

The Relationship of Shame, Social Anxiety and Depression: The Role of the Evaluation of Social Rank

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This study explores the associations between shame, depression and social anxiety from the perspective of social rank theory (Price and Sloman, 1987; Gilbert, 1989, 1992). Social rank theory argues that emotions and moods are significantly influenced by the perceptions of one's social status/rank; that is the degree to which one feels inferior to others and looked down on. A common outcome of such perceptions is submissive behaviour. It is suggested that shame, social anxiety and depression are all related to defensive submissive strategies when individuals find themselves placed in unwanted low status/rank positions. In this study 109 students and 50 depressed patients filled in a battery of self-report questionnaires designed to measure varied aspects of shame, guilt, pride, social anxiety, depression, and social rank (inferiority self-perceptions and submissive behaviour). Results confirm that shame, social anxiety and depression (but not guilt) are highly related to feeling inferior and to submissive behaviour. It is suggested therefore that an understanding of the defensive behaviours of animals and humans who are located in unwanted subordinate positions may throw light on the underlying psychobiological mechanisms of these varied pathologies. Copyright © 2000 John Wiley & Sons, Ltd.

INTRODUCTION

The last decade has seen a rapid expansion in the study of the self-conscious emotions such as shame (Gilbert, 1989, 1998a; Kaufman, 1989; Nathanson, 1992; Tangney and Fischer, 1995), embarrassment (Tangney and Miller, 1996), guilt (Tangney, 1993; Baumeister *et al.*, 1994); shyness (Cheek and Melchior, 1990) and social anxiety (Clark and Wells, 1995; Leary and Kowalski, 1995; Rapee and Heimberg, 1997). All of these emotions can become pathological and all have been linked to depression (Gilbert, 1992, 1998a,b). What is common to the

above (apart from guilt), is that the affected person sees him/herself to be in an unwanted inferior (low rank) position(s), is very concerned with what others think about him/her (and being looked down on) and tends to adopt non-assertive (Arrindell *et al.*, 1990) and submissive defensive behaviours (Gilbert *et al.*, 1994; Allan and Gilbert, 1997; Gilbert and McGuire, 1998).

Subordinate Hierarchies

The proneness to act submissively can be looked at from an evolutionary perspective. For example, although we often talk about dominance hierarchies, it can be more revealing and accurate to speak of subordinate hierarchies. In fact, it is not

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(only) aggression that determines a hierarchy but also the subordinate behaviours that are elicited. Bernstein (1980) noted that it is the preparedness of subordinates to submit that build hierarchies. It is not in a subordinate's interest to instigate or escalate conflicts or make claims on resources they cannot win or defend. When subordinates do not obey these rules (do not submit when they should) they elicit attacks that cause injury and have reduced life expectancies (e.g. Higley *et al.*, 1996). A submissive display sends a signal of 'no-challenge' which (usually) affects the emotions and behaviours of the potential attacker, so that he/she breaks off or limits his/her attacks (see Gilbert (2000) for a review).

Submissive and subordinate displays involve behaviours such as eye gaze avoidance (subordinate non-human primates always avoid eye gaze with dominants), fear grinning, backing down quickly if challenged, and not confidently making claims on resources or advertising oneself. There is much in submissive behaviour that is mirrored in shame displays—such as lack of, or inhibition of, confidence, backing down and wanting to hide or escape if challenged, and eye gaze avoidance (Gilbert *et al.*, 1994; Gilbert 1998a). Moreover, the purpose of a shame display seems to be similar to that of a submissive display, namely of inhibiting and reducing attacks (Keltner and Harker, 1998). In fact, many such behaviours including the 'safety behaviours' of the socially anxious (Clark and Wells, 1995) and shy (Cheek and Melchior, 1990), the social withdrawal of the depressed person (Gilbert, 1992; Allan and Gilbert, 1997) and shame displays can all be seen as forms of submissive strategies or *social damage limitation* strategies (Gilbert and McGuire, 1998; Keltner and Harker, 1998). These are often triggered by unfavourable social comparative evaluations—self as inferior in some way to a potential evaluating, rejecting or attacking audience (Gilbert *et al.*, 1995a).

Whilst, for most animals, the social threat is aggression, for humans the threat that triggers submissive strategies and thus social anxiety, shyness, shame and depression is more commonly related to loss of acceptance and approval. This is because human social ranks and social relationships in general have evolved around the desire to appear attractive to others (Barkow, 1989; Gilbert, 1989, 1997a); that is to create certain types of favourable impression (Leary, 1995). Gaining social approval, social acceptance and support offered considerable advantages over the course of human evolution

(Gilbert, 1997a). So, for example, rather than threatening others to accept and obey us, humans often seek to be *chosen* as a friend or lover; to be invited to join the team and so forth. Santor and Walker (1999) have shown that it is having traits that one thinks *others will value* (rather than ones valued by self alone) that is crucially related to a sense of self-worth and self-esteem.

Social rank theory suggests that both acquisitive and defensive (submissive) human displays are therefore centered around the desires to gain, and fear of losing, attractiveness in the minds of others (Gilbert, 1992, 1997a, 2000). In humans, concerns that one has traits that others disapprove of, or do not value (e.g. not bright enough, boring personality), or lacking valued abilities (e.g. physical attractiveness, athletic skill) gives rise to perceptions of being of low rank in valued, esteem-relevant domains; that is, one feels inferior and thus will lose in competitions to control social resources of being valued, esteemed, wanted, desired, chosen and accepted by valued others. The evaluation of such low rank is captured with the concept of *involuntary subordinate self-perception* (Gilbert, 1992). This is marked by seeing oneself as undesirably inferior to others, less attractive and an outsider, and thus not able to garner the interests and approval of others. As noted elsewhere (Gilbert, 1992) inferiority positions that are desired, or at least not resisted (e.g. because one likes being looked after by superior others) are not associated with shame, social anxiety or depression. It is the *involuntary and unwanted* nature of the social position that is crucial. From a position of relative, unwanted inferiority there is an increased tendency to behave submissively.

Shame

Shame is commonly agreed to be a painful affect, often associated with perceptions that one has personal attributes (e.g. body shape, size or textures); personality characteristics (e.g. boring, unintelligent or dishonest) or has engaged in behaviours (e.g. lying, stealing) that others will find unattractive and result in rejection or some kind of put-down (social attack on attractiveness and desirability; Kaufman, 1989; Tangney and Fischer, 1995; Gilbert, 1998a). Shame can be internalized, whereby we have negative views and feelings of our own attributes or behaviour (Kaufman, 1989; Cook, 1996). Internal shame relates to cognitions and affects that the person has about his/her own attributes, personality characteristics or behav-

ious. Internal shame is therefore related to negative self-evaluations and self-directed affects (e.g. feelings of self-disgust). *External shame* relates to what has recently been called stigma consciousness and awareness (Pinel, 1999). These are evaluations focused on those aspects we believe others would reject or attack if they became public. At a cognitive level external shame refers to how one thinks others see the self (Allan *et al.*, 1994; Goss *et al.*, 1994). This is an important distinction which is not always made by shame researchers (Gilbert, 1998a). However, it is possible to believe one has a trait (e.g. obesity) or engages in behaviour (e.g. visiting prostitutes) that one knows are highly externally shamed (stigmatized) but it does not follow that the person feels internal shame (personally inferior and bad) about such behaviours (Crocker and Major, 1989; Gilbert, 1997a). However, Goss *et al.* (1994) found that in regard to general negative attributes (such as feeling oneself to be inadequate, not good enough, defective), there was a high correlation between external and internal shame cognitions; that is if one thought of oneself as inadequate one expected others to see the self in the same way.

If shame operates through submissive (damage limitation) strategies then there should be evidence that the shamed person will either try to escape from the situation in which it occurs or attempt to adopt submissive displays and behaviours to limit possible attacks. Indeed, this is the case. Not only is shame commonly associated with negative self-perceptions and unfavourable social comparisons (seeing self as inferior to others and less desirable; Tangney, 1995; Gilbert *et al.*, 1996), research on the non-verbal behaviour of shame shows that shame involves submissive displays (e.g. gaze avoidance, slumped postures and various inhibitions on speech and other outputs) whose functions are to appease others and limit possible attacks. Shame displays, like submissive displays, are therefore damage limitation strategies (see Keltner, 1995; Keltner and Harker (1998) for a review).

Social Anxiety

Shame and stigma have been associated with a host of psychopathologies (from alcoholism to violence to personality disorders) in a way that social anxiety has not (Gilbert, 1998a, b). There have been few studies exploring the link between shame proneness and social anxiety (Gilbert *et al.*, 1994). Tangney and Miller (1996) argue against a direct equation of social anxiety with shame. However,

similar descriptions have been written for shame, (Tangney, 1995) social phobia (Rapee and Heimberg, 1997) and shyness reactions (Cheek and Melchior, 1990). Clark and Wells (1995) argue that fear of negative evaluation, exposure and social avoidance (hiding) are the hallmarks of social anxiety. Leary and Kowalski (1995) and Beck *et al.* (1985) label social anxiety as evaluation anxiety. Recent models of social phobia (Rapee and Heimberg, 1997) include: (1) evaluations of self by self, and self 'as may appear in the eyes of others'; (2) concerns with falling short of standards; (3) attentional and information processing biases; (4) raised sensitivity to internal arousal cues; and (5) clear behavioural dispositions for avoidance and escape. It remains unclear if some or all of these are specific to social anxiety, or are relevant to all pathologies where there is a significant shame component.

Trower and Gilbert (1989) argued that it is the *automatic* activation of submissive strategies that can be especially problematic for those with social anxiety. In subordinates of many species defensive strategies require multi-task monitoring, i.e. knowing the whereabouts of a dominant(s), and avoiding making approaches/claims on resources (e.g. food sites or sexual partners) or engaging in confident displays that might evoke dominant threats. Rapee and Heimberg (1997) note a similar problem for the social anxious... 'he/she must closely monitor potential external threat and simultaneously monitor the potential threat-eliciting aspects of his/her supposed external appearance or behaviour, as well as reserving some attentional resources for the proper completion of the task at hand' (p. 746).

Socially anxious and subordinate individuals may even inhibit their potential challenge of others when things go wrong in relationships by assuming responsibility in relationships. To explore this Trower *et al.* (1998) used an experimentally-controlled and video-taped conversation between a student (subordinate role) and lecturer (dominant role), where the (confederate) lecturer broke certain social conversational rules (e.g. interrupting the flow of conversation). It was found that socially anxious but not non-anxious students (1) rated themselves as inferior to the lecturer and (2) felt to blame for the cause of the difficulties in the conversation. The tendency to blame self when in an inferior position to a threatening other's attacks has also been found to arise in domestic violence (Andrews and Brewin, 1990). Hence, many of the information-processing strategies and avoidance (safety) behaviours of the social anxious

are self-protective (Clark and Wells, 1995) even to the point of adopting inferiority and submissive positions in contexts when it is others who are breaking social rules (Trower *et al.*, 1998).

In essence both social anxiety and shame research overlaps considerably to the extent that both can be viewed as studies of submissive strategies in contexts where people feel vulnerable to a loss of social standing, attractiveness, rejection and/or criticism. Hence, both may be aided by contextualizing them as defensive social strategies, not least because much is known about the biology of submissive and subordinate behaviours and states (e.g. see Sapolsky, 1989, 1990a, b, 1994; Gilbert and McGuire, 1998). Finally both tend to focus on the meta-cognitions (theory of mind cognitions)—that is how self appears to others.

Guilt

Another salient self-conscious affect is guilt. Guilt is not usually described as fear of what others think or as self-devaluation—so typical of shame and social anxiety. Gilbert (1989, 1997a) argued that although guilt can be fused with shame (Tangney, 1995) its evolutionary origins were not from the dominant—submissive strategies but from cooperative and caring strategies. Guilt is typically focused on harm/hurt done to others and there is now much evidence that guilt motivates caring behaviour and reparations to others rather than the damage limitations strategies of hiding, submitting, concealing or aggressing (Wicker *et al.*, 1983; Baumeister *et al.*, 1994; Tangney, 1995). Although guilt can be a feature of psychotic depression, generally guilt appears to be less pathogenic than shame (Tangney *et al.*, 1992a). There is, however, little data on how guilt proneness might impact on social anxiety, or its relationship to social comparison and submissive behaviour in depression. However, if shame, but not guilt, is related to inferior positions and submissive behaviour, then we can predict that there should be no association between guilt and submissive behaviour.

Depression

Sanderson *et al.* (1990) found that in both dysthymic patients and patients with major depression, social anxiety was a common comorbid diagnosis, and social anxiety is often high in depressed people even though it might not meet criteria for a co-morbid diagnosis. There is also evidence that depression is associated with both

internal shame (Tangney *et al.*, 1995) and external shame (Allan *et al.*, 1994; Gilbert *et al.*, 1996). Andrews (1995) and Andrews and Hunter (1997) found a link between abusive childhood experiences and shame proneness, as well as demonstrating a mediating role between shame and psychopathology, especially in chronic depression (see Andrews, 1998a). Further there is good evidence that many (but not all) depressed people see themselves as inferior to others (Swallow and Kuiper, 1988; Allan and Gilbert, 1995), tend to adopt submissive behaviours (Forrest and Hokanson, 1975; Allan and Gilbert, 1997), and are not assertive (Arrindell *et al.*, 1990).

This Study

This study set out to investigate the relationships between the above variables in two different populations: a normal student group and a depressed group. A depressed population was used because although the link between depression and shame has been well studied, we know little about the relationship between shame, social anxiety and depression in depression. The following areas were explored:

- (1) Given the similarities between the conceptualizations of shame and social anxiety, different measures of shame were used to explore their association with two different measures of social anxiety.
- (2) Given the prevalence of social anxiety in depression, and the fact that shame has also been strongly linked to depression, this study sought to explore if, after controlling for social anxiety, shame remained associated with depression. In other words, are shame measures associated with depression because they are measuring forms of social anxiety?
- (3) It has been suggested that both shame and social anxiety are related to social rank dynamics—especially feeling inferior and proneness to submissive behaviour. This study therefore sought to explore the relationship of social anxiety and shame measures to social rank variables in the two groups.
- (4) Shame has been mostly studied in relation to depression but it is possible that shame proneness is a particular form of proneness to feeling inferior and acting submissively. Hence this study sought to investigate if, after accounting for social rank variables, shame measures had any independent associations with the two

psychopathological variables—social anxiety and depression.

- (5) This study sought to explore the extent to which an oft used guilt measure (TOSCA) relates to social rank perceptions. If social rank theory is valid in arguing that guilt did not evolve via the social rank evaluative mechanisms in the same way that shame did, then guilt should not relate significantly to feelings of inferiority and submissive behaviour.

METHOD

Subjects

Two populations were used. The first was a sample of 109 psychology students (96 females and 13 males, mean age 25 years). The second sample comprised 50 hospitalized depressed patients (26 females and 24 males, mean age 39 years) meeting ICD 10 criteria for depression, being treated for a depressive disorder and having a BDI greater than 10. The mean BDI score was 28.98 indicating a severely depressed group. Each group completed a series self-report questionnaires designed to measure various aspects of shame and guilt, social anxiety and depression, and perceptions of relative social rank (social comparison and submissive behaviour).

Measures

Social Anxiety

Social Interaction Anxiety Scale (SIAS) Social anxiety has various components (Safran *et al.*, 1998) one of which is anxiety about interacting with others. This SIAS was used because it taps generalized social fears rather than specific fears. The SIAS was developed by RP Mattrick and JC Clark (unpublished data), so the version here was taken from Cox and Swinson (1995). It is a 20-item scale scored 0–5 (not at all–extremely) for items such as; ‘I feel tense if I am alone with just one person’. This scale has been used in a number of studies, has good reliability (Cox and Swinson, 1995; Safran *et al.*, 1998) and correlates highly with other measures of social anxiety and neuroticism (Norton *et al.*, 1997). Its relationship to shame has not been investigated.

Fear of Negative Evaluation Social anxiety has often been measured via fear of negative evalu-

ation (Leary and Kowalski, 1995). This study used the short version of the fear of negative evaluation scale (FNE) derived from the longer 30-item version of Watson and Friend (1969). This 12-item version was developed by Leary (1983) and has a high correlation ($r = 0.9$) with the original scale. The short scale uses a Likert scoring (5-point) in preference to the original true/false scoring. Gilbert *et al.* (1994) found a high correlation of FNE with a situational shame scale ($r = 0.52$) but was nonsignificant with guilt ($r = 0.17$).

Shame, Pride and Guilt

Test of Self-Conscious Affect (TOSCA) The TOSCA was developed from written descriptions of everyday experiences of shame and guilt from several hundred students (Tangney *et al.*, 1992a). It is a second generation measure derived from work with an earlier scale called The Self-Conscious Affect and Attribution Inventory (Tangney, 1990). The TOSCA presents subjects with 10 negative scenarios (e.g. breaking something at work) and five positive (e.g. being singled out for praise). It asks subjects to imagine their typical responses to each event. Each scenario is followed with four or five statements about positive feelings, thoughts and behaviours. Subjects rate on a 1–5 scale (not likely–very likely) what they would feel, think or do in each situation. The TOSCA gives measures of *shame*, *guilt*, *externalization* (blaming others) *detachment* and two types of *pride*, alpha and beta. Alpha pride is pride in one’s personality characteristics and beta pride is pride in one’s behaviour. Pride is only scored on the positive scenarios. Shame and guilt items are designed to measure the varied phenomenology of shame and guilt. Shame choices tap into self-labelling (e.g. feeling incompetent; I’m terrible), affect (feeling disgusted in self) and escape/avoidance behaviour (e.g. hiding, concealing, avoiding). Guilt choices tap into feelings for the other person, wanting to make amends and thoughts of whether one could have done better.

Although there are concerns that this measure depends on certain phenomenological descriptions of shame and guilt (Andrews, 1998b; Gilbert, 1998a), it has been used in a number of studies and has good reliability (Tangney *et al.*, 1992a, b, 1995; Tangney, 1996). It has been used primarily with students but since it depends on imaginary situations it was decided to test it with a clinical population in this study. (At the time of the study

a non-student version was not available—but recently one has become so).

The Personal Feelings Questionnaire 2 The personal feelings questionnaire 2 (PFQ2; Harder and Zalma, 1990) is a 22-item scale measuring the frequency of shame and guilt *feelings*. People are asked to rate on a 0–4 point scale the extent to which they experience feelings of shame (such as feeling self-conscious, laughable) and guilt (such as guilt, regret and remorse). This scale has good internal reliability and factor structure and has been used in a number of studies comparing this scale with other shame and guilt scales and psychopathology measures (as reviewed by Harder, 1995).

External Shame: Other as Shamer Scale (OAS) The TOSCA and PFQ2 measure internal or self-evaluative shame. The Other as Shamer (OAS) however measures external shame or the extent to which others are seen as potentially shaming or derogating of the self. This scale was developed from Cook's (1993) Internalized Shame Scale (ISS) by Goss *et al.* (1994) and Allan *et al.* (1994). It looks at global judgments of how people think others see them (e.g. I think other people see me as inadequate). It is therefore focused on *external rather than internalized* shame. The scale consists of 18 descriptions of feelings or experiences. Subjects respond on a 5-point scale indicating how often they feel this way (ranging from 0 = never, to 4 = almost always). The Cronbach alpha for this scale was 0.92 (Goss *et al.*, 1994).

Social Rank

The Submissive Behaviour Scale This scale was originally developed from the work of Buss and Craik (1986) who asked subjects to identify typical submissive behaviours. The most highly agreed upon items (16 items) were chosen to construct the submissive behaviour scale (Gilbert and Allan, 1994; Allan and Gilbert, 1997). It includes items such as: 'I agreed I was wrong even though I knew I wasn't'. The measure is a response scale based on behavioural frequency. The scale focuses on social behaviour and is not intended to provide a measure of anxiety or depression. Subjects respond by giving their estimated frequency of these behaviours on a 5-point scale. This scale has satisfactory internal consistency and test–retest reliability, the Cronbach alpha was 0.85 in both the student and depressed group (Allan and Gilbert, 1997). It has been used in a number of studies concerned with

assertive behaviour (Gilbert and Allan, 1994), depression (Gilbert *et al.*, 1995b; Gilbert and Allan, 1998) and was found to be highly correlated ($r = 0.73$) with the sub-assertive measure of the inventory of interpersonal problems (Gilbert *et al.*, 1996).

Social Comparison Scale In order to measure a person's rating of their relative social rank, a social comparison scale using a semantic differential methodology (Osgood *et al.*, 1957) developed previously (Allan and Gilbert, 1995) was used in this study. Subjects make a global social comparison of themselves in relation to others with a series of bipolar constructs rated 1–10. For example, the scale asks 'in relation to others I feel':

Inferior 1 2 3 4 5 6 7 8 9 10 Superior

There are 11 items measuring constructs of inferior–superior, attractiveness, and insider–outsider. It has now been used in a number of studies (Allan and Gilbert, 1997; Gilbert and Allan, 1998).

Depression

Centre for Epidemiological Studies Depression Scale (CES-D) Depression in the student population was measured with a CES-D, developed to measure depressive symptomatology in non-psychiatric populations (Radloff, 1977). It is a 20-item scale which measures a range of symptoms (such as depressed mood, feelings of guilt, sleep disturbance) and respondents indicate on a 4-point scale (0–3) how often they have had the symptom in the past week. Scores range from 0 to 60, with higher scores indicating greater depressive symptoms. Radloff (1977) found internal consistency coefficients of greater than 0.84. This scale has been recommended for use in a general population (Gotlib and Hammen, 1992).

The Beck Depression Inventory (BDI) The depressed group completed the BDI as this is regarded as a better measure of the severity of depression in a clinical population (Gotlib and Hammen, 1992). The BDI is a familiar, 21-item scale for measuring depression used by clinicians and researchers (Beck *et al.*, 1979). Beck *et al.* (1988), provided a major review of the psychometric properties of the BDI. The BDI has a satisfactory correlation with the Hamilton Rating Scale for Depression and clinical ratings. Kendall *et al.* (1987)

have outlined various recommendations and guidelines regarding the use of the BDI.

RESULTS

All statistics were performed using the SPSS package for PCs. Table 1 gives the means, standard deviations, Cronbach's alphas and *t*-test differences between the depressed and student groups, for all variables. Table 1 shows that the depressed group scored significantly higher on most variables. However, depressed people felt less pride in the positive scenarios as measured by the TOSCA, and externalized more. There was no

Table 1. Means, standard deviations, significance between groups and alphas

Variable	Mean	SD	<i>p</i>	Alpha
Social anxiety				
SIAS	24.93(S) 43.10(D)	11.81 14.94	0.00	0.92 0.92
FNE	29.18(S) 46.82(D)	6.46 8.60	0.00	0.76 0.82
TOSCA				
Shame	45.81(S) 51.42(D)	9.06 9.87	0.00	0.76 0.82
Guilt	58.88(S) 57.26(D)	6.84 9.95	0.24	0.73 0.79
External	35.00(S) 39.14(D)	6.45 8.70	0.00	0.64
Detach	30.92(S) 29.02(D)	5.42 6.08	0.51	0.64 0.66
Beta Pride	20.00(s) 16.80(D)	3.06 4.23	0.00	0.66 0.82
Alpha Pride	19.02(S) 16.36(D)	3.13 4.23	0.00	0.67 0.71
PFQ2				
Shame	15.95(S) 21.37(D)	6.02 8.12	0.00	0.71 0.88
Guilt	10.03(S) 15.24(D)	4.87 5.20	0.00	0.70 0.79
External shame				
OAS	22.49(S) 45.18(D)	11.98 14.70	0.00	0.93 0.94
Social rank				
Social comparison	59.58(S) 40.63(D)	14.96 17.64	0.00	0.91 0.94
Sub behaviour	25.50(S) 38.44(D)	9.81 13.60	0.00	0.84 0.92
Depression				
CES-D	39.84(S)	8.97		0.86
BDI	28.98(D)	10.93		0.90

S, students; D, depressed.

difference in guilt or detachment as measured by the TOSCA.

Tables 2 and 3 provide the product-moment correlations for all variables in the two groups.

Social Anxiety and Shame

In the student group social anxiety, as measured by the SIAS, is highly correlated with TOSCA shame, PFQ2 shame and external shame (OAS). The same pattern was found in depressed patients. Fear of negative evaluation is also correlated with shame in both groups but to a lesser extent.

Social Anxiety and Pride

Also of interest is that social anxiety in depressed patients is inversely correlated with feelings of pride for positive outcomes. This may mean that socially anxious depressed people are less likely to feel good about their behaviour when positive outcomes arise. Although this was not a focus for this study this might warrant further investigation and may fit with a depressive style of 'dismissing the positives' (Beck *et al.*, 1979).

Social Anxiety, Shame and Depression

In both the student group and depressed group depression is highly associated with social anxiety. This bears out other findings on the high levels of social anxiety in depression (Sanderson *et al.*, 1990). Also all three measures of shame were significantly associated with depression.

Depression and Pride

As with social anxiety, depression was inversely associated with pride in one's behaviour in students. In the depressed group, pride in one's personal characteristics (alpha pride) and behaviour (beta pride) for positive outcomes are both inversely correlated. In so far as pride is a status boosting affect, this may imply that depressed people operate to inhibit these affects and hence maintain themselves in a low status affect state, i.e. even when positive things happen, they do not experience a status enhancing boost.

Is Shame Associated with Depression after Controlling for Social Anxiety?

If shame measures are tapping social anxiety then controlling for social anxiety may remove their

Table 2. Correlation matrix for all variables in the student group

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. SIAS													
2. FNE	0.66*												
3. Shame	0.54*	0.43*											
4. Guilt	0.28*	0.26*	0.53*										
5. External	0.20†	0.16	0.32*	0.05									
6. Detach	-0.31*	-0.24*	-0.50*	-0.16	0.08								
7. Beta P	-0.11	-0.10	-0.07	-0.01	0.14	0.19†							
8. Alpha P	-0.26*	-0.16	-0.14	-0.06	0.06	0.28*	0.81*						
9. PFQ2S	0.62*	0.55*	0.47*	0.25*	0.19†	-0.33*	-0.09	-0.19					
10. PFQ2G	0.45*	0.22†	0.37*	0.40*	0.12	-0.20*	-0.26*	0.27*	0.47*				
11. OAS	0.58*	0.57*	0.54	0.36*	0.34*	-0.30*	-0.16	-0.22†	0.58*	0.48*			
12. Soc. com.	-0.49	-0.34*	-0.51*	-0.38*	-0.23†	0.31*	0.23*	0.36*	-0.42†	-0.30*	-0.61*		
13. Sub beh	0.74*	0.59*	0.56*	0.31*	0.27*	-0.25*	-0.22†	-0.28*	0.63*	0.40*	0.57*	-0.47*	
14. CES-D	0.47*	0.29*	0.36*	0.28*	0.30*	-0.09	-0.20†	-0.30*	0.48*	0.49*	0.56*	-0.40*	0.40*

* $p < 0.01$; † $p < 0.05$.

SIAS, Social Interaction Anxiety Scale; FNE, Fear of Negative Evaluation; TOSCA External, Externalization; Detach, Detachment; Beta p, Beta pride; Alpha P, Alpha pride; PFQ2S, Personal Feelings Questionnaire (2); Shame; PFQ2G, Personal Feelings Questionnaire (2) Guilt; OAS, Other as Shamer Scale; Soc com, Social Comparisons; Sub beh, Submissive Behaviour; CED-D, Centre for Epidemiological Studies—Depression Scale.

Table 3. Correlation matrix for all variables in the depressed group

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. SIAS													
2. FNE	0.62*												
3. Shame	0.54*	0.38*											
4. Guilt	0.08	-0.10	0.44*										
5. External	0.33†	0.31	0.36†	0.08									
6. Detach	-0.05	-0.27	-0.27	-0.03	0.49*								
7. Beta p	-0.29†	-0.32†	-0.25	0.23	0.37*	0.64*							
8. Alpha p	-0.30†	-0.26	-0.31†	0.25	0.18	0.60*	0.82*						
9. PFQ2S	0.55*	0.63*	0.47*	-0.06	0.38*	-0.05	-0.17	-0.18					
10. PFQ2G	0.56*	0.54*	0.70*	0.18	0.19	-0.32†	-0.38*	-0.33†	0.66*				
11. OAS	0.58*	0.52*	0.65*	0.04	0.26	-0.26	-0.38*	-0.33†	0.81*	0.46*			
12. Soc. com.	-0.46*	-0.43*	-0.53*	-0.01	0.04	0.43*	0.49*	0.46*	-0.37*	-0.54*	-0.53*		
13. Sub beh	0.74*	0.57*	0.61*	0.10	0.36†	0.01	-0.28	-0.25	0.68*	0.58*	0.69*	-0.53*	
14. BDI	0.60*	0.42*	0.35†	-0.13	0.18	-0.15	-0.38*	-0.42*	0.40*	0.36†	0.45*	-0.33†	0.54*

* $p < 0.01$; † $p < 0.05$.

SIAS, Social Interaction Anxiety Scale; FNE, Fear of Negative Evaluation; TOSCA External, Externalization; Detach, Detachment; Beta p, Beta pride; Alpha p, Alpha pride; PFQ2S, Personal Feelings Questionnaire (2); Shame; PFQ2G, Personal Feelings Questionnaire (2) Guilt; OAS, Other as Shamer Scale; Soc com, Social Comparison; Sub beh, Submissive Behaviour; BDI, Beck Depression Inventory.

association with depression. Alternatively controlling for depression may remove the association between shame and social anxiety. This was explored with a series of partial correlations which are given in Table 4.

In both the student group and the depressed group the TOSCA shame measure is no longer significantly correlated with depression after controlling for social anxiety. However, TOSCA shame stays correlated with social anxiety after con-

trolling for depression. In the depressed group, no shame measure remained significantly associated with depression once social anxiety was controlled for. However, again in both groups all three shame measures remained significantly correlated with social anxiety after controlling for depression. These data suggested that in depressed populations shame may operate primarily through social anxiety. Results were similar when controlling for FNE.

Table 4. Partial correlations of shame measures to social anxiety and depression controlling for social anxiety and depression

	Controlling for social anxiety (SIAS)			Controlling for depression			
	TOSCA (shame)	PFQ2 Shame	OAS	TOSCA (shame)	PFQ2 Shame	OAS	
Students Depression (CES-D)	0.15	0.29*	0.39*	Students Social Anxiety (SIAS)	0.44*	0.50*	0.44*
Dep Group Depression BDI	0.06	0.12	0.19	Dep Group Social Anxiety (SIAS)	0.39*	0.40*	0.38*

* $p < 0.01$.

Guilt

This study was interested in the role guilt played in depression and social anxiety. As argued above guilt is believed not to be associated with social rank mechanisms. Guilt, as measured by the TOSCA, did not differ between the groups, i.e. is not elevated in depression, unlike shame where it clearly is. Moreover, although there were small significant correlations between guilt, depression and social anxiety in the student group, guilt was not correlated with these variables in the depressed group. These findings are in some agreement with Tangney *et al.* (1992b), who found that her measure of guilt is a non-pathogenic variable. However, the way guilt is measured may be important for understanding guilt and its role in depression. When measures focus on harm done, reparations and empathy for others, guilt fades away as a depression-related variable in depressed people. But when depressed people are asked about how guilty they 'feel' (as in the PFQ2), guilt is significantly correlated with depression. This may imply that the words 'shame and guilt' are not that distinguished in people's minds and one thus needs to be specific about their meanings when engaged in research of these affects (e.g. the TOSCA does this but the PFQ2 does not).

Social Rank and Social Anxiety

This domain is related to an evolutionary view suggesting that *involuntary subordinate self-perception and behaviours* increase the dispositions for social anxiety, shame and depressive disorders (Trower and Gilbert, 1989; Gilbert, 1992; Allan and Gilbert, 1997; Gilbert and Allan, 1998). In both the student and depressed groups submissive behav-

our is highly correlated with social anxiety, especially social interaction anxiety. Even after controlling for depression, submissive behaviour and social anxiety remained significantly correlated (partial correlations controlling for depression in *students*: SIAS with submissive behaviour $r = 0.67$; $p < 0.001$; in *depressed group*: SIAS with submissive behaviour $r = 0.57$ $p < 0.001$).

Social Rank and Shame

Submissive behaviour is highly related to all three shame measures, especially in the depressed group. This supports the idea that shame as measured by these scales is related to submissive defensive behaviour (Gilbert, 1989; Gilbert and McGuire, 1998; Keltner and Harker, 1998). Whether or not shame measured in different ways would show the same result is unknown.

Social Rank and Guilt

Although in students TOSCA guilt is marginally, though significantly, associated with submissive behaviour (and feeling inferior) there is no association with guilt and submissive behaviour (or feeling inferior) in the depressed group. This may offer some limited support to the idea that guilt (when related to empathy for others) is part of a different evolved system to that of shame (Gilbert, 1989, 1997a). The data from the depressed group are also interesting in regard to guilt and pride. In this group submissive behaviour and unfavourable social comparison have no relation with TOSCA guilt. Guilt then (as measured by the TOSCA) does not seem to have anything to do with status evalu-

ations or behaviour and may explain why it is not pathogenic.

Rank and Pride

In regard to pride, both alpha and beta pride were associated with feeling relatively superior to others. In other words the less inferior one feels the more likely one is to experience pride in positive outcomes. To see if this was due to the association between inferiority perceptions and depression in the depressed group, partial correlations of social comparison with pride, controlling for depression were calculated. Social comparison with alpha pride was $r = 0.36$ ($p < 0.05$) and with beta pride was $r = 0.39$ ($p < 0.01$). Even after controlling for depression then, inferiority self-perceptions reduce pride affect in positive outcomes.

Social Rank and Depression

As found in other studies submissive behaviour and unfavourable social comparisons were both associated with depression. This is in line with other studies (e.g. Allan and Gilbert, 1997). However it is interesting to ask about the degree to which it is the social anxiety in depression that is salient here. To explore this, partial correlations were conducted looking at the correlation of submissive behaviour with depression after controlling for social anxiety. It was found that for the students, after controlling for social anxiety, depression was no longer significantly correlated with submissive behaviour. However, it remained so in the depressed group ($r = -0.30$; $p = 0.51$). It would appear then that submissive behaviour has some contribution to depression even after removing the effects of social anxiety in depressed people.

Multiple Regression

This study set out to explore whether the social rank variables are the salient variables in social anxiety and depression and the degree to which shame was related to these variables. To explore this a series of hierarchical multiple regressions were conducted.

Table 5

Table 5 explores the independent effects on social anxiety of submissive behaviour, social comparison and shame measures in the student group. In stage 1 the social rank variables were entered

first. It can be seen that submissive behaviour and social comparison accounted for a significant proportion of the variance but that TOSCA shame did not add anything once these were accounted for. Shame affect however, as measured by the PFQ2, did show a small further contribution.

In stage 2 the shame variables were entered first with submissive behaviour and social comparison entered last. It can be seen that all of the shame variables make an independent contribution but even when these are accounted for submissive behaviour still adds further to the explained variance.

Table 6

Table 6 explores the same analysis for the depressed group. When submissive behaviour is entered first no other variable contributes to the variance. When shame variables are entered first, shame, as measured by TOSCA and PFQ2, contribute to the variance, but again submissive behaviour contributes further after these have been controlled for.

For both groups then, submissive behaviour seems a particularly important variable in relation to the linkage between shame and social anxiety.

Table 7

The same analysis was conducted with the depression scores as the dependent variable. In the students at stage 1 the social rank variables were entered first. Both submissive behaviour and social comparison made a significant contribution to the variance but TOSCA failed to do so. Again PFQ2 significantly added to the variance as did the OAS. At stage 2 when the shame variables were entered first each made a contribution to the variance, but submissive behaviour and social comparison did not add anything.

Table 8

In the depressed group when the social rank variables are entered submissive behaviour accounts for all the variance with no other variable contributing. When shame variables are entered first however submissive behaviour adds further to the explained variance even after shame has been accounted for.

DISCUSSION

In both humans and animals it has been shown that those who are in low status positions are more

Table 5. Hierarchical regression analysis on social anxiety scores: independent effects of submissive behaviour, social comparison and shame (for students)

	Multiple R	R ²	(Adj. R ²)	R ² change	F change
Students: Stage 1 Social rank entered first					
Step Enter submissive behaviour	0.74	0.55	0.54	0.55	122.61*
Step Enter social comparison	0.76	0.57	0.57	0.03	6.03†
Step Enter TOSCA shame	0.77	0.60	0.58	0.01	3.27
Step Enter PFQ2 shame	0.78	0.61	0.60	0.03	6.56‡
Step Enter OAS	0.78	0.62	0.60	0.00	0.65
Stage 2: Shame entered first					
Step Enter TOSCA shame	0.55	0.30	0.30	0.30	43.23*
Step Enter PFQ2 shame	0.70	0.47	0.46	0.17	0.33*
Step Enter OAS	0.71	0.50	0.49	0.03	6.30‡
Step Enter submissive behaviour	0.78	0.61	0.60	0.11	27.2*
Step Enter social comparison	0.78	0.62	0.60	0.004	0.98

* $p < 0.001$; † $p < 0.05$; ‡ $p < 0.01$.

Table 6. Hierarchical regression analysis on social anxiety scores: independent effects of submissive behaviour, social comparison and shame (for depressed people)

	Multiple R	R ²	(Adj. R ²)	R ² change	F change
Depressed group: Stage 1: Social rank entered first					
Step Enter submissive behaviour	0.72	0.52	0.51	0.52	46.98*
Step Enter social comparison	0.73	0.53	0.51	0.01	0.57
Step Enter TOSCA shame	0.73	0.54	0.50	0.01	0.58
Step Enter PFQ2 shame	0.74	0.54	0.49	0.01	0.42
Step Enter OAS	0.74	0.54	0.48	0.00	0.01
Stage 2: Shame entered first					
Step Enter TOSCA shame	0.52	0.27	0.25	0.27	15.7*
Step Enter PFQ2 shame	0.63	0.40	0.37	0.13	9.25†
Step Enter OAS	0.63	0.40	0.36	0.003	0.190
Step Enter submissive behaviour	0.73	0.54	0.50	0.14	11.80†
Step Enter social comparison	0.73	0.54	0.50	0.002	0.177

* $p < 0.001$; † $p < 0.01$.

Table 7. Hierarchical regression analysis on CES-D scores: independent effects of submissive behaviour, social comparison and shame (for students)

	Multiple R	R ²	(Adj. R ²)	R ² change	F change
Students: Stage 1: Social rank entered first					
Step Enter submissive behaviour	0.41	0.17	0.16	0.17	19.58*
Step Enter social comparison	0.46	0.20	0.20	0.05	6.22†
Step Enter TOSCA shame	0.48	0.23	0.20	0.01	1.35
Step Enter PFQ2 shame	0.53	0.28	0.25	0.01	7.85†
Step Enter OAS	0.59	0.35	0.32	0.01	10.11†
Stage 2: Shame entered first					
Step Enter TOSCA shame	0.37	0.14	0.13	0.14	15.52*
Step Enter PFQ2 shame	0.51	0.26	0.24	0.12	16.16*
Step Enter OAS	0.60	0.35	0.33	0.09	14.15*
Step Enter submissive behaviour	0.60	0.35	0.32	0.00	0.001
Step Enter social comparison	0.60	0.35	0.32	0.001	0.084

* $p < 0.001$; † $p < 0.05$.

Table 8. Hierarchical regression analysis on BDI scores: independent effects of submissive behaviour, social comparison and shame (for depressed people)

	Multiple R	R ²	(Adj. R ²)	R ² change	F change
Depressed group: Stage 1: Social rank entered first					
Step Enter submissive behaviour	0.54	0.30	0.28	0.30	18.03*
Step Enter social comparison	0.56	0.32	0.28	0.02	1.28
Step Enter TOSCA shame	0.56	0.32	0.27	0.00	0.03
Step Enter PFQ2 shame	0.56	0.32	0.25	0.00	0.08
Step Enter OAS	0.58	0.33	0.25	0.02	0.95
Stage 2: Shame entered first					
Step Enter TOSCA shame	0.37	0.13	0.11	0.13	6.64†
Step Enter PFQ2 shame	0.07	0.20	0.17	0.07	3.7
Step Enter OAS	0.03	0.23	0.18	0.03	1.6
Step Enter submissive behaviour	0.09	0.32	0.25	0.09	5.17‡
Step Enter social comparison	0.01	0.33	0.25	0.01	0.67

* $p < 0.001$; † $p < 0.01$; ‡ $p < 0.05$.

vigilant to social threats, tense, vulnerable to a variety of disorders (Sapolsky, 1989, 1990a,b, 1994), have lower blood levels of 5-HT (Raleigh *et al.*, 1984), high cortisol (Sapolsky, 1990a, 1994), and engage in submissive behaviour at a much higher frequency than those who are dominant (Ray and Sapolsky, 1992; Gilbert and McGuire, 1998). The concepts of subordination and submissive behaviour may offer important bridges between psychological concepts (e.g. negative self-schema or 'self as an undesirable low ranker') and possible biological mediators (e.g. low 5-HT; Gilbert and McGuire, 1998) of pathological states.

Rank and Social Anxiety

In this study submissive behaviour and negative social comparison were both highly correlated with social anxiety especially social interaction anxiety (SIAS), which is a measure of generalized social anxiety rather than a specific social phobia (Cox and Swinson, 1995). Social comparison was also correlated with feeling others look down on the self (as measured by the OAS). This fits with a growing body of evidence that in various encounters socially anxious people locate themselves in inferior positions, believe they will be looked down on, are attentionally focused on social threats (rather than affiliative, self-enhancing opportunities) and behave submissively (Alden and Safran, 1978; Rapee and Heimberg, 1997; Trower *et al.*, 1998). Many of the safety behaviours identified as salient in maintaining social anxiety (Clark and Wells, 1995) can be viewed as submissive defensive strategies and damage limitation behaviours.

The clinical implications that flow from this may be that not only should therapy be directed at specific avoidance (safety) behaviours but that generalised social anxiety may also require a focus on reducing a range of other submissive behaviours, learning to behave more assertively, and learning how to cope with conflicts. It may also require work to help people re-evaluate social relationships in less competitive rank-centred ways (i.e. avoid using schema of inferior–superior, gaining and losing status; Beck *et al.*, 1985) and focus on more cooperative forms of interactions (Gilbert, 1989; Trower and Gilbert, 1989; Trower *et al.*, 1998). Submissive, defensive behaviours in essentially cooperative or affiliative situations (e.g. going to a party) tend to be counter-productive as they may be regarded as unattractive (Leary, 1995).

Social Rank and Depression

Depression, in evolutionary terms, has been viewed as a defensive response to positions of low rank and powerlessness (Price and Sloman, 1987; Gilbert, 1992; Price, 1972; Price *et al.*, 1994). It remains for further research to ascertain how much this linkage operates through the social anxiety that often accompanies depression. Certainly, depression was found to be associated with the rank variables of submissive behaviour and unfavourable social comparison, and a weak but significant correlation remained even after controlling for social anxiety (in the depressed group).

A key question is whether the social anxiety that arises in depression is different from that of other forms of social anxiety? Could social anxiety and

feeling low in rank be a precursor of depression? To what extent would targeting social anxiety and assertiveness also treat low mood? Recently, however, it has been argued that depression is not only about low rank (i.e. feeling relatively inferior to others and acting submissively; Gilbert *et al.*, 1995b; Allan and Gilbert, 1997), but depressed people also feel trapped and defeated (Brown *et al.*, 1995; Gilbert and Allan, 1998). This aspect seems especially associated with the anhedonic aspects of depression (P. Gilbert *et al.*, unpublished data). The problem of defeat and entrapment is also salient for depression in schizophrenia (Rooke and Birchwood, 1998). These variables were not included in this study as its focus was on the relation of shame and submissive behaviour in depression and social anxiety. Nonetheless, an intriguing possibility exists, that it is primarily at points of defeat and entrapment (especially where there is a strong desire to escape which is blocked) that depression emerges. Perhaps it is people who feel low rank and socially anxious who are most vulnerable to feeling defeated and getting trapped in situations (relationships or other lifestyles) that are unrewarding but that they can not get away from.

Social Rank and Shame

Shame measures are highly related to social rank suggesting that shame experiences are linked to underlying, submissive mechanisms. Moreover, the adaptive functions of submissive behaviour seem to have been carried over into shame (Gilbert, 1989, 1992; Keltner and Harker, 1998). In this study it would appear that the TOSCA measure of shame does not add to the explained variance of depression or social anxiety once rank-related variables are accounted for. This may imply that the pathogenic effects of shame are due to its operation through submissive strategies. On this, more research is needed. This should not be taken to imply that shame is redundant, but to bring attention to the importance of measurement and conceptualization (Andrews, 1998b).

Shame is a much broader concept than social anxiety and can be highly focused (e.g. shame about one's appearance, feelings, sexuality, or previous behaviour etc.; Gilbert, 1998b). At present shame measures do not capture the richness of shame experiences. The linkage of shame to social anxiety research however, offers the possibility that treatments designed for social anxiety could be modified for the shame components of other disorders (e.g. Bates and Clark, 1998). For example,

in treating anxiety Clark (1999) has drawn attention to how negative beliefs about the self are maintained (e.g. safety behaviours such as social avoidance), the importance of imagery and attention allocation processes. All these, and the therapeutic techniques designed to ameliorate these difficulties, could be especially appropriate for shame, where negative images of the self, and the self as seen by others, dominate the clinical picture.

Shame, Pride and Raising One's Status Perceptions

The data from the TOSCA revealed an unexpected finding in that in the depressed group, pride for positive outcomes was significantly correlated with social comparison. It seems that it is those depressed people who have a relatively superior (or at least not inferior) view of themselves who take pride in achievements. There are many explanations for this including the view that socially anxious and depressed people may attribute success to external events (e.g. luck). However, an evolutionary view might suggest that in those who feel inferior there may actually be a *fear* of upgrading their negative self-perceptions (and feel pride). This fear would be related to concerns that an increase in status would also bring them into conflict with others, and/or that any gains could not be maintained or defended in the future. Hence, this suggests that those who feel inferior use damage limitation rather than status enhancing strategies (Baumeister *et al.*, 1989; Wood *et al.*, 1994). This explanation was found to have validity for those with a high fear of failure who do not raise their self-esteem after success (Birney *et al.*, 1969).

Social Rank and Evolution Theory

The evolutionary approach to psychopathology attempts to identify underlying adaptive strategies (and their biological mediators) that have become maladaptive and psychopathological (Gilbert, 1989, 2000; McGuire and Troisi, 1998). Just as shame, social anxiety and depression in small measure can be adaptive to the extent that they enable individuals to avoid serious social norm violations (Gilbert and McGuire, 1998) or disengage from unobtainable incentives (Klinger, 1975) so they can become maladaptive when (amongst other reasons) they set up viscous circles of increasing social avoidance and defensive submissive behaviours. For many primates social anxiety and social

inhibition is highly adaptive and subordinate animals run into serious trouble if they are not alert to down rank attacks and inhibit their acquisitive behaviours (Higley *et al.*, 1996). In humans, however, who have evolved social rank systems around displays of attractiveness and 'desirability ratings' (e.g. demonstrations of, talents, IQ, humour, beauty, friendliness, affiliativeness, rewarding to be with; Barkow, 1989; Gilbert, 1997a), extensive submissiveness in not attractive, attracting or adaptive. It can lead to a lack of control over social outcomes (e.g. being chosen/desired as a friend, lover or team member) and rejection or marginalization. This in turn confirms judgments of one's low rank, and need to be submissive (Gilbert, 1997b). It also does nothing for one's own judgment of one's personal attractiveness/relative status. Moreover, in so far as there is now clear evidence that 5-HT and other neurohormones are responsive to social signals, especially those that are status-boosting or status-reducing (Gilbert and McGuire, 1998; Raleigh *et al.*, 1984), socially anxious and depressed people may fail to behave in ways which elicit positive social signals from others, signals that could elevate their 5-HT levels. The absence of a high rate of supportive and status-boosting signals may thus maintain depressed and anxious states.

Cognitive behaviour therapists may therefore wish to explore the variety of defensive submissive behaviours that patients present with (e.g. social avoidance, concealment) and how these are related to evaluations that focus on social rank (such as being inferior to others, looked down on). Understanding more about the schema and behaviours that evolved as defensive strategies (as primates and humans evolved in socially ranked and competitive group living) may help to shed further light on the underlying mechanisms of various psychopathologies—the similarities and differences.

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