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Emotionally-driven behaviours among undergraduate women:

A preliminary study

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Running head:

Emotionally-driven behaviours

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Emotionally-driven behaviours among undergraduate women:**A preliminary study****Abstract**

There is considerable evidence that a number of apparently impulsive or addictive behaviours (e.g., self-harm, alcohol or substance misuse) can be triggered by negatively valenced affective states, and that the behaviours serve the function of blocking awareness of intolerable emotions. However, the evidence base for this pattern of emotionally-driven blocking behaviours is relatively patchy, because there has been little systematic investigation of the emotions that trigger different blocking behaviours. In this preliminary study of emotionally-driven blocking behaviours, 53 non-clinical women completed a self-report measure of the link between specific affective states (anger, anxiety, boredom, depression, loneliness) and different blocking behaviours (smoking; aggression; drinking alcohol; overeating; compulsive spending; stealing; self-harm; 'risky' sexual behaviour). The results indicate a relatively specific pattern of association between different emotions and blocking behaviours. In addition, that linkage was stronger when the individual had a higher level of behavioural impulsivity, particularly where the emotion was loneliness or anger. These findings suggest that individuals who display such behaviours might benefit from skills training for adaptive affect regulation, although further research is needed to determine the generalizability of these results to broader clinical and non-clinical populations.

Key words: impulsive behaviours; impulsivity; emotional triggers

Emotionally-driven behaviours among undergraduate women:

A preliminary study

Clinicians and researchers have frequently noted a role for affective states in the triggering of dysfunctional behaviours in clinical and non-clinical populations. This is particularly true where the emotions can be characterised as negatively valenced and intolerable, and where the behaviours can be seen as addictive or impulsive. Such behaviours include: self-harm (e.g., Shapiro, 1987; Suyemoto, 1998); suicidal gestures (e.g., Stein, Apter, Ratzoni, Har Even & Avidan, 1998); overeating and bingeing (e.g., Lacey, 1986; Root & Fallon, 1989); alcohol use (e.g., Thombs, Beck & Mahoney, 1993); smoking (e.g., Ashton & Stepney, 1982; Shiffman, 1982); drug abuse (e.g., Sussman, Dent & Galaif, 1997); compulsive spending (e.g., Faber, 1992; Lejoyeux, Tassain, Solomon & Ades, 1997); and aggression (e.g., Baumeister, Heatherton & Tice, 1994). Such behaviours can serve a short-term avoidant coping function, allowing the individual to block awareness of intolerable emotions that are seen as otherwise unavoidable. Several theoretical explanations have been advanced that might contribute to our understanding this use of emotionally-driven blocking behaviours, including social learning (e.g., Marlatt, 1987), classical conditioning (e.g., Marlatt, 1985), operant conditioning (e.g., Lacey, 1986), and dissociative/escape from awareness models (e.g., Baumeister *et al.*, 1994; Spiegel & Cardeña, 1991). The literature in this field is clearly patchy. Each of these blocking behaviours has been associated with a number of different affective states (e.g., Baumeister *et al.*, 1994). For example, alcohol use has been studied in association with anxiety (e.g., Sayette, 1993), smoking has been investigated in connection with anger and depression (e.g., Brown, Lewinsohn, Seeley & Wagner, 1996; Sussman *et al.*, 1997), and bulimic behaviours have been most strongly associated with anger, anxiety and loneliness (e.g., Arnow, Kenardy & Agras, 1992, 1995; Patton, 1992). However, there has been little systematic study of the conscious emotions that trigger the range of these behaviours.

It has been suggested that such behaviours will cluster within individuals (e.g., Evans &

Lacey, 1992; Lacey & Evans, 1986; Lacey & Moureli, 1986), due to their serving a common function. Such a 'multi-impulsivist' model does not make any prediction about specific links between individual emotions and blocking behaviours. However, it is also possible to hypothesise that there will be more specific links between different emotions and blocking behaviours, since the behaviours will have different functions in their environment. For example, some blocking behaviours (e.g., alcohol use; 'promiscuous' sexual behaviour; aggression) tend to have a social context, while others do not. In a similar vein, some behaviours (e.g., self-harm; bingeing) can be characterised as having a rapid action but being of short duration, while others (e.g., alcohol use) are slower to act but have a longer effect. Finally, some behaviours (e.g., substance misuse; smoking) are likely to involve grosser distortions of biological mechanisms of action. Again, there is a need to develop the evidence base regarding the specificity of such emotion-behaviour links.

It is also necessary to consider the role of individual differences in the use of emotional blocking behaviours. There is little evidence for an 'addictive personality', but a clearer role for impulsivity in these behaviours (e.g., Cox, 1985; Herpertz, Sass & Favazza, 1997; Nathan, 1988; O'Donnell, Farmer & Catalán, 1996; Steel & Blaszczynski, 1998). However, impulsivity needs to be clearly defined (e.g., Fahy & Eisler, 1993). While some researchers and clinicians interpret it as more of an attitudinal dimension (e.g., Eysenck, Pearson, Easting & Allsopp, 1995), others stress the need to appraise the level of behavioural manifestation (e.g., Rosotto, Yager & Rorty, 1994). For clinical purposes, impulsivity is most usefully understood as a behavioural manifestation of emotion-focused coping, which is more likely when the individual has specific cognitive characteristics, such as strongly dichotomous thinking (e.g., Wells & Matthews, 1994). Personal meaning (e.g., acquiescence; avoidance of conflict) will play a role in determining the specific nature of the behavioural manifestation.

Given the gaps in the existing literature, the present study of a non-clinical population of women has two central aims. First, it will examine the specificity of links between different 'negative' emotions and individual blocking behaviours. Second, it will determine whether those

links are affected by the women's levels of impulsivity (behaviourally defined). While the first aim is largely exploratory, the second aim yields a directional hypothesis. It is predicted that higher levels of impulsivity will be associated with a greater use of blocking behaviours in response to negative emotions.

Method

Participants

The participants were 65 female volunteers, of whom 53 went on to take part in the study (see Measures and Procedure). All were undergraduate psychology students at a UK university, and participated as part of a course credit system. They were not fully informed of the purpose of the study until they had attended the session, to reduce the risk of biasing selection in favour of healthy individuals who display greater levels of impulsivity (Gustavsson, Asberg & Schalling, 1997). Participants were informed that they could decline to participate at any stage. However, none did so, thus reducing the risk of such selection bias. The mean age of the 53 women was 20.0 years ($SD = 2.53$).

Measures and Procedure

Each woman completed two questionnaires, in the following order. They were also asked if they had any history of treatment for psychological disorders. Twelve of the 65 women reported such a history. Their data were excluded to ensure a homogeneous non-clinical sample.

Emotionally-Driven Behaviours Scale (EDBS). The EDBS was developed for the present study. Its format is based on that used in the Emotional Eating Scale (Arnow *et al.*, 1995). However, it covers a wider range of emotionally-driven blocking behaviours, and uses broader affective states as potential triggers. For each of eight blocking behaviours (smoking; aggression; drinking alcohol; overeating; compulsive spending; stealing; self-harm; 'promiscuous' or 'risky' sexual behaviour), participants are asked to rate the extent to which that behaviour is likely to be triggered by each of five affective states (anger, anxiety, boredom, depression, loneliness). The ratings are made on separate five-point Likert-type scales (1 = 'No

desire to...'; 2 = 'A small desire to...'; 3 = 'A moderate desire to...'; 4 = 'A strong urge to...'; 5 = 'An overwhelming urge to...'). Higher scores indicate a greater likelihood that the blocking behaviour will be carried out when that affective state is reported to be experienced. Five global scales can be created, by taking the item mean for the eight blocking behaviours generated by each of the specific emotions.

Impulsive Behaviours Scale - Revised (IBS; Rossotto *et al.*, 1994). This self-report scale assesses the degree to which the individual engages in 25 different impulsive behaviours. The frequency of each behaviour is rated on a five-point Likert-type rating scale [1 = 'Never'; 2 = 'Once'; 3 = 'On occasion (2-3 times in your life)'; 4 = 'Sometimes (4-20 times in your life)'; 5 = 'Regularly (more than 20 times in your life)']. The item mean score gives a global level of impulsive behaviours, where higher scores indicate greater levels of impulsivity. As would be expected for a non-clinical sample, the women's scores on this scale were relatively low (mean = 1.69; SD = 0.29; range = 1.16-2.40). The scale can be used at the level of the 25 different impulsive behaviours, or can be used as a more global behavioural construct of impulsivity. Descriptive data from this sample regarding the individual behaviours on the IBS have been reported elsewhere (Peñas-Lledó & Waller, 2001), and so will not be repeated here.

Data analysis

Non-parametric tests were used, due to anticipated skews in the data from a non-clinical sample. Initially, Friedman's tests were used to compare the degree to which the blocking behaviours were perceived to follow each of the five emotional states. These tests were carried out separately for the overall level of impulsivity and for each of the eight individual blocking behaviours. Where there was a significant overall difference between emotions in the driving of a behaviour, *post hoc* Wilcoxon tests were used to determine pairwise differences between emotional triggers. Second, correlations (Spearman's rho - one-tailed, in keeping with hypothesis 2) were carried out between the women's impulsivity scores (IBS) and their level of emotionally-driven blocking behaviours (EDBS). This was done both for the overall level of blocking behaviours and for each individual blocking behaviour. Given the number of correlations involved, an alpha level of 1% was adopted, to reduce the likelihood of Type 1 errors.

Results

Impact of different emotional states on specific blocking behaviours

Table 1 shows the women's mean scores on the EDBS scales, demonstrating the differences in reported use of blocking behaviours in response to the five emotional states. It also contains the results of the Friedman tests, used to compare the impact of the five emotional triggers. Considering the overall pattern of blocking behaviours, there was a significant difference in responses to different emotions, with higher levels of responsiveness to depression, boredom and anger than to anxiety or loneliness. There were also significant overall differences in responsiveness to emotional triggers for the eight individual behaviours.

Insert Table 1 about here

In order to understand the differences in behavioural reaction to the five emotional triggers, post hoc Wilcoxon tests were used (all contrasts stated are significant at the $p < .05$ level). For the overall EDBS scale, depression, boredom and anger were equally likely to trigger blocking behaviours, while anxiety and loneliness were significantly less likely to do so. However, there were different patterns for the individual blocking behaviours. When considering the use of alcohol, depression and anxiety were each more likely to evoke drinking than boredom, while depression, anxiety and anger were greater triggers than loneliness. As might be expected, anger was a more powerful trigger of aggression than any other emotion. In addition, anxiety was a stronger trigger than boredom or loneliness. Boredom and depression were stronger triggers of compulsive spending than any other emotion, and loneliness was a stronger trigger than either anger or anxiety. Overeating was more readily triggered by boredom than by any other emotion. In addition, depression had a stronger effect on overeating than loneliness, and both of these had a greater impact than either anger or anxiety. 'Risky' sexual activity was more readily triggered by loneliness than by any other emotion, and was less likely in the context of anxiety than of any other emotion. However, the impacts of anger, depression and boredom on

this behaviour did not differ from each other. Boredom, anxiety and anger were equally likely to result in smoking, and all three had a greater impact than depression. Loneliness had an even lower impact. Finally, self-harm was most likely when the individual reported anger or depression, and each of these was more likely to cause self-harm than the other three emotions. It was not meaningful to make post hoc contrasts over the triggering of stealing, due to the lack of variance in two of the items.

Association of impulsivity with emotionally-driven blocking behaviours

Table 2 shows the associations (Spearman's ρ) between the women's impulsivity levels (overall IBS scores) and their use of emotionally-driven blocking behaviours (EDBS ratings). Higher levels of impulsivity were positively associated with the overall use of blocking behaviours in response to all five affective states. In other words, those women who had greater global levels of impulsiveness were more likely than less impulsive women to use blocking behaviours when they experienced any of the five emotions. However, considering the specific blocking behaviours, this pattern of association varied according to the emotional trigger concerned.

Insert Table 2 about here

Considering each emotion in turn, loneliness was a stronger trigger for five blocking behaviours (drinking alcohol, aggression, compulsive spending, 'risky' sex, smoking) among the women who were more impulsive. In contrast, the link between depression and individual blocking behaviours was independent of impulsivity. Anxiety was more likely to trigger only smoking among the more impulsive women. Boredom had the same effect, but was also more likely to trigger stealing among the women who were more impulsive. Finally, anger was more likely to trigger drinking alcohol, smoking and 'risky' sex among the more impulsive women.

Examining this matrix from the perspective of the behaviours most likely to be triggered, it is clear that smoking is the behaviour that is most likely to be triggered by negative emotional

states among impulsive women. In contrast, impulsivity does not have any reliable impact upon the emotional triggering of self-harm or overeating. In other words, the pattern of emotional triggering of blocking behaviours in Table 1 can be considered to be stable for some of those behaviours (self-harm, overeating), but needs to be adjusted to allow for the individuals' impulsivity levels for some other emotion-behaviour combinations (particularly where the blocking behaviour is smoking).

Discussion

This preliminary study of the reported use of emotionally-driven behaviours among undergraduate women tested the central hypothesis that there would be different patterns of association between specific affective states and particular blocking behaviours. It also tested the prediction that the level of use of such blocking behaviours would be positively associated with the individual's level of impulsivity. In the case of the first hypothesis, there was clear evidence that boredom, anger and depression were more likely overall to trigger blocking behaviours than either anxiety or loneliness. However, the pattern of association was different when the individual behaviours were considered. Anxiety was most strongly associated with levels of alcohol use and smoking. Anger was also linked with those behaviours, but was also associated with aggression and self-harm. Depression was particularly likely to trigger alcohol use, overeating, spending and self-harm. Boredom was associated with spending, overeating and smoking. Finally, loneliness was linked only with overeating. (The low frequency of reported emotionally-driven stealing in this sample means that it was not possible to conclude that specific affective states triggered this behaviour.) Considering the second hypothesis, the individual's level of impulsivity (defined behaviourally) was related to the degree to which some emotions triggered particular behaviours. Loneliness and anger were more broadly 'risky' emotions among more impulsive women, triggering a greater range and level of blocking behaviours. In contrast, blocking responses to anxiety and boredom were more limited among more impulsive women, and depression's links to blocking behaviours were not influenced by

impulsivity.

A number of these findings are compatible with the existing literature (e.g., Baumeister *et al.*, 1994), while others extend that knowledge base. For example, Suyemoto (1998) has concluded that self-harm is used principally to modify levels of anger, while the present results suggest that anger and depression are both likely to trigger this behaviour. Similarly, while researchers (e.g., Agras *et al.*, 1992, 1995; Patton, 1992) have shown roles for other emotions in triggering overeating, the role shown here for boredom *per se* has not been widely considered. At a general level, the association of high levels of impulsivity with the likelihood of using behavioural blocking of emotions is similar to the pattern reported by other authors (e.g., Herpetz *et al.*, 1997; O'Donnell *et al.*, 1996; Steel & Blaszczynski, 1998). However, impulsivity had its broadest impact upon behaviour in the presence of loneliness and anger. The association was more specific in the case of anxiety and boredom, and the link between depression and blocking behaviours was not influenced by impulsivity.

Clearly, this study has established the potential utility of the EDBS as a measure to screen the reported use of "blocking" behaviours in response to specific affective states. However, the sample used here was a limited one (non-clinical undergraduate women), and needs to be extended in order to establish the generalizability and psychometric properties of the EDBS. Within such a development of the research, it would be valuable to utilise more clearly operationalized definitions of some of the behaviours (e.g., risky/promiscuous sex; compulsive spending), and to deconstruct the broad emotion terms used here (cf. Arnow *et al.*, 1995). The most important research would be a comparison of the use of emotionally-driven blocking behaviours among individuals who have clinically significant levels of such behaviours. If similar associations can be demonstrated in clinical cases, then this would support the argument for using therapies that target patients' emotions and their use of emotional suppression (e.g., Telch, 1997; Kennerley, 1996) as part of their broader treatment. Such a therapeutic strategy may be particularly valuable where the individual has a high degree of impulsivity, suggesting the potential utility of teaching distress tolerance skills (e.g., Linehan, 1993). The EDBS may be of

greatest non-clinical use in screening/determining the affective states that are part of the antecedent profile of specific blocking behaviours in individuals with vulnerability to stress. Such a role would make the EDBS a useful tool in the training of professionals working in health promotion, where it could be used as an index of the likely use of impulsive coping methods to deal with negative affect, to allow the targeting of training in more adaptive coping skills.

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Table 1 - Reported level of use of 'blocking' behaviours in response to different negative affective states.

	Emotional trigger					Friedman test	
	Loneliness	Boredom	Anger	Anxiety	Depression	χ^2	p
Blocking behaviour							
Overall	1.59	1.90	1.86	1.55	1.93	56.3	.001
(SD)	(0.45)	(0.39)	(0.58)	(0.36)	(0.46)		
Alcohol use	1.53	1.87	2.13	2.25	2.34	26.0	.001
(SD)	(0.77)	(1.09)	(1.12)	(1.14)	(1.14)		
Aggression	1.15	1.35	3.15	1.67	1.52	123.2	.001
(SD)	(0.50)	(0.76)	(0.89)	(0.96)	(0.85)		
Compulsive spending	2.15	3.02	1.94	1.42	2.94	96.4	.001
(SD)	(1.18)	(1.08)	(2.96)	(0.75)	(1.36)		
Overeating	2.60	3.49	1.66	1.88	3.02	111.5	.001
(SD)	(1.18)	(0.97)	(1.53)	(1.03)	(1.42)		
Risky sex	1.55	1.34	1.30	1.06	1.28	20.8	.001
(SD)	(0.89)	(0.62)	(0.80)	(0.23)	(0.60)		
Smoking	1.62	1.94	2.00	2.13	1.70	19.8	.001
(SD)	(1.08)	(1.34)	(1.43)	(1.47)	(1.17)		
Self-harm	1.13	1.09	1.64	1.19	1.51	43.1	.001
(SD)	(0.44)	(0.41)	(0.92)	(0.62)	(0.99)		
Stealing	1.00	1.08	1.11	1.02	1.00	15.2	.004
(SD)	(0.00)	(0.27)	(0.32)	(0.14)	(0.00)		

Table 2 - Correlations (Spearman's ρ) of emotionally-driven behaviours (EDBS) with impulsivity (IBS), according to the specific emotional trigger and blocking behaviour employed

	Emotional trigger				
	Loneliness	Boredom	Anger	Anxiety	Depression
Blocking behaviour					
Overall	.56*	.43*	.38*	.41*	.40*
Alcohol misuse	.50*	.15	.35*	.31	.21
Aggression	.36*	.29	.20	.21	.12
Compulsive spending	.41*	.16	.13	.21	.17
Overeating	.19	.17	-.04	.06	.15
'Risky' sex	.36*	.25	.36*	.07	.24
Smoking	.37*	.34*	.33*	.34*	.31
Self-harm	.06	.14	.19	.18	.21
Stealing	^a	.39*	.31	.17	^a

^a No correlation coefficient could be calculated, due to the lack of variance in this item

* $p < .01$