

BRIEF COMMUNICATION

## Parasuicide, depression and the anticipation of positive and negative future experiences

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### ABSTRACT

**Background.** Previous research has shown that parasuicides' view of the future is characterized by an absence of anticipation of positive experiences rather than the presence of anticipation of negative experiences. The present study aimed to replicate this finding and examine whether it would also be found in parasuicides who were not depressed.

**Method.** Depressed parasuicides ( $N = 27$ ), non-depressed parasuicides ( $N = 17$ ) and matched controls ( $N = 34$ ) were assessed on their anticipation of future positive and negative experiences using an adapted fluency paradigm, where they were given a set time to generate future positive and negative anticipated experiences.

**Results.** Consistent with previous findings, parasuicides showed an overall reduced anticipation of positive experiences and no overall increased anticipation of negative experiences. However, the parasuicides did show evidence of increased negative anticipation for the immediate future. The results for depressed and non-depressed parasuicides were essentially the same.

**Conclusion.** Lack of positive anticipation in the absence of increased negative anticipation is a feature of parasuicide. Although this lack of positive anticipation can occur in depression, it appears to be an independent feature of parasuicide.

### INTRODUCTION

A negative view of the future is thought to be a key component of depression (e.g. Beck *et al.* 1979). This negative view of the future, commonly talked about as hopelessness, has been found to play a particularly central role in suicidal behaviour, predicting both repetition of parasuicide (Petrie *et al.* 1988) and completed suicides (Beck *et al.* 1989).

The concept and measurement of hopelessness has relied almost exclusively on the Beck Hopelessness Scale (Beck *et al.* 1974) as a measure of hopelessness about the future. However, a recent study by MacLeod *et al.*

(1993) examined future-directed thinking in parasuicides more directly by adapting the standard verbal fluency paradigm in which subjects are given a time limit and asked to generate as many exemplars of a category as they can, for example, words beginning with a particular letter. In the MacLeod *et al.* (1993) study, subjects were asked to think of future positive events (things they were looking forward to) and future negative events (things they were not looking forward to), for a range of time periods ranging from the next 24 h to the next 10 years. Subjects were given a time limit and a fluency measure of the number of different events that they generated for each category was recorded. Parasuicide subjects were less able than controls to provide events they were looking forward to, but the groups did not differ in the number of events they were not looking forward

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to. These group differences were consistent across the different future time periods. MacLeod *et al.* (1993) argued that hopelessness about the future is characterized by a lack of positive anticipation that is not necessarily accompanied by an increase in negative anticipation.

However, as would be expected, the majority of the parasuicide subjects in the MacLeod *et al.* (1993) study also met criteria for depression. It is, therefore, not clear whether the phenomenon of reduced positive anticipation can be attributed solely to depression or whether it would also be observed in parasuicides who were not depressed. This problem is highlighted by the fact that depressed, non-parasuicide subjects have also been found to show a reduction in positive anticipation in a similar future-thinking task (MacLeod & Byrne, 1996).

The present study had two aims. The first aim was to replicate the finding of reduced positive anticipation in parasuicides in the absence of increased negative anticipation. The second aim of the study was to see whether this effect would be found in parasuicides who were not depressed as well as those who were depressed. Depressed parasuicides, non-depressed parasuicides, and controls were given three future time periods and asked to think of events or experiences, positive or negative, that might happen to them within that time period. It was predicted that parasuicides would generate fewer positive anticipations than controls but would not differ on number of negative anticipations. It was also predicted that the non-depressed parasuicides would show a lack of positive anticipation relative to controls but that the deficit would be more marked for the parasuicides who were also depressed.

## METHOD

### Subjects

Fifty-seven randomly selected parasuicide patients admitted to either Frimley Park Hospital, Frimley or St Peter's Hospital, Chertsey following acute self-poisoning were interviewed. There were no exclusion criteria; all parasuicides who were accessible to the researchers were included if they were willing and able to complete the study. There were 37 females and 20 males

with an overall mean age of 34 years. Patients were interviewed in hospital following recovery, usually between 24 and 48 h after admission (mean gap 18 h). Twenty-two of the patients had no previous history of parasuicide, 16 had one previous episode, eight had two previous episodes, and the remaining 11 had three or more previous episodes of parasuicide. On the basis of their scores on the Hospital Anxiety and Depression Scale (Zigmond & Snaith, 1983) parasuicides were allocated to a depressed group (score greater than 10;  $N = 27$ ), or a non-depressed group (score less than 8;  $N = 17$ ). The mean ages and sex distributions of the two parasuicide groups remained very similar to that of the whole sample. The remaining 13 subjects scored in the 8–10 range on HAD-Scale depression and as they could not be allocated confidently to either group their data were not included in the analyses.

A control group of 34 subjects was recruited from a convenience sample, mostly people known to the authors. The control group consisted of 21 females and 13 males with an overall age of 35 years. None of the control subjects scored in the depressed range on the HAD-Scale.

## METHOD

After an initial introduction which included an explanation of the study, subjects signed a consent form and provided the researcher with basic demographic data. Subjects then completed the standard verbal fluency task (Lezak, 1976) which involved generating as many words as possible to three letters (F, A, S) with 30 s allowed for each letter. The total number of words generated was recorded.

Subjects were then presented with the personal-future task. Subjects were told that they would be required to think about things occurring to them over three different time periods in the future (the next week, the next year, and the next 5 to 10 years). The time periods were presented verbally, one at a time and in the order given above. There were two conditions, one where subjects were asked to think of future positive experiences (things that they were looking forward to, things that they would enjoy) and the other where they were

asked to think of future negative experiences (things that they were worried about or not looking forward to). For each of the three time periods in each of the two conditions, subjects were given a time limit (30 s in the present study) to generate as many responses as they could. It was explained that these could be trivial or important things and that they could be things that the person knew were going to happen or things that they thought might reasonably happen. Subjects were instructed to say aloud a brief description of as many things as possible for each time period and were told to keep trying until the time limit was up. Order of presentation of positive and negative conditions was counter-balanced across subjects, with each subject receiving both conditions. The items generated by subjects were written down by the experimenter. Finally, subjects completed the Hospital Anxiety and Depression Scale (HAD-Scale; Zigmond & Snaith, 1983) and the Beck Hopelessness Scale (BHS; Beck *et al.* 1974).

## RESULTS

Groups were first compared on number of words generated in the standard verbal fluency task. A one-way ANOVA indicated no significant group difference on general cognitive fluency ( $F < 1$ ), showing that any results could not simply be accounted for by the parasuicides being less cognitively fluent, for example, as a result of drug ingestion.

Number of responses on the personal-future

task were analysed within a Group (depressed parasuicide, non-depressed parasuicide, control)  $\times$  Valence (positive, negative)  $\times$  Time (week, year, 5–10 years) analysis of variance. The means for each group in each condition are shown in Table 1. Also shown are significance of differences where individual comparisons were warranted by significant higher-order effects.

The key interaction involving group and valence was highly significant ( $F(2, 75) = 22.7$ ,  $P < 0.001$ ), as was the Group  $\times$  Valence  $\times$  Time ( $F(4, 150) = 4.2$ ,  $P < 0.01$ ) interaction. To understand further the nature of the significant interactions separate Group  $\times$  Time ANOVAs were carried out on positive and negative conditions. In the positive condition there was a significant main effect of group ( $F(2, 75) = 20.8$ ,  $P < 0.001$ ) but neither the main effect of time or the Group  $\times$  Time interaction were significant (both  $F$ 's  $< 1$ ). The lack of any significant interaction demonstrates that any group differences were consistent across time periods and so the groups were compared on total number of positive responses summed across time periods. Planned contrasts showed that both the depressed parasuicides ( $P < 0.001$ ) and the non-depressed parasuicides ( $P < 0.001$ ) anticipated fewer positive experiences than the controls but did not differ significantly from each other. Thus, both depressed and non-depressed parasuicides showed an equal lack of positive anticipation relative to controls.

For the negative condition there was no significant overall group difference ( $F(2, 75) = 2.0$ , NS). Thus, as in the MacLeod *et al.* (1993),

Table 1. Means and standard deviations of number of positive and negative responses in each time period by each group

	Parasuicide		
	Control	Non-depressed	Depressed
Positive			
Week	3.5 (1.7)	1.6 (1.2)	1.3 (1.2)
Year	3.8 (2.2)	1.2 (1.3)	1.5 (1.4)
5–10 years	3.1 (2.5)	1.4 (1.1)	1.3 (1.7)
Total	10.4 (5.2) <sup>a</sup>	4.2 (2.6) <sup>b</sup>	4.2 (3.3) <sup>b</sup>
Negative			
Week	1.5 (1.1) <sup>a</sup>	2.5 (1.4) <sup>b</sup>	2.7 (1.2) <sup>b</sup>
Year	1.4 (0.8) <sup>ab</sup>	0.9 (1.3) <sup>a</sup>	1.9 (1.5) <sup>b</sup>
5–10 years	1.5 (1.2)	1.1 (1.2)	1.1 (1.2)
Total	4.3 (2.1)	4.5 (2.9)	5.7 (3.1)

<sup>a,b</sup> Means sharing a superscript horizontally do not differ significantly from each other.

study the parasuicides did not anticipate significantly more negative experiences overall than did controls. There was however a main effect of time ( $F(2, 150) = 22.4$ ,  $P < 0.001$ ) as well as a Group  $\times$  Time interaction ( $F(4, 150) = 7.4$ ,  $P < 0.001$ ). Because of the significant interaction, the three time periods were looked at individually. There were significant group differences on number of negative experiences anticipated over the next week ( $F(2, 75) = 8.6$ ,  $P < 0.001$ ) and over the next year ( $F(2, 75) = 3.9$ ,  $P < 0.05$ ) but not over the next 5–10 years ( $F < 1$ ). Relative to controls, both the depressed parasuicides ( $P < 0.001$ ) and the non-depressed parasuicides ( $P < 0.05$ ) anticipated more negative experiences over the next week but did not differ significantly from each other. The only significant group comparison for negative anticipation over the next year was that depressed parasuicides scored significantly higher than the non-depressed parasuicides ( $P < 0.05$ ).

Finally, correlations were carried out between BHS scores and total positive and negative anticipation scores. Those parasuicides who were anticipating most positive experiences had the lowest hopelessness scores ( $r(42) = -0.37$ ,  $P < 0.05$ ) whereas number of negative anticipated experiences was unrelated to BHS scores ( $r(42) = 0.01$ , NS).

## DISCUSSION

Parasuicides anticipated significantly fewer positive experiences than controls but did not anticipate significantly more negative experiences. This effect was true whether the parasuicides were depressed or not. Thus, it appears that parasuicide is more closely related to a lack of positive anticipation than it is to an increase in negative anticipation and that this lack of positive anticipation appears to be an independent characteristic of parasuicide rather than simply the result of depression. However, both parasuicide groups did show a specific increase in negative anticipation in the short-term (over the next week), an effect which appeared to be stronger in the depressed parasuicide group who also showed an increase in negative anticipation over the next year when compared with non-depressed parasuicides.

There are several possible explanations for the

lack of positive anticipation in parasuicides: It may simply reflect a lack of available sources of rewarding and enjoyable experiences; it may reflect a cognitive inaccessibility of representations of future positive outcomes; or it may represent an inability to derive pleasure from what are normally enjoyable events. It seems likely that these social, cognitive, and affective factors will all be important, and future research could usefully try to disentangle their relative contributions.

It is possible that with a bigger sample of parasuicides, clearer differences between depressed and non-depressed subjects would emerge, although it should be noted that there were no indications of any trends towards differences between these groups. The sample size also did not allow for further subdividing parasuicides according to lethality of the attempt or number of previous attempts, which, again, could be dealt with by using a larger sample. Future research could also attempt to replicate the present study using a structured diagnostic interview to classify parasuicides as depressed or not, rather than simply using HAD-Scale scores. It may also be useful in future research to begin to examine qualitative aspects of the events people report that they are anticipating, as there may be qualitative as well as quantitative differences between groups.

The significance of the present findings is in demonstrating that lack of positive experience is an important component of parasuicide and so should be considered in assessment and intervention alongside more negative aspects of experience such as past negative life events and current life difficulties. Lack of positive anticipation is what clearly distinguished parasuicides from controls in the present study and this identification of a lack of a positive view of the future may provide an important step in understanding the psychological basis of suicidal behaviour.

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