Negative Self-evaluation and Withdrawal Behaviour Tendency in Shame: A replication study

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#### Abstract

Negative self-evaluation (NSE) tendency and withdrawal behaviour tendency are two distinctive responses after shame experiences. While withdrawal tendency is a maladaptive aspect of shame, NSE is often considered adaptive. A major assessment of shame- and guilt-proneness, the Test of Self-Conscious Affect-3 (TOSCA-3), has been criticised for its conflated measure of these tendencies, whereas a newer scale, the Guilt and Shame Proneness scale (GASP), measures these tendencies separately. These two different tests have not been previously compared in a single study in relation to psychological symptoms and interpersonal traits. By replicating the GASP study, the difference between TOSCA-3 and GASP was investigated in relation to depressive symptoms, social anxiety symptoms and empathy in university students (N=116) via an online survey. Results revealed higher effect sizes on the TOSCA-3 for psychological symptoms than compared to the GASP. NSE was positively correlated with both psychological symptoms and empathy, while withdrawal (which was maladaptive in both conditions), was negatively correlated with interpersonal traits, and positively correlated with depressive and social anxiety symptoms. These results casts doubt on the function of NSE, demonstrating its adaptiveness in interpersonal situations while maladaptiveness in psychological functioning.

*Keywords*: shame, negative self-evaluation tendency, withdrawal tendency, social anxiety, depression, empathy

### Declaration

This thesis contains no material which has been accepted for the award of any other degree of diploma in any University, and, to the best of my knowledge, this thesis contains no material previously published except where due reference is made. I give permission for the digital version of this thesis to be made available on the web, via the University of Adelaide's digital thesis repository, the Library Search and through web search engine, unless permission has been granted by the School to restrict access for a period.

Soyoung Min

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I would also like to thank my family for providing me with unconditional love, support and encouragement throughout my years of study. It would not have been possible to accomplish my study without them. Negative Self-evaluation and Withdrawal Behaviour Tendency in Shame: A replication study

Shame is a self-conscious and social emotion, often involving negative self-evaluations such as worthlessness or inferiority after social transgressions or failures. The consequences of shame have long been considered as negative, as shame motivates withdrawal behaviours (e.g., hiding, wanting to disappear, social withdrawn, and avoidance of others) (Gilbert, 1997; Lewis, 1971; Tangney & Dearing, 2002; Tangney & Fischer, 1995; Tracy & Robins, 2004). In contrast, studies have revealed that the negative self-evaluation aspects of shame are closely related to positive interpersonal traits, emphasizing that shame only becomes maladaptive when negative self-evaluation motivates withdrawal behaviours (Cohen, Wolf, Panter, Insko, 2011; De Hooge, 2014; De Hooge, Breugelmans, Wagemans, Zeelenberg, 2018). Not all feeling of shame results in withdrawal behaviours (Andrews, Qian, & Valentine, 2002; Wolf, Cohen, Panter & Insko, 2010). Given the importance of measuring self-appraisal and behaviour tendency separately (Dempsey, 2017; Cohen et al., 2011; De Hoodge et al, 2018), an increasing amount of research emphasises that shame functions differently for psychological symptoms and interpersonal traits.

#### 1.1 What is shame and guilt?

Shame and guilt are social, moral, and self-conscious emotions, influencing both individuals and their social relationships. From the errors or transgressions people face, individuals first reflect on and evaluate themselves, before making judgements and regulations about the kind of person they are. These judgements and regulations about the self in turn influence and guide individuals behaviours toward others (Cohen, et al, 2011; Tangney & Fischer, 1995; Tangney & Dearing, 2002; Wolf, et al, 2010). In addition, the two emotions develop from early social experiences with family and other close relationships, further affecting interpersonal relationships throughout one's lifetime (Cohen et al., 2011; Tangney & Dearing, 2002). Therefore, shame and guilt are self-conscious in that individuals evaluate themselves; moral in that they guide and influence one's behaviours and the self; are based on social norms; and are social emotions since they affect one's behaviours in interpersonal contexts. Despite the similarities between the two emotions, many researchers have pointed out the importance of differentiating shame and guilt.

When shame feeling arises, one tends to focus on the entire self (e.g., *I* am a bad person), while with guilt, the focus is on the specific behaviours (e.g., I did a bad *thing*). These two different tendencies occur because of their contrasting attributional patterns. These attributional patterns of individuals are divided into three, namely globality (global vs, specific), stability (stable vs. unstable), and controllability (controllable vs. uncontrollable). Although both shame and guilt arise in the self, the appraisal focus of shame involves the entire value of the self as negative (e.g., "I am a terrible person."/ global), indicating a much wider involvement than a certain failure or transgression that they made. In addition, many ashamed individuals believe that the feeling lasts over time (e.g., "I do it all the time."/ stable), and they are not capable of exerting control over negative events ("I am powerless"/ uncontrollable). Contrarily, when the focus of guilt is on specific transgression ("I did a horrible thing."/ specific), the individual is able to control the feelings of guilt and they do not last as long (Tangney, 1991; Tracy & Robins, 2004).

Another differentiation between shame and guilt is the public-private distinction. Based on anthropologists such as Benedict (1946), shame is more closely related to one's transgressions or incompetence that are publicly exposed by others, while guilt is likely to occur from personal transgression or failures that are not publicly exposed (Bratton, 2010; Smith, Webster, Parrott, & Eyre, 2002; Tangney & Dearing, 2002, Wolf et al., 2010). Also, a greater association between shame and publicly exposed transgression than guilt with public transgressions was found (Smith et al., 2002). Against the public-private distinction, Tangney, Stuewig and Mashek (2007) stated that although ashamed individuals may "feel" more publicly exposed due to higher awareness of other's disapproval, both shame and guilt by its very nature are associated with social contexts. Furthermore, they demonstrated that when put in the same situations, some people will feel shame from the situation, while others will feel guilt, irrelevant to public-private distinction.

In the field of self-conscious emotions, shame has been addressed dichotomously as either a healthy or unhealthy emotion, whereas guilt is widely considered a healthy emotion (Carni, Petrocchi, Del Miglio, Mancini, & Couyoumjian, 2013; Cibich, Woodyatt, & Wenzel, 2016; De Hooge et al., 2018; Nelissen, 2012; Tangney & Dearing, 2002; Tracy & Robins, 2004). The two major perspectives, the social-adaptive perspective and the functionalist perspective, demonstrated notably different views of shame.

#### **1.2 Social-Adaptive Perspective**

First, looking at the social-adaptive perspective, shame is viewed as a maladaptive, painful, and unworthy emotion for psychological well-being, while guilt is viewed as an adaptive and moral emotion. Derived from social psychological and clinical theory, shame and guilt are differently perceived by the focus of the self and behaviour, and the subsequent implications of this focus (Lewis, 1971; Tangney, 1991; Tangney & Dearing, 2002; Tracy & Robins, 2004). The appraisal patterns of shame, especially global attribution, are difficult to change, so that shame is a more profound, painful and pervasive emotion than the feeling of guilt. Since an individual believes that the entire self is scrutinised by others, corresponding self-appraisal responses tend to be that one is small, worthlessness, and powerless. In addition, the sense of public exposure and public disapproval of the self, as well as the possibility of being rejected from social relationships, elicits avoidance, withdrawal, defensiveness, and aggressive behaviours in social contexts. These behaviours contribute to not only interpersonal conflicts but also psychopathological symptoms (Tangney, Wagner, & Gramzow, 1992). Avoidance and withdrawal behaviours in social contexts may seem like a protection from negative outcomes, such as removing oneself from further painful self-evaluation by others; however, this behaviour tendency will ultimately lead to loss of social opportunities and isolation. Additionally, one is likely to have less opportunity to improve social skills and coping skills when interpersonal problems arise (Trew, 2011).

Frequent and continuous avoidance and withdrawal behaviour tendencies may contribute to psychological symptoms (e.g., social anxiety symptoms). Tangney and Dearing (2002) showed that in comparison to guilt, shame is associated with a lower capacity for other-oriented empathy and greater proneness to personal distress, aggression, anger, and hostility. In contrast, the attributional patterns of guilt lead to reparative behaviour. Focusing on the specific behaviours rather than the entire self, individuals assume responsibility for their behaviour and believe that they can correct them. In addition, empathizing with victims, also known as other-oriented actions (e.g., apologising, confessing and trying to repair the consequences of one's actions) are likely to appear. Therefore, according to the social-adaptive perspective, guilt is a prosocial emotion that protects and makes interpersonal relationships better (Carni, et al, 2013; Tangney, 1991). Nelissen (2012) stated that even self-punishment, a tendency of guilt, should be considered as adpative, because self-punishment behaviour eventually leads to prosocial behaviours. Tangney et al. (2007) reported that shame may be functional at certain times, as it motivates an appeasement towards others in order to avoid social rejection such as ostracism. However the attributional tendencies of shame make people want to hide and run away from

shame-inducing situations they face, which in turn causes distancing and separation of social relationships with other people and interpersonal adjustment (Tangney et al., 2007). In addition, Tangney and Dearing (2002) reported that shame was not related to self-reported moral behaviours from college students, while guilt was positively related. In their longitudinal study of moral emotional style, fifth-graders with a proneness to shame were more likely to use hard drugs (such as heroin), be suspended from high school, and attempt suicide. As opposed to guilt, shame was not associated with enhanced empathy and taking responsibility.

#### 1.3 Is shame really 'ugly', and is guilt 'good'? The functionalist perspective

In contrast to the social-adaptive theory, the functionalist perspective portrays shame as a prosocial emotion, though it could be maladaptive when the emotion occurs inappropriately in situations. For example, when universal emotions, like sadness and fear, are experienced intensively and frequently, they can cause depression or anxiety disorders (Marks, 1987). Likewise, shame could be dysfunctional or functional in different conditions (e.g., frequent experiences) (Clark, Watson, & Mineka 1994; Gausel & Leach, 2011; Olthof, 2012). Derived from evolutionary and developmental theory, the functionalists believe that emotions have evolved to serve functional and survival-related purposes where social belongingness is critical (Keltner & Gross, 1999). Specifically, shame may have evolved to achieve adaptive functions in social contexts, as well as to achieve biosocial goals. Gilbert and Andrews (1998) suggested that people are motivated to nurture for their offspring and close family in order to form alliances, friendships and group relationships with others, as well as to achieve further prosperity. Therefore, social hierarchies affect how people achieve these goals. Specifically, a person with high social status might have more resources to take care of offspring, to attract and keep mates, and form alliances.

Shame is likely to be elicited when one is threatened by loss of social status or social bond, or being rejected by others (Gruenewald, Dickerson, & Kemeny, 2007). It also enables people to evaluate how favourably they are viewed (Gilbert, 1997; Gilbert & McGuire, 1998). Therefore, submissive behaviours tend to occur as a response, and these behaviours have the significant social function of appeasement and reconciliation. Individuals attempt to fix their misdeed by showing submissive displays, as they hope for forgiveness of the other person and minimize the risk of exclusion from the social group (Muris & Meeters, 2014). Therefore, shame often occurs in a person with comparatively low social class, especially when they are given negative evaluation from higher status group members. Furthermore, some researchers suggested that shame is elicited as a reminder of an individual's relative social rank, so that lower social rank people let other higher rank group members see that they are aware of the social rules. This eventually motivates them to behave in submissive ways, such as donating, cooperating, offering a gift, actively engaging with others, and not violating the norm behaviours (De Hooge, Breugelmans, & Zeelenberg, 2010; Gilbert, 2000; Gilbert & McGuire, 1998; Olthof, 2012).

Similarly, Gilbert (2000) demonstrated that shame is adaptive to the extent that it makes people appropriately repair their socially undesirable behaviours to keep their social status; however, when an individual repeatedly withdraws or avoid the consequences from shame experiences, shame becomes unhealthy (Gilbert & Andrews, 1998; Tangney & Dearing, 2002). It is also possible one reacts by externalizing (e.g., anger). Anger responses are involved because one thinks he or she is disapproved by others (Lewis, 1971; Tangney & Dearing, 2002), also because one often processes shame as a threat to one's sense of self-worth and self-efficacy. Expressing anger is likely to provide a short-term relief from the self-debilitating experience (Tangney et al., 1992), but responding with anger may cause further conflicts with others; which can affect one's social relationships afterwards.

Therefore, a deciding factor of functionality of shame highly depends on whether one behaves prosocially, or with a withdrawal, or externalizing approach due to the shame. According to the secondary appraisal model of self-conscious emotions (Muris & Meeters, 2014), no correlation between shame and psychopathological symptoms results, if prosocial approach behaviours are taken after the experience of shame. Supporting this viewpoint, Dempsey (2017) suggested that the intensity of shame and guilt does not decide their adaptability; rather, it is how the individual responds accordingly. In other words, it is how people cope and behave that are maladaptive, not the emotion itself.

In summary, both perspectives view guilt as a prosocial and moral emotion that motivates reparative behaviours in privately experienced transgression or failure. However, the views on shame are notably different. The social-adaptive perspective describes shame as maladaptive because the negative self-evaluation pattern is hard to change, which makes shame more profound and painful. Also, feeling small and worthless due to public scrutiny by others lead to withdrawal behaviours. Functionalists believe that shame is adaptive since it motivates prosocial behaviours, but it can be maladaptive when withdrawal or externalizing behaviour responses are taken. Because of these dichotomous views, shame measurements often have different interpretations of shame.

#### 1.4 Measurement of Shame and Guilt

Many researchers have developed measurements assessing dispositional tendencies to shame and guilt. Having the predisposition to experience shame and guilt in an array of situations, shame or guilt-prone individuals would be more susceptible to experiencing shame and guilt than other less prone individuals would. Tangney and her colleagues (2007) stated that "... shame-prone people are inclined to anticipate shame in response to a range of potential behaviours and outcomes. In turn, shame-prone individuals are also inclined to experience shame as a consequence of a range of actual failures and transgressions." One of the most widely used shame- and guilt-proneness assessments derived from the social-adaptive framework is the Test of Self-Conscious Affect-3 (TOSCA-3; Tangney, Dearing, Wagner, & Gramzow, 2000). It assesses a participant's self-reported likelihood of different affective, cognitive, and behaviour tendencies in scenarios of personal blame-worthiness. Participants are asked to picture themselves in 11 situations (e.g., breaking something at work and hiding it or forgetting a date with friends), and express their response likelihood in various ways that represent guilt, shame, externalization and detachment. The TOSCA-3 measures one's appraisal and behavioural patterns that link shame with negative self-evaluation and withdrawal behaviour, and guilt with negative behaviour-evaluation that motivates reparative behaviour. Based on this method of measurement, the TOSCA-shame is likely to be inherently maladaptive and guilt is adaptive. Tangney and Dearing (2002) described that shame-proneness is more maladaptive than guilt since shame-prone people tend to criticise themselves which eventually induce withdrawal behaviours from their transgressions or failures. As stated earlier, these behaviours are likely to cause social isolation, while guilt-proneness encourages people to repair their wrongdoings by confessing or apologising. Luyten, Fontaine, and Corveleyn (2002) and Fontaine et al. (2001) showed that the TOSCA-guilt items are strongly loaded to measuring motivation to make repair and amend one's misdeed (e.g., tendency to repair, or regret), compared to negative feelings of guilt. They also described that the shame items are highly focused on maladaptive and negative aspects of the self, compared to the desire to hide or escape. Numerous interpretations of results

of the TOSCA-shame have indicated that shame-proneness is more correlated with psychological symptoms (e.g., depression and social anxiety) and negative interpersonal traits (e.g., lack of empathy), than guilt-proneness is with those variables (Stuewig & McCloskey, 2005; Stuewig, Tangney, Hiegel, Harty, & McCloskey, 2010; Tangney & Dearing, 2002; Tangney et al., 2007).

Although the TOSCA-3 has been most widely used in measuring shame- and guiltproneness, it has been criticised due to these limitations. Because of its view on shame and guilt, the TOSCA guilt scores are biased towards socially adaptive responses (Cibich et al, 2016; Dempsey, 2017; Giner-Sorolla, Piazza, & Espinosa, 2011, Wolf et al., 2010). For example, some of the responses of shame are "You would feel stupid", or "You would think: 'I'm inconsiderate" or "You would feel small like a rat". In contrast, guilt responses are "You would think: 'I should have studied harder'", or "You would think you should make it up to your friends as soon as possible" or "You would apologise and talk about that person's good points". The problem is, people are conditioned by social norms to apologise or make up to people when offences have been committed. These conditioned behaviours tend to appear in order to amend interpersonal relationships, whether one genuinely feels guilty or not, or even when one does not agree that there was any harm caused (Giner-Sorolla, et al., 2011). People are motivated to repair their relationships, which make guilt seem adaptive (Ferguson & Crowley, 1997; Ferguson & Stegge, 1998). Furthermore, a confirmatory factor analysis study found that the TOSCA guilt scales do not contain items that are commonly used for guilt-proneness in other measures (Ferguson & Crowley, 1997). In support of this, Kugler and Jones (1992) demonstrated that there was a stronger correlation between guilt items of the TOSCA-3 and the sense of ethical values, than guilt items with the actual feeling of guilt. In measuring shame, the TOSCA-shame only measures avoidance as being representative of shame (Cibich et al, 2016). Andrews and

colleagues (2002) stated that the TOSCA-shame responses biases participants towards avoidance behaviour responses by asking, "You would keep quiet and avoid the co-worker." They suggested that responses such as, "Have you avoided contact with anyone who knew you said something stupid?" would be better indicators of shame. In other words, one may feel intense and unbearable shame, but not necessarily withdraw or avoid the situation. Therefore, withdrawal behaviours play a significant role in determining the functionality of shame.

Tangney and Dearing (2002) found strong and positive correlations between the TOSCAshame and psychopathological symptoms, in their study using healthy young participants with the Symptom Checklist 90 test (SCL-90; Derogatis, Lipman, & Covi, 1973). Shame was positively related with symptoms such as somatization, paranoid ideation, obsessive-compulsive disorder, psychoticism, interpersonal sensitivity, hostility, anxiety disorders, and depression. In contrast, guilt was unrelated or negligibly related to those symptoms. Moreover, other studies have shown similar correlations between the TOSCA-shame and psychopathological symptoms, namely, depression (Allan, Gilbert, & Goss, 1994; Kim, Thilbodeau, Jorgensen, 2011; Tangney, et al., 2007), social anxiety disorder (Cândea & Szentagotai-Tăta, 2018; Fergus, Valentiner, McGrath, & Jencius 2010; Gilbert & Miles, 2000), eating disorders (Keith, Gillanders, & Simpson, 2009), and borderline disorder (Ruschet, Lieb, Gottler et al., 2007; Scheel, et al., 2013).

In contrast, these correlations with shame-proneness and psychological symptoms found in the TOSCA-3 were not found in a recent study with a newer scale, the Guilt and Shame Proneness scale (GASP; Cohen et al., 2011). The GASP contains 16 scenarios describing shameand guilt-inducing situations. A major difference between the GASP and TOSCA-3 is the separation of subscales of self-appraisal and behaviour tendency for each emotion. While the TOSCA-3 confounds appraisal and behavioural tendencies of shame and guilt, the GASP contains four subscales to measure the two tendencies separately. The subscales are shamenegative self-evaluations (NSEs), shame-withdrawal, guilt-negative behaviour-evaluations (NBEs), and guilt-repair. Shame-NSE items measure tendencies of feeling bad about one self after a misdeed (e.g., "you would feel like a bad person"), and shame-withdrawal items measure withdrawal tendencies about the situation or person involved (e.g., "you would avoid the guests until they leave"). Guilt-NBEs items assess one's tendency of feeling bad about one's behaviour (e.g., "you would feel that the way you acted was pathetic"), and guilt-repair items assess tendencies of un-doing one's act or compensating for transgression. The purpose of having four subscales is that many theories and empirical studies have demonstrated the importance of differentiating emotional responses and behavioural responses. Fishbein and Ajzen (1975) stated that attitudes and intentions can be differentiated theoretically, and Wolf and colleagues (2010) found the differences empirically by conducting a study which showed a higher tendency to respond with NSE than with withdrawal behaviours in shame situations.

Based on the functionalist framework of different behaviour responses such, as repair and withdrawal, Cohen and colleagues (2011) emphasised the importance of separating emotional and behavioural responses. In their study, the correlations for disposition tendencies towards ethical negotiation tactics were notably different between the two GASP shame subscales. The NSE was negatively correlated with antisocial and unethical behaviours, including attacking an opponent's network, false premises, and misrepresentation, whereas withdrawal tendency was positively correlated with those variables. In addition, NSE, NBE, and repair tendency were all positively correlated with empathic concern, while withdrawal tendency showed a significant negative correlation. Moreover, only withdrawal tendency was positively correlated with anger, physical aggression, and hostility. Surprisingly, in contrast to the many studies on positive

correlations between the TOSCA-shame and depressive symptoms (Kim et al, 2011), both NSE and withdrawal scales were not significantly correlated with depressive symptoms directly. However, a mediating effect between NSE and depressive symptoms via a relationship with rumination was revealed. They found that higher tendency of NSE was significantly related with more rumination, which was ultimately associated with higher depressive symptoms. This points out that NSE may not be detrimental to mental health in itself, but it may be when it is ruminated upon. Furthermore, a study of Tangney and Dearing (2002) found that the TOSCA's shameproneness and empathic concern were positively correlated, ranging from .17 to .24. Based on their conceptualization of shame as maladaptive, shame would have been negatively correlated with empathic concern.

#### 1.5 The present study

Research has shown that emotional and behavioural tendencies towards external experiences should be separated (Fishbein & Ajzen, 1975; Wolf et al., 2010). Although it is one of the major measures for shame- and guilt-proneness, the TOSCA-3 has been criticised for combining self-evaluation and behavioural response tendencies towards shame and guilt experiences. Therefore, Cohen and colleagues (2011) developed the GASP scale, which emphasised the importance of measuring self-evaluation and behavioural tendencies separately. Specifically, they revealed that the correlations between shame, psychological symptoms, and interpersonal traits differ depending on whether an individual has an evaluation or behavioural tendency. These results were noticeably different from correlations found in other studies when shame-proneness was measured by the TOSCA-3. It remains to be investigated whether these differing correlations will occur when shame- and guilt-proneness are measured by two tests in a single study. The primary purpose of the current research was to replicate aspects of the GASP study and to extend

investigation of differences between the two the GASP and the TOSCA-3 measurement, in relation to depression and empathy. While other studies have investigated the GASP scale, none have yet to address this specific issue (Bottera, 2019; Carpenter, Tignor, Tsang & Willett, 2016; Porter, Zelkowitz, Gist, & Cole, 2019; Wallace, 2013). Therefore, it is important to replicate the GASP findings with regards to empathy and depression.

Several studies have shown positive correlations between shame measured by the TOSCA-3 and social anxiety, yet this analysis has not been conducted with the GASP. Given social relationships are an essential part of human life due to us being social creatures, social anxiety disorder can be fatal to one's life. Social anxiety disorder is a persistent and extreme fear associated with social or performance situations that can occur when individuals are exposed to other people or to possible scrutiny by others (American Psychiatric Association, 2013). People tend to suffer for a long time, thus impairing their quality of life, specifically their general health, social functioning and emotional health (Wittchen & Beloch, 1996). Based on the national mental health survey from Australian Bureau of Statistics (2009), one fourth of the population have experienced at least one mental illness. The most prevalent was anxiety disorders at 14.4%, with social anxiety disorder being the second most prevalent disorder (4.7%). Shame and social anxiety symptoms share common features. Significant apprehension accompanied by increased self-consciousness on performance in front of others, as well as fear of how you would be seen and scrutinised by others are often observed in both shame situations and individuals with social anxiety disorder (Tangney & Fischer, 1995). In addition, people tend to withdraw from social situations or tolerate them with high level of stress (American Psychiatric Association, 2013). Accordingly, social anxiety is expected to correlate with both NSE and withdrawal tendencies in the GASP scale.

In a similar vein, the withdrawal tendency is expected to correlate with depressive symptoms, but not NSE. Although Cohen and colleagues did not find significant correlations, withdrawal was positively correlated with depressive symptoms, while NSE was negatively correlated, but only weakly. Some cognitive theories of depression state that depression is not inherently tied to negative self-evaluation. Therefore, since the GASP measures negative self-evaluation in response to scenarios, NSE may not be correlated or strongly related to depression as a measure of chronic shame. Furthermore, social reinforcement theory of depression suggests that the tendency to withdraw is correlated to depression but not thinking negatively about the self, since withdrawal tendency reduces positive social reinforcement. Eventually, this will not only produce and sustain depressive symptoms, but also worsen those symptoms (Carvalho & Hopko, 2010). Depressive symptoms are likely to occur when 'bad self' is regularly ruminated on, via repetitive negative thinking style about the causes, situational factors, and consequences of one's negative emotional experience (Nolen-Hoeksema, 1991; Nolen-Hoeksema, 2000; Ruscio, Gentes, Jones et al., 2015).

A positive correlation between NSE and empathy is expected according to the functionalist view on NSE with reparative nature. When people feel shame, one considers other people's points of view to behave with other-oriented actions, thus repairing relationships or threatened social self (Dempsey, 2017). The GASP study also found a positive correlation between NSE and empathy. In light of these relationships, the hypotheses tested in this study are as follows.

 The TOSCA shame-proneness and GASP withdrawal scale will be positively correlated with depressive and social anxiety symptoms, while being negatively related with empathy.

- 2. The GASP NSE will not be correlated with depressive symptoms, but will be positively correlated with empathy and social anxiety symptoms.
- 3. NSE will be indirectly associated with depressive symptoms through rumination.

#### Method

#### 2.1 Participants

Participants were 190 students recruited from the University of Adelaide. Inclusion criteria specified that participants had to be fluent in English and aged 18 and above. Seventy-three participants (38%) did not complete the survey, leaving 116 participants. Of these, 9% were first year psychology students, and the remaining were current students in various majors and year levels. Mean age was 25.84 (*SD*=10) with a range of 18-68 and 70% were female (n=81), 29% male (n=34), and 1% other (n=1). English was the first language spoken for 80%, with various languages represented by other participants (e.g., Chinese, Vietnamese, Urdu, Tagalog, and Korean).

#### 2.2 Procedure

The study was approved by the Human Research Ethics Sub-Committee of the School of Psychology (19/44). First-year psychology students were recruited through the Research Participation System in the School of Psychology. All remaining participants were recruited via the Unified website, or by posts on Facebook. The survey was conducted online via SurveyMonkey and was approximately 30 minutes long. Participants' cooperation was voluntary and were given the opportunity to win one of two \$50 gift card. Additionally, 0.5 course credit was given to all first-year psychology students.

#### 2.3 Measures

*Demographic information*. Participants provided information regarding gender, age, country of birth, first language, and their degree and year of current enrolment.

Test of Self-conscious Affect-3 (TOSCA-3; Tangney & Dearing, 2002). This instrument is one of the most widely used measures of shame- and guilt-proneness. The TOSCA-3 includes 11

potential thought and behavioural responses, towards shame, guilt, externalization, pride, and detachment scenarios. Based on hypothetical scenarios, participants rate the likelihood of each response rating from 1 (*not likely*) to 5 (*highly likely*). For the purpose of the study, only shame-and guilt-proneness scales were used. Cronbach's alpha value of the TOSCA-3 tends to range from .60 to .80 (Cohen et al., 2011). The TOSCA-3 showed .85 for shame and .75 for guilt test-retest reliability in the original study of the TOSCA-3.

Guilt and Shame-Proneness Scale (GASP; Cohen, Wolf, Panter & Insko, 2011). This is a recent measure of predisposition towards guilt and shame in response to scenarios, divided into appraisal and motivational subscales. Four sub-scales consisting of four items are as follows: negative self-evaluations (NSE), negative behaviour evaluations (NBE), shame-withdrawal, and guilt-repair. For 16 scenarios, participants rate the likelihood of the indicated response on a Likert scale ranging from 1 (very unlikely) to 7 (very likely). The NSE items indicate a tendency to appraise the self negatively in transgressions, using items, such as "What is the likelihood that this would make you feel like a bad person?" ( $\alpha = .63, .67$ ). The NBE items measure a tendency to negatively appraise behaviour in transgression, such as "What is the likelihood that you would feel that the way you acted was pathetic?" ( $\alpha = .69, .71$ ). The shame-withdrawal scale items measure avoidance of others as a response, such as "What is the likelihood that you would avoid the guests until they leave?" ( $\alpha = .66, .63$ ), while the guilt-repair scale measures a response tendency by adjusting wrongdoing (e.g., "what is the likelihood that this would lead you to become more responsible about attending school?' ( $\alpha = .61, .62$ ). Other studies have found alpha values ranging from .60 to .80 (Bottera, 2019; Porter, Zelkowitz, Gist, Cole, 2019). In terms of validity, both shame sub-scales, NSE and withdrawal tendency positively correlated with neuroticism (r = .18 and r = .23, respectively) and personal distress (r = .13 and r = .31) and

negatively correlated with self-esteem (r = -.08 and r = -.27). For the guilt scales, both were correlated with constructs related to prosocial behaviours (perspective taking r = .29, r = .29, conventional morality r = .57, .43, and empathic concern r = .37 and r = .33), as other guilt measure similarly showed (Cohen et al., 2011).

Social Interaction Anxiety Scale (SIAS; Mattick & Clarke, 1998). This 20-item measure evaluates distress caused by different interpersonal situations. Items are measured using a 5-point Likert scale from 0 (*Not at all true of me*) to 4 (*extremely true of me*). This scale has good psychometric properties consisting good internal consistency (Cronbach's  $\alpha = .93$ ) and high testretest reliability over 12 weeks (r = .92).

*Center for Epidemiologic Studies-Depression scale (CES-D; Radloff 1997).* This is a screening instrument to measure the severity of depressive symptoms. Twenty questions ask several depressive symptoms, focusing on the affective components of depression, within the past week. Participants will answer 20 questions by indicating with 4-point frequency scale from 0 indicating rarely or none of the time (*less than one day*), and 3 indicating most or all of the time (*5-7days*). Questions are categorised with four types of negative affect, positive affect, interpersonal problems, and somatic symptoms. It has good internal consistency, with alpha ranging from .85 to .95. It is significantly correlated with similar tests such as the Trait Anxiety Inventory and Beck hopelessness Scale. Several studies using confirmatory factor analysis have supported its validity (Cosco, Prina, Stubbs & Wu, 2017; Juang, Wang, Zhang et al., 2019; Yang, Jua & Qin, 2015)

*Rumination Responsive Scale* (RRS; Treynor, Gonzalez & Nolen-Hoeksema, 2003). This scale is one of the most commonly used measurements for rumination, made up of two sub-scales; reflection and brooding. Participants demonstrate the frequency of rumination, using a 4-

point Likert scale. Only the five brooding items were used, because it is considered a more dysfunctional aspect of rumination, and the brooding items were highly associated with depression-related items (Treynor et al., 2003; Whitmer & Gotlib, 2011). An internal consistency of  $\alpha$  =.77 and test-retest correlation (r =.62) was found (Treynor et al., 2003). The RRS positively correlated with State-Trait Anxiety Inventory and Beck Depression Inventory (Whitmer & Gotlib, 2011; Ruiz, Falcon, Sierra et al., 2017).

Interpersonal Reactivity Index (IRI; Davis, 1980). Consisting of 28 items, the IRI is aimed to measure dispositional empathy. Items are assessed on a 5-point scale (0 = Does not describe me well to 4 = Describe me well). The three subscales: Perspective taking (PT), Empathic concern (EC), and Personal distress (PD), were used, and each are made of seven different items. In this study, 21 questions except the Fantasy scale was used since the Fantasy scale is often difficult to characterise as part of empathy (Baron-Cohen & Wheelwright, 2004; De Corte, Buysse, Vertofstadt, Roeyer, Ponnet & Davis, 2007). PT measures the tendency that individuals spontaneously adopt the view of others, and EC measures the tendency to otheroriented feelings and concern for others. PD assesses self-oriented feelings of anxiety and discomfort in interpersonal settings. Cronbach's alpha for the IRI ranges from .70 to .78 and each subscale has alpha values of .75 (PT), .80 (EC) and .76 (PD). Test-retest reliabilities range from .61 to .81 (Davis, 1980).

#### 2.4 Data Analysis

To measure an estimated sample size, statistical power analysis with G\*power (Version 3.1; Faul, Erdfelder, Lang & Buchner, 2007) was completed. Based on the GASP study (Cohen et al, 2011), in which mean correlation between variables of interest was .25, and power of .80, the projected sample size needed was approximately 123.

T-tests were used to compare the means for gender across measures used in the study, and Pearson correlations were used to measure the relationship between study measures. Also, to determine whether there was a difference in strength of correlation between NSE and withdrawal in relation to depressive symptoms, social anxiety symptoms, perspective taking, and empathic concern, Hotelling's t-test was used. Lastly, a mediation analysis was conducted to test the indirect relationship between NSE and depressive symptoms through its relationship with brooding, by the PROCESS version 3 for macro SPSS (Hayes, 2018).

#### Results

#### 3.1 Data Screening

Normality of study variables was assessed graphically through histograms, Q-Q plots and significance testing. Histograms suggested that variable distributions were normal; however, a Shapiro-Wilk test demonstrated only depressive symptom scales and personal distress were normally distributed. Given the large sample size and that normality tests tend to be overly sensitive, data were regarded as normally distributed. To identify outliers, the Interquartile range (IQR) with a multiplier of 2.2 was used based on the method of Hoaglin, Iglewicz & Tukey (1986) and Hoaglin & Iglewicz (1987). In this method, a multiplier of 2.2 is applied on values in the 25<sup>th</sup> and 75<sup>th</sup> percentile to measure lower and upper limits. One extreme outlier was modified to the second smallest value, which was not an outlier, based on a winsorization approach. Using scatterplots, linear relationships were assessed. Relatively strong, positive and linear associations were found between TOSCA shame and psychological symptoms, while the two GASP shame scales showed weak, positive and linear associations. For empathy measures, except withdrawal tendency (negative), both TOSCA-shame and NSE showed weak and positive linearity. In general, scatterplots showed weak, positive, linear association between both guilt scales of the GASP, TOSCA guilt, and empathy.

#### **3.2 Descriptive statistics**.

Table 1 presents descriptive statistics and internal consistency for all variables. Given both the shame and guilt prone tests are scenario-based, alpha values of .60 are acceptable (Tangney & Dearing, 2002). The TOSCA-3 had good reliability. However, the two guilt scales and withdrawal tendency of the GASP showed low internal consistency, except NSE which had good internal consistency. Mean values for each question were compared to examine whether certain questions had noticeably low means, expecting low interpretability in Australian culture. The results showed all withdrawal questions had lower means than other questions with an average of 3.4 (SD = 1.2).

T-tests were used to compare the effect of gender on all measures used in the study. Only male and female participants were considered due to small number of participants for other. Females showed significantly higher mean values on the TOSCA guilt, t(113)= -4.00, p < .001, and TOSCA shame, t(113) = -3.85, p < .001. For the GASP scale, females also showed significantly higher mean values with NBE, t(113) = -2.88, p < .005, repair, t(113) = -2.56, p = .012, and NSE, t(113) = -3.10, p = .026. Furthermore, brooding, t(113) = -2.26, p = .026, and empathic concern, t(113) = -2.94, p = .004, also showed higher mean values for females. Withdrawal and social anxiety symptoms showed no significant differences.

The result of Pearson correlations between age and test measures used in the study showed that the older one gets, the higher repair scores one has (r = .20). Correlations of age with other scales were non-significant.

### Table 1

Variables	Total		Male		Female		Other	α
	( <i>n</i> = 116)		( <i>n</i> = 34)		( <i>n</i> = 81)		( <i>n</i> = 1)	
	М	(SD)	М	(SD)	М	(SD)	М	
TOSCA-S	37.97	(7.33)	34.17	(6.99)	39.62	(6.91)	33	.78
TOSCA-G	47.06	(4.60)	44.58	(5.33)	48.13	(3.84)	44	.64
GASP-NSE	5.8	(1.1)	5.41	(1.01)	6.02	(1.08)	5.25	.69
GASP-W	3.4	(1.2)	3.39	(1.31)	3.44	(1.16)	4.75	.60
GASP-NBE	5.4	(1.11)	5.05	(1.03)	5.67	(1.06)	5.25	.57
GASP-R	5.6	(.90)	5.32	(.81)	5.78	(.91)	4.75	.54
CES-D	24.59	(12.57)	21.44	(11.82)	26.02	(12.72)	5	.92
Brooding	13.38	(3.46)	12.29	(3.80)	13.86	(3.21)	0	.80
SIAS	38.72	(17.51)	34.73	(15.41)	40.61	(18.12)	1	.94
IRI-EC	20.50	(5.22)	18.35	(6.12)	21.43	(4.56)	8	.85
IRI-PT	18.44	(4.93)	18.05	(4.01)	18.60	(5.31)	19	.79
IRI-PD	13.74	(5.12)	12.47	(5.48)	14.28	(4.92)	13	.79

## Descriptive Statistics and Cronbach's Alphas

*Note.* GASP = Guilt and Shame Proneness scale; NSE = negative self-evaluation; NBE = negative behavioural-evaluation; W = withdrawal scale; R = repair scale; TOSCA-S = Test of Self-Conscious Affect-3 shame; TOSCA-G = guilt; CES-D = Center for Epidemiologic Studies Depression Scale; RRS = Rumination Responsive Scale; SIAS = Social Interaction Anxiety Scale; IRI = Interpersonal Reactivity Index; EC = empathic concern; PT = perspective taking; PD = personal distress. Table 2 shows correlations between the TOSCA-3 scales and GASP scales. Pearson correlations revealed that the TOSCA shame and two GASP shame scales, NSE (r = .48, p < .001) and withdrawal (r = .39, p < .001), were positively correlated. Also the TOSCA guilt and two GASP guilt scales, NBE (r = .34, p < .001) and repair (r = .46, p < .001) showed positive correlations. TOSCA-shame and guilt were positively correlated. Withdrawal tendency was not significantly correlated with NSE. NSE was positively correlated with NBE and repair scales.

#### Table 2

Measure	TOSCA-S	TOSCA-G	GASP-NSE	GASP-W	GASP-NBE
TOSCA-G	.37**				
GASP-NSE	.48**	.42**			
GASP-W	.39**	08	.08		
GASP-NBE	.30**	.34**	.63**	.11	
GASP-R	.18	.46**	.48**	02	.44**

Correlations between the GASP and TOSCA-3 scales.

*Note.* \*\**p* < .01 \**p* < .05

#### **3.3** Comparison of the GASP and TOSCA scales

Correlations of the TOSCA-3 and the GASP in relation to psychological symptoms and empathy were conducted using Pearson's correlations. Hypothesis 1 was that the TOSCA shame and the GASP withdrawal scale would be positively correlated with depressive and social anxiety symptoms, and negatively related with empathic concern. This was partially supported. As shown in Table 3, the TOSCA shame showed statistically significant and positive correlations with depressive symptoms (r = .47, p < .001), social anxiety symptoms (r = .47, p < .001), and empathic concern (r = .19, p = .041). The GASP withdrawal also showed positive correlation with depressive symptoms (r = .31, p = .001) and social anxiety symptoms (r = .37, p < .01). Although the correlation was not statistically significant, the observed direction of the GASP withdrawal and empathic concern was negative (r = .03, p = .744). As opposed to the first hypothesis, the TOSCA shame was positively related with empathic concern.

To the contrary, TOSCA-guilt, GASP-NBE, and Repair sub-scales were not significantly related to depressive and social anxiety symptoms, but they were relatively strongly correlated with empathic concern. For empathic concern, moderate correlations were found with NBE (r = .38, p < .001), and repair (r = .32, p < .001). These observed correlations were similar to the reported correlations from the original GASP study; NBE (r = .26, p < .05), and repair tendency (r = .33, p < .05).

Hypothesis 2 related to how GASP NSE would correlate differently for depressive symptoms, social anxiety symptoms, and empathic concern. It was expected that the GASP NSE would not be correlated with depressive symptoms, but it would be positively correlated with empathic concern and social anxiety symptoms. Positive correlations of NSE in relation to empathic concern (r = .27, p = .003) and social anxiety symptoms were observed, consistent with the hypothesis. However, contrary to this hypothesis, NSE was also positively related with depressive symptoms.

Due to the close link between depression and social anxiety symptoms (r = .58, p < .001), partial correlations were computed for more precise results. The results demonstrated that NSE and withdrawal tendency were no longer correlated with depression, when social anxiety was controlled for (r = .053, p = .574, and r = .129, p = .169, respectively). Yet, when depression symptoms were controlled, NSE and withdrawal tendency were still significantly correlated with social anxiety (r = .20, p = .032, and r = .24, p = .009).

## Table 3

Bivariate Correlations of the GASP and TOSCA scale with different Measures

Measure	TOSCA-S	TOSCA-G	GASP-NSE	GASP-W	GASP-NBE	GASP-R
Depressive	.47**	.15	.21*	.31**	.10	03
symptom						
(CES-D)						
Social	.47**	09	.30**	.37**	.18	.004
anxiety						
symptom						
(SIAS)						
Empathic	.19*	.39**	.27**	03	.38**	.32**
concern (IRI)						
Perspective	.10	.28**	.16	12	.19*	.34**
taking (IRI)						
Personal	.45**	.02	.18*	.30*	02	.03
distress (IRI)						
Brooding	.48**	.22*	.25**	.31**	.24**	.03
(RRS)						

*Note.* \*\*p <.01. \*p <.05

Hotelling's t-test for correlated correlations was used to determine whether there is a difference in strength of correlation between NSE and withdrawal tendency for depressive symptoms, social anxiety symptoms, empathic concern, and perspective taking. The results indicated significant differences between NSE and withdrawal tendency in correlations with empathic concern, (.27, -.03), t(113) = 2.46, p = .01, and perspective taking, (.16, -.12), t(113) = 2.21, p = .02. There were no significant differences with depressive and social anxiety symptoms. Compared to withdrawal tendency, the correlation between NSE, empathic concern and perspective taking were significantly larger.



*Figure 1.* The mediating effect of rumination in the relationship between NSE and depressive symptoms. Notes: \*p < .05, \*\*p < .01, \*\*\*p < .001; All presented effect are unstandardized; *a* is effect of NSE on rumination; *b* is effect of rumination on depressive; *c* is total effect of NSE on depressive symptoms.

To examine the third hypothesis, which investigated the relationship between NSE and depression via rumination as a mediator, the PROCESS macro for SPSS (Hayes, 2018) was conducted. Figure 1 shows that NSE is indirectly related to depression through its relationship with rumination. Specifically, one unit increase in NSE was associated with .20 higher rumination (a = .20, p = .008), and higher reported rumination was subsequently related to more

depressive symptoms (b = 2.23, p < .001). The indirect effect, using 95% bias corrected and accelerated confidence intervals (ab = .46) was significant (95%CI = .116, .861). To have an indepth look, a mediation regression was repeated using social anxiety symptoms instead of depression. A significant indirect effect of NSE on social anxiety symptoms by greater rumination was found (ab = .45, 95%CI=.099, .885). In addition, a mediation analysis for indirect effect was repeated for further evaluation, using social anxiety and depressive symptoms as covariates. Similar to the partial correlation results, when social anxiety symptoms were controlled, the associations between NSE and depression via rumination no longer existed (path c = .12, p = .620; path c' = -.03, p = .874). The indirect effect, using 95% bias corrected and accelerated confidence intervals (ab = .15), was non-significant (95%CI = -.062, .404). When depressive symptoms were controlled, a weakened indirect effect of NSE on social anxiety symptoms were confidence intervals (ab = .15), was non-significant (95%CI = -.062, .404). When depressive symptoms were controlled, a weakened indirect effect of NSE on social anxiety symptoms were controlled, a weakened indirect effect of NSE on social anxiety symptoms were controlled, a weakened indirect effect of NSE on social anxiety symptoms were controlled, a weakened indirect effect of NSE on social anxiety symptoms via rumination was observed (path c = .77, p = .018; path c' = .69, p = .034; path ab = .08, 95%CI = -.031, .281).
#### Discussion

Both the TOSCA shame and GASP withdrawal scales showed positive correlations with depressive and social anxiety symptoms. Supporting numerous studies on the relationship between the TOSCA shame and depression, this study also showed a strong positive correlation between the two variables (r = .47). According to previous studies, a range of effect sizes from .21 to .45 between the TOSCA shame and social anxiety symptoms is often found. Similarly, a strong correlation was observed in this study (r = .47). With respect to the NSE and withdrawal scales, significant positive correlations with depressive symptoms (r = .21 and r = .3, respectively) were found in the current study, as opposed to the reported correlations in the original GASP research (r = .03 and r = .12). Furthermore, both scales were moderately and positively correlated with social anxiety symptoms (see table 3).

Withdrawal behaviour tendency is potent in bringing about the maladaptive aspect of shame. As human beings are social animals, withdrawal behaviour tendency ultimately threatens one's survival purposes, causing a loss of social opportunities and isolation. One of the major behavioural aspects of social anxiety is withdrawal (Trew, 2010). Individuals tend to withdraw from social situations or tolerate them with high level of stress (American Psychiatric Association, 2013). In a similar vein, as understood through the lens of the social reinforcement theory of depression, withdrawal behaviour is related to depression since withdrawal tendencies reduce positive social reinforcement (e.g., smiles and compliments from others), and in turn, producing, sustained and worsening depressive symptoms (Carvalho & Hopko, 2010). Thus, the finding that both the TOSCA and GASP withdrawal scale positively correlated with depressive and social anxiety symptoms is not surprising. This therefore suggests that withdrawal behaviour is a maladaptive aspect of shame with regard to the two psychological symptoms.

Contrarily, it was hypothesised that NSE would not be correlated with depressive symptoms, according to the functionalist perspective that negative self-evaluation is not bad in itself. However, the hypothesis was only partially supported, revealing positive correlation with both depression and social anxiety. While Cohen and colleagues (2011) found non-significant correlation between NSE and depression, a positive correlation was found between the two variables in the present research (r = .21). Tangney and Dearing (2002) stated that self-blame (such as thinking of oneself as bad, worthless and inferior) has been theoretically and empirically linked to depression. In addition, Cohen and colleagues (2011) found NSE positively correlated with personal distress, neuroticism, and low self-esteem. Of these, low self-esteem is frequently portrayed as one of the susceptible characteristics to the onset and continuation of depressive symptoms (Orth & Robins, 2013). Vettese & Mongrain (2000) also suggested that self-critical individuals tend to promote depressive vulnerability. The maladaptive perspective of NSE is additionally supported given the correlation found between NSE and social anxiety symptoms in this study (r = .30). As social anxiety symptoms are self-conscious feelings (e.g., focusing on one's performance whilst being observed and fearing scrutiny or criticism), NSE shares common aspects with such symptoms. Self-criticism plays an important role in social anxiety. Most individuals with social anxiety are self-critical with high and perfectionistic standards for themselves, as a form of coping mechanism to avoid the risk of being publicly exposed as inadequate or defective (Shahar, Doron, & Szepsenwol, 2015). Moreover, mediation analysis supports the maladaptive aspect of NSE against the functionalist view. NSE predicts depressive symptoms through the relationship with rumination. In addition, the following mediation analysis between NSE and social anxiety via rumination was significant. In light of prior empirical and theoretical research as well as the overall results of the current study, NSE, like

withdrawal behaviour, may also be a risk and sustaining or strengthening factor in depressive and social anxiety symptoms, against the functionalist and Cohen and colleagues' argument.

Because of the high comorbidity of depressive and social anxiety symptoms (Ratnani, Vala, Panchal, Tiwari, Karambelkar, Sojitra, & Nagori, 2017), the effect of NSE and withdrawal scales on depression and social anxiety symptoms can differ when either symptoms are controlled. As expected, there were differences in the results, indicating a stronger effect for social anxiety symptoms on the NSE than with depression. Besides this, the results of repeated mediation analysis showed a weakened indirect effect of NSE on social anxiety symptoms via rumination when depressive symptoms were controlled. These results indicate NSE and social anxiety symptoms are more strongly tied than with depressive symptoms, suggesting a need to consider social anxiety symptoms when measuring the relationship between shame and depression. These outcomes were substantiated by Gilbert & Miles (2000), who revealed that self-blame is more strongly correlated to social anxiety symptoms (r = .64) than depressive symptoms (r = .57). The findings may mean that social anxiety is a chronic and extreme form of shame.

Given previous research, both the TOSCA guilt scale and the two GASP guilt scales were not expected to be significantly correlated with depressive and social anxiety symptoms. In the current study, no significant relationship was found for any scales, supporting the thoery that guilt is healthier than shame. Since the attribution styles of guilt focus on specific behaviour and repairing social relationships, people are likely to believe that the behaviour is changeable and reparable. Due to this, an array of studies have shown non-significant relationships with psychological symptoms, and have suggested guilt plays a more adaptive and healthier function than shame. Although excessive and persistent guilt is likely to correlate with mental health problems, these two measures are based on daily scenarios and beneficial for measuring nonclinical uses.

Empathic concern was measured as an interpersonal trait. In the study of Cohen and colleagues (2011), empathic concern was positively correlated with NSE (r = .26) and negatively correlated with withdrawal behaviour tendency (r = -.14). Consistent with this, similar correlations were observed in the current study (see Table 3). Despite its non-significance, a negative correlation was seen between withdrawal and empathy. NSE also showed a different relationship with perspective taking from withdrawal. Both correlations were not of statistical significance; however it is important to note, that while a negative direction was observed between withdrawal and perspective taking (r = -.12), a positive direction was found with NSE (r= .16). These results are comparable with the correlations from the original GASP study, showing perspective taking positively correlated with NSE (r = .10), and negatively correlated with withdrawal (r = -.12). It is also important to note that the two tendencies are distinct types of responses to shame experiences in relation to interpersonal traits. This might mean that negative self-evaluation is adaptive when it is related to interpersonal situation. The functionalist perspective suggests that emotions are developed to serve a survival purpose (Keltner & Gross, 1999). When individuals feel shame, they tend to feel their social relationship or social status is threatened. Because of this feeling, they put themselves in the other person's shoes to change negatively evaluated behaviour and ultimately repair the relationship. Therefore, NSE leads to the reparative behaviours with empathy, while withdrawal behaviours cause worse consequences such as social rejection. In contrast to the hypothesis, the TOSCA shame was positively correlated with empathic concern (r = .19). According to Tangney and Dearing (2002), shame

proneness was positively correlated with empathy (values ranged from .15 to .22), but when empathy was measured with guilt-free shame, all values were negatively correlated. Tangney and Dearing (2002) demonstrated that shame and guilt share similar characteristics, and so should therefore be measured via semipartial correlations or standardized residuals. As guilt focuses on specific behaviours, people with experiences of guilt are more likely to recognize the effects of that behaviour on others. This view is strengthened given the correlations found in various studies between guilt and empathy. Tangney and Dearing (2002) found effect sizes from .30 to .54; Cohen and colleagues found .37 between NBE and empathy, and .33 between repair and empathy; and in the current study, .38 between NBE and empathy and .32 between repair and empathy were found. Thus, once guilt is removed from shame, it is likely that empathy is negatively correlated with shame. Arguing against measuring guilt-free shame, Cohen and colleagues (2011) believe that measuring shame and guilt without sharing variance would not be meaningful, thus it should not be removed. This is due to the fact that if negative self-evaluation (an essential element of both guilt and shame) is removed, it will be changed to an entirely different construct. Furthermore, they suggested that the GASP subscales would examine separately in their raw rather than residual form. Thus, the positive correlation between the TOSCA shame and empathic concern in this study can be explained by the shared variance with guilt. On the other hand, it may also be as a result of the positive effect of NSE. The result from Hotelling's t-test support this view, revealing that NSE is more strongly correlated with empathy and perspective taking than with withdrawal, thus demonstrating the possible positive influence shame has. In addition, NSE was not significantly correlated with withdrawal, but positively correlated with NBE (r = .63) and repair (r = .48), indicating NSE's guilt is adaptive and healthy. In conclusion, the positive correlations between NSE, empathy, and perspective taking in this

study may indicate that NSE is adaptive for interpersonal traits. This is supported by Cohen and colleagues' study (2011). They found that NSE was positively correlated with agreeableness, conscientiousness, altruism facet, and conventional morality, while negatively correlated with anger, aggression, attacking an opponent's network, and unethical decision-making.

The reason for low internal consistencies of the GASP is unclear. Only NSE was .69, higher than the benchmark reliability for scenario based measures, while withdrawal was barely .60, NBE was .57, and repair was .54. This is lower than the internal consistency found in the GASP study, as well as alpha values reported in other studies (Boterra; 2019; Bryan, 2013; Carpenter et al, 2016). In the current study, more than 80% of participants were born in Australia and spoke English as their first language, and as such, adequate understanding of the items was assumed. Cultural difference was postulated as one of the possible reason for low internal consistency, since the GASP was developed in the United States. Based on the mean values for each question, items on the withdrawal scale had noticeably low means, when compared with the rest, possibly due to these questions not being well interpreted within Australian culture. Cohen and colleagues (2011) also found lower mean values for withdrawal questions compared to other scales, similar to the findings in this study. Therefore, cultural difference may not be accountable for low internal consistency. Another explanation could be the relatively small sample size compared to what power analysis predicted (123 participants) and other studies conducted with the GASP. Schönbrodt and Perugini (2013) suggested a critical effect size for correlation is obtained with a sample size of 250 with scenario-based measures. A sample size of 250 should be achieved in order to have reasonable accuracy and confidence. However, average inter-item correlations showed good internal consistency. Average inter-item correlation for NSE was .55; withdrawal was .41; NBE was .37; and repair was .36. Ideally, a set of items has an average

inter-item correlation between .20 and .40 (Piedmont, 2014). Inter-item correlations of more than .5 suggests questions are possibly repetitive. The results indicate good internal consistency for all scales, while NSE may be repetitive. The reasons for low internal consistency are still unclear.

To the researcher's knowledge, this was the first study comparing the two tests, the TOSCA-3 and GASP scales, in relation to depressive and social anxiety symptoms as well as empathy in a single study. In addition, it was the first attempt to utilize the GASP in Australia. A noteworthy limitation of this study is the small sample size, compared to previous studies. Another limitation may be that the two tests were developed to measure shame and guilt proneness based on everyday life experiences. Therefore, it may not be applicable to measure chronic or extreme shame and guilt. As Cohen and colleagues emphasised, the GASP measures a propensity towards shame and guilt experiences as emotional characteristics, rather than measuring emotional states like feeling of guilt and shame. It is important to take note that a high score on shame-proneness does not equate to consistent feeling of shame.

The current work examined the GASP with a sample of students from one Australian university. While the GASP has been used in the United States of America, it is important to investigate its utility in different cultural settings to examine whether there are differences or similarities in the reliability and other factors of the GASP. As many cross-cultural studies have shown, individuals from an Asian background experience guilt and shame differently than to those from a western background (Goetz & Keltner, 2007; Wong & Tsai, 2007). Continued research will help shed light on the GASP scale. Another imperative direction for future research is to replicate the study with different inventories for psychological symptoms and interpersonal traits to assess whether the negative self-evaluation functions differently in psychological functioning and interpersonal situations, as it was in this paper. Compared to the TOSCA-3, the GASP was able to measure NSE and withdrawal behaviours distinctively in psychological functioning but not for interpersonal traits. Therefore, the function of NSE needs to be further investigated in order to create more robust evidences. Future research could potentially examine the function of appeasement. Muris and Meeters (2014) stated appeasement as a pro-social aspect of shame may become maladaptive when this response repetitively occurs and becomes dominant, thus resulting in dysfunctional cognitions and restrained behaviours patterns that are a representation of depression and anxiety symptoms. When someone often appeases other people in social situations, it eventually lead to maladaptive function. It may be that he or she only focuses on how to make the other feel better to repair the relationship or sustain the social status, rather than evaluating the transgression and taking actions to change the misdeed. However, to the best of the researcher's knowledge, Muris and Metter (2014) have not discussed in detail what the function of appeasement is, nor have other studies. A correlational study for NSE and withdrawal tendency with appearement may help to further understand appearement. Additionally, investigating what factors would prevent repetitive appeasement would also be helpful to extend the understanding of shame.

Overall, the findings indicate that the GASP's two shame scales, NSE and withdrawal behaviour, measure two distinct aspects of shame. Withdrawal, as a maladaptive aspect, often relates to problematic mental health and negative interpersonal traits. Although Cohen and colleagues demonstrated NSE is a neutral or adaptive aspect of shame, this study found that people high in NSE are more likely to have high empathy and able to better understand other's perspectives in social situations. In addition, the NSE in this study demonstrated maladaptive features in psychological functioning, and moderate to strong correlations with depression and social anxiety symptoms. Similarly, people with high NSE are more likely to ruminate than those with low NSE, in turn increasing depressive and social anxiety symptoms. Interestingly, partial correlations indicated social anxiety is more strongly related with shame than depression, suggesting shame may be a chronic form of social anxiety. Similar to the original GASP study, people high in NBE and repair tendency tend to have positive interpersonal traits (e.g., empathy), and lower risk of depression and social anxiety symptoms.

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# Appendices

# Appendix A

# **Demographic Measure**

1. What is your age in years?

years

2. What is your gender?

□ Male

- □ Female
- $\Box$  Other
- $\hfill\square$  Prefer not to answer
- 3. What language is spoken at home?
  - $\Box$  English
  - □ Other (Please specify)
- 4. What is your country of birth? (Please specify)
- 5. What *degree* and *year* are you currently enrolled in?

Please specify degree and year

#### **Appendix B**

#### The Test of Self-Conscious Affect-3 (TOSCA-3)

Below are situations that people are likely to encounter in day-to-day life followed by several common reactions to those situations.

As you read each scenario, try to imagine yourself in that situation. Then indicate how likely you would be to react in each of the ways described. We ask you to rate *all* responses because people may feel or react more than one way to the same situation, or they may react different ways at different times.

For example:

You wake up early one Saturday morning. It is cold and rainy outside.

`		1 2 3	4 5
a)	You would telephone a friend to catch up on news.	not likely	very likely

In the above example, I have rated *all* of the answers by circling a number. I circled a "1" for answer (a) because I do not want to wake up a friend very early on a Saturday morning – so it is not at all likely that I would do that. I circled "5" for answer (b) because I almost always read the paper if I have time in the morning (very likely). I circled a "3" for answer (c) because for me it is about half-and-half. Sometimes I would be disappointed about the rain and sometimes I would not – it would depend on what I had planned. And I circled a "4" for answer (d) because I would probably wonder why I had awakened so early.

Please do not skip an item – rate all responses.

1.	You mak	e pla	ins to	meet o	a friei	nd fo	r lunch	1. At 5	0	clock,	, you r	ealize	you stoo	d your	friend	' up.
----	---------	-------	--------	--------	---------	-------	---------	---------	---	--------	---------	--------	----------	--------	--------	-------

a)	You would think: "I'm inconsiderate".	1 2 3 4 5
b)	You'd think you should make it up to	not likely very likely
	your friend as soon as possible.	1 2 3 4 5 not likely very likely
c)	You would think: "Well, my friend will	

understand".	understand .	not likely	verv likelv
	understand"	1 2 3	4 5
)	You would think: "Well, my friend will		

2. You break something at work and then hide it.

a)	You would think: "This is making me anxious.	1 2 3 4 - not likely	5 verylikely
	I need to either fix it or get someone else to".	1 2 3 4 -	5
b)	You would think about quitting.	not likely y	very likely
c)	You would think: "A lot of things aren't	1 2 3 4 -	5
	made very well these days".	not likely	very likely

3. At work, you wait until the last minute to plan a project, and it turns out badly.

a)	You would feel incompetent.	1	2	1	22	3	2	- 4	4	5
b)	You would think: "There are never enough	not likely								very likely
	hours in the day".	1 not likely	2	2	225	3	7	- 1	4	5 very likely
c)	You would feel: "I deserve to be reprimanded									
	for mismanaging the project".	1 not likely	- 2	2 .		3	28		4	<mark>5</mark> very likely

4. You make a mistake at work and find out a coworker is blamed for the error.

a)	You would think the company did not like the	1 2 3 4	5
	coworker.	not likely	very likely
b)	You would keep quiet and avoid the coworker.	1 2 3 4 not likely	5 very likely
c)	You would feel unhappy and eager to correct		
	the situation.	1 2 3 4 not likely	<mark>5</mark> very likely

5. While playing around, you throw a ball and it hits your friend in the face.

a)	You would feel inadequate that you can't	
	even throw a ball.	1 2 3 4 5 not likely very likely
b)	You would think maybe your friend needs	1 2 3 4 5 not likely very likely
	more practice at catching.	10. I I
c)	You would apologize and make sure your	1 2 3 4 5
	friend feels better.	not likely very likely

### 6. You are driving down the road, and you hit a small animal.

a)	You would think the animal shouldn't have been	1 2 3 4 5	
	on the road.	not likely very likely	
b)	You would think: "I'm terrible".	1 2 3 4 5 not likely very likely	
c)	You'd feel bad that you hadn't been more		
	alert driving down the road.	1 2 3 4 5 not likely very likely	

7. You walk out of an exam thinking you did extremely well. Then you find out you did poorly.

a)	You would think: "I should have studied harder".	1 2 3 4	5
b)	You would think: "Well, it's just a test".	not likely	very likely
c)	You would feel stupid.	1 2 3 4 not likely	very likely

1	2	-	-	3	2	2	4		5
not likely								very	likely

8. While out with a group of friends, you make fun of a friend who is not there.

a)	You would feel smalllike a rat.	1 2 3 4	5
b)	You would think that perhaps that friend should	not likely	very likely
	have been there to defend him/herself.	1 2 3 4 not likely	5 very likely
c)	You would apologize and talk about that person's		
	good points.	1 2 3 4 not likely	<mark>5</mark> very likely

9. You make a big mistake on an important project at work. People were depending on you, and your boss criticizes you.

a)	You would think your boss should have been	1 2 3 4 -	- 5	
	more clear about what was expected of you	not likely ve	very likely	
	more crear about what was expected of you.	1 2 3 4 -	- 5	
b)	You would feel like you wanted to hide.	not likely ve	ery likely	
c)	You would think: "I should have recognized			
	the much low and down a better is h?	1 2 3 4 -	- 5	
	the problem and done a better job".	not likely v	ery likely	

10. You are taking care of your friend's dog while your friend is on vacation and the dog runs away.

a)	You would think, "I am irresponsible and	1 2 3 4	5
	· · · · · · · · · · · · · · · · · · ·	not likely	very likely
	incompetent".	1 2 3 4	5
b)	You would think your friend must not take very	not likely	very likely
	good care of the dog or it would not have run		
		1 2 3 4	5
	away.	not likely	very likely

- c) You would vow to be more careful next time.
- 11. You attend your coworker's housewarming party and you spill red wine on a cream-coloured carpet, but you think no one notices.

a)	You would stay late to help clean up the stain	1 2 3 4 5 not likely very likely
	after the party.	1 2 3 4 5
b)	You would wish you were anywhere but at the	not likely very likely
	party.	1 2 3 4 5
c)	You would wonder why your coworker chose	not likely very likely

c) You would wonder why your coworker choseto serve red wine with the new light carpet.

#### Appendix C

#### The Guilt and Shame Proneness Scale (GASP)

*Instructions*: In this questionnaire you will read about situations that people are likely to encounter in day-to-day life, followed by common reactions to those situations. As you read each scenario, try to imagine yourself in that situation. Then indicate the likelihood that you would react in the way described.

1	2	3	4	5	6	7
Very Unlikely	Unlikely	Slightly Unlikely	About 50% Likely	Slightly Likely	Likely	Very Likely

1. After realizing you have received too much change at a store, you decide to keep it because the salesclerk does not notice. What is the likelihood that you would feel uncomfortable about keeping the money?

2. You are privately informed that you are the only one in your group that did not make the honor society because you skipped too many days of school. What is the likelihood that this would lead you to become more responsible about attending school?

3. You rip an article out of a journal in the library and take it with you. Your teacher discovers what you did and tells the librarian and your entire class. What is the likelihood that this would make you would feel like a bad person?

4. After making a big mistake on an important project at work in which people were depending on you, your boss criticizes you in front of your coworkers. What is the likelihood that you would feign sickness and leave work?

\_\_\_\_\_ 5. You reveal a friend's secret, though your friend never finds out. What is the likelihood that your failure to keep the secret would lead you to exert extra effort to keep secrets in the future?

6. You give a bad presentation at work. Afterwards your boss tells your coworkers it was your fault that your company lost the contract. What is the likelihood that you would feel incompetent?

\_\_\_\_\_\_7. A friend tells you that you boast a great deal. What is the likelihood that you would stop spending time with that friend?

8. Your home is very messy and unexpected guests knock on your door and invite themselves in. What is the likelihood that you would avoid the guests until they leave?

9. You secretly commit a felony. What is the likelihood that you would feel remorse about breaking the law?

\_\_\_\_\_\_10. You successfully exaggerate your damages in a lawsuit. Months later, your lies are discovered and you are charged with perjury. What is the likelihood that you would think you are a despicable human being?

\_\_\_\_\_\_11. You strongly defend a point of view in a discussion, and though nobody was aware of it, you realize that you were wrong. What is the likelihood that this would make you think more carefully before you speak?

12. You take office supplies home for personal use and are caught by your boss. What is the likelihood that this would lead you to quit your job?

\_\_\_\_\_\_13. You make a mistake at work and find out a coworker is blamed for the error. Later, your coworker confronts you about your mistake. What is the likelihood that you would feel like a coward?

\_\_\_\_\_ 14. At a coworker's housewarming party, you spill red wine on their new cream-colored carpet. You cover the stain with a chair so that nobody notices your mess. What is the likelihood that you would feel that the way you acted was pathetic?

\_\_\_\_\_ 15. While discussing a heated subject with friends, you suddenly realize you are shouting though nobody seems to notice. What is the likelihood that you would try to act more considerately toward your friends?

\_\_\_\_\_ 16. You lie to people but they never find out about it. What is the likelihood that you would feel terrible about the lies you told?

# Appendix D

# Center for Epidemiologic Studies-Depression scale (CES-D)

*Instruction*: Below is a list of the ways you might have felt or behaved. Please tell me how often you have felt this way during the past week.

		Some or		
	Rarely or none of the time (less than 1 day )	a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5- 7 days)
1. I was bothered by				
things that usually do not bother me.				
<ol> <li>I did not feel like eating;</li> <li>my appetite was poor.</li> </ol>				
<ol> <li>I felt that I could not</li> <li>shake off the blues even</li> </ol>				
with help from my family or friends.				
4. I felt I was just as good as other people.				
5. I had trouble keeping my mind on what I was				
doing.				

## **During the Past Week**

# TWO DISTINCTIVE TENDENCIES IN THE GASP SCALE

6. I felt depressed.		
7. I felt that everything I		
did was an effort.		
8. I felt hopeful about the		
future.		
9. I thought my life had		
been a failure.		
10. I felt fearful.		
11. My sleep was restless.		
12. I was happy.		
13. I talked less than		
usual.		
14. I felt lonely.		
15. People were		
unfriendly.		
16. I enjoyed life.		
17. I had crying spells.		
18. I felt sad.		
19. I felt that people dislike		
me.		
20. I could not get "going."		

# Appendix E

### **Social Interaction Anxiety Scale (SIAS)**

### Instructions

In this section, for each item, please circle the number to indicate the degree to which you feel the statement is characteristic or true for you. *The rating scale is as follows:* 

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

	Characteristic	Not at all	Slightly	Moderately	Very	Extremely
	I get nervous if I have to					
1.	speak with someone in	0	1	2	3	4
	authority (teacher, boss).					
	I have difficulty making eye	0	1	2	3	1
2.	contact with others.	0	1	2		4
	I become tense if I have to					
3.	talk about my feelings or	0	1	2	3	4
	myself.					

# TWO DISTINCTIVE TENDENCIES IN THE GASP SCALE

	I find it difficult to mix					
4.	comfortably with the people	0	1	2	3	4
	I work with.					
	I find it easy to make friends	0	1	2	2	4
5.	my own age.	0	1	2	3	4
	I tense up if I meet an	0	1	2	2	4
6.	acquaintance in the street.	0	1	2	3	4
	When mixing socially, I am	0	1	2	2	4
7.	uncomfortable.	0	1	2	3	4
	I feel tense when I am alone	0	1	2	2	1
8.	with just one person.	0	I	2	5	4
	I am at ease meeting people	0	1	2	2	4
9.	at parties, etc.	0	1	2	5	4
	I have difficulty talking with	0	1	2	2	4
10.	other people.	0	1	2	3	4
	I find it easy to think of	0	1	2	2	4
11.	things to talk about.	0	1	2	3	4
	I worry about expressing					
12.	myself in case I appear	0	1	2	3	4
	awkward.					
	I find it difficult to disagree	0	1	2	2	Λ
13.	with another's point of view.	U			3	4

	Characteristic	Not at all	Slightly	Moderately	Very	Extremely
14.	I have difficulty talking to attractive persons of the	0	1	2	3	4
	opposite sex.					
	I find myself worrying that					
15.	I won't know what to say in	0	1	2	3	4
	social situations.					
	I am nervous mixing with 0	1	2	3	4	
16.	people I don't know well.					
	I feel I will say something	0	1	2	3	4
17.	embarrassing when talking.					
	When mixing in a group, I					
18.	find myself worrying I will	0	1	2	3	4
	be ignored.					
	I am tense mixing in a	0	1	2	3	4
19.	group.					
	I am unsure whether to					
20.	greet someone I know only	0	1	2	3	4
	slightly.					

(continued)

### Appendix F

### **Interpersonal Reactivity Index (IRI)**

#### **Instructions:**

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by circling the appropriate number on the scale: 0, 1, 2, 3, or 4. Read each item carefully before responding. Answer as honestly and accurately as you can.

### Scale:

0	1	2	3	4

Does not describe me \_\_\_\_\_ Describes me very well

1	I often have tender, concerned feelings for people less fortunate than me.	0	1	2	3	4
2	I sometimes find it difficult to see things from the "other guy's" point of view.	0	1	2	3	4
3	Sometimes I don't feel sorry for people less fortunate than me.	0	1	2	3	4
4	In emergency situations, I feel apprehensive and ill-at-ease.	0	1	2	3	4
5	I try to look at everybody's side of a disagreement before I make a decision.	0	1	2	3	4
6	When I see someone being taken advantage of, I feel kind of protective toward them.	0	1	2	3	4
7	I sometimes feel helpless when I am in the middle of a very	0	1	2	3	4
----	--	---	---	---	---	---
	emotional situation.					
8	I sometimes try to understand my friends better by imagining	0	1	2	3	4
	how things look from their perspective.					
9	When I see someone get hurt, I tend to remain calm.	0	1	2	3	4
10	Other people's misfortunes do not usually disturb me a great	0	1	2	3	4
	deal.					
11	If I am sure I'm right about something, I don't waste much time	0	1	2	3	4
	listening to other people's arguments.					
12	Being in a tense emotional situation scares me.	0	1	2	3	4
13	When I see someone being treated unfairly, I sometimes do not	0	1	2	3	4
	feel very much pity for them.					
14	I am usually pretty effective in dealing with emergencies.	0	1	2	3	4
15	I am often quite touched by things that I see happen.	0	1	2	3	4
16	I believe that there are two sides to every question and try to look	0	1	2	3	4
	at them both.					
17	I would describe myself as a pretty soft-hearted person.	0	1	2	3	4
18	When I watch a good movie, I can very easily put myself in the	0	1	2	3	4
	place of a leading character.					
19	I tend to lose control during emergencies.	0	1	2	3	4

20	When I am upset at someone, I usually try to "put myself in his	0	1	2	3	4
	shoes" for a while.					
21	When I am reading an interesting story or novel, I imagine how I	0	1	2	3	4
	would feel if the events in the story were happening to me.					
22	When I see someone who badly needs help in an emergency, I go	0	1	2	3	4
	to pieces.					
23	Before criticizing somebody, I try to imagine how I would feel if	0	1	2	3	4
	I were in their place.					

## Appendix G

## **Rumination Responsive Scale (RRS)**

People think and do many different things when they feel depressed. Please read each of the items below and indicate whether you almost never, sometimes, often, or almost always think or do each one when you feel down, sad, or depressed. Please indicate what you *generally* do, not what you think you should do.

1 almost never 2 sometimes 3 often 4 almost always

- 1. think "What am I doing to deserve this?"
- 2. think "Why do I always react this way?"
- 3. think about a recent situation, wishing it had gone better

4. think "Why do I have problems other people don't have?"

5. think "Why can't I handle things better?"