across both anxiety groups from the initial sign-up to participation in the laboratory task.

Figure 3

Flow of Participants from Initial Sign-up to the Laboratory Task



Note. LSA = low socially anxious participants; HSA = high socially anxious participants; SPS = The Social Phobia Scale.

Measures and Apparatus

Eligibility Screening Measure

The Social Phobia Scale (SPS) is a 20-item self-report scale, measuring state anxiety in social performance situations (Mattick & Clarke, 1998). This measure of performance anxiety was considered most appropriate for selecting high and low socially anxious groups given that a performance (speech) task was used as the social stressor. The items (e.g., "I fear I may blush when I am with others") are rated by participants on a 5-point Likert scale ranging from 0 (*not at all characteristic or true of me*) to 4 (*extremely characteristic or true of me*). Participants who scored ≤ 21 (normative undergraduate mean) were eligible for the low social anxiety (LSA) group, while participants who scored ≥ 32 study were eligible for the high social anxiety (HSA) group (one standard deviation above the normative undergraduate mean) (Carleton et al., 2014). The SPS has

demonstrated strong construct validity and internal reliability, with a Cronbach's α = .90. Internal reliability of the SPS was excellent in our current our sample (α = .96).

Dependent Variable Measures

The State-Trait Inventory for Cognitive and Somatic Anxiety (STICSA-S) is a 21-item scale that was used to measure participant's state and trait anxiety during the social evaluative task (Ree et al., 2008). The state anxiety items (e.g., "My breathing is fast and shallow") and trait anxiety items (e.g., "I can't concentrate without irrelevant thoughts intruding") are rated on a 4- point Likert scale ranging from 1 (*not at all*) to 4 (*very much*). The STICSA-S has good convergent, discriminant validity and internal consistency with Cronbach's α =. 92 reported (Roberts et al., 2016). Internal reliability of the STICSA-S was excellent in our current undergraduate sample (Time 1 α = .94, Time 2 α = .94).

Repetitive Negative Thinking Questionnaire (RTQ-8) is an 8-item scale measuring negative repetitive thinking behaviours (McEvoy et al., 2014). Two items from the original 10-item scale, RTQ-10 ("I know I shouldn't think about the situation, but can't help it") and ("I have thoughts or images about the situation and wish it would go better") were deemed inappropriate and not relevant for the intended purpose of assessing state RNT and therefore were removed for this study. Participants responded to items (e.g., "I had thoughts or images about all my shortcomings, failings, faults, mistakes") on a 5-point Likert scale ranging from 1 (*not true at all*) to 5 (*very true*) (McEvoy et al., 2014). Internal reliability of the RTQ-8 was excellent in our current undergraduate sample (Time 1 α = .90, Time 2 α = .93).

Baseline Emotional Measures

Potential individual differences at baseline were measured on the below scales to establish the success of randomisation (into the positive, negative, and no feedback conditions) with respect to these potential confounds (e.g., trait performance anxiety; social interaction anxiety; public speaking anxiety; comorbid depression, anxiety, and stress symptoms; trait fears of evaluation).

Public Speaking Anxiety Scale (PSAS) is a 17-item self-report measure of speaking anxiety (Bartholomay & Houlihan, 2016). Participants responded to items (e.g., "I fidget before speaking") on a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*extremely*). The PSAS has good convergent and discriminant validity and internal consistency with Cronbach's α = .94 (Bartholomay & Houlihan, 2016). Internal reliability of the PSAS was excellent in our current undergraduate sample (α = .93).

Social Interaction Anxiety Scale (SIAS) is a 20-item scale measuring experiences of social interaction anxiety (Mattick & Clarke, 1998). Participants responded to items (e.g., "I have difficulty making eye-contact with others") on a 5-point Likert scale ranging from 0 (*not at all characteristic or true of me*) to 4 (*extremely characteristic or true of me*). The SIAS has strong construct validity,

reliability, and internal consistency with Cronbach's α = .88 (Mattick & Clarke, 1998). Internal reliability of the SIAS was excellent in our current undergraduate sample (α = .95).

Depression Anxiety Stress Scales (DASS-21) is a 21-item scale with three subscales measuring depression, anxiety and stress symptoms experienced in the past week (Lovibond & Lovibond, 1995). Participants responded to items (e.g., "I felt that life was meaningless") on a 4- point Likert scale ranging from 0 (*did not apply to me at all*) to 3 (*applied to me very much or most of the time*). The DASS-21 has high construct validity and internal consistency across each subscale, with high internal reliability across subscales for depression (α = .91), anxiety (α = .81), and stress (α = .89) (Lovibond & Lovibond, 1995). Internal reliability of the DASS-21 was excellent in our current undergraduate sample, across each subscale, depression (α = .89), anxiety (α = .88), and stress (α = .85).

Trait FNE was assessed by the *Brief Fear of Negative Evaluation Scale – Straightforward Items* (BFNE-S) an 8-item scale (Leary, 1983). Trait FPE was assessed by the *Fear of Positive Evaluation Scale* (FPES) a 10-item scale (Weeks, Heimberg, & Rodebaugh, 2008). Both the BFNE-S and FPES have demonstrated sufficient validity and internal consistency for use in experimental methods (Leary, 1983; Weeks, Heimberg, & Rodebaugh, 2008). Internal reliability of the FPES and BFNE-S were excellent in our current undergraduate sample (FPES, α = .88; BFNE-S, α = .91).

Covariates

State FPE and FNE were measured with modified versions of the FPES and BFNE-S, adjusted to be suitable for a group experimental setting. The FPES (state) was made up of seven of the original 10 items (e.g., "I will feel uncomfortable if people give me compliments"). Participants responded on a Likert-type scale ranging from 0 (*not at all true*) to 9 (v*ery true*). The BFNE-S (state) included eight items (e.g., "When I am talking to the group, I am worried about what they may be thinking about me). Participants responded on a Likert-type scale ranging from 1 (*not at all characteristic of me*) to 5 (*extremely characteristic of me*). Internal consistency was excellent for the FPES (state) (Time 1, α =.90, Time 2, α =90.) and the BFNE-S (state) (Time 1, α =.90, Time 2, α =.94) in our current undergraduate sample.

Manipulation Check

An individual item measure was developed for this study to confirm the manipulation of participants' evaluation expectations among the feedback conditions. The participants responded to the item (e.g., "How do you expect others will evaluate you during the speech you are about to give?) on a 7-point Likert scale ranging from 1 (*extremely negatively*) to 7 (*extremely positively*).

Video Camera

During testing with participants, a video camera was set up in the middle of the room. Participants were informed when the camera was ostensibly turned on so that they were under the

impression their presentations were being taped. The camera was not actually set to record, although the light was illuminated. The presence of the video camera was intended to increase evaluation anxiety.

Deception Measure

A four-item measure was developed for this study to assess how much participants believed the experimental manipulation was real. Participants responded 'no' or 'yes' to item one; "At any point during your participation, did you suspect this study may be investigating social anxiety". Participants responded on a 100-point sliding scale ranging from 0% (*not at all*) to 100% (*definitely*), to item two; "How strongly did you believe you were about to meet with the group to discuss your performance?", item three; "How strongly did you believe that the feedback you were given was the actual feedback provided by other speakers?", and item four; "How strongly did you believe that the speeches were being recorded?".

Procedure

The project was approved by Curtin University's Human Research Ethics Committee (HRE-2018-0349-03). The study was advertised on the online SONA participant pool website as 'An investigation of speechwriting skills and anxiety' to reduce the likelihood of socially anxious individuals avoiding the project. After reading the information sheet and providing informed consent, participants first completed an online pre-screening questionnaire, The Social Phobia Scale. Eligible participants then completed additional baseline emotional measures: PSAS, SIAS, FPES (trait), BFNE-S (trait) and DASS-21. These additional measures took around 15 minutes to complete. Eligible participants for the high social anxiety group (n = 93) and the low social anxiety group (n = 109) were then invited to complete the experimental session, in either the high social anxiety group (n = 72) and the low social anxiety group (n = 80). Some eligible participants (n = 39) either could not attend the experimental session or the researcher lost contact with them. Eligible participants signed up to timeslots for the experimental session in groups (n = 3-4), and these groups were then randomly assigned to one of the three conditions (positive feedback, negative feedback, no feedback). An equal block randomisation schedule was established via www.random.org to allow for equal condition groups across the study. Participants were welcomed on arrival and were immediately randomly assigned to a speaking position, 1, 2, 3, or 4 and filled out a scale assessing the familiarity of the other group participants on a scale of 1 (*not at all familiar*) to 5 (*we are very good friends*).

Next, participants were advised that they would be preparing and then presenting a two-minute speech on a controversial topic. After two minutes, participants filled out the STICSA-S, RTQ-8, FPES (state), BFNE-S (state) and the manipulation check (Time 1). Participants returned to the

group room, the video camera was set up to record, and presentations began. Each speech was timed with participants required to stay standing for the full two minutes even if their speech was complete. After each speech participants rated the performance of each speaker on a Likert-type scale from 1 (*very poor*) to 5 (*excellent*). Ratings occurred in front of all participants, but feedback was kept private. Following the last speech, the researcher organised the feedback forms in sight of participants. After returning to individual cubicles, participants were given one of three types of verbal feedback (depending on group condition): positive ("*compared to the other participants, you did very well, congratulations*"); negative ("*compared to other participants, there were a number of areas where you could improve*"); or no feedback. All participants in each testing group received the same type of feedback. Participants in the PF and NF conditions also received mock feedback forms backing up the verbal feedback given, which were identical to the ones participants filled out but had been completed by the researcher to be consistent within conditions. Participants were advised the group would re-join soon to discuss the performance of each speaker and were encouraged to reflect upon on their performance compared to other participants. Following five minutes, participants filled out the STICSA-S, RTQ-8, FPES (state), BFNE-S (state) and manipulation check (Time 2). Participants returned to the group room and were debriefed.

Statistical Analysis

Violations of normality of measures were assessed through histograms, Shapiro-Wilk statistics, and skewness/kurtosis (Allen et al., 2014). Skewness statistics (z_s) and kurtosis statistics (z_k) less than ± 1.96 were considered to not be a violation (Allen et al., 2014). Levene's test of homogeneity of variance was considered not violated when *p*s = ≥.05 (Allen et al., 2014). Eta-squared (η^2) was used as effect sizes from ANOVAs, with a small effect (η^2 = .01), medium effect (η^2 = .06), large effect (η^2 = .14) (Allen et al., 2014). Cohen's *d* was used as effect sizes for independent samples t-tests, with a small effect (*d* = .20), medium effect (*d* = .50), and a large effect (*d* = .80) (Cohen, 1988). Cohen's f^2 was used as effect sizes for multiple regression analysis, with a small effect (f^2 = .02), medium effect (f^2 = .15), and a large effect (f^2 = .35) (Cohen, 1988). One-way between-groups analysis of variance (ANOVA) was run on all the baseline variables to assess group differences and on the manipulation check items. The evaluation expectation residual measure (Time 2 subtract Time 1) assessed if condition (negative feedback, positive feedback, and no feedback control) had an influence on participants' expectations of how others would evaluate their performance at two times, the first prior to the speech (Time 1) and the second prior to the anticipated group discussion (Time 2). The manipulation check measures assessed participants' belief in the group discussion and video recording. The manipulation check measure regarding how much participants in the positive feedback and negative feedback conditions believed the feedback they received was real was

examined using an independent samples t-test. One-way between groups ANOVAs were run on the dependent variables measures to assess hypothesis one. As a follow up analysis, an exploratory multiple regression analysis was run to assess if FPE and FNE significantly contributed to participants' state anxiety and RNT after receiving positive or negative feedback.

Results

All data were analysed using IBM SPSS Statistics (Version 27) and JASP (Version 0.15). In the high socially anxious group, one participant (PF condition) did not complete the BFNE-S (state) measure at both time points and therefore was excluded from analysis. Across stage two, Little's MCAR test showed that the missing data totalled < 5% and was missing completely at random, x^2 (df = 68) = 68.4 p = .464. Expectation maximisation was used to impute scores for missing data (Allen et al., 2014; Tabachnick & Fidell, 2013). A small intraclass correlation coefficient (ICC) (< .03) revealed that the state anxiety data and RNT data (dependent variables) were not substantially clustered by participant groups, so a group variable was not further investigated.

Prior to running analyses, assumptions were assessed. Some assumptions were violated, notably the strong negative skewness of the BFNE-S variable. However, violations were not severe and analysis continued as planned, as parametric analyses are robust to moderate violations of normality (Allen et al., 2014). No outliers, defined as scores > 3.29 *SD* from the mean (Allen et al., 2014), were identified.

Baseline Variables

Table 3 shows the descriptive statistics for stage one and stage two variables. One-way between groups ANOVAs revealed no significant difference between conditions at baseline (Fs < 1.5, ps > .05, η^2s < .02). Anxiety groups (HSA and LSA) did differ on all social anxiety and related measures (Fs > 60, ps < .001, η^2s >.25), as would be expected.

Table 3

Descriptive Statistics and 95% Confidence Intervals (CIs) Across Conditions for Stage 1 (Baseline) and Stage 2 (Laboratory task) Measures

Measures	Negative condition (*n* = 47)				Positive condition (*n* = 53)				Control condition (*n* = 52)			
	M(*SD*)	95% CI		Range	*M*(*SD*)	95% CI		Range	*M*(*SD*)	95% CI		Range
		LL	*UL*			*LL*	*UL*			*LL*	*UL*	
Stage 1 variables												
SPS	27.9 (*17.4*)	22.8	33.0	3-59	29.0 (*19.1*)	23.7	34.3	2-72	29.1 (*19.8*)	23.6	34.6	0-67
FPES (Trait)	39.7 (*17.7*)	34.5	44.9	0-71	39.4 (*19.0*)	34.1	44.6	0-77	39.8 (*21.1*)	33.9	45.7	0-76
BFNE-S (Trait)	22.5 (*7.1*)	20.4	24.5	8-32	23.1 (*6.0*)	21.5	24.8	10-36	21.7 (*6.9*)	19.8	23.7	8-32
SIAS	34.6 (*17.7*)	29.5	39.8	6-65	32.8 (*17.2*)	28.0	37.6	5-68	34.9 (*16.5*)	30.3	39.5	5-72
DASS-21	20.2 (*12.2*)	16.7	23.8	0-42	20.2 (*12.3*)	16.8	23.6	2-49	19.8 (*14.1*)	15.8	23.7	0-55
PSAS	61.4 (*17.2*)	56.4	66.4	25-86	56.5 (*17.7*)	51.6	61.4	21-85	56.2 (*16.3*)	51.7	60.7	27-90
Stage 2 variables												
STICSA Time 1	43.8 (*13.5*)	39.8	47.7	22-72	44.9 (*14.5*)	40.9	48.9	22-74	46.2 (*13.5*)	42.4	50.0	22-75
STICSA Time 1	42.5 (*14.0*)	38.4	46.7	22-77	38.9 (*13.9*)	35.0	42.7	21-69	40.8 (*14.1*)	36.8	44.7	22-73
RTQ Time 1	21.6 (*7.7*)	19.4	23.9	8-40	23.0 (*7.2*)	21.0	25.0	9-36	22.6 (*8.1*)	20.3	24.8	8-39
RTQ Time 2	23.3 (*9.2*)	20.6	26.0	8-40	20.1 (*9.0*)	17.6	22.6	8-37	20.4 (*8.2*)	18.1	22.7	8-40
BFNE-S Time 1	26.9 (*9.0*)	24.3	29.6	10-40	29.1 (*8.5*)	26.7	31.4	9-40	27.5 (*8.7*)	25.0	29.9	9-40
BFNE-S Time 2	28.3 (*9.6*)	25.5	31.1	10-40	27.3 (*9.4*)	24.8	29.9	8-40	26.6 (*9.8*)	23.9	29.4	8-40
FPES Time 1	31.6 (*13.0*)	27.8	35.4	0-57	32.2 (*17.4*)	27.4	37.0	2-62	35.6 (*13.4*)	31.9	39.3	1-63
FPES Time 2	34.5 (*16.2*)	29.7	39.3	0-63	34.9 (*17.6*)	30.1	39.8	0-62	35.7 (*14.9*)	31.5	39.8	0-63

Note. SPS = The Social Phobia Scale; FPES (Trait) = The Fear of Positive Evaluation Scale; BFNE-S (Trait) = The Brief Negative Evaluation Scale Straightforward Items; SIAS = The Social Interaction Anxiety Scale; DASS-21 = The Depression Anxiety Stress Scale – 21 Items; PSAS = The Fear of Public Speaking Scale; STICSA (Time 1 and Time 2) = The State Trait Cognitive and Somatic Anxiety Scale; RTQ (Time 1 and Time 2) = The Repetitive Thinking Questionnaire; BFNE-S (Time 1 and Time 2) = The Brief Fear of Evaluation Scale (State); FPES (Time 1 and Time 2) = The Fear of Positive Evaluation Scale (State). T1 = Time 1; T2 = Time 2. LL = Lower Limit, UL = Upper Limit.

Manipulation Checks

A one-way between-groups ANOVA on evaluation expectation residuals (Time 2 subtract Time 1) revealed that the experimental manipulation was successful, $F(2, 149) = 24.16$, $p = <.001$, $\eta^2 = .245$, producing a large effect size (Cohen, 1998). The direction of the means in the feedback groups (negative feedback condition, $M = -1.34$; positive feedback condition, $M = .57$) demonstrate that participants' evaluation expectations in the negative and positive feedback condition did shift at Time 2 in the direction consistent with the feedback type received. Post hoc comparisons across all conditions revealed that participants' expectations were significantly more negative in the negative feedback condition, than participants in the positive feedback condition and control conditions ($p = <.001$), and significantly more positive in the positive feedback condition compared to the control condition ($p = .012$).

As shown in Table 4, a similar pattern of results was found across the deception measures. Most of the participants believed that the group discussion would take place ($M > 86\%$; SD = 20.6 across all conditions), and that the video camera was filming the speeches ($M > 91\%$; SD = 16.4 across all conditions). There were no group differences across these deception measures; real group discussion, $F(2, 149) = .21$, $p = .811$, $\eta^2 = .003$; real video, $F(2, 149) = .24$, $p = .788$, $\eta^2 = .003$. Tests of between-subjects effects revealed that there were no significant differences between conditions; $F(2, 100) = 1.92$, $p = .169$ or anxiety group; $F(1, 100) = 2.12$, $p = .149$ on the real feedback measure. The feedback condition by anxiety group interaction was not statistically significant $F(1, 100) = 2.91$, $p = .091$.

Table 4

Descriptive Statistics and 95% Confidence Intervals (CIs) for Manipulation Check & Deception Measures

	Negative condition (n = 47)		Positive condition (n = 53)		Control condition (n = 52)	
	M(*SD*)	95% CI [LL;UL]	*M*(*SD*)	95% CI [LL;UL]	*M*(*SD*)	95% CI [LL;UL]
Evaluation Expectations						
Time 1	3.8 (*1.2*)	3.4;4.1	3.9 (*1.4*)	3.5;4.3	3.6 (*1.2*)	3.3;4.0
Time 2	2.4 (*1.5*)	2.0;2.9	4.5 (*1.3*)	4.1;4.9	3.4 (*1.3*)	3.1;3.8
Deception Rating (0-100%)						
Real Discussion	86.3 (*23.6*)	79.3;93.2	88.1 (*18.2*)	83.1;93.1	85.6 (*20.2*)	79.9;91.2
Real Video	93.0 (*14.3*)	88.8;97.2	90.7 (*16.7*)	86.1;95.4	91.3 (*18.1*)	86.3;96.4
Real Feedback	83.0 (*31.0*)	73.9;92.1	75.6 (*27.6*)	67.9;83.2	-	-

Note. - = Data not collected for control condition. LL = Lower Limit, UL = Upper Limit

Subjective Self and Other Ratings on Speech Performance

To examine the discrepancy between how participants in the high social anxiety and the low social anxiety groups rated their own speech performance and how they rated other participants' speech performance, a two-way repeated measure ANOVA was conducted. The results revealed a significant and medium rating type (self and other) by anxiety group (high and low social anxiety) interaction effect; $F(1, 146) = 12.38$, $p = <.001$, partial $\eta^2 = .078$, and a non-significant and small rating type by feedback condition interaction effect; $F(2, 146) = .22$, $p = .799$, partial $\eta^2 = .003$. See Table 5 for descriptive statistics for subjective ratings on speech performance.

Follow up analysis on the significant rating type by anxiety group interaction revealed a significant difference between anxiety groups in self-ratings of performance, with high socially anxious participants rating their own performance as lower than low socially anxious participants self-ratings of performance; mean difference = -2.5, $p = <.001$. There was no significant difference between the anxiety groups in their ratings of others' performances; mean difference = 1.05, $p = .086$. This finding is broadly consistent with there being a difference in self-perception of performance between high and low socially anxious individuals, but no difference in objectively observed performance.

Table 5

Descriptive Statistics for Subjective Speech Performance Ratings

Ratings	HSA		LSA	
	M(*SD*)	95% CI [LL; UL]	*M*(*SD*)	95% CI [LL; UL]
Self-Rating	12.99 (*4.18*)	12;13.97	15.50 (*4.19*)	14.57;16.43
Other-Rating	22.15 (*3.81*)	21.25; 23.04	21.08 (*3.67*)	20.27;21.90
Rating Discrepancy	-9.16 (*6.57*)	-10.70; -7.62	-5.58 (*5.73*)	-6.86; -4.31

Note. LSA = low socially anxious participants; HSA = high socially anxious participants; Self-rating = score participants gave their own speech performance; Other-rating = score participants gave other group members' speech performance, averaged across the number of group members (e.g., 3 or 4)

Does heightened social anxiety result in negative reactions to positive and/or negative feedback?

To examine whether differences in social anxiety are associated with differences in state anxiety and RNT as a function of feedback type, state anxiety and RNT at Time 2 (following feedback) were subject to separate two-way between groups ANOVAs with the between groups factors of feedback condition and social anxiety group. There was no significant main effect of feedback condition on state anxiety and effect sizes were small, $F(2, 146) = 1.13$, $p = .325$, $\eta^2 = .012$ or RNT, $F(2, 146) = 2.67$, $p = .073$, $\eta^2 = .027$ (See Figures 4 and 5). A large and significant main effect of social anxiety group was observed on both state anxiety, $F(2, 146) = 46.52$, $p = <.001$, $\eta^2 = .238$ and RNT, $F(2, 146) = 43.65$, $p = <.001$, $\eta^2 = .224$, showing that across feedback conditions, the high socially anxious participants reported higher levels of both state anxiety and RNT. The interaction between

feedback condition and anxiety group was non-significant and the effect sizes were small for state anxiety, $F(2, 146) = .32$, $p = .730$, $\eta^2 = .003$, and RNT, $F(2, 146) = .03$, $p = .968$, $\eta^2 = <.001$. As our first hypothesis did not receive support from the analysis, follow-up analyses to test hypotheses two and three were not conducted.

Figure 4

Pattern of Means for RNT at Time 2 Across Conditions and Social Anxiety Groups

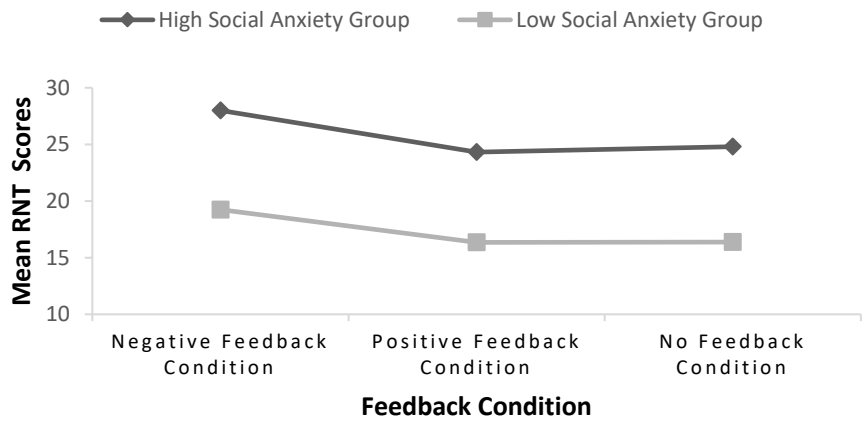
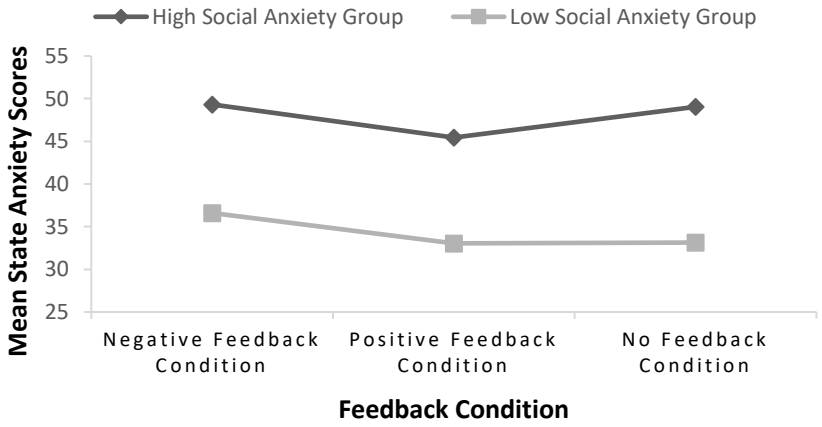


Figure 5

Pattern of Means for State Anxiety at Time 2 Across Conditions and Social Anxiety Groups



Exploratory Analyses

An exploratory multiple regression analysis (MRA) was conducted to investigate the relationships between state anxiety, RNT, and FNE, and FPE across all participants. The first model included state anxiety (Time 2) as the criterion variable, with five predictor variables: state anxiety (Time 1), FPES (Time 1 and Time 2), BFNE-S (Time 1 and Time 2). In combination, the five predictors accounted for a significant 58% of the variance in state anxiety scores at Time 2, $R^2 = .58$, adjusted R^2

= .60, F (5, 146) = 40.79, p <.001, f^2 = 1.40, a large effect size (Cohen, 1988). Higher levels of state anxiety (Time 1) and FNE (Time 1 and Time 2) were associated with higher state anxiety at Time 2, while FPE did not account for any significant unique variance.

The second model included RNT (Time 2) as the criterion variable, with five predictor variables: RNT (Time 1), FPES (Time 1 and Time 2), BFNE-S (Time 1 and Time 2). In combination, the five predictors accounted for a significant 64% of the variance in RNT scores at Time 2, R^2 = .64, adjusted R^2 = .63, F (5, 146) = 51.74, p <.001, f^2 = 1.75, a large effect size (Cohen, 1988). Higher levels of RNT (Time 1) and FNE (Time 1 and Time 2) were associated with higher RNT at Time 2. As shown in Table 6, FPE at both time points was not a significant predictor of state anxiety or RNT at Time 2.

Table 6

Unstandardised (B) and Standardised (β) Regression Coefficients, and Squared Semi-Partial Correlations (sr^2) for Each Predictor in a Regression Model Predicting State Anxiety *&* *RNT Post-Speech Task*

	State Anxiety (Time 2)			Repetitive Negative Thinking (Time 2)		
Variable	B [95% CI]	*β*	sr^2	B [95% CI]	*β*	sr^2
STICSA/RTQ-8 (Time 1)	0.57 [0.41, 0.72]***	0.56	.38	0.61 [0.45, 0.77]***	0.53	.14
BFNE-S (Time 1)	-0.92 [-1.30, -0.53]**	-0.57	-.25	-0.51 [-0.75, -0.27]***	-0.50	.04
FPES (Time 1)	-0.15 [-0.38, 0.08]	-0.16	-.07	-0.04 [-0.17, 0.10]	-0.06	.00
BFNE-S (Time 2)	1.13 [0.79, 1.46]***	0.77	.36	.72 [0.53, 0.92]***	0.78	.13
FPES (Time 2)	0.16 [-0.05, 0.36]	0.18	0.08	0.07 [-0.05, 0.19]	0.13	.00

Note. N = 152. STICSA – The State-Trait Inventory for Cognitive and Somatic Anxiety (state); RTQ-8 = Repetitive Negative Thinking Questionnaire – 8 items; BFNE-S = Brief Fear of Negative Evaluation – Straightforward Items (state); FPES = Fear of Positive Evaluation Scale (state); T1 = Time 1; T2 = Time 2.

**p <.01, *** p <.001

Discussion

The aim of this study was to determine whether fears of negative and positive evaluation impact on state anxiety and RNT in low versus high socially anxious individuals. The study examined the prediction that high socially anxious participants would experience higher state anxiety and more RNT after receiving both positive and negative post-performance feedback, compared to a no feedback control group, whereas low socially anxious participants would instead only experience higher state anxiety and more RNT in response to negative feedback and exhibit low/no state anxiety and RNT increases in response to positive feedback. Given there were no statistically significant differences in RNT or state anxiety between conditions following feedback, this hypothesis was not supported. This absence of any main or interaction effects of feedback type is

unlikely to represent a failure to detect effects in line with the BFOE model as the pattern of means were not in the direction that the BFOE model would predict. In the positive feedback condition state anxiety and RNT were lower than the no-feedback condition, whereas the BFOE model would predict that receiving feedback suggesting that their performance was superior to others would result in higher state anxiety and RNT than no feedback. Therefore, our subsequent hypothesis investigating the differential effects of FPE and FNE on RNT and state anxiety could not be assessed. This finding did however provide support for our alternative hypothesis that, consistent with traditional models, FNE is the core cognitive vulnerability factor for social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997).

Our expectation manipulation successfully primed participants to expect either positive or negative evaluation from other group members in the fictitious upcoming group discussion, but this did not differentially induce emotional effects in anticipating different types of feedback. The statistically significant difference in RNT and state anxiety between social anxiety groups following feedback indicates that participants' level of trait social anxiety could be the greater driving factor for heightened state anxiety and RNT, rather than the type of feedback received. Participants in the positive and negative feedback conditions were expected to engage in more RNT and experience increased state anxiety as they were instructed to think about their performance, following receiving feedback whereas participants in the no feedback condition were not instructed to think about their performance. It appears that baseline levels of social anxiety could potential be the catalyst for RNT and increased state anxiety rather than thinking about any kind of feedback on personal performance following an anxiety-provoking situation (Kocovski & Rector, 2008; Rowa et al., 2014). High socially anxious participants and low socially anxious participants appear to experience differing levels of anxiety in anticipation of social evaluation as a result of their prior level of anxiety and not as a direct result of whether they received positive or negative feedback about their performance. These findings are not entirely consistent with either traditional cognitive behavioural models of SAD (Clark & Wells, 1995; Rapee & Heimberg, 1997) or the BFOE model (Weeks & Howell, 2012). Traditional models would predict elevated state anxiety and RNT at least in response to negative feedback, whereas the BFOE model would predict elevated state anxiety and RNT in response to both negative and positive feedback.

The present study has several strengths including the use of a no-feedback control condition, which allowed for comparisons to be made with positive and negative feedback conditions. Previous studies without a control group were unable to determine whether any effects between positive and negative evaluation conditions were driven by negative evaluation, positive evaluation, or both. Interestingly, the present study did not observe higher state anxiety in response to positive or

negative feedback. Together, these findings indicate that anticipation of exposure to social scrutiny per se, regardless of the known or unknown nature of the feedback, is more anxiety-provoking for high socially anxious individuals compared to low socially anxious individuals. Trait factors may therefore be more important determinants of state anxiety and RNT than the actual type of feedback provided. The follow-up analyses sought to then address the obvious question that this poses: which trait factors most strongly predict state anxiety and RNT in social-evaluative conditions?

The exploratory regression analysis we conducted provided some support for traditional cognitive-behavioural models of SAD (Clark & Wells, 1995), which argue that FNE is the core cognitive vulnerability factor in SAD. Our analysis revealed that at both time points, FNE uniquely, strongly, and significantly predicted both RNT at Time 2 (following receiving feedback) and state anxiety at Time 2. This pattern of findings suggests that FNE may be a critical contributing factor to RNT and state anxiety overall, regardless of feedback valence. In contrast, FPE at either time point did not account for any unique variance in RNT or state anxiety. This finding is consistent with FPE as a separate construct to FNE, as one had an impact on emotional outcome while another did not (Johnson et al., 2020). Carter et al. (2012) reported similar findings in their experimental study, which compared FNE and FPE scales in predicting anxious responding to a social challenge (a 3-minute videotaped speech). FNE was the strongest predictor of state anxiety following the initial speech task after covarying for participants' pre-speech level of anxiety. FPE did not predict anxious response over and above FNE (Carter et al., 2012). Similarly, our findings here were also in line with a longitudinal study, where results highlighted that while FPE and FNE both predicted the future levels of one another, FNE but not FPE directly predicted future social anxiety severity (Johnson et al., 2020). FPE only indirectly predicted anxiety severity via FNE. These findings supported FPE and FNE as two distinct constructs but, as per the current findings, only FNE exerting a direct influence on anxiety (Johnson et al., 2020).

The findings from the present study may hold some important treatment implications. FPE did not uniquely predict emotional and cognitive reactions to social-evaluative contexts, which suggests that interventions for social anxiety may be best directed towards modifying FNE. Modifying FPE may impact on FNE but not directly on social anxiety, and thus may be less effective and efficient than focusing on FNE. Another clinical implication is that therapy can use a range of social-evaluative contexts to modify trait FNE, without the need to manipulate the nature of explicit social feedback. Regardless of the social feedback anticipated or received, high socially anxious individuals are likely to perceive a threat. Behavioural experiments are a standard component of evidence-based cognitive behaviour therapy for SAD (e.g., Clark et al., 2003; McEvoy et al., 2020; Rapee et al., 2009),

and involve systematically testing negative predictions in social situations. Our findings suggest that high socially anxious individuals are likely to fear negative evaluation, and thus experience state anxiety and RNT, in all social situations regardless of the objective feedback provided by observers. Treatment may be most effective if behavioural experiments in a range of social contexts, including those with negative, positive, and uncertain evaluation, although this possibility needs to be empirically evaluated.

The present study has notable strengths, including a large sample size and an experimental design that involved the manipulation of evaluation feedback and a no feedback control group, which extends prior cross-sectional and experimental studies. However, several limitations should be considered. The participants were mostly female (69%) and Caucasian (63%) and were undergraduate students (relatively young and educated), so the findings may not generalise to the general population. Future research designs should aim to recruit a more diverse sample. Moreover, we relied on self-report data to select our high and low socially anxious groups and to assess the impact of the manipulations. It is important to replicate these findings with clinical samples, to ensure generalisability to treatment-seeking individuals, and to supplement self-report with other units of analysis (e.g., psychophysiological measures, behavioural measures, independent raters), to gain a more complete picture of cognitive, physiological, behavioural, and emotional responding for social-evaluative feedback. This study was powered to detect a medium effect, so a replication with a larger sample may allow for smaller but still meaningful effect sizes to be detected.

Chapter 4: General Discussion and Conclusions

Overview

The BFOE model proposes that individuals with SAD and high trait social anxiety fear evaluation in general at both ends of the valence spectrum, positive and negative, as well as uncertain evaluation (no feedback). Preliminary evidence from largely cross-sectional research suggests that FPE and FNE are distinct constructs that separately and uniquely predict social anxiety symptoms. Two studies were conducted in this program of research with the overall aim of testing hypotheses derived from the BFOE model (Weeks & Howell, 2012) by exploring how individuals respond to positive and negative feedback in imagery-based social-evaluative situations (Study 1), and then how they actually respond when given positive and negative feedback on their social performance *in vivo* (Study 2). As the majority of the evidence for the BFOE model is cross-sectional and correlational, these experimental studies provide a unique contribution to the existing literature.

Key Findings

The purpose of Study 1 was to examine whether different levels of trait FPE and trait FNE led to different emotional reactions to positive and negative feedback in imaginal social-evaluative situations. This was achieved by using social anxiety dimensionally to explore the unique contributions of FPE in social anxiety using an imagery approach, where participants 'imagine' themselves in social evaluative situations and receive positive, negative, or neutral feedback in a variety of settings (e.g., giving a presentation at university, a job interview). The key finding of Study 1 was that variation in FPE had no moderating effects on the relationship between feedback valance (positive, negative, neutral) and positive affect. Higher trait FPE was associated with greater positive affect and less negative affect and, as there was no moderating effect of FPE by feedback valence type, this did not support the BFOE as participants generally reported more positive emotion in relation positive feedback, and less positive emotion in relation to negative feedback regardless of trait FPE. This was inconsistent with the prediction that higher trait FPE will lead to lower positive emotion in response to positive feedback in response to a social-evaluative situation. However, this pattern of findings is more consistent with traditional models of social anxiety that do not incorporate FPE as a critical maintaining factor for social anxiety.

The purpose of Study 2 was to determine whether FPE and FNE impact on state anxiety and RNT in low versus high socially anxious individuals. The key finding of Study 2 was that FNE was a strong predictor of increased state anxiety and RNT, while FPE was a weak and non-significant predictor of both outcome variables. This finding did not support predictions of the BFOE model that high socially anxious participants would experience higher state anxiety and more RNT after receiving both

positive and negative post-performance feedback, compared to a no feedback control group, whereas low socially anxious participants would instead only experience higher state anxiety and more RNT in response to negative feedback and exhibit low/no low state anxiety and RNT in response to positive feedback and was inconsistent with the BFOE model (Weeks & Howell, 2012). Secondary findings suggested that high and low socially anxious individuals respond differently to social feedback, possibly due to the presence of other biased information processing that could be interfering with the way high socially anxious participants processed the feedback they received (Chen et al., 2015). Possible interfering information processing factors could be distortions in attention, interpretation, and memory (Miskovic & Schmidt, 2011). Findings from this study indicated that FNE is the core vulnerability factor in social anxiety and FPE does not play significant direct role in the maintenance of social anxiety.

Integrating the two Studies: Theoretical Implications

The complementary studies in this thesis together provide a clearer picture of the overarching research aim and findings. Neither the findings of Study 1 nor Study 2 were consistent with predictions based on the BFOE model, in that FPE did not appear to play a significant role in either study's outcomes. Therefore, our findings are partly incongruent with previous cross-sectional studies examining the role of FPE in social anxiety. However, our findings do provide evidence that FNE and FPE may be distinctive constructs from one another, as FPE did not uniquely contribute to emotional outcomes while FNE did.

The present findings are consistent with some previous findings from a study by Barber and Moscovitch (2016) who found that while the prospect of receiving positive evaluation may be associated with some feelings of anxiety for all individuals in a social-evaluative context, it is significantly less anxiety-provoking than the prospect of negative evaluation. They further suggested that FPE may be surpassed by FNE in most social-evaluative situations, and while it is possible that fear of evaluation in general is still important, it is only to the extent that socially anxious individuals fear having excessive attention drawn to themselves. Barber and Moscovitch (2016) suggest that when socially anxious individuals 'imagine' receiving positive feedback, they may react in ways consistent FPE, in that positive feedback would be interpreted as somewhat unpleasant, but when faced with potential for either negative or positive evaluation the latter would still be much preferred. The results of Study 1 supported this suggestion as in imaginal situations individuals did prefer positive feedback, in that participants responded with more positive affect and less negative affect to positive feedback.

We found some congruency across both of our studies, in that variation in FNE seemed to be the key factor impacting state anxiety, RNT, and affective responses. It appears that type of feedback

may only have a very small effect on state anxiety and RNT, whereas state FNE predicted heightened state anxiety and RNT, and higher trait FNE resulted in more negative affect. Our findings may be indicative that among a range social-evaluative settings, both in vivo and 'imaginally', FNE is key vulnerability factor impacting social anxiety symptoms. This consistency in our findings across self-report also suggests that these procedures could be used in combination or separately to elicit similar emotional responses in participants.

Clinical Implications

Our findings suggest that the actual feedback our participants received was relatively unimportant, as people with high social anxiety appeared to feel high state anxiety and RNT regardless of the type of feedback (or absence thereof) they received. Therefore, clinical interventions may be most effective by seeking to modify trait FNE by challenging the perceived probability and cost of negative evaluation, in addition to the clients' capacity to cope with negative evaluation. Evidence-based treatments for social anxiety focus on cognitive restructuring and exposure-based techniques with a particular focus on addressing fears of being negatively evaluated (e.g., being scrutinized or acting in a way that results in being humiliated (Fergus et al., 2009). Our findings suggest that this is likely to be the most effective treatment focus, and that inclusion of positive evaluation into these techniques may not be an efficient or effective use of clinical time. Clinicians should monitor FNE during treatment and aim to shift FNE from the clinical to the non-clinical range. FPE may only need to be directly challenged if it remains after FNE shifts, however our findings suggest that modifying FNE is likely to be most critical to altering social anxiety.

Strengths of Study 1 and Study 2

The studies reported in this thesis have several key strengths. First, we extended previous correlational research by manipulating feedback expectations imaginally (Study 1) and directly (Study 2) using positive, negative, and no/neutral feedback conditions, which enabled us to investigate the cognitive and affective consequences of this feedback along the dimension of social anxiety (Study 1) and in high and low socially anxious individuals (Study 2). For the first time, we were able assess the emotional consequences FPE in both imaginal and in vivo settings. This was important as it allowed us to draw conclusions about how individuals respond to a range of feedback, and this novel manipulation enabled us to draw stronger conclusions regarding the presence or absence of effects involving positive and negative feedback than previous correlational research.

Limitations of Study 1 and Study 2

There were also important limitations that need to be considered when interpreting our findings, and which can guide future research directions. First, both studies used analogue

convenience sample of university students, and both used a self-report measure to assess social anxiety dimensionally (Study 1) or to define high and low social anxiety groups (Study 2). The degree to which the present results would generalise to individuals who meet diagnostic criteria for social anxiety disorder is therefore unknown. Individuals with SAD may experience more pronounced emotional experiences in line with the predictions of the BFOE model, in which positive feedback might result in more negative emotional outcomes (e.g., lower positive affect and higher negative affect, state anxiety and RNT). Future research with individuals who meet diagnostic criteria for SAD would be very informative. A second limitation was that our participant samples were predominantly Caucasian and female, therefore results may not be representative of community populations.

Recommendations for Future Research

Going forward, research investigating the role of FPE in social anxiety should continue to examine FPE experimentally in more diverse community and clinical populations. Future findings will corroborate the present study findings if they find that FPE does not directly impact social anxiety symptoms or emotional outcomes. Future research could also assess the Fear of Positive Evaluation Scale to tease apart how and whether it truly assesses a 'fear' of receiving positive feedback, or alternatively an aversion to being the 'centre of attention', which then triggers FNE and ultimately heightened anxiety in social evaluative situations (Barber & Moscovitch, 2016; Roelofs et al., 2015). Being the centre of attention could be perceived as high risk for potential negative evaluation, even if the initial attention is positive. Therefore, any form of attention, even in the form of positive or neutral feedback could trigger a perception of threat to an individual.

Conclusions

Consistent with traditional cognitive behavioural models of social anxiety (e.g., Clark & Wells, 1995; Rapee & Heimberg, 1997), our findings strongly supported FNE as a core maintaining factor for social anxiety. Inconsistent with the BFOE model (Weeks & Howell, 2012), our findings did not suggest that FPE uniquely and directly contributes to social anxiety. It is possible that positive feedback presents a perceived social threat to individuals who prefer to remain inconspicuous in social environments where receiving positive or negative evaluation is possible, for fear of future negative evaluation. On the other hand, positive feedback might simply just be a positive experience for people with low social anxiety and might be somewhat less positive (yet still preferred than negative feedback) for those high in social anxiety and trait FPE. Over the past decade there has been substantial growth in research the role of FPE in social anxiety, and the present program of experimental research contributes to the very limited body of experimental research in this area. As one of few laboratory-based experiments to have successfully elicited differential evaluation

expectations in participants prior to social interaction, the experimental protocol created for Study 2 may also be useful for future research to provide more evidence for theories of social anxiety that can guide treatment future enhancements.

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Supplementary Materials

Supplementary Material 1: Ethics Approval Letter (Study 1)

Research Office at Curtin

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10-May-2021

Name: Peter McEvoy
Department/School: School of Psychology
Email: Peter.Mcevoy@curtin.edu.au

Dear Peter McEvoy

RE: Ethics Office approval
Approval number: HRE2021-0231

Thank you for submitting your application to the Human Research Ethics Office for the project **An investigation of the fear positive and negative evaluation in social performance and social interaction scenarios.**.

Your application was reviewed through the Curtin University Negligible risk review process.

The review outcome is: **Approved**.

Your proposal meets the requirements described in the National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research (2007).*

Approval is granted for a period of one year from **10-May-2021** to **09-May-2022**. Continuation of approval will be granted on an annual basis following submission of an annual report.

Personnel authorised to work on this project:

Name	Role
Black, Amy	Student
McEvoy, Peter	CI

Approved documents:

Document

Standard conditions of approval

1. Research must be conducted according to the approved proposal
2. Report in a timely manner anything that might warrant review of ethical approval of the project including:
   - proposed changes to the approved proposal or conduct of the study
   - unanticipated problems that might affect continued ethical acceptability of the project
   - major deviations from the approved proposal and/or regulatory guidelines
   - serious adverse events
3. Amendments to the proposal must be approved by the Human Research Ethics Office before they are implemented (except where an amendment is undertaken to eliminate an immediate risk to participants)
4. An annual progress report must be submitted to the Human Research Ethics Office on or before the anniversary of approval and a completion

report submitted on completion of the project
5. Personnel working on this project must be adequately qualified by education, training and experience for their role, or supervised
6. Personnel must disclose any actual or potential conflicts of interest, including any financial or other interest or affiliation, that bears on this project
7. Changes to personnel working on this project must be reported to the Human Research Ethics Office
8. Data and primary materials must be retained and stored in accordance with the Western Australian University Sector Disposal Authority (WAUSDA) and the Curtin University Research Data and Primary Materials policy
9. Where practicable, results of the research should be made available to the research participants in a timely and clear manner
10. Unless prohibited by contractual obligations, results of the research should be disseminated in a manner that will allow public scrutiny; the Human Research Ethics Office must be informed of any constraints on publication
11. Approval is dependent upon ongoing compliance of the research with the Australian Code for the Responsible Conduct of Research, the National Statement on Ethical Conduct in Human Research, applicable legal requirements, and with Curtin University policies, procedures and governance requirements
12. The Human Research Ethics Office may conduct audits on a portion of approved projects.

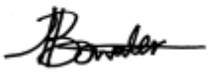
Special Conditions of Approval

It is the responsibility of the Chief Investigator to ensure that any activity undertaken under this project adheres to the latest available advice from the Government or the University regarding COVID-19.

This letter constitutes low risk/negligible risk approval only. This project may not proceed until you have met all of the Curtin University research governance requirements.

Should you have any queries regarding consideration of your project, please contact the Ethics Support Officer for your faculty or the Ethics Office at hrec@curtin.edu.au or on 9266 2784.

Yours sincerely



Amy Bowater
Ethics, Team Lead

Supplementary Material 2: Participant Information Sheet (Study 1)

PARTICIPANT INFORMATION STATEMENT

Curtin University

HREC Project Number:	*HRE2021-0231*
Project Title:	*An investigation of the fear positive and negative evaluation in social performance and social interaction scenarios.*
Chief Investigator:	*Professor Peter McEvoy BSc(hons), MPsych(clin), PhD.*
Student researcher:	*Amy Black*
Version Number:	*1*
Version Date:	*29 March 2021*

What is the Project About?

This study is investigating how people feel in situations involving social performance (e.g., giving a speech) and social interactions (e.g., meeting new people). The study is designed to help us gain a better understanding of how people think they will respond when presented with positive and negative feedback from others when imagining themselves in social performance and social interaction situations.

Who is doing the Research?

The project is part of a Master of Research (Psychology) thesis conducted by Amy Black and supervised by Professor Peter McEvoy. The results of this research will be used to obtain a Master of Research (Psychology) degree at Curtin University and is funded by the University.

Why am I being asked to take part and what will I have to do?

- We are seeking undergraduate psychology students.
- Participation will involve an online survey to be completed on one occasion.
- You will be presented with a range of 6 scenarios, one at a time. You will be asked to listen to each scenario, all scenarios will have pre-recorded audio. Make sure you are in a location where you can listen without disturbing others. While the audio is describing the scenario, you will be asked to imagine yourself in the given situation. We will then ask you some questions about your feelings and emotions in relation to each scenario. After you have completed the questions for each scenario you will be presented with a single comprehension question, asking you about a specific detail of the scenario you have just listened to. We will them ask you to complete 3 measures inquiring about your thoughts and feelings in social situations. You will also be asked for some demographic information.
- The survey is expected to take 30 minutes of your time.
- There will be no cost to you for taking part in this research and you will not be paid for taking part. You will receive 2 SONA points for completing the online survey.

Are there any benefits' to being in the research project?

- There may be no direct benefit to you from participating in this research.

- We hope this research may benefit others in the future by adding to knowledge about how people think and feel in various social situations.

Are there any risks, side-effects, discomforts or inconveniences from being in the research project?

- We have been careful to ensure that the scenarios and questions in this study do not cause you distress. If you do feel anxious or uncomfortable imagining yourself in the scenarios or answering any of the questions, you do not need to answer them. If the questions cause any concerns or upset you, we can refer you to a counsellor.
- Alternatively, should you experience distress following participation, Curtin Counselling Services are available at Level 2, Building 109 and can be contacted on 08 9266 7850 or 1800 651 878 (freecall). Lifeline also offers 24-hour counselling and can be contacted on 13 11 14.
- Apart from giving up your time, we do not expect that there will be any risks or inconveniences associated with taking part in this study.

Who will have access to my information?

- Prior to completing the online survey, we will collect your name so that we can allocate your SONA points upon completion of the online survey.
- The information collected in this research will be re-identifiable (coded). This means that we will collect data that can identify you but will then remove identifying information on any data or sample and replace it with a code when we analyse the data. Only the research team have access to the code to match your name if it is necessary to do so. Any information we collect will be treated as confidential and used only in this project unless otherwise specified. The following people will have access to the information we collect in this research: the research team and, in the event of an audit or investigation, staff from the Curtin University Office of Research and Development
- Electronic data will be password-protected.
- The information we collect in this study will be kept under secure conditions at Curtin University for at least 7 years after the research is published, after which it may be published on an accessible data repository so that our findings can be verified by other researcher. No identifying information will be in this database.
- The results of this research may be presented at conferences or published in professional journals. You will not be identified in any results that are published or presented.

Will you tell me the results of the research?

- If you are interested in obtaining a summary of the results, please contact the researchers after February 11th 2022.

Do I have to take part in the research project?

- Taking part in a research project is voluntary. It is your choice to take part or not. You do not have to agree if you do not want to. If you decide to take part and then change your mind, that is okay, you can withdraw from the project. If you choose not to take part or start and then stop the study, it will not affect your relationship with the University, staff or colleagues.

What happens next and who can I contact about the research?

- Should you have any questions or require more information about the study, please contact Professor Peter McEvoy (9266 5110, peter.mcevoy@curtin.edu.au) or Amy Black (amy.j.black@postgrad.curtin.edu.au)
- If you decide to take part in this research, we will ask you to sign the consent form. By signing it is telling us that you understand what you have read and what has been discussed. Signing the consent indicates that you agree to be in the research project. Please take your time and ask any questions you have before you decide what to do. *You will be given a copy of this information and the consent form to keep.*
- *At the start of the questionnaire, available via the link provided, there is a checkbox to indicate you have understood the information provided here in the information sheet.*

Curtin University Human Research Ethics Committee (HREC) has approved this study (HREC number HRE2021-0231). Should you wish to discuss the study with someone not directly involved, in particular, any matters concerning the conduct of the study or your rights as a participant, or you wish to make a confidential complaint, you may contact the Ethics Officer on (08) 9266 9223 or the Manager, Research Integrity on (08) 9266 7093 or email hrec@curtin.edu.au.

Supplementary Material 3: Participant Consent Form (Study 1)

CONSENT FORM

Curtin University

HREC Project Number:	HRE2021-0231
Project Title:	*An investigation of the fear positive and negative evaluation in social performance and social interaction scenarios.*
Chief Investigator:	*Professor Peter McEvoy BSc(hons), MPsych(clin), PhD.*
Student researcher:	*Amy Black*
Version Number:	*1*
Version Date:	*29 March 2021*

I have received information regarding this research and had an opportunity to ask questions. I understand that this project has been approved by Curtin University Human Research Ethics Committee and will be carried out in line with the National Statement on Ethical Conduct in Human Research (2007). I believe I understand the purpose, extent and possible risks of my involvement in this project and I voluntarily consent to take part.

Supplementary Material 4: Measures

The Fear of Positive Evaluation Scale

Read each of the following statements carefully and then indicate the degree to which you feel the statement is characteristic of you, using the following scale.

0 1 2 3 4 5 6 7 8 9

Not at all true **Somewhat true** **Very true**

	Please write number in this column
1. I am uncomfortable exhibiting my talents to others, even if I think my talents will impress them.	
2. It would make me anxious to receive a compliment from someone that I am attracted to.	
3. I try to choose clothes that will give people little impression of what I am like.	
4. I feel uneasy when I receive praise from authority figures.	
5. If I have something to say that I think a group will find interesting, I typically say it.	
6. I would rather receive a compliment from someone when that person and I were alone than when in the presence of others.	
7. If I was doing something well in front of others, I would wonder whether I was doing ‘‘too well.’’	
8. I generally feel uncomfortable when people give me compliments.	
9. I don’t like to be noticed when I am in public places, even if I feel as though I am being admired.	
10. I often feel under-appreciated, and wish people would comment more on my positive qualities.	

The Brief Fear of Negative Evaluation Scale

Read each of the following statements carefully and indicate how characteristic it is of you according to the following scale.

1	**2**	**3**	**4**	**5**
Not at all characteristic of me	Slightly characteristic of me	Moderately characteristic of me	Very characteristic of me	Extremely characteristic of me

	Please write number in this column
1. I worry about what other people will think of me even when I know it doesn't make any difference.	
2. I am frequently afraid of other people noticing my shortcomings.	
3. I am afraid that others will not approve of me.	
4. I am afraid that people will find fault with me.	
5. When I am talking to someone, I worry about what they may be thinking about me	
6. I am usually worried about what kind of impression I make.	
7. Sometimes I think I am too concerned with what other people think of me.	
8. I often worry that I will say or do the wrong things	

The Social Interaction Anxiety and The Social Phobia Scale (SIAS-6 and SPS-6)

For each question, please circle a number to indicate the degree to which you feel the statement is characteristic or true of you. The rating scale is as follows

0	1	2	3	4
Not at all characteristic or true of me	Slightly characteristic or true of me	Moderately characteristic or true of me	Very characteristic or true of me	Extremely characteristic or true of me

1. I have difficulty making eye contact with others.	0	1	2	3	4
2. I find it difficult mixing comfortably with the people I work with.	0	1	2	3	4
3. I tense up if I meet an acquaintance on the street.	0	1	2	3	4
4. I feel tense if I am along with just one person.	0	1	2	3	4
5. I have difficulty talking with other people.	0	1	2	3	4
6. I find it difficult to disagree with another's point of view.	0	1	2	3	4
7. I get nervous that people are staring at me as I walk down the street.	0	1	2	3	4
8. I worry about shaking or trembling when I'm watched by other people.	0	1	2	3	4
9. I would get tense if I had to sit facing other people on a bus or train.	0	1	2	3	4
10. I worry I might do something to attract the attention of other people.	0	1	2	3	4
11. When in an elevator, I am tense if people look at me.	0	1	2	3	4
12. I can feel conspicuous standing in a line.	0	1	2	3	4

The Positive and Negative Affect Schedule for Children (PANAS-C)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. As you imagine yourself in this situation, indicate to what extent you feel this way right now, that is, at the present moment. Use the following scale to record your answers.

1	2	3	4	5
Very slightly or not at all	**A little**	**Moderately**	**Quite a bit**	**Extremely**

____Joyful	____Depressed
____Lively	____Angry
____Happy	____Fearful/Scared
____Energetic	____Afraid
____Proud	____Sad

Supplementary Material 5: Scenario Specific Questions

Please read each question and circle the number on the sliding scale which best represents how you feel in response to the scenario you have just been imagining.

If you were in this situation, how much would you believe in the accuracy of the feedback you received?

1	**2**	**3**	**4**	**5**
Not at all				Extremely

When you think about the overall consequences of this feedback, how much would you fear the consequences?

1	**2**	**3**	**4**	**5**
Not at all				Extremely

Questions for positive feedback scenarios

Please read each question and circle the number on the sliding scale which best represents how you feel in response to the scenario you have just been imagining.

Given the praise you received how much would you worry about future expectations increasing during similar interactions in the future?

1	**2**	**3**	**4**	**5**
Not at all				Extremely

Questions for Scenario 1 (presentation)

How do you think other students in the class would feel after your speech?

1	**2**	**3**	**4**	**5**
Unimpressed				Impressed

Knowing there will be other presentations to give in this unit, would you feel more anxious or less anxious presenting after receiving this feedback?

1	**2**	**3**	**4**	**5**
Much less anxious	Less anxious	Not more or less anxious	More anxious	Much more anxious

For negative feedback scenarios

Please read each question and circle the number on the sliding scale which best represents how you feel.

Given the unfavourable feedback you received how much would you worry about expectations of you decreasing during similar interactions in the future?"

1	**2**	**3**	**4**	**5**
Not at all				Extremely

If you knew you would need to be in this situation again next week how anxious would you feel?

1	**2**	**3**	**4**	**5**
Much less anxious	Less anxious	Not more or less anxious	More anxious	Much more anxious

Supplementary Material 6: Social-Evaluative Vignettes

Instructions for participants: Please click play and listen to this audio from start to finish. While you are listening, please imagine yourself in the situation that is being described. If you need to you can listen to the audio more than once. Once you have listened to the entire audio, please click to the next page to answer some questions

Social performance

Scenario 1 - Tutorial Presentation (positive feedback)

You are giving a presentation today in your tutorial class.

(Positive feedback)

A presentation that you are prepared for, you feel like it's a fascinating topic and you've written a good speech. You feel nervous as you enter the classroom. You sit in your usual seat and grab out your speech from your bag. Your tutor calls out your name and indicates that you are presenting first. You walk up to the front of the class and you become the centre of everyone's attention. You introduce your topic and begin to speak; you feel your heart start to race and notice that all the members of your class are focusing on you. Most people are making direct eye contact with you. After a minute you begin to settle into speaking, and you feel calmer. Some students are smiling and nodding at you encouragingly. Some other students are taking notes and showing genuine interest in your topic throughout your speech. You continue to present your speech and once you are finished, you hear a loud round of applause from the class. Your tutor approaches you and says, "that was an excellent speech, thank you" and then turns to the class and says, "this is the standard I am after with these speeches. The overall structure and the amount of detail were just right. Keep this is mind when you give your own presentations."

(Negative feedback)

You are giving a presentation today in your tutorial class. A presentation that you are prepared for, you feel like it's a fascinating topic and you've written a good speech. You feel nervous as you enter the classroom. You sit in your usual seat and grab out your speech from your bag. Your tutor calls out your name and indicates that you are presenting first. You walk up to the front of the class and you become the centre of everyone's attention. You introduce your topic and begin to speak; you feel your heart start to race and notice that all the members of your class are focusing on you. Most people are making direct eye contact with you. After a minute you begin to settle into speaking, and you feel calmer. Some students are smiling and nodding at you encouragingly. Some other students are taking notes and showing genuine interest in your topic throughout your speech. You continue to present your speech and once you are finished, you hear a loud round of applause from the class. Your tutor approaches you and says, "thank you, please take a seat" and then turns to the class and says, "this is an example of a presentation where a number of areas could be improved. The overall structure could be better so that the listener can follow the story, and more detail could be provided to improve clarity. Keep this is mind when you give your own presentations".

(No feedback)

You are giving a presentation today in your tutorial class.

A presentation that you are prepared for, you feel like it's a fascinating topic and you've written a good speech. You feel nervous as you enter the classroom. You sit in your usual seat and grab out your speech from your bag. Your tutor calls out your name and indicates that you are presenting

first. You walk up to the front of the class and you become the centre of everyone's attention. You introduce your topic and begin to speak; you feel your heart start to race and notice that all the members of your class are focusing on you.

Most people are making direct eye contact with you. After a minute you begin to settle into speaking, and you feel calmer. Some students are smiling and nodding at you encouragingly.

Some other students are taking notes and showing genuine interest in your topic throughout your speech. You continue to present your speech and once you are finished, you hear a loud round of applause from the class. Your tutor approaches you and says, "thank you, please take a seat, and then turns to the class and says "Who is up next?"

Scenario 2 – Job Interview

(Positive feedback)

You've been invited to interview for a position as a receptionist at a private psychology practice, a job you applied for last week. You arrive at the interview feeling prepared but nervous. You take a few deep breathes to calm yourself down before you are greeted by your interviewer, they introduce themselves and welcome you. You follow them into an office and are introduced to another member of the team, after you say hello you take a seat across the table from them both. The interview begins and you are feeling confident with your responses to their questions, they are engaged and making eye contact with you as you speak. As the interview concludes, the interviewers look at each other and then one of them says "thank you for coming in today. We need someone with a high level of critical thinking for this role and we were impressed by your answers. In fact, your responses were amongst the most impressive we have seen today, so we will be in touch."

(Negative feedback)

You've been invited to interview for a position as a receptionist at a private psychology practice, a job you applied for last week. You arrive at the interview feeling prepared but nervous. You take a few deep breathes to calm yourself down before you are greeted by your interviewer, they introduce themselves and welcome you. You follow them into an office and are introduced to another member of the team, after you say hello you take a seat across the table from them both. The interview begins and you are feeling confident with your responses to their questions, they are engaged and making eye contact with you as you speak. As the interview concludes, the interviewers look at each other and then one of them says "thank you for your time today. We need someone with a high level of critical thinking for this role and we did not see much of this in your responses today, so you may not be the most suitable person for this position, but we will be in touch".

(No feedback)

You've been invited to interview for a position as a receptionist at a private psychology practice, a job you applied for last week. You arrive at the interview feeling prepared but nervous. You take a few deep breathes to calm yourself down before you are greeted by your interviewer, they introduced themselves and welcome you. You follow them into an office and are introduced to another member of the team, after you say hello you take a seat across the table from them both. The interview begins and you are feeling confident with your responses to their questions, they are engaged and making eye contact with you as you speak. As the interview concludes, the interviewers look at each other and then one of them says "thank you for your time today, we will be in touch".

Scenario 3 – Asking a question in class

(Positive feedback)

You are in a tutorial and your class is engaging in a group discussion. You raise your hand to ask a question and your tutor points to you, you then proceed to ask your question. Most of the class turns to look at you while you ask your question. Once you have finished, your class members turn back to face the tutor and your tutor responds “thank you for asking, that is a great question, it’s lovely to see that someone is interested in this content” they then proceed to answer the question fully, and you feel like you now better understand the content discussed.

(Negative feedback)

You are in a tutorial and your class is engaging in a group discussion. You raise your hand to ask a question and your tutor points to you, you then proceed to ask your question. Most of the class turns to look at you while you ask your question. Once you have finished, your class members turn back to face the tutor and your tutor responds, “I have explained that, would anyone else in the class like to fill them in with the answer?”.

(No feedback)

You are in a tutorial and your class is engaging in a group discussion. You raise your hand to ask a question and your tutor points to you, you then proceed to ask your question. Most of the class turns to look at you while you ask your question. Once you have finished, your class members turn back to face the tutor and your tutor responds, answering the question fully, and you feel like you now better understand the content discussed.

Social interaction

Scenario 1 – Attending a party

(Positive feedback)

You’re walking up the driveway of a friend’s house for a party, you can hear music playing as you get closer. You enter the house and are looking forward to having a good night.

You’re greeted by a friend and follow them through the house, you look around and notice a few people you know but also see a lot of new faces. You join a group of people who are engaging in a conversation. You join the group, saying ‘hello’ to your friends and wait to be introduced to the unfamiliar faces. They all chat to you and say, “hey, nice to meet you, how are you?”. One of the people you just met says across the group to you “Hey, I really like your outfit, you look great”. Everyone in the group look to you, noticing your mentioned outfit and vocally agree saying “yeah, I love that” and “suits you so well”.

(Negative feedback)

You’re walking up the driveway of a friend’s house for a party, you can hear music playing as you get closer. You enter the house and are looking forward to having a good night. You’re greeted by a friend and following them through the house, you look around and notice a few people you know but also see a lot of new faces. You join a group of people who are engaging in a conversation. You join the group, saying ‘hello’ to your friends and wait to be introduced to the unfamiliar faces. They all chat to you and say, “hey, nice to meet you, how are you?”. One of the people you just met says across the group to you “Woah, where on earth did you get that outfit from?”. Everyone in the group look to you, noticing your mentioned outfit and vocally agree saying “yeah, it’s a bit much” and “I’d never wear that”.

(No feedback)

You're walking up the driveway of a friend's house for a party, you can hear music playing as you get closer. You enter the house and are looking forward to having a good night. You're greeted by a friend and follow them through the house, you look around and notice a few people you know but also see a lot of new faces. You join a group of people who are engaging in a conversation. You join the group, saying 'hello' to your friends and wait to be introduced to the unfamiliar faces. They all chat to you and say, "hey, nice to meet you, how are you?". You respond and go about your night.

Scenario 2 – Entering a lecture hall late

(Positive feedback)

You're running late for a lecture on campus, you rush into the lecture hall and open the door. The door makes a loud sound and as you enter you can see a lot of people looking back at you, the lecturer stops speaking for a few seconds as you close the door behind yourself. You walk in quickly and take a free seat at the back of the lecture hall.

You grab out your notes and try to focus on the lecturer speaking now. Another student sitting a few seats over from you leans over to you and says, "your timing was perfect, I was hoping the lecturer would just stop for a minute so I could catch up, thank you!"

(Negative feedback)

You're running late for a lecture on campus, you rush into the lecture hall and open the door. The door makes a loud sound and as you enter you can see a lot of people looking back at you, the lecturer stops speaking for a few seconds as you close the door behind yourself. You walk in quickly and take a free seat at the back of the lecture hall.

You grab out your notes and try to focus on the lecturer speaking now. Another student sitting a few seats over from you raises their hand and asks the lecturer "sorry could you please repeat the last thing you mentioned about the upcoming assignment, I couldn't hear because of the student who just sat down near me".

(No feedback)

You're running late for a lecture on campus, you rush into the lecture hall and open the door. The door makes a loud sound and as you enter you can see a lot of people looking back at you, the lecturer stops speaking for a few seconds as you close the door behind yourself. You walk in quickly and take a free seat at the back of the lecture hall. Another student briefly glances in your direction, then focuses back on the front

Scenario 3 – Ordering a coffee at a new coffee shop

(Positive feedback)

You are visiting coffee shop on your way to work; you haven't been here before although you have heard from your colleagues that it's a great spot. You enter the shop and join the short line of two people waiting to place their orders. You look around the shop and appreciate the décor. You progress to the front of the line and are greeted by a friendly staff member. You place your coffee order and step to the side to wait. A couple of minutes later your name is called out and the barista hands over your coffee. The barista looks at you and says "ooh I love your hair, you look great", you thank the barista and then walk out of the shop and head to work.

(Negative feedback)

You are visiting coffee shop on your way to work; you haven't been here before although you have heard from your colleagues that it's a great spot. You enter the shop and join the short line of two people waiting to place their orders. You look around the shop and appreciate the décor. You progress to the front of the line and are greeted by a friendly staff member. You place your coffee order and step to the side to wait. A couple of minutes later your name is called out and the barista hands over your coffee. The barista looks at you and says to you "ooh must have been in a rush this morning, coffee should help", you then walk out of the shop and head to work.

(No feedback)

You are visiting coffee shop on your way to work; you haven't been here before although you have heard from your colleagues that it's a great spot. You enter the shop and join the short line of two people waiting to place their orders. You look around the shop and appreciate the décor. You progress to the front of the line and are greeted by a friendly staff member. You place your coffee order and step to the side to wait. A couple of minutes later your name is called out and the barista hands over your coffee and says, "here you go." You walk out of the shop and head to work.

Supplementary Material 7: Ethics Approval Letter (Study 2)

Curtin University

Research Office at Curtin

GPO Box U1987
Perth Western Australia 6845

Telephone +61 8 9266 7863
Facsimile +61 8 9266 3793
Web research.curtin.edu.au

15-Apr-2019

Name: Peter McEvoy
Department/School: School of Psychology
Email: Peter.Mcevoy@curtin.edu.au

Dear Peter McEvoy

RE: Amendment approval
Approval number: HRE2018-0349

Thank you for submitting an amendment request to the Human Research Ethics Office for the project **The Impact of Positive and Negative Evaluation Expectations on State Anxiety and Repetitive Negative Thinking among Socially Anxious Individuals**.

Your amendment request has been reviewed and the review outcome is: **Approved**

The amendment approval number is HRE2018-0349-03 approved on 15-Apr-2019.

The following amendments were approved:

1. Modifications to the information in the original ethics application

2. A new honours student (Emily Piesse) plans to complete this study in 2019 for her honours thesis.

3. Removed the deception that students believe researchers will be accessing their university grades. This is no longer required.

4. Changed the performance task from a timed Stroop task to a brief (2 minute) speech task

5. Participants will be tested in groups of 4 so that they have an audience for their speech task. Participants will rate their own performance and other participants' performance. These ratings will not be used to provide feedback. Instead, pre-rated forms indicative of positive, negative, or 'no feedback' will be provided to students after the speech tasks have been completed, as this is the primary manipulation for the study. The deception that they are receiving real feedback on their performance is similar to the previously approved protocol.

6. Some measures have been removed (Perfectionism) because they are no longer necessary, and others have been added (Social Phobia Scale, as a measure of general performance anxiety; Public Speaking Anxiety Scale, as a specific measure of performance anxiety).

7. Manipulation check items have been changed to reflect the different performance task

8. Modified the information sheet to reflect these changes, and to add the request to be able to publish deidentified data for the purposes of verification of findings or additional analyses. The aims and hypotheses for the study are identical. The methods and materials have been modified to increase the perceived importance of performance task (we think students will be more motivated to give a good presentation than to do well on the Stroop task) and to increase the likelihood of modifying expectations of feedback from others so that the hypotheses can be tested.

Any special conditions noted in the original approval letter still apply.

Standard conditions of approval

1. Research must be conducted according to the approved proposal
2. Report in a timely manner anything that might warrant review of ethical approval of the project including:
   - proposed changes to the approved proposal or conduct of the study
   - unanticipated problems that might affect continued ethical acceptability of the project
   - major deviations from the approved proposal and/or regulatory guidelines
   - serious adverse events
3. Amendments to the proposal must be approved by the Human Research Ethics Office before they are implemented (except where an amendment is undertaken to eliminate an immediate risk to participants)
4. An annual progress report must be submitted to the Human Research Ethics Office on or before the anniversary of approval and a completion report submitted on completion of the project
5. Personnel working on this project must be adequately qualified by education, training and experience for their role, or supervised
6. Personnel must disclose any actual or potential conflicts of interest, including any financial or other interest or affiliation, that bears on this project
7. Changes to personnel working on this project must be reported to the Human Research Ethics Office
8. Data and primary materials must be retained and stored in accordance with the Western Australian University Sector Disposal Authority (WAUSDA) and the Curtin University Research Data and Primary Materials policy
9. Where practicable, results of the research should be made available to the research participants in a timely and clear manner
10. Unless prohibited by contractual obligations, results of the research should be disseminated in a manner that will allow public scrutiny; the Human Research Ethics Office must be informed of any constraints on publication
11. Ethics approval is dependent upon ongoing compliance of the research with the Australian Code for the Responsible Conduct of Research, the National Statement on Ethical Conduct in Human Research, applicable legal requirements, and with Curtin University policies, procedures and governance requirements
12. The Human Research Ethics Office may conduct audits on a portion of approved projects.

Should you have any queries regarding consideration of your project, please contact the Ethics Support Officer for your faculty or the Ethics Office at hrec@curtin.edu.au or on 9266 2784.

Yours sincerely

Amy Bowater
Ethics, Team Lead

Supplementary Material 8: Ethics Amendment Approval Letter (Study 2)

Research Office at Curtin

GPO Box U1987
Perth Western Australia 6845

Telephone +61 8 9266 7863
Facsimile +61 8 9266 3793
Web research.curtin.edu.au

27-Apr-2021

Name: Peter McEvoy
Department/School: School of Psychology
Email: Peter.Mcevoy@curtin.edu.au

Dear Peter McEvoy

RE: Amendment approval
Approval number: HRE2018-0349

Thank you for submitting an amendment request to the Human Research Ethics Office for the project **The Impact of Positive and Negative Evaluation Expectations on State Anxiety and Repetitive Negative Thinking among Socially Anxious Individuals**.

Your amendment request has been reviewed and the review outcome is: **Approved**

The amendment approval number is HRE2018-0349-09 approved on 27-Apr-2021.

The following amendments were approved:

1. Removal of Emily Piesse from the project team.

2. Addition of Amy Black to the project team.

Condition of Approval

It is the responsibility of the Chief Investigator to ensure that any activity undertaken under this project adheres to the latest available advice from the Government or the University regarding COVID-19.

Any special conditions noted in the original approval letter still apply.

Standard conditions of approval

1. Research must be conducted according to the approved proposal
2. Report in a timely manner anything that might warrant review of ethical approval of the project including:
   - proposed changes to the approved proposal or conduct of the study
   - unanticipated problems that might affect continued ethical acceptability of the project
   - major deviations from the approved proposal and/or regulatory guidelines
   - serious adverse events
3. Amendments to the proposal must be approved by the Human Research Ethics Office before they are implemented (except where an amendment is undertaken to eliminate an immediate risk to participants)
4. An annual progress report must be submitted to the Human Research Ethics Office on or before the anniversary of approval and a completion report submitted on completion of the project
5. Personnel working on this project must be adequately qualified by education, training and experience for their role, or supervised
6. Personnel must disclose any actual or potential conflicts of interest, including any financial or other interest or affiliation, that bears on this project

7. Changes to personnel working on this project must be reported to the Human Research Ethics Office
8. Data and primary materials must be retained and stored in accordance with the Western Australian University Sector Disposal Authority (WAUSDA) and the Curtin University Research Data and Primary Materials policy
9. Where practicable, results of the research should be made available to the research participants in a timely and clear manner
10. Unless prohibited by contractual obligations, results of the research should be disseminated in a manner that will allow public scrutiny; the Human Research Ethics Office must be informed of any constraints on publication
11. Ethics approval is dependent upon ongoing compliance of the research with the Australian Code for the Responsible Conduct of Research, the National Statement on Ethical Conduct in Human Research, applicable legal requirements, and with Curtin University policies, procedures and governance requirements
12. The Human Research Ethics Office may conduct audits on a portion of approved projects.

Should you have any queries regarding consideration of your project, please contact the Ethics Support Officer for your faculty or the Ethics Office at hrec@curtin.edu.au or on 9266 2784.

Yours sincerely

Amy Bowater
Ethics, Team Lead

Supplementary Material 9: Participant Information Sheet (Study 2)

PARTICIPANT INFORMATION STATEMENT

HREC Project Number:	HRE2018-0349
Project Title:	An investigation of speechwriting skills and anxiety
Chief Investigator:	Professor Peter McEvoy BSc(hons), MPsych(clin), PhD
Co-Investigator	Laura Strachan
Student researcher:	Amy Black
Version Number:	2
Version Date:	4/3/2020

What is the Project About?

Speechwriting and presentations are often a source of anxiety for university students. This study is investigating beliefs about speechwriting. Improving our understanding of these beliefs will help us to understand how students can be helped to feel more confident when sharing their ideas.

There will be approximately 72 students taking part in this study.

Who is doing the Research?
The project is part of a Master of Research thesis conducted by Amy Black and supervised by Professor Peter McEvoy. Laura Strachan is a co-investigator. The results of this research will be used to obtain a Master of Research (Psychology) degree at Curtin University.

Why am I being asked to take part and what will I have to do?

- We are seeking undergraduate students.
- Participation will involve two stages of participation.

Stage One involves an online questionnaire, which will ask questions about how you feel about giving speeches. It also asks for some demographic information. For eligible participants, this survey should take approximately 15 minutes. For ineligible participants, this survey should take less than 5 minutes. One SONA point will be allocated for completing these questionnaires. Eligible participants will be invited to complete Stage Two for an additional 3 SONA points.

Stage Two involves a laboratory task, which involves discussions about speechwriting and questionnaires asking about your experiences and beliefs about giving speeches. This stage will take place at Curtin's Psychology Experimental Research Laboratories (PERL-C) and is expected to take approximately 45 minutes.

- The total expected time for participation is 60 minutes.
- There will be no costs to you and whilst you will not be paid for participating in this project, you will be allocated points for course credit.

Are there any benefits to being in the research project?

- There may be no direct benefit to you from participating in this research.

We hope this research may benefit others in the future by adding to knowledge about beliefs and anxiety about speechwriting. At the end of the experiment we will provide you with details of organisations that can help you to improve your presentation skills.

Are there any risks, side-effects, discomforts or inconveniences from being in the research project?

· We have been careful to ensure the questions and activities in this study do not cause you distress. If you do feel anxious or uncomfortable about any of the questions, you do not need to answer them.

· If any experiences during the study cause you significant distress, we can refer you to a counsellor.

· Alternatively, should you experience distress following participation, Curtin Counselling Services are available at Level 2, Building 109 and can be contacted on 08 9266 7850 or 1800 651 878 (freecall). Lifeline also offers 24-hour counselling and can be contacted on 13 11 14.

· Apart from giving up your time, we do not expect that there will be any risks or inconveniences associated with taking part in this study.

Who will have access to my information?

· At Stage One (online survey) we will collect your name, email address and phone number so that we can invite you to participate in Stage Two (lab study) if you are eligible. Once you have completed participation in the study these details will be permanently removed from the database. If you indicate that you would like a summary of the results of the study, your email address will be stored in a separate password protected database so that this can be sent to you. Once the study results have been emailed to participants, email addresses will be permanently deleted.

· The information collected and stored in this research will be re-identifiable (coded). This we will remove identifying information on any data and replace it with a code. Only the research team have access to the code to match your name if it is necessary to do so. The following people will have access to the information we collect in this research: the research team and, in the event of an audit or investigation, staff from the Curtin University Office of Research and Development

· Hard copy data will be in locked storage.

· The information we collect in this study will be kept under secure conditions at Curtin University for a minimum of 7 years after the research has ended.

· The de-identified database may be published to allow other researchers to verify the findings or conduct additional analyses.

· The results of this research may be presented at conferences or published in professional journals. You will not be identified in any results that are published or presented.

Will you tell me the results of the research?

· A summary of the project's overall results will be sent to participants via email. This is expected to take place in late 2021/early 2022.

Do I have to take part in the research project?

· Taking part in a research project is voluntary. It is your choice to take part or not. You do not have to agree if you do not want to. If you decide to take part and then change your mind, that is okay, you can withdraw from the project. You do not have to give us a reason; just tell us that you want to stop. Please let us know you want to stop so we can make sure you are aware of anything that needs to be done so you can withdraw safely. If you choose not to take part or start and then stop the study, it will not affect your relationship with the University, staff or colleagues.

· If you chose to leave the study we will destroy any information we have collected from you

What happens next and who can I contact about the research?

· Should you have any questions or require more information about the study, please contact Professor Peter McEvoy (9266 5110, peter.mcevoy@curtin.edu.au) or Amy Black (amy.j.black@postgrad.curtin.edu.au)

· If you decide to take part in this research we will ask you to read the information sheet and provide written consent. In doing so, you are telling us that you understand what you have read and what has been discussed. Providing consent indicates that you agree to be in the research project and have your information used as described. Please take your time and ask any questions you have before you decide what to do. You will be given a copy of this information and the consent form to keep.

· At the start of the questionnaire, available via the link provided, there is a checkbox to indicate you have understood the information provided here in the information sheet.

Curtin University Human Research Ethics Committee (HREC) has approved this study (HREC number HRE2018-0349). Should you wish to discuss the study with someone not directly involved, in particular, any matters concerning the conduct of the study or your rights as a participant, or you wish to make a confidential complaint, you may contact the Ethics Officer on (08) 9266 9223 or the Manager, Research Integrity on (08) 9266 7093 or email hrec@curtin.edu.au.

Supplementary Material 10: Participant Consent Form (Study 2)

Speechwriting Skills and Anxiety

Curtin University

CONSENT FORM

HREC Project Number: HRE2018-0349
Project Title: An investigation of speechwriting skills and anxiety
Chief Investigator: Professor Peter McEvoy BSc(hons), MPsych(clin), PhD.
Co-Investigator: Laura Strachan
Student researcher: Amy Black
Version Number: 2
Version Date: 04/03/2020

I have received information regarding this research and had an opportunity to ask questions. I understand that this project has been approved by Curtin University Human Research Ethics Committee and will be carried out in line with the National Statement on Ethical Conduct in Human Research (2007). I believe I understand the purpose, extent and possible risks of my involvement in this project and I voluntarily consent to take part.

Supplementary Material 11: Participant Debrief Sheet

Participant Debrief: 'An Investigation of Speechwriting Skills and Anxiety'

Thank you for your participation today.

I'm now going to explain a few things about the study, so you can get an idea of why we asked you to do the things you just did. This study is investigating how people respond when they think they're about to be evaluated by other people. Each person in your group received **<positive feedback/negative feedback/no feedback>** about their performance, but in fact the feedback wasn't real – we needed you to *think* you had performed a certain way, so we could measure how that made you feel, knowing you were about to discuss your performance with the other participants in the group. People in other groups have received or will receive **<positive feedback/negative feedback/no feedback>**. We randomly allocated the groups to receive different types of feedback before you arrived today, so if you were disappointed with your feedback or performance, please don't be. It's not a reflection of how you actually performed. It is also important for you to know that the video camera was not actually recording your speech task. We used the camera to increase participants' motivation to do their best during the speech task.

There are different theories about how people react when they expect other people to make a judgement about them. One theory says people worry when they expect negative feedback about themselves or their performance. Another theory says people worry regardless of whether they think the feedback will be negative or positive. In this study, we're trying to determine whether people who receive negative or positive feedback worry more than people who don't receive any feedback at all.

You might be wondering why we told you there would be a group discussion when there wasn't one. Basically, we couldn't tell you ahead of time because it may have affected how you behaved or felt. We wanted to make the situation realistic – even if that meant you were a bit nervous – so that we can apply any findings we make to the real world.

We know that lots of people don't like giving speeches and you might have felt a bit uncomfortable having to give an impromptu one. May I just say, we greatly appreciate your involvement in the study. This is the first time a study like this has been done, and we're hoping the findings will tell us a lot more about how people behave in their daily life when they're worried about being evaluated.

We estimated the study would cause mild to moderate discomfort to participants. If you have any concerns about the study or wish to provide any feedback (the tables have turned!), please email me (or have a chat to me after the debrief). My email address is on the Participant Information Sheet. If you think you'd like to talk to someone further about any concerns raised by what you did today, you can contact Curtin Counselling Services on campus (Level 2, Building 109; 08 9266 7850or freecall 1800 651 878). Lifeline also offers 24-hour counselling and can be contacted on 13 11 14.

If you enjoyed yourself today and would like to do more public speaking, or would like to hone your presentation skills, the following community organisations are a good place to start:

- Rostrum (Information Centre): 1300 582 019; ric@rostrumwa.com.au
- Toastmasters: https://toastmastersd17.org/clubdetails/

A final, important note: Please don't speak to anyone else about the experiment. If they participate in the study, it's important that they aren't aware of exactly what happens for the study to work.

Once again, thank you very much for your participation today. It's greatly appreciated.

Supplementary Material 12: Measures

Social Phobia Scale (SPS)

Instructions: For each question, please circle a number to indicate the degree to which you feel the statement is characteristic or true of you. The rating scale is as follows:

0	**1**	**2**	**3**	**4**
Not at all characteristic of me	Slightly characteristic of me	Moderately characteristic of me	Very characteristic of me	Extremely characteristic of me

1. I become anxious if I have to write in front of other people	0	1	2	3	4
2. I become self-conscious when using public toilets	0	1	2	3	4
3. I can suddenly become aware of my own voice and of others listening to me	0	1	2	3	4
4. I get nervous that people are staring at me as I walk down the street	0	1	2	3	4
5. I fear I may blush when I am with others	0	1	2	3	4
6. I feel self-conscious if I have to enter a room where others are already seated	0	1	2	3	4
7. I worry about shaking or trembling when I'm watched by other people	0	1	2	3	4
8. I would get tense if I had to sit facing other people on a bus or a train	0	1	2	3	4
9. I get panicky that others might see me to be faint, sick or ill	0	1	2	3	4
10. I would find it difficult to drink something if in a group of people	0	1	2	3	4
11. It would make me feel self-conscious to eat in front of a stranger at a restaurant	0	1	2	3	4
12. I am worried people will think my behaviour odd	0	1	2	3	4
13. I would get tense if I had to carry a tray across a crowded cafeteria	0	1	2	3	4
14. I worry I'll lose control of myself in front of other people	0	1	2	3	4
15. I worry I might do something to attract the attention of others	0	1	2	3	4
16. When in an elevator I am tense if people look at me	0	1	2	3	4
17. I can feel conspicuous standing in a queue	0	1	2	3	4
18. I get tense when I speak in front of other people	0	1	2	3	4
19. I worry my head will shake or nod in front of others	0	1	2	3	4
20. I feel awkward and tense if I know people are watching me	0	1	2	3	4

RTQ-8 (State)

[Instructions when administered **Pre-speech/Time 1**]: Please answer the following questions in relation to thoughts or images you've had **as you anticipate giving your presentation in front of the group**. How true (1-5) are each of these statements with respect to how you've been feeling **in the past 5 minutes**?

1	**2**	**3**	**4**	**5**
Not true at all		Somewhat true		Very true

	Not true at all		Some-what true		Very true
1. I had thoughts or images about all my shortcomings, failings, faults, mistakes.	1	2	3	4	5
2. I had thoughts or images about the upcoming speech that came into my head even when I did not wish to think about it again.	1	2	3	4	5
3. I had thoughts or images that "*I won't be able to do my job/work because I feel so badly about the speech."*	1	2	3	4	5
4. I had thoughts or images about the speech that were difficult to forget.	1	2	3	4	5
5. Once I started thinking about the speech, I couldn't stop.	1	2	3	4	5
6. I noticed that I had been thinking about the speech.	1	2	3	4	5
7. I had thoughts or images of the speech that I tried to resist thinking about.	1	2	3	4	5
8. I thought about the speech all the time.	1	2	3	4	5

RTQ-8 (State)

[Instructions when administered **Post-speech/Time 2**]: Please answer the following questions in relation to thoughts or images you've had about your speech performance, as you **anticipate participating in the group discussion**. How true (1-5) are each of these statements with respect to how you've been feeling **in the past 5 minutes**?

1	**2**	**3**	**4**	**5**
Not true at all		Somewhat true		Very true

	Not true at all		Some-what true		Very true
1. I had thoughts or images about all my shortcomings, failings, faults, mistakes.	1	2	3	4	5
2. I had thoughts or images about the upcoming group discussion that came into my head even when I did not wish to think about it again.	1	2	3	4	5
3. I had thoughts or images that "*I won't be able to do my job/work because I feel so badly about the group discussion."*	1	2	3	4	5
4. I had thoughts or images about the group discussion that were difficult to forget.	1	2	3	4	5
5. Once I started thinking about the group discussion, I couldn't stop.	1	2	3	4	5
6. I noticed that I had been thinking about the group discussion.	1	2	3	4	5
7. I had thoughts or images of the group discussion that I tried to resist thinking about.	1	2	3	4	5
8. I thought about the group discussion all the time.	1	2	3	4	5

Social Interaction Anxiety Scale (SIAS)

Instructions: This questionnaire asks you to think about social situations. For each question, please select a number to indicate the degree to which you feel the statement is characteristic of you. The rating scale is as follows:

0	**1**	**2**	**3**	**4**
Not at all characteristic of me	Slightly characteristic of me	Moderately characteristic of me	Very characteristic of me	Extremely characteristic of me

1. I get nervous if I have to speak with someone in authority (teacher, boss, etc.)	0	1	2	3	4
2. I have difficulty making eye-contact with others	0	1	2	3	4
3. I become tense if I have to talk about myself or my feelings	0	1	2	3	4
4. I find difficulty mixing comfortably with the people I work with	0	1	2	3	4
5. I find it easy to make friends of my own age	0	1	2	3	4
6. I tense-up if I meet an acquaintance in the street	0	1	2	3	4
7. When mixing socially I am uncomfortable	0	1	2	3	4
8. I feel tense if I am alone with just one other person	0	1	2	3	4
9. I am at ease meeting people at parties, etc*	0	1	2	3	4
10. I have difficulty talking with other people	0	1	2	3	4
11. I find it easy to think of things to talk about*	0	1	2	3	4
12. I worry about expressing myself in case I appear awkward	0	1	2	3	4
13. I find it difficult to disagree with another's point of view	0	1	2	3	4
14. I have difficulty talking to attractive persons of the opposite sex	0	1	2	3	4
15. I find myself worrying that I won't know what to say in social situations	0	1	2	3	4
16. I am nervous mixing with people I don't know well	0	1	2	3	4
17. I feel I'll say something embarrassing when talking	0	1	2	3	4
18. When mixing in a group I find myself worrying I will be ignored	0	1	2	3	4
19. I am tense mixing in a group	0	1	2	3	4
20. I am unsure whether to greet someone I know only slightly	0	1	2	3	4

*Items have been reverse-coded.

Public Speaking Anxiety Scale (PSAS)

Instructions: This questionnaire asks you to think about giving a speech. For each question, please select a number to indicate the degree to which you feel the statement is characteristic of you. The rating scale is as follows:

1	**2**	**3**	**4**	**5**
Not at all	Slightly	Moderately	Very	Extremely

1. Giving a speech is terrifying	1	2	3	4	5
2. I am afraid that I will be at a loss for words while speaking	1	2	3	4	5
3. I am nervous that I will embarrass myself in front of the audience	1	2	3	4	5
4. If I make a mistake in my speech, I am unable to re-focus	1	2	3	4	5
5. I am worried that my audience will think I am a bad speaker	1	2	3	4	5
6. I am focused on what I am saying during my speech*	1	2	3	4	5
7. I am confident when I give a speech*	1	2	3	4	5
8. I feel satisfied after giving a speech*	1	2	3	4	5
9. My hands shake when I give a speech	1	2	3	4	5
10. I feel sick before speaking in front of a group	1	2	3	4	5
11. I feel tense before giving a speech	1	2	3	4	5
12. I fidget before speaking	1	2	3	4	5
13. My heart pounds when I give a speech	1	2	3	4	5
14. I sweat during my speech	1	2	3	4	5
15. My voice trembles when I give a speech	1	2	3	4	5
16. I feel relaxed while giving a speech*	1	2	3	4	5
17. I do not have problems making eye contact with my audience*	1	2	3	4	5

* Items have been reverse-coded.

Depression, Anxiety, and Stress Scale – 21 Items (DASS-21)

Instructions: Please read each statement and select a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement. The rating scale is as follows:

0	**1**	**2**	**3**
Did not apply to me at all	Applied to me to some degree, or some of the time	Applied to me to a considerable degree, or a good part of the time	Applied to me very much or most of the time

1. I felt downhearted and blue	0	1	2	3
2. I felt that I had nothing to look forward to				
3. I felt that life was meaningless				
4. I felt I wasn't worth much as a person				
5. I was unable to become enthusiastic about anything				
6. I couldn't seem to experience any positive feeling at all				
7. I found it difficult to work up initiative to do things				
8. I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat				
9. I was aware of dryness of my mouth				
10. I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion				
11. I experienced trembling (e.g. in the hands)				
12. I was worried about situations in which I might panic and make a fool of myself				
13. I felt I was close to panic				
14. I felt scared without any good reason				
15. I found it hard to wind down				
16. I found it difficult to relax				
17. I felt I was using a lot of nervous energy				
18. I found myself getting agitated				
19. I tended to over-react to situations				
20. I felt that I was rather touchy				
21. I was intolerant of anything that kept me from getting on with what I was doing				

Brief Fear of Negative Evaluation Scale (Trait) (BFNE-S)

Instructions: Please indicate how characteristic these statements are of you, using the following scale:

1	**2**	**3**	**4**	**5**
Not at all characteristic of me	Slightly characteristic of me	Moderately characteristic of me	Very characteristic of me	Extremely characteristic of me

	Please write number in this column
1. I worry about what people will think of me even when I know it doesn't make any difference.	
2. I am frequently afraid of other people noticing my shortcomings.	
3. I am afraid that others will not approve of me.	
4. I am afraid that people will find fault with me.	
5. When I am talking to someone, I worry about what they may be thinking about me.	
6. I am usually worried about what kind of impression I make.	
7. Sometimes I think I am too concerned with what other people think of me.	
8. I often worry that I will say or do the wrong things.	

Fear of Positive Evaluation Scale (Trait) (FPES)

Instructions: Read each of the following statements carefully and then indicate the degree to which you feel the statement is characteristic of you, using the following scale.

0 1 2 3 4 5 6 7 8 9
Not at all true Somewhat true Very true

For each statement, respond as though it involves people that you do not know very well. Rate each situation from 0 to 9.

		Please write number in this column
1.	I am uncomfortable exhibiting my talents to others, even if I think my talents will impress them.	
2.	It would make me anxious to receive a compliment from someone that I am attracted to.	
3.	I try to choose clothes that will give people little impression of what I am like.	
4.	I feel uneasy when I receive praise from authority figures.	
5.	If I have something to say that I think a group will find interesting, I typically say it.	
6.	I would rather receive a compliment from someone when that person and I were alone than when in the presence of others.	
7.	If I was doing something well in front of others, I would wonder whether I was doing ‘‘too well.’’	
8.	I generally feel uncomfortable when people give me compliments	
9.	I don’t like to be noticed when I am in public places, even if I feel as though I am being admired	
10.	I often feel under-appreciated, and wish people would comment more on my positive qualities.	

Evaluation Expectations Measure (Time 1)

Please read the following statement carefully and select the number which best indicates how you feel right now, at this moment. The rating scale is as follows:

1	**2**	**3**	**4**	**5**	**6**	**7**
Extremely negatively	Negatively	Slightly negatively	Neither positively nor negatively	Slightly positively	Positively	Extremely positively

How do you expect others will evaluate you during the speech you are about to give?	1	2	3	4	5	6	7

FPE-State (Time 1)

Read each of the following statements carefully and then indicate the degree to which each statement reflects how you feel about the speech.

0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Not at all true				**Somewhat true**					**Very true**

For each statement, respond as though the group involves people that you do not know very well. Rate each situation from 0 to 9.

	Please write number in this column
1. I will feel uncomfortable exhibiting my talents to others, even if I think my talents will impress them.	
2. It will make me anxious to receive a compliment from someone, particularly if I am attracted to them.	
3. I will feel uneasy if I receive praise from the group members.	
4. I would rather receive a compliment from someone when that person and I were alone than when in the presence of others within the group.	
5. If I was doing something well in front of others, I would wonder whether I was doing ‘‘too well.”	
6. I will feel uncomfortable if people give me compliments.	
7. I won’t like to be noticed in the group discussion, even if I feel as though I am being admired.	

BFNE-State (Time 1)

Read each of the following statements carefully and then indicate the degree to which each statement reflects how you feel about the speech. For each statement, respond as though the group involves people that you do not know very well. Rate each question using the following scale:

1	2	3	4	5
Not at all characteristic of me	**Slightly characteristic of me**	**Moderately characteristic of me**	**Very characteristic of me**	**Extremely characteristic of me**

	Please write number in this column
1. I am worried about what people will think of me even when I know it doesn't make any difference.	
2. I am afraid of other people noticing my shortcomings.	
3. I am afraid that others will not approve of me.	
4. I am afraid that people will find fault with me.	
5. When I am talking to the group, I am worried about what they may be thinking about me.	
6. I am worried about what kind of impression I make in the group.	
7. I am too concerned with what other people think of me.	
8. I worry that I will say or do the wrong things.	

Evaluation Expectations Measure (Time 2)

Please read the following statement carefully and select the number which best indicates how you feel right now, at this moment. The rating scale is as follows:

1	**2**	**3**	**4**	**5**	**6**	**7**
Extremely negatively	Negatively	Slightly negatively	Neither positively nor negatively	Slightly positively	Positively	Extremely positively

How do you expect others will evaluate you during the group discussion?	1	2	3	4	5	6	7

FPE-State (Time 2)

Read each of the following statements carefully and then indicate the degree to which each statement reflects how you feel about the group discussion.

0 1 2 3 4 5 6 7 8 9
Not at all true Somewhat true Very true

For each statement, respond as though the group involves people that you do not know very well. Rate each situation from 0 to 9.

	Please write number in this column
1. I will feel uncomfortable exhibiting my talents to others, even if I think my talents will impress them.	
2. It will make me anxious to receive a compliment from someone, particularly if I am attracted to them.	
3. I will feel uneasy if I receive praise from the group members.	
4. I would rather receive a compliment from someone when that person and I were alone than when in the presence of others within the group.	
5. If I was doing something well in front of others, I would wonder whether I was doing ‘‘too well.”	
6. I will feel uncomfortable if people give me compliments.	
7. I won’t like to be noticed in the group discussion, even if I feel as though I am being admired.	

BFNE-State (Time 2)

Read each of the following statements carefully and then indicate the degree to which each statement reflects how you feel about the speech. For each statement, respond as though the group involves people that you do not know very well. Rate each question using the following scale:

1	2	3	4	5
Not at all characteristic of me	**Slightly characteristic of me**	**Moderately characteristic of me**	**Very characteristic of me**	**Extremely characteristic of me**

	Please write number in this column
1. I am worried about what people will think of me even when I know it doesn't make any difference.	
2. I am afraid of other people noticing my shortcomings.	
3. I am afraid that others will not approve of me.	
4. I am afraid that people will find fault with me.	
5. When I am talking to the group, I am worried about what they may be thinking about me.	
6. I am worried about what kind of impression I make in the group.	
7. I am too concerned with what other people think of me.	
8. I worry that I will say or do the wrong things.	

Participant Familiarity Scale

Please rate each of the speakers in your group according to how well you know them. The rating scale is as follows:

1: Not at all familiar (Never seen them before)

2: Somewhat familiar (Have seen them on campus)

3: Moderately familiar (Have had conversations, but are not friends)

4: Familiar (We are friends)

5: Very familiar (We are very close friends)

Please cross out the Speaker position you have been given (you are not required to rate your familiarity with yourself!)

Speaker 1	1	2	3	4	5
Speaker 2	1	2	3	4	5
Speaker 3	1	2	3	4	5
Speaker 4	1	2	3	4	5

Speaker Performance Rating Scale

Please write the number of the speaker you are rating in the space below.

Speaker Number: _____

Please rate the performance of the speaker on the 6 items listed in the table below, using the following rating scale:

1: Very Poor **2: Poor** **3: Good** **4: Very good** **5: Excellent**

Body language	1	2	3	4	5
Delivery	1	2	3	4	5
Communication style	1	2	3	4	5
Persuasiveness	1	2	3	4	5
Confidence	1	2	3	4	5
Content	1	2	3	4	5

Deception Measure

Please read the following statement carefully and select the response which best indicates your experience.

1. At any point during your participation, did you suspect this study may be investigating social anxiety?	Yes	No

Please read the following statements carefully and use the sliding scale below to indicate your experience.

2. How strongly did you believe you were about to meet with the group to discuss your performance?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Not at all true **Definitely true**

3. How strongly did you believe that the feedback you were given was the actual feedback provided by the other speakers?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Not at all true **Definitely true**

4. How strongly did you believe that the speeches were being recorded?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Not at all true **Definitely true**

Topic Ratings Scale

Please select the number which best indicates how you feel about the group presentation topics listed below. The rating scale is as follows:

1	**2**	**3**	**4**	**5**
Not at all	Slightly	Moderately	Very	Extremely

Abortion

I would feel anxious giving a presentation to other students expressing my views on this topic.	1	2	3	4	5
This topic is controversial.	1	2	3	4	5

Religious belief

I would feel anxious giving a presentation to other students expressing my views on this topic.	1	2	3	4	5
This topic is controversial.	1	2	3	4	5

Political persuasion

I would feel anxious giving a presentation to other students expressing my views on this topic.	1	2	3	4	5
This topic is controversial.	1	2	3	4	5

Euthanasia

I would feel anxious giving a presentation to other students expressing my views on this topic.	1	2	3	4	5
This topic is controversial.	1	2	3	4	5

Bullying on social media

I would feel anxious giving a presentation to other students expressing my views on this topic.	1	2	3	4	5
This topic is controversial.	1	2	3	4	5

Eating animals

I would feel anxious giving a presentation to other students expressing my views on this topic.	1	2	3	4	5
This topic is controversial.	1	2	3	4	5

Climate change

I would feel anxious giving a presentation to other students expressing my views on this topic.	1	2	3	4	5
This topic is controversial.	1	2	3	4	5

Online dating

I would feel anxious giving a presentation to other students expressing my views on this topic.	1	2	3	4	5
This topic is controversial.	1	2	3	4	5

Death

I would feel anxious giving a presentation to other students expressing my views on this topic.	1	2	3	4	5
This topic is controversial.	1	2	3	4	5

Organ donation

I would feel anxious giving a presentation to other students expressing my views on this topic.	1	2	3	4	5
This topic is controversial.	1	2	3	4	5

Drug use

I would feel anxious giving a presentation to other students expressing my views on this topic.	1	2	3	4	5
This topic is controversial.	1	2	3	4	5

Promiscuity

I would feel anxious giving a presentation to other students expressing my views on this topic.	1	2	3	4	5
This topic is controversial.	1	2	3	4	5

Supplementary Material 13: Researcher Experiment Scripts

Introduction Script

[Participants have arrived and are seated in a group of four]

Hi, thank you for coming today. My name is Amy and I'll be overseeing the task you're about to complete.

As you already know, this study is examining the relationship between speechwriting skills and anxiety.

To allow us to examine that relationship, each of you will present a two-minute speech to the group on abortion. When you walked in the door, you were given a badge to wear – that number is your speaker number, and it indicates which order you'll be speaking in (first, second, third, or fourth).

Shortly, I'm going to send you off to individual cubicles in another room to prepare your speech. You'll have two minutes to prepare your speech. When the two minutes is up, you'll come back and we'll begin the presentations. Each speaker will have exactly two minutes to present to the group (an alarm will sound when the time is up).

At the end of each speech, you'll rate each speaker using the Speaker Performance Rating Scale provided. You'll also rate your own performance using the same scale.

Before you go and prepare your speech, please fill out the Participant Familiarity Scale (that's the other form you have in front of you). It asks you to rate how well you know each of the other group members.

Once everyone has handed that form to me, you'll go and get started. After preparing your speech for two minutes, I'll ask you to fill out four other forms inquiring about how you're feeling. Please make sure you answer all the items on each form.

Thank you, and good luck.

Presentations Script

[Participants have returned to the main room]

OK, we'll get started. A quick word, though: Please don't applaud (or heckle) the other speakers. You'll get a chance to provide feedback to each speaker using the rating scale at the end of each presentation.

I'm just going to press record so that we can review the speeches later if required [pretend to press record, but video not actually recording].

Could Speaker 1 please move to the front? Ready? OK (gesture to begin).

[At the end of 2 minutes]

Thank you, your time is up, you can take a seat. Could everyone please fill in their performance rating scale and turn the page over when you're done?

[All pages are turned over]

OK, could Speaker 2 please move to the front? Ready, OK (gesture to begin).

[Repeat until all speakers have presented and the final ratings are complete]

OK, please leave your rating forms turned over where they are. You're going to return to the individual cubicles in the other room now.

Feedback Script

[1. **Positive** Feedback]

[Researcher speaks] Based on feedback from other participants and compared to their performances, you did very well. Congratulations!

[Researcher hands fake written feedback to participant]

[Researcher] In five minutes, you'll return to the main room where the group will discuss how each person performed. Please think about how well you did, compared to everyone else, and what sort of feedback you might receive.
[Researcher leaves. Returns five minutes later.]

[Researcher] While you're here, please also fill out these forms, making sure you complete all the items, and then we will rejoin the group.

*****

[2. **Negative** Feedback]

[Researcher] Based on feedback from other participants and compared to their performances, there were a number of areas where you could improve.

[Researcher hands fake written feedback to participant]

[Researcher] In five minutes, you'll return to the main room where the group will discuss how each person performed. Please think about how well you did, compared to everyone else, and what sort of feedback you might receive.

[Researcher leaves. Returns five minutes later.]

[Researcher] While you're here, please also fill out these forms, making sure you complete all the items, and then we will rejoin the group.

*****

[3. **No** Feedback]

[Researcher] In five minutes, you'll return to the main room where the group will discuss how each person performed. Please think about how well you did, compared to everyone else, and what sort of feedback you might receive.

[Researcher leaves. Returns five minutes later.]

[Researcher] While you're here, please also fill out the forms provided, making sure you complete all the items, and then we will rejoin the group.

Participant Debrief Script

[Participants have returned to the main room after 5 minutes in cubicles.]

Thank you for your participation today. That's the end of the study – you're not going to have a discussion about your performance. We needed you to think you were going to discuss how you went, but we don't need to actually do that. You might be feeling relieved? You might also be relieved to know that I didn't actually record your speeches. The camera was not recording.

Before we go any further, as you've seen, we employed deception in this study. We'd like to know how well we did that, so could you all please fill out this form (it's the final one, I promise).

<Administer deception measure>

I'm now going to explain a few things about the study, so you can get an idea of why we asked you to do the things you just did. This study is investigating how people respond when they think they're about to be evaluated by other people. Each person in your group received **<positive feedback/negative feedback/no feedback>** about their performance, but in fact the feedback wasn't real – we needed you to *think* you had performed a certain way, so we could measure how that made you feel, knowing you were about to discuss your performance with the other participants in the group. People in other groups have received or will receive **<positive feedback/negative feedback/no feedback>**. We randomly allocated the groups to receive different types of feedback before you arrived today, so if you were disappointed with your feedback or performance, please don't be. It's not a reflection of how you actually performed.

There are different theories about how people react when they expect other people to make a judgement about them. One theory says people worry when they expect negative feedback about themselves or their performance. Another theory says people worry regardless of whether they think the feedback will be negative or positive. In this study, we're trying to determine whether people who receive negative or positive feedback worry more than people who don't receive any feedback at all.

You might be wondering why we couldn't tell you up front that you'd be giving a speech today, or why we told you there'd be a group discussion when there wasn't one. Basically, we couldn't tell you ahead of time because it may have affected how you behaved or felt. We wanted to make the situation realistic – even if that meant you were a bit nervous – so that we can apply any findings we make to the real world.

We know that lots of people don't like giving speeches and you might have felt a bit uncomfortable having to give an impromptu one. Can I just say, we greatly appreciate you participating in this study. This is the first time a study like this has been done, and we're hoping the findings will tell us a lot more about how people behave in their daily life when they're worried about being evaluated.

We estimated the study would cause only mild to moderate discomfort to participants. If you have any concerns about the study or wish to provide any feedback (the tables have turned!), please email me (or have a chat to me after the debrief). My email address is on the Participant Information Sheet. If you think you'd like to talk to someone further about any concerns raised by what you did today, you can seek out counselling via the Curtin Counselling Services on campus. Contact details for those services are printed on the Participant Information Sheet and Debrief Sheet, which I'm

about to hand out to you. The Debrief Sheet also contains contact details for two organisations in Perth which specialise in helping people improve their speechwriting and