



An exploration of competitiveness and caring in relation to psychopathology

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Objectives. Social mentality theory outlines how specialist systems have evolved to facilitate different types of social behaviour such as caring for offspring, forming alliances, and competing for resources. This research explored how different types of self-experience are linked to the different social mentalities of competitive social ranking (focusing on gaining and defending one's social position/status/rank) in contrast to caring (being helpful to others). Perceived low social rank (with feelings of being inferior and unfavourable social comparison, SC) has been linked to depression, but a caring sense of self has less so. We hypothesized therefore that depression, in both clinical and non-clinical populations, would be primarily linked to competitive and rank focused sense of self rather than a caring sense of self.

Method. Students ($N = 312$) and patients with depression ($N = 48$) completed self-report scales measuring: self-experience related to competitiveness and caring; social rank; social safeness; and depression, anxiety, and stress.

Results. The data suggest that in students, and particularly in patients, competitiveness (and feeling unsuccessful in competing for resources) is strongly associated with depression. Although caring shares a small correlation with depression in students, and with depression, anxiety, and stress in patients, when controlling for the rank variable of submissive behaviour this relationship ceases to be significant. Submissive behaviour was found to be a full mediator between caring and depression. We also found that how safe and comfortable one feels in one's social relationships (social safeness), was a full mediator between competitiveness and depression. So, it is the feeling of being unable to compete where one does not feel secure in one's social environment that is particularly linked to depression.

Conclusion. The results of this study suggest that self-experience is complex and multifaceted and is linked to different social roles that are socially contextualized. In addition, perceived low social rank and perceived failures in being able to 'attract' others and compete for social resources, are strongly linked to depression, whereas experiencing oneself as caring and helpful is not when submissiveness is controlled for.

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Evolutionary psychologists suggest that many of our competencies, motives, and behaviours evolved to deal with certain challenges, such as developing early attachments, belonging to groups, gaining status, and finding sexual partners (Buss, 2003; Gilbert, 1989). It is now recognized that we have various specialist systems for enabling different types of social behaviour such as caring for offspring, via attachment systems, in contrast to competing for resources (Buss, 2003).

Gilbert (1989, 1995, 2005) suggested that different co-assemblies of motives, emotions, information-processing routines, and behaviours are linked to different internal patterns of neurophysiological activity that can be called *social mentalities*. Social mentalities guide individuals to: (1) seek to create certain types of roles with others (e.g., a child seeks attachment to, and protection from a parent; an adult seeks out people to form friendships, alliances, or sexual relationships with); (2) interpret the social signals and roles others are trying to enact with the self (e.g., others are acting in caring, sexual, friendly, or competitive ways toward self); and (3) regulate their affective and behavioural responses (e.g., if others are friendly then approach and act in a friendly way, if others are hostile then attack or avoid). Hence, specific social mentalities orient a person to specific social roles and to be sensitive to the roles others are trying to create. As part of this process, people evaluate themselves in these roles: for example, 'self as caring, attractive, competent'. For example, if one is trying to develop a sexual relationship, one monitors how to be attractive to a potential partner, how competent one is in the role, and how successful. If one is in a caring role, one will monitor one's feelings of caring and how competent one is in that role (Gilbert, 2005). We may feel confident and able in some roles but not others.

Central also to social mentality theory is the idea that our sense of self is socially contextualized and socially embedded (Gilbert, 1989, 2005; see also Baldwin, 1992; Baldwin & Dandeneau, 2005). We have evolved competencies for enacting complex social interactions (e.g., with theory of mind) and working out whether we are thought of positively and are likely to be accepted, desired, and chosen, or whether we are thought of negatively and are likely to be overlooked, rejected, and excluded. This is sometimes referred to as our estimated social-holding potential (Gilbert, 1992, 1997) or a sociometer (Leary, Tambor, Terdal, & Downs, 1995). Santor and Walker (1999) found that it was believing that one had qualities that others would value that was particularly linked to self-esteem. Being accepted by others and feeling secure and safe in ones social relationships is highly beneficial for well-being and physical and mental health (Baumeister & Leary, 1995; Cozolino, 2007). In contrast, lack of social safeness is linked to psychopathology (Gilbert, McEwan, Mitra, *et al.*, 2009; MacDonald & Leary, 2005).

Caring mentalities, which evolved to facilitate the formation and maintenance of attachment and affiliative relationships, require a different organization of attention, cognition, motivation, emotions, and behaviour to that of social rank mentalities (competing for resources). For example, a care-giving mentality will recruit: (1) motives for care; (2) emotions (e.g., concern, sympathy); (3) information processing (e.g., theory of mind, mentalizing); and (4) competencies to be attentive to the needs of the other. In contrast, a social rank mentality will relate to motives to gain or maintain one's rank and social standing and control over social and non-social resources. In humans to gain or maintain status and social position, people may monitor how desirable, talented and attractive they feel they are *in comparison to others* (Barkow, 1989; Gilbert, Price, & Allen, 1995). So when focused on rank, individuals may monitor how much they feel people respect, take an interest in or attend to them, and whether they are able to be chosen for certain roles. In this social role and social mentality, the focus is on self as

a competitive agent; that is self as confident, accomplished, and successful. Whereas in the caring mentality, the focus of the self is on being kind, warm, or helpful (Gilbert, 1989, 1993, 2005).

These dimensions of rank versus caring have been identified in a number of research areas. For example, using attachment theory and social competition theory, Stevens and Price (2000) suggested caring and competing are major archetypal forms. In the area of personality and social psychology, Leary (1957) developed the circumplex model around two dimensions of dominant/submissive and love/hate. These dimensions have been used consistently in circumplex research (e.g., Plutchik & Conte, 1997). In addition, dominance and affiliation are similar concepts describing social organizations in group living (Leary, 1957; Kiesler, 1983). Dominance relates to obtaining and maintaining status within social hierarchies, with higher status meaning greater access to resources (e.g., sexual partners, friends). Affiliation relates to obtaining and maintaining attachments, social support, and alliances (Gilbert, 1989; Leary, 1957). More recently, caring and competitive orientations have been explored in terms of compassionate goals and self-image goals (Crocker & Canevello, 2008). Crocker and Canevello (2008) studied patterns of interactions in students and looked at compassion goals (wanting to be helpful to others and not hurt others) and self-image goals (wanting to be recognized by others and show them you are right). They found that compassionate goals predicted closeness, clear and connected feelings, and increased social support and trust over the semester; self-image goals attenuated these effects. Self-image goals predicted conflict, loneliness, and confused and afraid feelings; compassionate goals attenuated these effects. Hence, these data indicate that where individuals act with caring and affiliative behaviours out of an empathic desire to care for others, there are personal and interpersonal benefits, however, when an element of this caring behaviour is influenced by self-image concerns (i.e., caring to appear likeable and non-selfish to others), these benefits are attenuated.

Also, similar concepts of caring and social rank mentalities are those of agency and communion (Bakan, 1966). Agency is related to 'masculine traits' such as, assertiveness, competitiveness, individuality, and autonomy. In contrast, communion is related to 'feminine traits' such as, social connectedness, concern with developing supportive relationships, and desires to be helpful, compassionate, and caring (Helgeson & Fritz, 1999, 2000). These personal attributes are typically measured with scales such as the Personal Attributes Questionnaire (PAQ; Spence, Helmreich, & Strapp, 1974), which measures socialized masculine/instrumental and feminine/affiliative traits. Recent research using the PAQ found that low scores on masculinity/instrumentality predicted depression (Moller-Leimkuhler & Yucel, 2010) and behavioural avoidance of feared stimuli (McLean & Hope, 2010).

While the concepts of agency and communion clearly overlap with those of 'caring and social ranking', there are also differences. For example, social mentality theory explores self-perceptions, as opposed to socialized masculine or feminine traits. Moreover, some of the items in the PAQ do not seem particularly related to rank or caring. So, part of our research sought to design a new self-evaluative scale that was social mentality and social role focused, particularly on competitive rank-related sense of self and the caring sense of self.

Getting improved measures of specific self-experiences is important for a number of reasons. First, if you ask depressed patients whether they feel competent, able, adequate, and worthy (status, ranking, and attributes linked to controlling resources) they will usually tell you they feel inadequate in these domains. However, if you ask them if they are kind, helpful or trustworthy, they often feel positive in these domains.

Indeed, sometimes depressed people can see it as a virtue that they are non-assertive (and hide their anger) while trying to be kind to others. Second, research has shown that self-criticism (Gilbert, Clarke, Hempel, Miles, & Irons, 2004; Zuroff, Santor, & Mongrain, 2005) and self-beliefs of inferiority, believing that others look down on the self, and behaving submissively are highly associated with depression in clinical and non-clinical populations (Allan & Gilbert, 1997; Gilbert & Allan, 1998; Gilbert, Allan, Brough, Melley, & Miles, 2002). Depressed people feel they are losing the competitions of social life for support, acceptance, and care and commonly see this as due to having personal undesirable qualities, for example, being boring, a failure, stupid, incompetent, weak, and unattractive (Gilbert, McEwan, Bellew, Mills, & Gale, 2009). Indeed, Zuroff, Moskowitz, and Cote (1999) explored self-criticism in relation to self-reported and experiential agency and communion and found that self-criticism was associated with insecurity in both domains.

This research explored whether we could identify different types of self-evaluation and experience linked to different social mentalities by asking people to rate judgements of their competitive abilities and their caring abilities. The first study recruited university students to focus on the development and validation of a new measure of self-experience in relation to self as caring and self as competitively competent. We then looked at each of these in relationship to depression and anxiety and stress. The second study further explored the relationship between these variables and social rank variables in a clinical population. We hypothesized that depression in both clinical and non-clinical populations would be primarily linked to competitive and rank focused issues. In other words, as suggested by social rank theory (Gilbert, 1992, 2007), we hypothesized that it will be low-perceived efficacy in domains of competitiveness that will link to inferior rank concerns, feelings of being a failure, and being vulnerable to shame and depression. In contrast, seeing oneself as a caring person will be unrelated to depression stress and anxiety, except in so far as caring can be a submissive, ingratiating behaviour. Given that there may be gender effects of these self-experiences (Helgeson & Fritz, 1999, 2000) we also explored gender effects.

STUDY I

Method

Participants

Undergraduate students (312: 97 males, 215 females) from psychology ($N = 217$), economics ($N = 52$), and engineering ($N = 43$) courses at the University of Leicester completed four self-report measures. No significant differences were found in scores on the self-report scales between the different courses, we therefore combined their data for the purposes of the study. Different courses were used to obtain a good representative sample of men and women. The age range was 18–47 years ($M = 20.25$ years, $SD = 3.00$).

Measures

Competitiveness and caring scale

The competitiveness and caring scale (CCS) measures evaluations of ones current *competitive abilities and sense of self* (e.g., degree of feeling ‘successful-unsuccessful’) and *caring abilities and sense of self* (e.g., degree of feeling ‘compassionate-uncompassionate’). Research and clinical staff generated words to reflect competitive and caring attributes. These words were then discussed at a research meeting and were

blindly and independently rated by six researchers for their suitability. The top nine scoring competitive words and the top nine scoring caring words were chosen and turned into bipolar measures to be rated on a 10-point Likert scale (see Table 1). This used the same basic methodology as used to develop the social comparison (SC) scale (Allan & Gilbert, 1995). The Cronbach's alphas for this scale are shown in Table 2. For a copy of the final scale, see Appendix.

Personal Attributes Questionnaire (PAQ)

This 24-item measure assesses how strongly participants rate themselves in socialized *masculine* (instrumentality/agency) and *feminine* (expressivity/nurturance) traits on a 5-point Likert scale (Spence *et al.*, 1974). Examples of masculine items are 'very active', 'feels superior', and 'competitive'. Examples of feminine items are 'very emotional', 'very gentle', and 'very kind'. The PAQ has shown good reliability ($\alpha > .80$) (Spence & Helmreich, 1978). This scale was given to students (but not patients), to test for concurrent validity with the new CCS.

Social comparison (SC) scale

The personal evaluation of social rank was obtained using Allan and Gilbert's (1995) SC scale. Participants are asked to make a global SC 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
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There are 11 items measuring constructs of inferior–superior, attractiveness, and insider–outsider. This scale has a good Cronbach's alpha of .90 (Allan & Gilbert, 1997; Gilbert & Allan, 1998).

The social safeness and pleasure scale (SSPS)

Gilbert, McEwan, Mitra, *et al.* (2009) developed this scale to measure the extent to which people experience their social worlds as safe, warm, and soothing. The items relate to feelings of belonging, acceptance, and warmth from others (e.g., 'I feel content within my relationships'). Respondents rate on a 5-point Likert scale the extent to which they agree with each of the 11 statements ranging from 0 ('almost never') to 4 ('almost all the time'). This scale has a good Cronbach's alpha of .92 (Gilbert, McEwan, Mitra, *et al.*, 2009).

Depression anxiety and stress scale (DASS)

This is a 21-item shortened version of the DASS42 (Lovibond & Lovibond, 1995). There are three sub-scales designed to measure levels of *depression* (e.g., 'I couldn't seem to experience any positive feelings at all'), *anxiety* (e.g., 'I was aware of dryness of my mouth'), and *stress* (e.g., 'I found it hard to wind down'). Participants are asked to rate how much each statement applied to them over the past week, on a 4-point scale (from 0 = 'Did not apply to me at all' to 3 = 'Applied to me very much, or most of the time'). The sub-scales have Cronbach's alphas of .94 for depression, .87 for anxiety, and .91 for stress (Antony, Bieling, Cox, Enns, & Swinson, 1998).

Results

Analysis was conducted using SPSS (IBM) version 18 for PCs. The data were screened for normality of the distributions and for outliers. Skewness values ranged from 0.40 to -1.30 and Kurtosis values from -0.27 to 3.31. Interestingly, the caring variable was skewed (-1.31) and kurtotic (3.31), indicating that people see themselves as caring (a ceiling effect). However, inspection of the histogram and standard deviation shows that although this variable has high scores, there is still variability in scores ($SD = 9.80$) and so it was not log transformed.

Exploratory factor analysis

The newly developed CCS was subjected to exploratory factor analysis (maximum likelihood extraction). Promax (oblique) rotation was conducted in order to allow the factors to correlate with one another, and delineate a clear factor structure (Norman & Streiner, 2000). As hypothesized, analysis revealed two factors with eigenvalues greater than one. Table 1 gives the items and factor loadings from the structure matrix. We were very interested in the fact that our items that are descriptive of rank and caring, were fully supported in the factor analysis, albeit with some items having cross-factor loadings above 0.40.

The first factor consisted of the nine items related to caring. The highest loading item was, 'uncaring-caring'. Factor loadings ranged from 0.44 to 0.84. Table 1 gives the nine items of this factor included in the data analysis. The second factor consisted of

Table 1. Exploratory factor analysis for the competitiveness and caring scale

	Structure matrix	
	Factor	
	Caring	Competitive
(Un)caring	<i>.837</i>	<i>.357</i>
(Un)friendly	<i>.803</i>	<i>.447</i>
Detached/warm	<i>.789</i>	<i>.480</i>
(Un)helpful	<i>.737</i>	<i>.443</i>
(Un)compassionate	<i>.711</i>	<i>.285</i>
(Un)affectionate	<i>.709</i>	<i>.348</i>
(Un)approachable	<i>.666</i>	<i>.469</i>
Insensitive/sensitive	<i>.655</i>	<i>.237</i>
(Un)forgiving	<i>.443</i>	<i>.214</i>
(Un)successful	<i>.420</i>	<i>.723</i>
(Un)motivated	<i>.445</i>	<i>.699</i>
(Un)determined	<i>.411</i>	<i>.687</i>
(Un)confident	<i>.316</i>	<i>.667</i>
(Un)accomplished	<i>.252</i>	<i>.640</i>
(Un)ambitious	<i>.368</i>	<i>.612</i>
Passive/dynamic	<i>.355</i>	<i>.569</i>
Fragile/strong	<i>.185</i>	<i>.565</i>
(Un)assertive	<i>.188</i>	<i>.533</i>

Note. Figures in italics denote to which factor the items belong.

the nine items related to competitiveness. The highest loading item was 'unsuccessful-successful'. Factor loadings ranged from 0.53 to 0.72. Table 1 gives the nine items of this factor included in the data analysis.

Retest reliability

Participants ($N = 21$) completed a retest of the CCS after a 3-week interval. The new scale has good test-retest reliability with a correlation coefficient of $r = .88$ for competitiveness and $r = .83$ for caring.

Descriptive analysis

The means, standard deviations, and Cronbach's alphas are shown in Table 2. Reliability for the study scales was generally good, however the masculinity sub-scale of the PAQ had low reliability ($\alpha = .52$).

Gender differences

Gender differences were explored as previous literature has suggested that men tend to be more rank/agency focused, whereas women tend to be more caring orientated (e.g., Helgeson & Fritz, 1999). An independent t -test showed significant differences ($t(221) = -4.00, p < 0.01$) with women scoring higher on caring than men. In addition, there were significant differences in SC ($t(221) = 2.75, p = .01$) with men scoring higher than women, and significant differences in social safeness ($t(222) = -3.77, p < 0.01$) with women scoring higher than men.

Correlation analysis

Pearson correlation coefficients are given in Table 2.

Table 2. Correlations, means, standard deviations, and alphas (students)

	Compete	Care	Masc	Fem	SC	SSPS	Dep	Anx	Stress
Care	.48**								
Masc	.67**	.25*							
Fem	.13	.70**	.17						
SC	.56**	.28**	.52**	.10					
SSPS	.46**	.47**	.30**	.30**	.40**				
Dep	-.38**	-.21**	-.23*	-.02	-.36**	-.37**			
Anx	-.20**	-.07	-.09	.08	-.23**	-.28**	.63**		
Stress	-.24**	-.05	-.21	.11	-.27**	-.28**	.74**	.71**	
Mean	64.26	71.50	19.90	23.80	67.80	40.47	4.90	4.30	7.20
SD	9.60	9.80	3.60	4.40	11.00	7.20	4.44	3.90	4.83
Alpha	.86	.90	.52	.85	.86	.90	.86	.78	.85

Notes. Compete = competitiveness (CCs); Care = caring (CCS); Masc = masculine sub-scale (PAQ); Fem = feminine sub-scale (PAQ); SC = social comparison scale; SSPS = social safeness and pleasure scale; Dep = depression (DASS); Anx = anxiety (DASS); Stress (DASS).

*Correlation is significant at the 0.05 level (two tailed). **Correlation is significant at the 0.01 level (two tailed).

Competitiveness and caring scale

The competitiveness and caring sub-scales showed a moderate correlation with each other of $r = .48$. This was slightly unexpected because previous studies measuring agentic and affiliative traits tend to reveal smaller correlations (Bradlee & Emmons, 1992; Helgeson & Fritz, 1999).

Competitiveness and caring scale and Personal Attributes Questionnaire

Participants ($N = 90$) completed the PAQ as part of the validation of the new CCS. The new scale showed good convergent validity as competitiveness was highly correlated with masculinity ($r = .67$) and caring was highly correlated with femininity ($r = .70$).

Competitiveness, caring, social comparison, and social safeness

As hypothesized, competitiveness was moderately correlated with SC ($r = .56$) more so than caring, which correlated with SC ($r = .28$). This was expected as competitiveness measures achieving and competitive social roles and the SC scale measures one's perceived relative rank in comparison with others. Both competitiveness and caring correlated moderately and similarly with social safeness ($r = .46$ and $r = .47$, respectively).

Competitiveness, caring and depression, anxiety and stress

Competitiveness and caring were both significantly related to depression. Depression had a stronger association with competitiveness ($r = -.38$) than caring ($r = -.21$). Competitiveness was also correlated with anxiety and stress, but caring attributes were not significantly correlated with these variables.

The significant association between caring and depression was interesting and gave rise to an important issue that research has not explored - namely that some aspects of caring are to 'be liked' and are linked to submissive appeasing behaviour. Unfortunately, this study did not include a measure of submissiveness but we did have a measure of low rank self-perception from our SC scale. So, a partial correlation controlling for SC was performed to explore this possibility. When controlling for SC, the significant correlation between caring and depression became non-significant. In contrast, doing the same in regard to competitiveness and depression, the relationship between these remained significant. This indicates that caring as 'genuine interest and concern' and caring as 'appeasing', requires more detailed research. We explored this in Study 2.

Personal Attributes Questionnaire and depression, anxiety, and stress

With the exception of a low significant correlation between masculinity and depression ($r = -.23$), the masculinity and femininity sub-scales of the PAQ were not significantly related to depression, anxiety, and stress. Thus, the new CCS has higher associations with depression, anxiety and stress, than the PAQ.

Multiple regression

A standard multiple regression analysis was conducted to explore the relative contribution of competitiveness and caring and masculinity and femininity to the prediction of depression. Anxiety and stress were not explored with multiple regressions as the

correlations showed that of these variables, only competitiveness was significant in relation to the psychopathology variables. The regression equation accounted for 15% ($R^2 = .15$) of the variance in the prediction of depression [$F_{(2,85)} = 3.42$; $p < 0.01$]. None of the variables were significant predictors of depression and the only variable to come close to significance was competitiveness ($\beta = -0.30$, $p = 0.059$), possibly linked to the low levels of depression in this group.

STUDY 2

Method

Participants

Patients (48: 20 males, 28 females) who were currently depressed were recruited from day hospitals, community mental health teams, and depression self-help groups across Derbyshire and Leicestershire. The age range was 18–67 years ($M = 48.68$, $SD = 13.01$). After obtaining ethics approval for the study, a group of clinicians were advised of the study and asked to identify suitable depressed people. Depression diagnosis was made by: (1) clinical assessment upon referral and (2) treatment being ‘for depression’. In the case of the depression self-help group, people identified themselves as depressed and as being currently treated for depression. In this sample, depression scores ranged from 0 to 21 ($M = 13.17$, $SD = 5.77$), anxiety ranged from 0 to 20 ($M = 9.85$, $SD = 6.19$), and stress ranged from 2 to 21 ($M = 12.62$, $SD = 4.84$). These scores were in the ‘severe’ range according to DASS severity ratings (Lovibond & Lovibond, 1995).

Measures

The same measures were used as in Study 1, with the exception of PAQ (which was excluded) and submissive behaviour scale (SBS), which was included in this study to control for the submissive element of caring.

Submissive behaviour scale (SBS)

Derived from the work of Buss and Craik (1986), the SBS was developed by Gilbert and Allan (1994) and refined by Allan and Gilbert (1997). It consists of 16 examples of submissive behaviour (e.g., ‘I agree that I am wrong even though I know I’m not’), which people rate as a behavioural frequency (from 0 = *Never* to 4 = *Always*). The scale has a Cronbach’s alpha of .89 (Gilbert, Allan, & Trent, 1996).

Results

Analysis was conducted using SPSS version 18 for PCs. The data were screened for normality of the distributions and for outliers. The patient sample was normally distributed, with skewness values ranging from .01 to .88 and kurtosis from $-.06$ to 1.23.

Descriptive analysis

The means, standard deviations and Cronbach’s alphas are shown in Table 3. Reliability for the study scales was generally good, ranging from .85 to .94.

Table 3. Correlations, means, standard deviations, and alphas (patients)

	Compete	Care	SubBeh	SC	SSPS	Dep	Anx	Stress
Care	.40**							
SubBeh	-.55**	-.39**						
SC	.70**	.29*	-.64**					
SSPS	.60**	.47**	-.44**	.60**				
Dep	-.51**	-.29*	.43**	-.47**	-.51**			
Anx	-.40**	-.33*	.43**	-.45**	-.30*	.59**		
Stress	-.46**	-.42**	.52**	-.34*	-.41**	.60**	.77**	
Mean	39.75	62.35	35.92	42.48	27.44	13.17	9.85	12.62
SD	14.07	17.16	10.74	17.98	9.43	5.77	6.19	4.84
Alpha	.86	.94	.89	.93	.94	.92	.91	.85

Notes. Compete = competitiveness (CCs); Care = caring (CCS); SubBeh = submissive behaviour scale; SC = social comparison scale; SSPS = social safeness and pleasure scale; Dep = depression (DASS); Anx = anxiety (DASS); Stress (DASS).

*Correlation is significant at the 0.05 level (two tailed). **Correlation is significant at the 0.01 level (two tailed).

Gender differences

We explored gender differences using a *t*-test. In contrast to the student sample, where gender differences were significant in several measures, in the patient sample there were no significant differences between males and females. In addition, we conducted a *t*-test comparing the self-report scores of students and patients. There were significant differences in all variables in the expected direction (i.e., patients saw themselves as less competitive, caring, socially safe, and had higher inferior SCs and psychopathology scores).

Correlation analysis

Pearson correlation coefficients for patients are given in Table 3. In general, the correlations are much stronger in the clinical group than the student sample.

Competitiveness and caring scale

As in the student sample, the competitiveness and caring sub-scales showed a moderate correlation with each other, of $r = .40$ in patients.

Competitiveness, caring, social comparison, and social safeness

In the patient sample, competitiveness was highly correlated with SC ($r = .70$) in contrast with caring, which showed a small correlation ($r = .29$). Both competitiveness and caring correlated with social safeness but in particular, competitiveness was highly correlated ($r = .60$) compared to the student sample. This is important because it indicates that when one is depressed, social ranking, and seeking approval through success and desirability maybe be more highly linked to feelings of social safeness. To investigate the link between competitiveness, caring and social safeness further, a partial correlation was conducted controlling for social safeness. This revealed that the correlation between competitiveness and depression was reduced but still significant when social safeness was controlled for ($r = -.30$). The correlation between caring and depression became non-significant.

Competitiveness, caring, and submissive behaviour

In patients, submissive behaviour was negatively associated with competitiveness ($r = -.55$) and had a smaller correlation with caring ($r = -.39$).

Competitiveness, caring and depression, anxiety and stress

The results for the patient sample mirror those obtained in students, but with correlations being stronger. In contrast to the student data, caring was significantly negatively correlated with anxiety and stress. As noted before with the student population there can be a submissive and appeasing element to caring, thus we controlled for submissive behaviour with a partial correlation. When controlling for submissive behaviour in patients, the correlations between caring and depression, anxiety, and stress become non-significant. In regard to the correlations between competitiveness with anxiety and stress, these become non-significant and the correlation with depression is reduced ($r = .37$) but still remains significant.

Multiple regression

A series of standard multiple regression analyses were conducted to explore the relative contribution of competitiveness and caring to the prediction of depression, anxiety, and stress. The regression equation accounted for 27% ($R^2 = .27$) of the variance in the prediction of depression [$F_{(2,45)} = 8.28$; $p = 0.001$]. Competitiveness significantly predicted depression ($\beta = -.47$, $p = 0.001$). Hence, again we see that that in a clinical population these constructs come into their own. In the prediction of anxiety, the regression equation accounted for 20% ($R^2 = .20$) of the variance [$F_{(2,45)} = 5.49$; $p = 0.007$]. Competitiveness significantly predicted anxiety ($\beta = -.32$, $p = 0.035$). In the prediction of stress, the regression equation accounted for 28% ($R^2 = .28$) of the variance [$F_{(2,45)} = 8.53$; $p = 0.001$]. Competitiveness significantly predicted stress ($\beta = -.34$, $p = 0.017$), while caring was marginally significant in predicting stress ($\beta = -.28$, $p = 0.049$).

Mediator analysis

As noted above, there may be a submissive element to caring behaviours and when this was controlled for using a partial correlation, the correlation between caring and psychopathology variables became non-significant. Hence a mediator analysis was conducted using multiple regressions, following the four-step analysis recommended by Baron and Kenny (1986).

Caring was entered as the independent variable, submissive behaviour as the mediator and depression as the dependent variable. Step 1 found that the independent variable (caring) was a significant predictor of the dependent variable (depression) [$F_{(1,46)} = 4.07$, $p = .050$, $R^2 = .08$]. Step 2 found that caring was a significant predictor of the hypothesized mediator (submissive behaviour) [$F_{(1,46)} = 8.19$, $p = .006$, $R^2 = .15$]. Step 3 found that the mediator (submissive behaviour) was a significant predictor of depression [$F_{(2,45)} = 5.67$, $p = .006$, $R^2 = .20$], when controlling for caring. Step 4 analysis of the standardized β weights indicates that submissive behaviour fully mediates the relationship between caring and depression. A Sobel test supported this ($p = .050$). That is, while caring directly predicts depression, depression is especially high if in addition, one is submissive.

Using the same procedure as above, another mediator analysis was conducted taking competitiveness as the independent variable. In this analysis, submissive behaviour was a partial mediator between competitiveness and depression, that is the β weight decreased from $-.51$ to $-.39$ when submissive behaviour was controlled for. Further mediator analyses were conducted exploring submissive behaviour as a mediator between competitiveness, caring, and anxiety. Both models showed submissive behaviour to be a full mediator, however, these effects were not supported by the Sobel test. Further mediator analyses explored submissive behaviour as a mediator between competitiveness, caring, and stress. Submissive behaviour was a partial mediator between competitiveness and stress (β weight decreased from -4.60 to $.38$). Submissive behaviour was however, a full mediator between caring and stress and this was supported by the Sobel test ($p < .05$).

Finally, mediator analyses were conducted to further explore the potential mediating role of social safeness between competitiveness, caring, and depression as a partial correlation indicated that this may be of interest. The first model exploring the mediating effect of social safeness between caring and depression was not significant. However, the second model exploring the mediating effect of social safeness between competitiveness and depression was significant and showed full mediator effects, although these were not supported by the Sobel test.

GENERAL DISCUSSION

This study developed a scale to assess people's competitive and caring sense of self. We then explored these self-representations in regard to social rank, social safeness, and psychopathologies. The new CCS showed good psychometric properties with a clear two-factor solution of competitiveness and caring.

In regard to the relationship between the new CCS with SC, competitiveness was highly correlated with such social rank evaluations, especially in the patient group. These data are consistent with the idea that competitiveness is linked to rank concerns and that these rank concerns and competitive striving may be especially problematic in depressed populations (Gilbert, 1992; Gilbert, McEwan, Bellew, *et al.*, 2009).

Both competitiveness and caring were associated with social safeness. However, in the patient sample competitiveness was highly associated with social safeness. In other words, the more safe one feels, the more successful one feels in competitive aspects of life such as feeling confident, accomplished and ambitious. We therefore conducted a mediator analysis and found that social safeness fully mediated the relationship between competitiveness and depression. This implies that if one feels one is unconfident or unambitious but feels socially safe then one is less likely to be depressed. However if one feels unable to function in these domains, in a socially unsafe or non-soothing environment, then depression is much more likely. This also links to other research which suggests that it may be a particular kind of competitiveness that arises from feeling socially insecure (unsafe), which is particularly linked to depression. Indeed, this finding supports a large literature that striving, when motivated to ward off social threats and prove oneself to others is linked to a range of psychopathologies (e.g., Dykman, 1998; Gilbert, McEwan, Bellew, *et al.*, 2009).

The mentality of competitiveness also links to the concept of self-esteem, which has been associated with competitive striving to avoid feelings of inferiority and to provide feelings of self-worth (Crocker & Park, 2004; Park, Crocker, & Mickelson, 2004). If self-esteem is contingent upon successes, then the pursuit of self-esteem can be associated

with anxiety and depression, particularly when one feels one is failing (Dykman, 1998; Gilbert, McEwan, Bellew, *et al.*, 2009).

Competitiveness was linked with psychopathology variables in students and especially in the clinical group. Caring was associated with depression in students and depression, anxiety, and stress in patients. It is interesting to note the possible reasons of why caring may have been associated with depression. One is that an aspect of caring may be wanting to appear likeable via being submissive and appeasing, especially if one feels inferior to others (Allan & Gilbert, 1997). We explored this possibility using a partial correlation controlling for submissive behaviour. When we controlled for submissive behaviour, the relationship between caring and depression, anxiety and stress disappeared. However, when we controlled for submissive behaviour on the competitive domain, the relationship between competitiveness and depression remained, but the relationship with anxiety and stress disappeared. This was further investigated using a series of mediator analyses entering submissive behaviour as the mediator between competitiveness, caring, and psychopathology variables. These analyses revealed that submissive behaviour was indeed a full mediator between caring and depression. This provides support for the idea that depression can be associated with a submissive and appeasing form of caring behaviour. In contrast, competitiveness although linked to submissive behaviour, is only partially mediated.

In the student study, when competitiveness, caring, masculinity, and femininity were entered into the multiple regression, it was only competitiveness that came close to being a significant predictor of depression. The patient data supports this, in a series of multiple regressions, competitiveness emerged as the only predictor of depression, anxiety, and stress. This is consistent with our hypotheses and previous research that has found that competitiveness is linked to depression (Gilbert, McEwan, Bellew, *et al.*, 2009; Helgeson & Fritz, 1999), negative affect (Saragovi, Aube, Koestner, & Zuroff, 2002), distress (Sarogovi, Koestner, Aube, & Di-Dio, 1997), and anxiety and stress (Gilbert, McEwan, Bellew, *et al.*, 2009). These findings are also consistent with anecdotal evidence that depressed patients may see themselves as having caring qualities but not having competitive qualities (Gilbert, 2007). The data also fit with Anthony, Holmes, and Wood (2007) who found that individuals with low self-esteem and individuals with high self-esteem did not differ in their perception of their caring qualities but did differ in regard to their desirability and appearance to others, which in our model is related to competitiveness and social rank.

Study 1 has a number of limitations including predominance of a young, female sample; we cannot assume that the same relationship will pertain to older samples or different gendered or cultural groups. For example, people tend to become more caring and communal as they get older (Diehl, Owen, & Youngblade, 2004). Second, as students, they are likely to have been relatively competitive in order to gain a place at university. One common limitation of both studies is that it may have been beneficial to include the Rosenberg self-esteem scale (Rosenberg, 1965). This scale is commonly used as a global measure of self-worth and is noted to show low scores in depressed populations. However, the items in this scale are mostly related to competitive traits (e.g., 'All in all, I am inclined to feel that I am a failure; I feel I don't have much to be proud of'). It would have been interesting to explore associations between self-esteem, competitiveness, and psychopathology.

Our study has linked people's sense of self to underlying social mentalities that have long evolutionary histories and act as coordinators of cognition, emotion, and behaviour (Buss, 2003; Gilbert, 1989). This may be especially important in view of new

research on the neuroscience of caring and competitive behaviour (Panksepp, 2007). These findings also have therapeutic potential, because helping people to tap into the inner experiences of caring and compassion and direct these qualities to themselves and others can be therapeutic (Germer, 2009; Gilbert, 2010). A number of meditation studies have also shown that focusing on developing compassion and caring for oneself and others is linked to increases in well-being and positive social relationships (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008; Hutcherson, Seppala, & Gross, 2008). However, the findings of our study concerning the mediating effect of submissive behaviour on the link between caring and depression, suggests that caring should be through a genuine caring motivational system as opposed to submissive appeasement and wanting to be liked. That submissive orientation is more associated with social rank concerns. Our research also indicates that the link between the competitive sense of self and depression is determined by how safe and connected you feel in your social arena. When people feel they are not able to compete *and* feel socially unsafe—this is a toxic mixture for depression. So social rank cannot be socially decontextualised from the social arenas in which it operates. This finding is in line with those of Zuroff *et al.* (1999). This has important implications for therapy because while assertiveness and exerting control over one's life is important, perhaps more important is helping people to feel socially connected and socially safe so that they don't need to strive in such rigorous or fear-focused ways to earn their place Gilbert, McEwan, Bellew, *et al.* (2009). Our data suggest that caution should be exercised in an over focus on peoples individuality, competitiveness, need to acquire resources, and striving to prove themselves, especially in environments where they may feel low levels of social connectedness. Our data suggest that this combination may increase vulnerability to depression stress and anxiety - especially when people feel they are failing to keep up and feel socially unsafe or disconnected.

References

- Allan, S., & Gilbert, P. (1995). A social comparison scale: Psychometric properties and relationship to psychopathology. *Personality and Individual Differences, 19*, 293-299. doi:10.1016/0191-8869(95)00086-L
- Allan, S., & Gilbert, P. (1997). Submissive behaviour and psychopathology. *British Journal of Clinical Psychology, 36*, 467-488.
- Antony, M. M., Bieling, P. J., Cox, B. J., Enns, M. W., & Swinson, R. P. (1998). Psychometric properties of the 42 item and 21 item versions of the depression, anxiety and stress scales in clinical groups and a community sample. *Psychological Assessment, 10*, 176-181.
- Anthony, D. B., Holmes, J. G., & Wood, J. V. (2007). Social acceptance and self-esteem: Tuning the sociometer to interpersonal value. *Journal of Personality and Social Psychology, 92*, 1024-1039. doi:10.1037/0022-3514.92.6.1024
- Bakan, D. (1966). *The duality of human existence: Isolation and communion in western man*. Boston: Beacon Press.
- Baldwin, M. W. (1992). Relational schemas and the processing of social information. *Psychological Bulletin, 112*, 461-484.
- Baldwin, M. W., & Dandeneau, S. D. (2005). Understanding and modifying the relational schemas underlying insecurity. In M. W. Baldwin (Ed.), *Interpersonal cognition* (pp. 33-61). New York: Guilford.
- Barkow, J. H. (1989). *Darwin, sex and status: Biological approaches to mind and culture*. Toronto: University of Toronto Press.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality & Social Psychology, 51*, 1173-1182. doi:10.1037/0022-3514.51.6.1173

- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*, 497-529.
- Bradlee, P. M., & Emmons, R. A. (1992). Locating narcissism in the interpersonal circumplex and the five-factor model. *Personality and Individual Differences*, *13*, 821-830. doi:10.1016/0191-8869(92)90056-U
- Buss, D. M. (2003). *Evolutionary psychology: The new science of mind* (2nd ed.). Boston: Allyn & Bacon.
- Buss, D. M., & Craik, K. H. (1986). Acts, dispositions and clinical assessment: The psychopathology of everyday conduct. *Clinical Psychology Review*, *6*, 387-406. doi:10.1016/0272-7358(86)90028-0
- Crocker, J., & Canevello, A. (2008). Creating and undermining social support in communal relationships: The role of compassionate and self-image goals. *Journal of Personality and Social Psychology*, *95*, 555-575. doi:10.1037/0022-3514.95.3.555
- Crocker, J., & Park, L. (2004). The costly pursuit of self-esteem. *Psychological Bulletin*, *130*, 392-414.
- Cozolino, L. (2007). *The neuroscience of human relationships: Attachment and the developing brain*. New York: Norton.
- Diehl, M., Owen, S. K., & Youngblade, L. M. (2004). Agency and communion attributes in adults' spontaneous self-representations. *International Journal of Behavioural Development*, *28*, 1-15. doi:10.1080/01650250344000226
- Dykman, B. M. (1998). Integrating cognitive and motivational factors in depression: Initial tests of a Goal Orientation Approach. *Journal of Personality and Social Psychology*, *74*, 139-158. doi:10.1037/0022-3514.74.1.139
- Fredrickson, B. L., Cohn, M. A., Coffey, K. A., Pek, J., & Finkel, S. A. (2008). Open hearts build lives: Positive emotions, induced through loving-kindness meditation, build consequential personal resources. *Journal of Personality and Social Psychology*, *95*, 1045-62. doi:10.1037/a0013262
- Germer, C. (2009). *The mindful path to self-compassion: Freeing your self from destructive thought and emotions*. New York: Guilford.
- Gilbert, P. (1989). *Human nature and suffering*. Hove: Lawrence Erlbaum Associates.
- Gilbert, P. (1992). *Depression: The evolution of powerlessness*. London: Psychology Press.
- Gilbert, P. (1993). Defence and safety: Their function in social behaviour and psychopathology. *British Journal of Clinical Psychology*, *32*, 131-153.
- Gilbert, P. (1995). Biopsychosocial approaches and evolutionary theory as aids to integration in clinical psychology and psychotherapy. *Clinical Psychology and Psychotherapy*, *2*, 135-56. doi:10.1002/cpp.5640020302
- Gilbert, P. (1997). The evolution of social attractiveness and its role in shame, humiliation, guilt and therapy. *British Journal of Medical Psychology*, *70*, 113-147.
- Gilbert, P. (2005). Compassion and cruelty: A biopsychosocial approach. In P. Gilbert (Ed.), *Compassion: Conceptualisations, research and use in psychotherapy* (pp. 9-74). London: Routledge.
- Gilbert, P. (2007). *Psychotherapy and counselling for depression* (3rd ed.). London: Sage.
- Gilbert, P. (2010). *Compassion focused therapy: The CBT distinctive features series*. London: Routledge.
- Gilbert, P., & Allan, S. (1994). Assertiveness, submissive behaviour and social comparison. *British Journal of Clinical Psychology*, *33*, 295-306.
- Gilbert, P., & Allan, S. (1998). The role of defeat and entrapment (arrested flight) in depression: An exploration of an evolutionary view. *Psychological Medicine*, *28*, 584-597.
- Gilbert, P., Allan, S., Brough, S., Melley, S., & Miles, J. (2002). Anhedonia and positive affect: Relationship to social rank, defeat and entrapment. *Journal of Affective Disorders*, *71*, 141-151.
- Gilbert, P., Allan, S., & Trent, D. (1996). A short measure of social and separation anxiety. *Journal of Medical Psychology*, *69*, 155-161.

- Gilbert, P., Clarke, M., Hempel, S., Miles, J. N. V., & Irons, C. (2004). Criticizing and reassuring oneself: An exploration of forms style and reasons in female students. *British Journal of Clinical Psychology*, *43*, 31–50.
- Gilbert, P., McEwan, K., Bellew, R., Mills, A., & Gale, C. (2009). The dark side of competition: How competitive behaviour and striving to avoid inferiority are linked to depression, anxiety, stress and self harm. *Psychology and Psychotherapy: Theory, Research and Practice*, *82*, 123–136. doi:10.1348/147608308X379806
- Gilbert, P., McEwan, K., Mitra, R., Richter, A., Franks, L., Mills, A., Bellew, R., & Gale, C. (2009). An exploration of different types of positive affect in students and patients with a bipolar disorder. *Clinical Neuropsychiatry*, *6*, 135–143.
- Gilbert, P., Price, J., & Allen, S. (1995). Social comparison, social attractiveness and evolution: How might they be related? *New Ideas in Psychology*, *13*, 149–165. doi:10.1016/0732-118X(95)00002-X
- Helgeson, V. S., & Fritz, H. L. (1999). Unmitigated agency and unmitigated communion: Distinctions from agency and communion. *Journal of Research in Personality*, *33*, 131–158. doi:10.1006/jrpe.1999.2241
- Helgeson, V. S., & Fritz, H. L. (2000). The implications of unmitigated agency and unmitigated communion for domains of problem behaviour. *Journal of Personality*, *68*, 1031–1057.
- Hutcherson, C. A., Seppala, E. M., & Gross, J. J. (2008). Loving-kindness meditation increases social connectedness. *Emotion*, *8*, 720–724. doi:10.1111/1467-6494.00125
- Kiesler, D. J. (1983). The 1982 interpersonal circle: A taxonomy for complementarity in human interactions. *Psychological Review*, *90*, 185–214.
- Leary, T. (1957). *Interpersonal Diagnosis of Personality*. New York: Ronald.
- Leary, M. R., Tambor, E. S., Terdal, S. K., & Downs, D. L. (1995). Self-esteem as an interpersonal monitor: The sociometer hypothesis. *Journal of Personality and Social Psychology*, *68*, 519–530.
- Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the depression anxiety stress scales* (2nd ed.). Sydney: Psychology Foundation.
- MacDonald, G., & Leary, M. R. (2005). Why does social exclusion hurt? The relationship between social and physical pain. *Psychological Bulletin*, *131*, 202–223. doi:10.1037/0033-2909.131.2.202
- McLean, C. P., & Hope, D. A. (2010). Subjective anxiety and behavioural avoidance: Gender, gender role and perceived confirmability of self-report. *Journal of Anxiety Disorders*, *24*, 494–502. doi:10.1016/j.janxdis.2010.03.006
- Moller-Leimkuhler, A. M., & Yucel, M. (2010). Male depression in females? *Journal of Affective Disorders*, *121*, 22–29. doi:10.1016/j.jad.2009.05.007
- Norman, G. R., & Streiner, D. L. (2000). *Biostatistics: The bare essentials* (2nd ed.). Hamilton, Ontario: BC Decker.
- Panksepp, J. (2007). The neuroevolutionary and neuroaffective psychobiology of the prosocial brain. In R. I. M. Dunbar & L. Barrett. *The Oxford handbook of evolutionary psychology*. Oxford: Oxford University Press.
- Park, L. E., Crocker, J., & Mickelson, K. D. (2004). Attachment styles and contingencies of self-worth. *Personality and Social Psychology Bulletin*, *30*, 1243–1254. doi:10.1177/0146167204264000
- Plutchik, R., & Conte, H. R. (Eds.). (1997). *Circumplex models of personality and emotions*. Washington, DC: American Psychological Association.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Santor, D., & Walker, J. (1999). Garnering the interests of others: Mediating the effects among physical attractiveness, self-worth and dominance. *British Journal of Social Psychology*, *38*, 461–477.

- Saragovi, C., Aube, J., Koestner, R., & Zuroff, D. (2002). Traits, motives, and depressive styles as reflections of agency and communion. *Personality and Social Psychology Bulletin*, 28, 563-577. doi:10.1177/0146167202288001
- Saragovi, C., Koestner, R. Aube, J., & Di-Dio, L. (1997). Agency, communion and well-being: Extending Helgeson's (1994) model. *Journal of Personality and Social Psychology*, 73, 593-609.
- Spence, J. T., Helmreich, R. L., & Strapp, J. (1974). The personal attributes questionnaire: A measure of gender role stereotypes and masculinity-femininity. *Journal of Supplement Abstract Service Catalogue of Selected Documents in Psychology*, 4, 43-44.
- Spence, J. T., & Helmreich, R. L. (1978). *Masculinity and femininity: Their psychological dimensions, correlates and antecedents*. Austin, TX: University of Texas Press.
- Stevens, A., & Price, J. (2000). *Evolutionary Psychiatry: A new beginning* (2nd Ed.). London: Routledge.
- Zuroff, D. C., Moskowitz, D. S., & Cote, S. (1999). Dependency, self-criticism, interpersonal behaviour and affect: Evolutionary perspectives. *British Journal of Clinical Psychology*, 38, 231-250. doi:10.1348/014466599162827
- Zuroff, D. C., Santor, D., & Mongrain, M. (2005). Dependency, self-criticism, and maladjustment. In J. S. Auerbach, K. N. Levy, & C. E. Schaffer (Eds.), *Relatedness, self-definition and mental representation: Essays in honour of Sidney J. Blatt* (pp. 75-90). London: Routledge.

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Appendix**Competitiveness and caring scale (CCS)**

Unaccomplished	1	2	3	4	5	6	7	8	9	10	Accomplished
Unaffectionate	1	2	3	4	5	6	7	8	9	10	Affectionate
Unambitious	1	2	3	4	5	6	7	8	9	10	Ambitious
Unapproachable	1	2	3	4	5	6	7	8	9	10	Approachable
Unassertive	1	2	3	4	5	6	7	8	9	10	Assertive
Uncompassionate	1	2	3	4	5	6	7	8	9	10	Compassionate
Unconfident	1	2	3	4	5	6	7	8	9	10	Confident
Undetermined	1	2	3	4	5	6	7	8	9	10	Determined
Passive	1	2	3	4	5	6	7	8	9	10	Dynamic
Unforgiving	1	2	3	4	5	6	7	8	9	10	Forgiving
Unfriendly	1	2	3	4	5	6	7	8	9	10	Friendly
Unhelpful	1	2	3	4	5	6	7	8	9	10	Helpful
Uncaring	1	2	3	4	5	6	7	8	9	10	Caring
Insensitive	1	2	3	4	5	6	7	8	9	10	Sensitive
Unmotivated	1	2	3	4	5	6	7	8	9	10	Motivated
Fragile	1	2	3	4	5	6	7	8	9	10	Strong
Unsuccessful	1	2	3	4	5	6	7	8	9	10	Successful
Detached	1	2	3	4	5	6	7	8	9	10	Warm

Circle one number on each line according to how you see yourself.