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Submissive behaviour and psychopathology

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Objectives. A variety of behaviours have been identified as submissive (Buss & Craik, 1986). These are believed to be associated with vulnerability to psychopathology. This paper explores the construct and measurement of submissive behaviours and their association with psychopathology.

Design. Two self-report scales were designed to measure the frequencies of (*a*) typical submissive behaviours (SBS) and (*b*) passive/withdrawal and affiliative strategies focused on conflict de-escalation (CDS). The association of these scales with psychopathology was explored in a series of questionnaire studies.

Methods. Study 1 assessed the SBS using a student sample ($N = 332$) and a mixed clinical group ($N = 136$). Of these, 177 students and 66 patients also completed the SCL-90–R. In Studies 2 and 3, the CDS and its association with depressive symptoms were assessed using a student sample ($N = 154$) and a depressed patient group ($N = 60$).

Results. The SBS and CDS appeared reliable. There was a positive relationship between the SBS and the SCL-90–R, including interpersonal sensitivity and unexpressed hostility. The passive/withdrawal subscale of the CDS was associated with depressive symptoms. Evidence was obtained for sex differences with the affiliative subscale.

Conclusions. Some forms of submissive behaviour, especially those associated with passive/withdrawal and inhibition, are associated with a wide range of psychological problems.

It is recognized that people who have difficulties asserting themselves can be vulnerable to a number of psychological problems. Low assertiveness has been found to be associated with depression, social anxiety, shyness and personality factors such as neuroticism and introversion (e.g. Arrindell *et al.*, 1990; Arrindell, Sanderman, Van der Molen, Van der Ende & Mersch, 1988; Arrindell & Van der Ende, 1985; Gilbert & Allan, 1994; St Lawrence, 1987). Linehan & Egan (1979) pointed out that self-expressiveness and standing up for one's rights are among the most frequently reported dimensions of assertiveness.

The interpersonal circumplex approach views social behaviour as a function of

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two dimensions: dominance–submission and love–hate (Birtchnell, 1993; Horowitz & Vitkus, 1986; Kiesler, 1983; Leary, 1957). In this model high and low assertiveness have been linked with dominance and submission, respectively. For example, submissive behaviour is labelled as subassertive by Horowitz, Rosenberg, Baer, Ureno & Villasenor, 1988 who found it to be associated with various psychological problems (e.g. depression and social anxiety). In a group of female students, Gilbert, Allan & Goss (1996) found that submissive behaviour was associated with a number of interpersonal problems (Horowitz *et al.*, 1988), depression proneness and recall of unfavourable parenting.

Another approach to the conceptualization of submissive behaviour, and its role in psychopathology, is to place it in the context of the evolutionary function of dominance–subordinate behaviour (Gilbert, 1992; McGuire & Troisi, in press; Price, 1972; Price, Sloman, Gardner, Gilbert & Rhode, 1994). Submissive behaviour is largely associated with perceptions of inferior social rank or status and can be seen as a form of social defence in the context of others who are more powerful or of higher rank in some way (Gilbert, 1993). Linking submissive behaviour to the evolved mental mechanisms of social rank opens the possibility for more integrative psychobiological research (Henry, 1982; Henry & Stephens, 1977) which may provide insight into how social relationships both cause and reflect biological changes (Gilbert, 1995).

Dominance–subordination

In a variety of species the strategies to gain dominance and inhibit conspecific competitors usually operate through the ability to exert control over others via coercion, intimidation, threat and attacks. This involves demonstrations of fighting ability. The tactics and signals used to advertise fighting ability and threaten others involve size, posture, ritual agonistic behaviour (Archer, 1988; Caryl, 1988; Parker, 1974) and, in primates, the ability to call on allies (de Waal, 1989). It is important to note that in general the object of such behaviours is not usually to cause serious injury or kill competitors (subordinates), but rather to create states of mind associated with fear, and a readiness to back off (exit a territory), submit, give in and not vigorously contest resources. That is, a successful challenge produces inhibition, desires to escape, avoidance and/or a refraining from a confident challenge in the other. Ritual threat displays would have little use unless there was also, in conspecifics, a readiness to back down and/or take flight.

Although dominance and subordination are often seen as properties of relationships rather than individuals (Dunbar, 1988), it is important that animals learn to whom they are subordinate to enable a competent use of submissive behaviour to terminate attacks if the need arises. This depends on various forms of social comparison (Gilbert, Price & Allan, 1995) and estimates of making a viable counterattack. Subordinate behaviours are clearly a repertoire of behaviours that are located in individuals and not relationships. To put this another way, who is dominant over whom often depends on the history of relationships, but the enactment of submissive behaviour depends on the individual and social context.

Various studies have shown that the readiness to express submissive behaviours

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is both socially and biologically mediated. For example, studies of wild baboons by Sapolsky (1989, 1990 *a,b*, 1993, 1994) and Ray & Sapolsky (1992) found major biological differences between dominant and subordinate animals especially in regard to stress hormones. In fact, in various species the biological profile of subordinate animals is different compared to more dominant animals (Henry, 1982; Henry & Stephens, 1977; McGuire & Troisi, in press). Kemper (1990), Hartmann (1992) and Raleigh, McGuire, Brammer & Yuwieler (1984) note, however, that physiological changes are often the consequence of rank changes rather than the cause.

Submissive behaviour

The preparedness for subordinate conspecifics to submit to the more dominant is many millions of years old. Indeed, many of the earliest forms of social behaviour such as courting, sexual advertising, mating, threatening, harassing, territorial defensive, ritual threat displays and submission are to be found in our earliest ancestors, the reptiles (Bailey, 1987; MacLean, 1990). Since social defensive responses not only involve elements of fight, flight and inhibition but also have a social communication function, submission can involve salient changes in non-verbal behaviour such as eye gaze avoidance, crouching, presenting, rolling onto the back and so forth (Harper, 1985). Such behaviours are highly socially focused and never shown to other forms of threat (Marks, 1987). Subordinate–submissive behaviours to conspecific threats can therefore be either flight (avoidance/escape) or when this is not possible passive avoidance (staying put) with the assumption of particular body postures (e.g. crouching, head down, gaze avoidance, rolling onto the back, presenting and so forth; Marks, 1987). Thus, submissive behaviours can be either active escape or passive inhibition. The latter are designed to signal 'no threat' (to the dominant) and avoid escalation of conflict.

The importance of submissive behaviour is made clear by MacLean (1990) who noted:

> ...Ethologists have made it popularly known...that a passive response (a submissive display) to an aggressive display may make it possible under most circumstances to avoid unnecessary, and sometimes mortal, conflict. Hence it could be argued that the *submissive display is the most important of all displays* because without it numerous individuals might not survive (italics added, p. 235).

In general, then, submissive behaviour in animals is usually aimed at avoiding, *de-escalating* or terminating conflicts and attacks (Archer, 1988; Caryl, 1988). Animals lacking the behaviours to de-escalate conflicts would not survive and social living would be permanent agonism.

Submissive behaviour and passivity

There are a varied number of submissive behaviours, depending on species and related to social context and degree of threat (Gilbert & Allan, 1996). Avoidance and escape are among the most common forms of submissive behaviour. Such behav-

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iours do not require much in the way of display (signalling subordinate status) because distance is the primary defensive response. However, in both human and non-human animals (especially in contexts of confinement or group living) escape and creating distance between a dominant and subordinate is not always possible (and sometimes not desirable; e.g. in cases of human dependency). Thus, in situations of conflict, there seems to be a complex interaction between passivity and escape depending on the availability of escape routes. In animal studies Dixon and his colleages (Dixon, Fisch, Huber & Walser, 1989; Dixon, Fisch & McAllister, 1990) noted that, when challenged by more dominant animals (who are aggressive and chase), subordinates and intruders are defensively aggressive and flee. Successful flight for the subordinate:

> ...means that the flight-evoking features of the dominant animal are no longer in sight and so its own propensity to flee subsides. This facilitates the resumption of social activities. When escape is prevented, e.g. by lack of an escape route, static or arrested forms of flight appear. The lack of movement serves to reduce the output of signals which would provoke attacks by the opponents, i.e. these elements of blocked escape have low signal output...Furthermore, since the animal cannot reduce the input of flight-evoking signals by escaping, it resorts to cut-off and postures... which have the same function. The simplest cut-off is to turn the head away from the attacker or cover the eyes and ears. A more subtle form of cut-off is seen in primates, including humans, in that gaze is averted, while the head remains orientated in the general direction of the partner. Such cut-offs are very common in our own behaviour and..., are very common in the mentally ill. Cut-offs serve to reduce the input of disturbing stimuli usually conducive to flight (Dixon *et al.*, 1989, p. 46).

Thus, as Dixon *et al.* note, escape behaviour is controlled by social status, territorial context, distance from the source of threat, previous experience and possible escape routes. If an individual cannot get away then reducing inputs (cut-offs) helps to control arousal and sends 'no threat' signals to conspecifics.

Human submissiveness

There are, of course, serious difficulties in extrapolating from animals to humans. For one, human social rank and status are as much mediated via the ability to be attractive to others; to be chosen and popular and have status bestowed, as it is on the ability to intimidate (Barkow, 1989; Gilbert, 1989, 1992, 1997; Gilbert *et al.*, 1995; Kemper, 1990). Nonetheless, the fear of losing attractiveness (social status) and being seen as unattractive and inferior can activate submissive behaviours. For example, shame is known to motivate strong escape and inhibitory behaviour (Lewis, 1987; see Tangney, 1995, for a review of studies) and is usually associated with losing status and feeling inferior (Gilbert, Pehl & Allan 1994; Kaufman, 1989). So although the tactics for gaining and maintaining rank are complex in humans, the consequences of losing social status/rank or being allocated a lower rank than one wishes to have (called involuntary subordination, Gilbert, 1992), can still involve primitive social defensive behaviours; e.g. the submissive behaviours of escape and passive inhibition.

The difference between humans and reptiles is not the need to have a submissive repertoire but that human submission is far more complex. Indeed, anthropological

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work (e.g. Scott, 1990) has shown not only the complexity of human subordinate and submissive behaviour but also its central importance to social activities. To reflect on the complexity of human submissiveness, interpersonal theorists have argued that dominance–subordination (and hence submissive behaviour) remains a central dimension of social behaviour (e.g. Horowitz & Vitkus, 1986; Kiesler, 1983) but can be friendly or hostile. Birtchnell (1993), however, following an evolutionary approach, suggested that the horizontal dimensions of love–hate are emotional descriptions rather than behavioural ones and that it is preferable to recode this dimension as closeness–distance. Thus, human subordinate behaviours could involve either seeking closeness or seeking/keeping distance. As he points out, anger and hostility in a subordinate might be aroused by the dominant staying distant (i.e. frustrating a desire for closeness in the subordinate) or as a defensive affect if the subordinate cannot get distant enough from a threatening dominant. We agree with Birtchnell (1993) that, in the study of specific submissive behaviours, avoidance/escape–approach is an important dimension.

Another complexity to human submissiveness is that some forms are clearly voluntary (e.g. supporting a leader) and these are not usually associated with distress. Thus, elsewhere it has been noted that it is only *involuntary* submissive behaviours that are associated with psychopathology (Gilbert, 1992; Sloman, Price, Gilbert & Gardner, 1994). Involuntariness can operate at different levels. For example, being too depressed to counter-challenge or initiate assertive behaviour, or being paralysed by fear suggests that emotional state operates a powerful influence on involuntary submissiveness. At a different level, human involuntary submissive behaviour can also involve complying with requests to appease others even though one doesn't want to, and appearing friendly when one might prefer to be dominant and less than friendly. The person perceives that the costs of resistance outweigh the cost of compliance. Hence, having to go along with others can be regarded as a form of involuntary submissive behaviour. Thus, in the context of conflicts, escape, passivity, and involuntary compliance can all be regarded as forms of submissive behaviour, although may lack the automaticity and urgency of the more affect-driven forms of submission (escape and passivity). Buss & Craik (1986) found both types of behaviour (e.g. 'blushing' is an automatic response, and 'doing things against one's will') to be commonly regarded as submissive.

Subordination and psychopathology

Stretching back to Alfred Adler (1870–1937), there is a long history of ideas that some states of psychopathology are related to being forced down in social status (rank), feeling inferior and behaving submissively (i.e. being involuntarily subordinate). Indeed, the word depression, derived from the Latin *deprimere*, means pressing down and being brought down in status or fortune (Jackson, 1986). Depression has been shown to be associated with negative social comparisons and inferiority self-perceptions (Allan & Gilbert, 1995; Swallow & Kuiper, 1988), feeling trapped and humiliated (subordinated) in one's social domain (Brown, Harris & Hepworth,

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1995), shame (Allan, Gilbert & Goss, 1994; Tangney, Burggraf & Wagner, 1995), a lack of assertiveness (Arrindell *et al.*, 1990), low self-esteem (Becker, 1979) and a lack of social confidence (Davidson, Zisook, Giller & Helms, 1989). Moreover, spouse criticism (put-down) has been found to be a major predictor of relapse (Hooley & Teasdale, 1989). Biologically, depression is a state of internal inhibition and retardation (Lader, 1975) that prevents confident explorative and assertive behaviour. Both interpersonal theorists (e.g. Birtchnell, 1993; Horowitz & Vitkus, 1986; Kiesler, 1983) and evolutionary theorists (Gardner, 1982; Gilbert, 1992; Price, 1972; Price *et al.*, 1994; Sloman *et al.*, 1994) regard involuntary subordinate and submissive behaviour as central to depression.

Although there have been significant advances in the conceptualization and measurement of assertive behaviour, and recognition that it involves a varied and complex array of behaviours (e.g. Arrindell *et al.*, 1988, 1990), the same cannot be said for submissive behaviour. This is because submissive behaviour is usually seen as the inverse of assertiveness. However, Gilbert & Allan (1994) suggested that submissive behaviour should be studied in its own right. There are a number of reasons for this. First, as noted above, viewed in an evolutionary context, submissive behaviour can involve a variety of behaviours (e.g. escape, passivity, appeasement, compliance) and the richness of potential submissive behaviours may be lost by regarding them only as low dominance or subassertive (e.g. as a lack of social skills for assertiveness). Second, given that subassertive behaviours have been shown to be associated with a variety of distressed states of mind, it remains a salient research question as to which submissive behaviours are most associated with which disorders. For example, social anxiety is associated with fearful avoidance of meeting people in authority or strangers (Beck, Emery & Greenberg, 1985; Trower & Gilbert 1989), while depression appears to be associated with more generalized submissive passivity, internal inhibition and experiences of defeat (Gilbert, 1992; Price & Sloman, 1987). Third, although psychopathologists often regard submissive behaviour as maladaptive, from an evolutionary perspective submissive behaviour is often not maladaptive but is important for group cohesion and the control of agonistic behaviour (MacLean, 1990). Fourth, Gilbert & Allan (1994) found that a self-report behavioural measure for submissive behaviour (the SBS) was only moderately correlated with some assertive behaviours as measured by the Scale for Interpersonal Behaviour (Arrindell *et al.*, 1990) while others were not associated at all with the SBS.

In general, there is growing recognition that various forms of submissive behaviour can be detected in primitive animals (e.g. reptiles) and submissive behaviour has become complex during the evolution of social animals (e.g. primates). It seems that most social animals have subordinate repertoires, although some are species specific. Second, submissive behaviour can be highly adaptive in some contexts (although, of course, not necessarily conducive to happiness). Third, involuntary forms of submitting (having to back down when one would prefer not to), feeling inhibited in conflict situations, complying involuntarily with others, escaping, avoiding and passivity in the face of social challenges are patterns of behaviour associated with various states of psychopathology.

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Most measures of submissive behaviour begin with items that are associated with problems in behaving assertively. Submissive behaviour is usually measured as a single class of behaviours and not in terms of various behavioural components. However, as noted above, submissive behaviour evolved early in social animals has complex biological mediators, and may involve a variety of behaviours including inhibition of social behaviour (lack of confidence to challenge), avoidance, desires to escape and passivity.

In order to begin work exploring submissive behaviour two scales of submissive behaviour were developed and their relationship to psychopathology explored. The first study sets out to achieve two aims. First, to examine the psychometric properties of a self-report scale designed to measure the frequencies of typical submissive behaviours and, second, to explore the association between these behaviours and psychopathology.

STUDY 1
Method

Participants

Students. This consisted of 332 university undergraduates (120 males, 207 females, 5 not recorded). Mean age was 22.9 years (SD = 7.2). All were given a self-report measure of submissive behaviour, and 177 of these (74 men, 102 women, 1 not recorded; mean age 22.3 years SD = 5.7) were also given the SCL-90–R.

Clinical group. This was a mixed clinical group consisting of 136 out-patients (58 men, 76 women, 2 not recorded). Diagnoses of these patients were of non-psychotic depression and anxiety disorders and they were attending day hospital and out-patient services. Mean age was 39.7 years (SD = 11.4). All patients completed the Submissive Behaviour Scale and 66 of these patients (26 males, 38 females, 2 not recorded; mean age 37.4 years, SD = 10.5) also completed the SCL-90–R.

Measures

The Submissive Behaviour Scale (SBS). This scale was developed from the work of Buss & Craik (1986). They asked participants to identify typical submissive behaviours. This generated a large number of examples of submissve behaviour. These were then given to a further large group of raters who were asked how good each behaviour was as an example of submissive behaviour. This generated a number of typical behaviours regarded as submissive. Given the way these behaviours were identified, and the fact that from the start the focus of our study was on submissive behaviour rather than assertiveness we decided that this would be a useful place to begin an exploration of submissive behaviours (rather than, in the first instance, generate our own). Thus, the SBS very much builds on the work of Buss & Craik.

From the behaviours identified by Buss & Craik (1986) the most highly agreed upon items (16) were chosen to construct a self-report submissive behaviour scale (Gilbert & Allan, 1994). 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 is designed to focus on social behaviour and is not intended to provide a measure of anxiety or depression. Hence, some items identified as submissive by Buss & Craik (1986), such as 'crying' were not included in this scale. It can be seen that most of the scale items (see Table 1) capture involuntary submissiveness and there are no items measuring voluntary submissiveness (e.g. 'I enjoy doing what others want me to do', or 'I willingly give in to others' or 'I willingly obey orders').

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Participants responded by giving their estimated frequency of these behaviours on a five-point scale (never = 0, always = 4). This scale has satisfactory internal and test–retest reliability. Gilbert, Allan & Trent (1995) established a Cronbach alpha of .89 and test–retest reliability (four-month time interval) of $r = .84$ in an undergraduate sample. This scale has been used in studies of shame (Gilbert, Pehl & Allan, 1994) assertive behaviour (Gilbert & Allan, 1994) and depression (Gilbert, Allan & Trent, 1995). The SBS was found to correlate .73 with the subassertive measure of the Inventory of Interpersonal Problems (Horowitz *et al.*, 1988) in a group of female students (Gilbert, Allan & Goss, 1996).

Two of the items in the original scale were sometimes left blank. These were 'I make love to my partner even if I don't want to', and 'I listen quietly if my parents say unpleasant things about me'. In a clinical sample, patients often omitted these items with explanations that they did not have a partner or that they were no longer in contact with their parents. For this reason these items were changed to: 'I do what is expected of me even when I don't want to', and 'I listen quietly if people in authority say unpleasant things about me'.

SCL-90–R (Derogatis, 1983). The SCL-90–R is a much used, self-report clinical rating scale. It consists of 90 items answered on a five-point scale, ranging from not at all to extremely (0–4) in terms of how much the person was distressed by that problem during the past seven days. The measure yields nine scale scores: somatization, obsessive–compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. Here, the total score is the Global Severity Index (GSI), which equals the total score for all items divided by number of items answered. As reviewed by Derogatis (1983), the GSI provides a good single measure of psychological disturbance.

Results

All analyses were carried out using the SPSS package. There were two phases to the analyses: first, an analysis of the factor structure and internal reliability of the SBS in both the undergraduate and clinical group; second, an exploration of the association between the SBS and measures of psychopathology.

Factor structure of the Submissive Behaviour Scale

Student group. For the student group the factor structure of the SBS was explored as follows. All inter-item correlations were positive and the majority (86 per cent) were significant at the .05 level with no discernible pattern to the non-significant correlations.

An initial exploratory principal component analysis (PCA) with varimax rotation was carried out with a cut of 0.45 for the inclusion of a variable in the interpretation of a factor. We chose exploratory PCA as no previous studies had adequately examined the SBS's factor structure. This analysis produced a solution with four factors having eigenvalues greater than 1. These four factors accounted for 52.4 per cent of the variance in the factor space. All 16 items loaded above the cut-off on one of the four factors. Identical procedures carried out for both male and female participants produced similar results, with minor variation in the loadings of some items near the cut-off. However, this factor structure was not easily interpretable. Factor 1 consisted of nine items related to a variety of submissive behaviours, such as not standing up for oneself. Similarly, Factor 3 consisted of three items, the highest loading item being the excessive expression of gratitude.

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Factor 2 was dominated by two items, both relating to direct eye contact. Factor 4 was dominated by one item concerned with pretending to be ill when declining an invitation. A scree test (Cattell, 1966) suggested that either a one- or two-factor solution would be more appropriate. Forcing a two-factor solution did not produce a structure which was easily interpretable and the second factor (consisting of items 5, 7, 8 and 12) only accounted for 9.8 per cent of the variance.[1] Thus, a singular solution was investigated.

The single factor accounted for 28.4 per cent of the variance. The factor loadings are shown in Table 1. All items load positively on the factor but four of the items at less than .45. It would appear that a singular solution is the best description of the data although it does not produce a very strong factor.

Clinical group. For the clinical group the factor structure of the submissive behaviour scale was explored in an identical manner. Principal component analysis with varimax rotation produced a solution with four factors having eigenvalues greater than 1. These four factors accounted for 59.5 per cent of the variance in the factor space. All 16 items loaded above the cut-off on one of the four factors. As with the student group, one of the factors (Factor 4) related to direct eye contact whereas there were minor variations in the items loading on the other three factors. The scree test again indicated that a one- or two-factor solution may be more appropriate. Forcing two factors did not lead to a readily interpretable structure, with the second factor being dominated by the two items related to eye contact. Thus, a singular solution was investigated. This accounted for 32.5 per cent of the variance with all items loading positively on the factor above the cut except item 5. The factor loadings are shown in Table 1. Again, it would appear that a singular solution is the best description of the data, although not producing a very strong factor.

As noted above, this scale was derived from previous work (Buss & Craik, 1986) which generated items from students' descriptions of what behaviours are seen as being submissive. However, when people are asked to rate themselves on these behaviours it turns out that the factor structure, although singular, is not very strong. Although this solution would seem to provide the best empirical description of the data it also appears that the present item pool of the SBS taps into a rather diverse array of behaviours. Buss & Craik (1986) suggested weighting items. However, previous work (Allan, 1992) found that this did not provide a stronger singular solution. In addition, this particular item pool did not prove comprehensive enough to offer clearly separable subfactors of the submissive behaviour construct. It does, however, invite further development and research. Of particular interest is that non-verbal behaviour (e.g. eye contact, a form of cut-off; Dixon *et al.*, 1989) would seem a potentially separable factor of submissive behaviour.

[1]Principal axis factor analyses were also performed, and the results were in substantial agreement with the PCA findings described here.

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Table 1. Factor loadings of the Submissive Behaviour Scale

Item	Student group (N=332)	Clinical group (N=136)
1. I agree that I am wrong, even though I know I'm not.	.51	.66
2. I do things because other people are doing them, rather than because I want to.	.52	.62
3. I would walk out of a shop without questioning, knowing I had been short changed.	.46	.54
4. I let others criticize me or put me down without defending myself.	.63	.76
5. I do what is expected of me even when I don't want to.	.41	.26
6. If I try to speak and others continue, I shut up.	.58	.66
7. I continue to apologize for minor mistakes.	.56	.67
8. I listen quietly if people in authority say unpleasant things about me.	.38	.53
9. I am not able to tell my friends when I am angry with them.	.61	.61
10. At meetings and gatherings, I let others monopolize the conversation.	.65	.51
11. I don't like people to look straight at me when they are talking.	.56	.51
12. I say 'thank you' enthusiastically and repeatedly when someone does a small favour for me.	.39	.45
13. I avoid direct eye contact.	.59	.51
14. I avoid starting conversations at social gatherings.	.58	.59
15. I blush when people stare at me.	.59	.58
16. I pretend I am ill when declining an invitation.	.37	.48
Eigenvalue	4.54	5.20
Variance (%)	28.4	32.5

Reliability of the Submissive Behaviour Scale

For the student sample, the Cronbach alpha for the 16-item scale was .82. Deleting any one item produced alphas only marginally below .82. (The worst case involved removal of item 10 which reduced the alpha to .81.) Thus, all items appear to contribute equally to the internal reliability of the scale. Almost identical results were obtained when males' and females' scores were inspected separately. The only difference was that the Cronbach alpha for the males was marginally higher at .83. The Cronbach alpha for the clinical group was .85 (the same figure was obtained for both sexes).

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Psychopathology measures and the Submissive Behaviour Scale

In preliminary analyses of the data, factor scores of the SBS from the initial analyses, and total scores using the original weighting of items suggested by Buss & Craik (1986) were calculated. The correlations of these totals with the SCL-90–R for both the student and clinical groups led to results substantially similar to a simple additive 16-item total score. In view of this, and given that the internal reliability for a single scale based on all 16 items was acceptable, we report the results for the scale as a whole.

Table 2 gives the correlations of the SBS with the SCL-90–R for both student and clinical groups. It can be seen that the relationships between submissive behaviour and the variety of domains of psychopathology, as measured by the SCL-90–R, are significant in both groups. (The means and standard deviations for the SCL-90–R and the SBS total for both the student and clinical groups are presented on the right of Table 2.)

This confirms submissive behaviour as a potentially important factor in psychopathology. Of special interest is the unexpected high correlation with paranoid ideation. Separate analyses for males and females revealed only minor variations in the pattern of correlations between males and females within both groups. The positive relationship between the SBS and the hostility subscale may seem surprising. However, for the student group, this positive relationship was due to items reflecting

Table 2. Correlations (two-tailed Pearson *r*s) of Submissive Behaviour Scale with the SCL-90–R and the means and standard deviations of SCL-90–R and Submissive Behaviour Scale

	SBS		SCL-90–R			
			Student group (N=177)		Clinical group (N=66)	
	Student group (N=177)	Clinical group (N=66)	M	SD	M	SD
Somatization	.33***	.33**	0.53	0.52	1.20	.83
Obsessive–compulsive	.48***	.36**	0.66	0.64	1.94	.91
Interpersonal sensitivity	.52***	.65***	0.77	0.60	2.02	.90
Depression	.48***	.53***	0.73	0.67	2.22	.87
Anxiety	.36***	.47***	0.45	0.54	1.79	.95
Hostility	.28***	.41***	0.57	0.63	1.18	.99
Phobic anxiety	.33***	.41***	0.17	0.33	1.25	1.06
Paranoid ideation	.38***	.61***	0.60	0.61	1.59	1.04
Psychoticism	.46***	.49***	0.40	0.44	1.28	.82
SCL-90 total (GSI)	.49***	.57***	0.57	0.45	1.66	.75
Submissive Behaviour Scale (SBS)			21.4	7.6	34.7	9.8

**$p < .01$; ***$p < .001$.

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angry thoughts and feelings (items 11, 63 and 67); the hostility subscale items focusing on expressed hostility (items 24, 74 and 81) were not significantly associated with the SBS. For the mixed clinical group, the expressed hostility items were also significantly associated with the SBS.

Discussion

The data indicate that submissive behaviour, as commonly understood, is a complex construct probably involving various subcomponents. The SBS certainly hints at this without being sufficiently comprehensive to measure different aspects of submissive behaviour. Moreover, there may be differences in submissive behaviour when expressed in dyads of familiar others, to strangers, or other social contexts (e.g. groups). Nonetheless, the derivation of the items and the internal reliability of the SBS suggests a valid measure of submissive behaviour. Further, this self-report measure, derived from behaviours people regard as submissive, suggests that submissive behaviours are associated with a variety of psychological problems.

STUDY 2

In both humans and animals submissive behaviours are most frequently expressed at times of conflict. Moreover, it is usually (although in humans not always the case) the subordinate who attempts to de-escalate the conflict. While in animals this is usually via escape or passivity (e.g. signalling subordinate status), humans can also de-escalate by attempting to maintain a positive image in the eyes of others and avoid being seen as aggressively dominant. In doing this they focus on the other person and try to appear friendly. The study of submissive behaviour can also be approached from the perspective of what people actually do in conflict situations. As pointed out in the introduction, the most primitive forms of submissive behaviour are escape and passivity (or, as Birtchnell, 1993, points out, seeking distance). It is possible that it is these rather than more friendly (appeasing) efforts at reconciling conflict that are associated with psychopathology. In view of this a new measure of submissive behaviour was developed which separated passive and withdrawal (distance) forms of submission from affiliative ones.

Method

Participants

A total of 154 undergraduates (47 men and 107 women) participated in the study. The mean age was 23.5 years (SD = 8.7).

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Measures

Conflict De-escalation Scale (CDS). To explore submissive behaviour in conflict situations, it was decided to develop a short scale which would measure submissive behaviour in such situations. Unlike the SBS which asks people the degree to which they behave submissively in various situations, the CDS asks specifically about how people behave in situations of interpersonal conflict. Moreover, the SBS does not measure escape/withdrawal behaviour (e.g. keeping one's distance) while the CDS does. Hence, the two response domains of the CDS are specific measures of passive/withdrawal and affiliative conflict de-escalation. In this second study we explore the SBS in relation to this new scale and their relationship to more specific measures of depression.

Item generation. Five items were generated designed to measure affiliative de-escalation. These include trying to act in a friendly way in conflict situations. Five items were generated to measure passive/withdrawal, e.g. 'I keep my distance'. An exploratory self-blame item was included to see if it would load on either affiliation or passive/withdrawal. The scale had five response options (*never, rarely, sometimes, mostly (a lot)* and *always*), scored 0 to 4. This scale, along with two depression measures and the SBS, were given to undergraduates and a depressed clinical sample.

Submissive Behaviour Scale. See Study 1.

Centre for Epidemiological Studies Depression Scale (CES-D). This scale was 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). Respondents indicate on a four-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 .84. In the present study, the internal consistency reliability for the student sample was .89. This scale has been recommended for use in a general population (Gotlib & Hammen, 1992).

Results

Factor structure of the Conflict De-escalation Scale

Preliminary analysis indicated that the self-blame item ('I put myself down in some way') led to a factor structure that was difficult to interpret. This item was dropped from subsequent analysis. As in Study 1, principal component analysis with varimax rotation was carried out with a cut of .45 for the inclusion of a variable in the interpretation of a factor. This analysis produced a solution with two factors having eigenvalues greater than 1. These two factors accounted for 50.5 per cent of the variance in the factor space (see Table 3). All 10 items loaded above the cut-off on one of the two factors. Identical procedures carried out for males and females alone produced the same pattern of results.[2]

Factor 1 consisted of the five items designed to measure passive/withdrawal tactics of conflict de-escalation and Factor 2 consisted of those five items designed to measure affiliative tactics. Hence, as predicted by theory, it is possible to separate out tactics related to passivity and escape and those related to approach and affiliative

[2]Principal axis factor analyses produced an identical pattern of item loadings. In addition, specifying an oblique rotation (oblimin; delta = 0) revealed a correlation of –.02 between the two factors.

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Table 3. Factor loadings of the Conflict De-escalation Scale (student group)

	Student group (N = 154)	
Item	Factor 1	Factor 2
1. I try to make other people feel good about themselves.		.66
2. I show that I am willing to do things to be liked.		.58
3. I try to be friendly.		.64
4. I act in a charming manner.		.58
5. I withdraw from the situation.	.80	
6. I keep my distance.	.77	
7. I do not stand up for myself.	.77	
8. I focus on the needs of the other person.		.74
9. I become passive.	.63	
10. I do not resist demands made on me by other person(s).	.60	
Eigenvalue	2.81	2.23
Variance (%)	28.1	22.3

de-escalation. Two subscales of passive/withdrawal and affiliative behaviour were computed by adding the item scores.

The Cronbach alpha for the passive/withdrawal behaviour subscale was .77 for both male and female participants. For the affiliative subscale, the Cronbach alpha for males was .71 and .64 for females. These reliabilities are acceptable given that only five items were computed in each Cronbach alpha. The Cronbach alpha for the submissive behaviour scale in this sample was .84. The mean score for the passive/withdrawal subscale was 8.6 (SD = 2.9), the mean for the affiliative subscore was 13.2 (SD = 2.2). The mean score for the SBS was 23.8 and is similar to that obtained in Study 1 and in previous research (Gilbert & Allan, 1994). The mean of 18.0 on the CES-D was slightly higher than that obtained by Radloff (1977) for a normal population, but below the mean for the patient sample. A series of independent t tests revealed no significant sex differences on these measures.

Depression and submissive behaviour (students)

Table 4 presents the correlation coefficients of the CES-D and SBS with the two subscales of passive/withdrawal and affiliative behaviour. These are also presented for males and females separately. The results show the following. The SBS shows a strong correlation with passive/withdrawal in both males and females. However, there was a small (but non-significant) association with affiliative de-escalation in males, but for females affiliative behaviour was positively associated with the SBS. This difference between the correlation coefficients was significant ($z = -2.73, p < .01$). This sex difference was unexpected. However, the same type of sex difference also shows up in regard to depression. For males there is a non-significant inverse correlation between

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Table 4. Correlations (two-tailed Pearson *r*s) of conflict de-escalation subscales with CES-D and Submissive Behaviour Scale (student group)

	All (N = 154)			Males (N = 45)			Females (N = 105)		
	P/W	A	SBS	P/W	A	SBS	P/W	A	SBS
CES-D total	.33***	.16	.30***	.43**	–.19	.43**	.31**	.29**	.27**
SBS	.64***	.04		.71***	–.28		.63***	.21*	

*p < .05; **p < .01; ***p < .001.
Key. P/W = Passive withdrawal subscale of the Conflict De-escalation Scale; A = Affiliative subscale of the Conflict De-escalation Scale; SBS = Submissive Behaviour Scale; CES-D = Centre for Epidemiological Studies Depression Scale; BDI = Beck Depression Inventory.

affiliative de-escalation and depression, whereas for females this strategy is positively associated with depression. This difference between the correlation coefficients was again significant (z = –2.68, p < .01). In other words, being affiliative in conflict situations may work differently in males and females. One reason for this is that males may behave affiliatively from a more dominant position, whereas female affiliation is more subordinate. This study did not control for whether, in conflict situations, people see themselves primarily in a dominant or subordinate position. Nor did we control for whether people felt their affiliative style of conflict resolution was voluntary or involuntary; whether they had to act friendly to keep the peace (but perhaps also resented having to). Both these possibilities could be explored in future research.

STUDY 3

Having found that CDS was associated with depression in a student population, the next stage was to explore these submissive strategies in a depressed patient sample.

Method

Participants

This group consisted of 60 depressed people (27 males and 33 females) meeting the International Classification of Diseases (9th ed.; ICD-9) criteria for neurotic depression, being treated for depression and having Beck Depression Inventory scores of 10 or more and excluding organic and other psychotic illnesses. They had a mean age of 42.3 years (SD = 11.8).

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Measures

The measures are as those above, except that the CES-D was substituted by the Beck Depression Inventory (BDI) because this is regarded as a better measure of the severity of depression in a clinical population (Gotlib & Hammen, 1992).

The Beck Depression Inventory (BDI). The BDI is a familiar, 21-item scale for measuring depression by clinicians and researchers (Beck, Rush, Shaw & Emery, 1979). Beck, Steer & Garbin (1988) provided a major review of the psychometric properties of the BDI. In this review the BDI showed a satisfactory correlation with the Hamilton Rating Scale for Depression and clinical ratings. Kendall, Hollon, Beck, Hammen & Ingram (1987) have outlined various recommendations and guidelines regarding the use of the BDI.

Results

The mean score for the submissive behaviour scale was 35.4 (SD = 10.7) and is similar to that obtained in Study 1 with a more mixed patient group and is also similar to that reported in previous research with a sample of depressed patients (Gilbert, Allan & Trent, 1995). The mean score for the passive/withdrawal subscale was 11.9 (SD = 3.0), the mean for the affiliative subscore was 12.7 (SD = 3.5). The mean BDI score was 31.4 and suggests a severely depressed group. A series of independent *t* tests revealed no significant sex differences on these measures. The Cronbach alpha for the passive/withdrawal subscale was .67 for males and .64 for females. For the affiliative subscale, the alpha for males was .75 and for females .79. The Cronbach alpha for the submissive behaviour scale was .87.

Depression and submissive behaviour (depressed patients)

Table 5 shows that the SBS has a strong positive correlation with the passive/withdrawal subscale but not with the affiliative de-escalation subscale. Second, the BDI scores are positively and significantly correlated with the SBS and passive/withdrawal. Hence, as with the students, it appears that it is the passive/withdrawal aspects that are most pathogenic. However, as with the student group, there are important sex differences when it comes to affiliative de-escalation of conflict. In male patients there was a non-significant inverse relationship between affiliative de-escalation and depression but this was not the case for the female patients. The difference between the correlation coefficients just failed to reach significance at the 5 per cent level ($z = -1.88$, $p = .06$). Also, interestingly, whereas passive/withdrawal is highly correlated with the SBS in females this is less so in males. This difference between the correlation coefficients was significant ($z = 2.00, p < .05$). Hence, sex differences in submissive behaviour appear important and warrant further research. In general, however, submissive behaviours, particularly involuntary forms as measured by the SBS and the passive/withdrawn de-escalation subscale, are strongly associated with depression.

Two hierarchical regression analyses were conducted to determine whether the addition of the passive/withdrawal variable led to improved predictions on measures

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Table 5. Correlations (two-tailed Pearson *r*s) of conflict de-escalation subscales with BDI and Submissive Behaviour Scale (depressed patient group)

	All ($N = 60$)			Males ($N = 27$)			Females ($N = 33$)		
	P/W	A	SBS	P/W	A	SBS	P/W	A	SBS
BDI	.49***	–.05	.49***	.41*	–.33	.40*	.55***	.17	.56***
SBS	.65***	.12		.48*	.07		.79***	.16	

*$p < .05$; ***$p < .001$.

of depression in the depressed and student group over and above that provided by the SBS. With the depressed group, the BDI was taken as the dependent variable with SBS scores entered at step 1 and passive/withdrawal scores at step 2. The result of interest here was that the passive/withdrawal subscale accounted for a significant proportion of the variance ($R^2_{change} = .05, p = .048$) over and above that predicted by submissive behaviour. A similar procedure for the student group, taking the CES-D as the dependent variable, resulted in a non-significant increase in the variance accounted for. Thus, it would seem that for depressed individuals passive/ withdrawal behaviour becomes more salient. As noted above, therefore, whilst the SBS measures general submissiveness, a more specific focus on passive/withdrawal in conflict situations adds to the explained variance in depression. Such a finding suggests that a more focused approach to submissive behaviour which reflects possible evolved forms of submissive behaviour may shed light on the specific pathogenic mechanisms of depression.

Discussion

Submissive behaviour is an important, evolved protective strategy (MacLean, 1990). Without it animals would have no way of avoiding or de-escalating situations of conflict. In many species, submissive behaviour involves combinations of escape and passivity. In this study we have attempted to explore the role of both general submissive behaviour as measured by the SBS and passive/withdrawal in conflict situations as measured by the CDS. Preliminary results suggest that general submissive behaviours and passive/withdrawal are associated with psychopathology.

To date dominance hierarchies and submissive behaviour have usually been associated with depression (Price *et al.*, 1994; Sloman *et al.*, 1994). However, the data presented here suggest that general measures of submissive behaviour may have a bearing on a variety of different psychological problems and not only depression. Of particular interest was the high correlation of the SBS with the interpersonal sensitivity and paranoid ideation subscales of the SCL-90–R in patients. It may be, therefore, that submissive behaviour, in so far as it is a marker for subordinate states of mind, is a general rather than specific factor pertaining to a number of different psy-

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chopathologies. This would make sense to the extent that observations of subordinate animals suggest they suffer from a variety of different difficulties. They are often described as tense, hypervigilant to attack, flight motivated, non-explorative and often occupying peripheral positions within groups (Henry & Stephens, 1977; Sapolsky, 1989, 1994). And, in humans, those with psychological problems usually lack confidence in social domains of relating, fearing either rejection, criticism or attacks.

As noted earlier, submissiveness is normally associated with non-aggressive tactics of self-defence. However, we found that in both the student and clinical populations submissive behaviour was associated with the SCL-90–R hostility subscale, primarily with those items focusing on angry thoughts and feelings rather than the items focusing on expressed hostility. As animal data suggest (Henry & Stephens, 1977), subordinates are not necessarily non-hostile, rather their hostile behaviour (as opposed to hostile feelings) is inhibited up rank (Gilbert, 1992; Price & Sloman, 1987) but may be displaced onto 'safe' objects or down rank (MacLean, 1990). It remains for future research to explore the differences in psychopathology which arise from submissive and non-submissive hostile behaviours. Clinically, some patients can admit to strong hostile feelings (resentments) even if these are not expressed openly to others.

One comparison of our findings with those exploring assertiveness raises an important research question which concerns the use of self-report behavioural measures. Arrindell & Van der Ende (1985), Arrindell *et al.* (1988) and Arrindell *et al.* (1990) have developed and researched an assertiveness measure called the Scale for Interpersonal Behaviour (SIB). This explores two dimensions of 'distress' in assertiveness and assertive 'performance'; for each dimension four domains of assertiveness are measured (display of negative feelings; expression of and dealing with personal limitations; initiating assertiveness; and positive assertion). Although the performance dimension is a self-report behavioural measure of assertiveness, in a study of patients (Arrindell *et al.*, 1990, pp. 231–235) there were few significant correlations of assertive performance with SCL-90–R scores. However, the behavioural items of submissiveness used here show rather robust associations with SCL-90–R scores. As noted in the introduction the SIB and the SBS are only moderately associated in some domains and not at all in others (Gilbert & Allan, 1994). These differences in findings may again highlight that submissive behaviour should be studied in its own right and not viewed as simply the inverse of assertiveness. The SIB, for example, has no measure of escape/withdrawal or passivity. Moreover, we suggest that individuals who are relatively content to give in, go along with others, and avoid leadership positions (voluntary submissive behaviour) would not necessarily suffer psychological difficulties. It is only when people feel that they are doing things against their will, and therefore in some sense feel forced to behave submissively, that problems arise.

The measures used in this study are indicative of the value of studying the varieties of submissive behaviour (Gilbert & Allan, 1996). The scales used here are not offered as definitive measures of the constructs, however. Rather we hope to have stimulated interest in future scale development and research on submissive behaviour. The preliminary data offered here suggest that studies in submissive behaviour

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might benefit from: (*a*) distinguishing voluntary from involuntary forms of submissive behaviour; (*b*) attempt a better classification of submissive behaviours but including passivity, escape/withdrawal behaviour and probably inhibition of expressing hostile feelings; (*c*) consider whether those in conflict see themselves as in the dominant or subordinate position within a conflict; and (*d*) take account of possible sex differences. Another aspect requiring further research is whether affiliative de-escalation strategies should be seen as submissive. For example, while it may be generally agreed that behaving in a friendly and appeasing way (for fear of doing otherwise) is an example of submissive behaviour, it may be that our scale has not really captured this. Hence, there is a question whether the affiliative subscale of the CDS is a submissive measure. However, the passive/withdrawal subscale is strongly associated with the common sense ideas of submissive behaviour as measured by the SBS.

Given the evolutionary importance of submissive behaviour and the fact that, in animals, the readiness to adopt submissive behaviours is associated with certain biological states, can be altered with drugs (Raleigh, McGuire, Brammer, Pollack & Yuwieler, 1991) and social context (Kemper, 1990; Raleigh *et al.*, 1984), the study of submissive behaviour opens up avenues for more detailed biopsychosocial research (Gilbert, 1995).

Finally, we would note that theorizing on the nature, functions, biologies and psychopathologies of submissive behaviour has raced ahead of measurement. Just as the evolutionary model of attachment was first based on animal (see Harlow & Mears, 1979, for a review) and child observations (Bowlby, 1969) and had to wait some years before research measures of human attachments were developed, the same seems true of submissive behaviour. This is not to deny the great strides made by interpersonal theorists or those exploring assertiveness, but rather to highlight the need for research on those behaviours MacLean called *the most important of all displays...* (1990, p. 235).

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