The role of clinical and social cognitive variables in parasuicide

Rory C. O'Connor[1]*, Christopher J. Armitage[2] and Lorna Gray[3]

[1]Suicidal Behaviour Research Group, Department of Psychology, University of Stirling, UK

[2]Centre for Research in Social Attitudes, Department of Psychology, University of Sheffield, UK

[3]Department of Psychology, University of Newcastle, UK

Objectives. The central aim of the present study was to investigate the extent to which social cognitive variables could mediate the effects of past self-harm behaviour and clinical variables on intentions to engage in deliberate self-harm (DSH) and suicidality in the next three months. In addition, we aimed to extend the application of the theory of planned behaviour (TPB) beyond distal health outcomes to a behaviour that is proximal and extreme.

Design and method. A prospective study design was employed. Ninety parasuicide patients admitted via accident and emergency to a general hospital completed measures of hopelessness, depression, anxiety, past self-harm behaviour, standard TPB and group identity measures within days of an overdose. Three months later, participants were asked to complete a measure of suicidal thinking and behaviour.

Results. There was clear evidence that the social cognitive variables were significant predictors of intention to engage in DSH and suicidality three months later. Depression was the only clinical variable which remained significant when all variables were entered into the final model to predict intentions. Attitudes, self-efficacy and intention mediated the clinical variables–suicidality relationship.

Conclusions. The TPB is a useful framework for understanding suicidal behaviour. The results extend the application of the TPB beyond distal health outcomes to a behaviour that is both proximal and extreme. Future research should explore the implications for screening assessment and suicide prevention.

Suicide is the leading cause of death among young people in many Western countries (Cantor, 2000; Gunnell, Middleton, Whitley, Dorling, & Frankel, 2003; McClure, 2000) with the best predictor of completed suicide being a history of parasuicide (Maris, 1991; O'Connor, Sheehy, & O'Connor, 2000). Parasuicide is defined as any act of deliberate

self-harm (DSH) irrespective of intention to die and it is estimated that 30–40% of those who end their lives by suicide have engaged in non-fatal suicide attempts previously (Maris, 1991; O'Carroll *et al.*, 1996). As a result, research in suicidology, including the present study, has focused on non-fatal suicide attempts to help identify factors predictive of completed suicide. Hopelessness and depression (anxiety is often co-morbid with depression) are the clinical factors most often implicated in the aetiology of suicidality (e.g. Barraclough, Bunch, Nelson, & Sainsbury, 1974; Weishaar & Beck, 1992)

Public alarm with the changing scale of the problem was reflected in the publication in 2002 of the national suicide prevention strategies for England and Scotland, both of which aim for substantial reductions (of 20%) in completed suicide by 2010 and 2013, respectively (Scottish Executive, 2002; UK Department of Health, 2002). Suicide prevention is not only a national priority in the UK, it is also recognized as a major public health concern in the United States. In *Healthy People 2010* (US Department of Health and Human Services, 2000), the US government set as their target a reduction in suicide from a base-rate of 10.8 per 100,000 to 6.8 per 100,000 per annum by 2010. Although the reduction of suicide is the ultimate objective, much attention has focused on parasuicide *per se*, as it is the best predictor of completed suicide.

The theory of planned behaviour and its relevance to the study of parasuicide
It has been acknowledged that one of the difficulties encountered in suicide research is a constriction of focus (O'Connor, 2003). Suicidology, as a discipline, has been circumscribed to understanding suicidal behaviour largely within the biomedical-illness model of health (i.e. in terms of depression and hopelessness). As a result, it has been blinkered by the mental illness tautology: does the suicidal act define the illness or does the illness define the act? (O'Connor, 2003; O'Connor & Sheehy, 2001). This is frustrating given that it is recognized that pathology alone is not a sufficient explanation for suicidal behaviour:

> Traditionally, suicidal behaviour has been understood within the framework of the biomedical-illness model. This model implies that the health professional has to find the cause of the patient's pathology then treat the disorder. However, both suicide and attempted suicide are actions that are planned and carried out by individuals, involving conscious processes, and they are thus not mere signs of illness and pathology. (Michel & Valach, 2001, p. 230)

We therefore adopted a biopsychosocial approach, which treats suicidal behaviour as the unfortunate end-product in a series of interactions between normal psychological processes. To this end, we turned to health psychology and the social cognition model literature, the rationale being that if we can identify patterns of cognitions that predict suicidal behaviour, we will also be able to devise interventions that modify those cognitions thereby improving well-being. Consistent with our biopsychosocial approach, this paradigm views behaviour as normal and existing along a continuum, and if, as we contest, there is limited utility to defining suicidal behaviour as abnormal and exclusively clinical/biomedical (see O'Connor & Sheehy, 2000 for a discussion), the application of the psychological constructs derived from social cognition models should be fruitful.

A number of social cognition models have been developed and applied to the prediction of health-related behaviour (Armitage & Conner, 2000; Conner & Norman, 2005). However, for the purposes of the present study, we employed one such social cognition model, the theory of planned behaviour (TPB; Ajzen, 1991). The choice of this model was based on three rationales. First, the TPB has been applied extensively across

health and non-health contexts (see Armitage & Conner, 2001, Conner & Armitage, 1998; Godin & Kok, 1996). Second, the TPB has superior predictive power when compared with other models of health behaviour (Armitage, 2003; Armitage & Conner, 2000; Armitage, Conner, & Norman, 2002; Quine, Rutter, & Arnold, 1998). Third, Shneidman's (1996) model of suicidality identifies one's intention to engage in suicidal behaviour – a core variable within the TPB – as being central to the suicidal process. Indeed, in an exploratory study that compared a group of parasuicide patients with controls, we yielded evidence to support the utility of the TPB in understanding suicidality (O'Connor & Armitage, 2003).

Within the TPB, behavioural intention reflects the relative strength of an individual's motivation to engage in the behaviour, and it is regarded as the proximal predictor of behaviour: the greater one's intention to engage in parasuicide (DSH), the more likely one is to actually engage in the act. A number of meta-analyses have demonstrated the predictive power of behavioural intention (Armitage & Conner, 2001; Randall & Wolff, 1994; Sheeran & Orbell, 1998); indeed, behavioural intention is sometimes used as a proxy for actual behaviour, where it is difficult or inappropriate to obtain (e.g. Abrams, Hinkle, & Tomlins, 1999; Liao, Shao, Wang, & Chen, 1999). In turn, attitudes, subjective norms and perceived behavioural control are thought to determine behavioural intention. Attitudes (i.e. one's beliefs) are positive or negative evaluations of objects or behaviours and subjective norms (i.e. other people's beliefs) are measures of the perceived social pressure to engage (or not) in the behaviour. Perceived behavioural control, according to Ajzen (1991), is synonymous with Bandura's (1997) idea of self-efficacy (i.e. 'confidence in one's own ability'); it is thought to influence intention to engage in the behaviour as well as actual behaviour.

Recent theory of planned behaviour developments

Recent developments in social cognition research suggest that the TPB would be better conceptualized as a dual-factor model (Ajzen & Fishbein, 2005; Conner & Sparks, 2005). In practice, this means that each of the three TPB components are represented as having two components. Consequently, attitudes are conceptualized as having instrumental (e.g. useful-useless) and affective (e.g. unpleasant-pleasant) components (e.g. Trafimow *et al.*, 2004) whereas perceived behavioural control is divided into perceived controllability (i.e. extent to which you perceive you have control over engaging in a behaviour) and self-efficacy (i.e. ease or difficulty of performing a behaviour; Armitage & Arden, 2002; Armitage & Conner, 1999a, 1999b). The normative factor has also been the subject of much debate in recent years because its relationship with intention is quite weak (Ajzen, 1991; Armitage & Conner, 2001; Terry & Hogg, 1996; Terry, Hogg, & McKimmie, 2000; Trafimow & Finlay, 1996). This has led some authors to conclude that the way in which norms have been operationalized is responsible for their lack of predictive power (e.g. Cialdini, Kallgren, & Reno, 1991). As a result, the normative component has been reconceptualized into injunctive social norms (where social approval drives action via reward/punishment) and descriptive social norms (where social approval is driven by perceptions of what others do; see Conner & Sparks, 2005).

Another perspective on the issue of norms has been posited by Terry and Hogg (1996) in the light of broader social psychological theory, specifically, social identity theory (Hogg & Abrams, 1988; Taifel & Turner, 1979). They defined social influence in terms of group norms (elsewhere defined as descriptive norms; see Rivis & Sheeran, 2003), that is, ways in which the attitudes and behaviours of significant others (e.g. friends and peers)

affect the decision to act in certain ways. Similar to TPB researchers, social identity researchers argue that this influence is distinct from social pressure from significant others to engage in a behaviour (i.e. injunctive norms). Not only did Terry and colleagues find that how others behave predicted behaviour (Terry *et al.*, 2000), but that this relationship was stronger when participants identified strongly with their group. In other words, group identification moderated the group (descriptive) norms–behaviour relationship.

We also included past behaviour in the study, given that myriad research shows that a consistent predictor of future behaviour is past behaviour (see Armitage, 2005; Conner & Armitage, 1998; Sheeran, Orbell, & Trafimow, 1999) and Ajzen (1991) argues that the effect of past behaviour should be mediated via the TPB variables. Indeed, he regards past behaviour as a test of the sufficiency of the model. In addition, as we noted earlier, the best predictor of completed suicide is a history of DSH.

Bringing together the preceding evidence, we aimed to determine the extent to which variables from the dual-factor model of TPB and group identification, could aid our understanding of suicidal intent. To do so, we recruited a sample of patients in a general hospital following a parasuicide episode and asked them to complete a number of psychological measures in the hospital and measures of suicidality 3 months later. Moreover, we were particularly keen to determine the relative importance of the social cognitive variables when compared with the recognized clinical variables (i.e. hopelessness, depression and anxiety; Hunter & O'Connor, 2003; O'Connor, O'Connor, O'Connor, Smallwood, & Miles, 2004) in predicting (i) one's intention to engage in DSH in the next 3 months and (ii) one's suicidality 3 months later. Furthermore, as the TPB is regarded as a complete model of behaviour, we hypothesized that the clinical variables and past behaviour would be mediated via the TPB variables.

Another strength of this study is that it has a prospective component. Indeed, a recent review of all TPB studies published before the start of 1998 revealed that only 41% included a prospective measure of behaviour (Armitage & Conner, 2001). Furthermore, Randall and Wolff (1994), in another meta-analysis, reported that more than one half of the prospective studies employed a time interval that was less than one month. Prospective measures of behaviour are important, as they prevent consistency biases inflating relationships between components and allow for the examination of behaviour change.

Based on the previous research, we therefore formulated four key hypotheses: first that the social cognitive variables would explain additional variance in intentions to engage in DSH in the next 3 months, beyond that accounted for by clinical variables and past behaviour; second, that the TPB variables would mediate the effect of the clinical variables and past behaviour; third, that group identification would moderate the group (descriptive) norm–intention relationship, such that the relationship is stronger as group identification increases (i.e. among high identifiers); and fourth, that the social cognitive variables would be related to suicidality at Time 2, 3 months later. In so doing, we also aimed to extend the application of the TPB beyond distal health outcomes to a behaviour that is proximal and extreme.

Method

Participants

All parasuicide patients presenting to one hospital in the west of Scotland with an episode of DSH (ICD codes X60–X84) were considered for inclusion in the study. However, only those patients who were admitted overnight, via the Accident And

Emergency Department, to the acute receiving wards were included. During the study period, 90 parasuicide patients were assessed on the day following admission. This did not represent a consecutive sample; rather, it reflects the practical limitations of recruiting via a general hospital. There were 30 men ($M = 34.3$ years; $SD = 11.7$) and 60 women ($M = 32.6$ years; $SD = 11.8$) and they did not differ significantly in age, $t(88) = 0.67$, *ns*. Of the sample, 43 participants (48%) reported self-harming in the past (two participants did not provide this data). All of the participants presented with an overdose episode. These data are consistent with the literature, which shows that between 40% and 50% of all parasuicide admissions are repeat episodes (Platt, Hawton, Kreitman, Fagg, & Foster, 1988) and the findings are generalizable as 90% of all DSH admissions via accident and emergency tend to be cases of overdose (e.g. Hawton, Fagg, Simkin, & Mills, 1994). At Time 2, 3 months later, we obtained data from approximately 26% ($N = 23$) of the original participants. Those who we were unable to follow-up did not differ from those who we did on any of the measured variables: gender, age, hopelessness, anxiety, depression, past behaviour, intention, affective attitude, instrumental attitude, injunctive social norm, descriptive (group) social norm, self-efficacy, perceived controllability and group identity, range: $t(88) = 0.03 – 1.13$, *ns*.

Baseline clinical measures and past DSH behaviour

Hopelessness. Hopelessness was measured using the 20-item Beck Hopelessness Scale (BHS; Beck, Weissman, Lester, & Trexler, 1974). Respondents are asked to indicate either agreement or disagreement with statements that assess pessimism for the future (e.g. 'I look forward to the future with hope and enthusiasm'). Higher scores represent higher hopelessness. This is a reliable and valid measure that has been shown to predict eventual suicide (Beck, Steer, Kovacs, & Garrison, 1985; Beck *et al.*, 1974; Holden & Fekken, 1988). In the present study, internal consistency was good (Kuder-Richardson–20 = .85).

Anxiety and depression. The Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983) consists of 14 questions, 7 corresponding to the anxiety subscale (e.g. 'worrying thoughts go through my mind') and 7 corresponding to the depression subscale (e.g. 'I feel as if I am slowed down'). Items are rated on a 0- to 3-point scale indicating strength of agreement with each item. The maximum score for each subscale is 21. Both subscales are reliable and valid (Bjelland, Dahl, Haug, & Neckelmann, 2002; Crawford, Henry, Crombie, & Taylor, 2001). The Cronbach's α values for the present study were .77 and .90 for anxiety and depression, respectively.

Past DSH behaviour. All participants were asked, 'How often have you deliberately harmed yourself in the past?' Responses were measured on a 7-point scale (*never* to *frequently*).

Baseline social cognitive measures

Standard measures of TPB and group identity were employed (see Conner & Sparks, 2005; Terry & Hogg, 1996).

Intention to engage in DSH. Behavioural intention was assessed using three items measured on 7-point scales (1 to 7): 'I intend to deliberately harm myself in the next 3 months (*definitely do not* to *definitely do*)', 'I expect I will deliberately harm myself in the next 3 months (*definitely will not* to *definitely will*)' and 'I want to deliberately

harm myself in the next 3 months (*definitely do not* to *definitely do*)'. The mean of the items made a scale with good internal reliability (Cronbach's $\alpha = .91$).

Affective Attitude. Affective attitude was assessed by taking the mean of three responses to the statement 'my deliberately harming myself is. . .'. This statement was evaluated on 7-point (1 to 7) scales with the end-points: *bad–good*, *unpleasant–pleasant* and *unenjoyable–enjoyable*. The Cronbach's α for the scale was .82.

Instrumental Attitude. Instrumental attitude was assessed by taking the mean of three responses to the statement 'my deliberately harming myself is. . .'. This statement was evaluated on 7-point (1 to 7) scales with the end-points: *harmful–beneficial*, *negative–positive* and *useless–useful*. The Cronbach's α for the scale was .90.

Injunctive Social Norm. This social norm was assessed using the mean responses to 2 items: 'people who are important to me (*disapprove of my self-harming my*self–*approve of my self-harming myself*)' and 'people who are important to me want me to deliberately harm myself' (*strongly agree* to *disagree*). These were measured on 7-point (1 to 7) scales. The Conbach's α for the scale was .75.

Descriptive (Group) Norm. We used 4 items, measured on a 7-point scale, to assess norms: 'how many of your friends and peers deliberately harm themselves? (*none*–all)', 'most of my friends and peers think that my deliberately harming myself would be. . .(*undesirable–desirable*)', 'how many of your friends and peers would think deliberately harming yourself is a good thing to do? (*none–all*)' and 'think about your friends and peers. How much would they agree that deliberately harming yourself is a good thing to do?' The Cronbach's α for the scale was .92.

Self-Efficacy. Confidence in one's own ability was assessed using the responses to 3 items: 'I believe I have the ability to deliberately harm myself in the next 3 months (*definitely do not–definitely do*)', 'to what extent do you see yourself as being capable of deliberately harming yourself in the next 3 months? (*very incapable of harming myself–very capable of harming myself*)' and 'how confident are you that you will be able to deliberately harm yourself in the next 3 months? (*not very confident–very confident*)'.[1] Cronbach's α indicated good internal reliability for the scale ($\alpha = .91$).

Perceived Controllability. Control was measured using 2 items: 'how much do you feel that whether or not you deliberately harm yourself in the next 3 months is beyond your control?' and 'whether or not I deliberately harm myself in the next 3 months is entirely up to me'. However, these items did not form a reliable scale so we included the latter item in the analyses.[2]

Group Identity. The strength to which participants identified with their friends and peers was measured using 3 items (7-point scale): 'how much do you identify with your group of friends and peers? (*not very much–very much*)', 'in general, how well do you feel you fit in with your group of friends and peers?' and 'how much do you see yourself belonging to your group of friends and peers?' The Cronbach's α for the scale was .86.

Follow-up measures
Suicidality. Suicidality at Time 2 was assessed using two questions, 'Have you had any thoughts about killing yourself over the last 3 months since your first interview? (*not at*

---

[1] *Although there is evidence of discriminant validity between self-efficacy and intention, it is worth noting that this particular self-efficacy item presupposes intent; therefore, given that self-harm intent is the main dependent variable, it is important to investigate the distinction between self-efficacy and intention further in future research.*
[2] *Repeating the analyses with the other perceived controllability item did not affect the findings.*

all, *not really*, *a little bit*, *a medium amount* and *a lot*)' and, 'Have you engaged in any behaviour in which you deliberately caused harm to yourself?' (*no*, *once*, *two to three times*, *four to five times*). These items were analysed as separate items and summed to make a composite suicidality scale (Cronbach's α = .82).

Procedure

All participants were given a brief introduction outlining the nature of their participation and the study aims. In addition to completing the measures in the hospital, participants were asked whether the researchers could contact them again 3 months later to answer some questions relating to how they were feeling during this 3-month period. We highlighted the voluntary nature of participation and all patients were assured that non-participation would not interfere with their treatment protocol. Ethical approval was obtained from the University NHS Hospital Trust and university psychology department. All participants completed the measures, as outlined above, to assess the components of the TPB and additional variables. Order of presentation of the measures was counterbalanced. Three months later, participants were contacted by letter and/or by telephone and asked to complete the measure of suicidality.

Results

Descriptive statistics

The descriptive statistics and zero-order correlations for all variables are summarized in Table 1. All of the clinical variables (hopelessness, anxiety, depression) were strongly intercorrelated. They also correlated positively with intention to engage in DSH in the next 3 months and past behaviour. Intention was positively correlated with past behaviour, affective and instrumental attitudes, and self-efficacy but not with perceived controllability or either measure of social norms.[3] Descriptive norm was positively related to injunctive norm, past behaviour, affective attitude and self-efficacy but it was negatively correlated with perceived controllability. Group identity, on the other hand, was negatively correlated with all of the indices of mood, injunctive norm and self-efficacy. Self-efficacy was positively correlated with hopelessness, depression and anxiety as well as both components of attitude and past behaviour. Higher levels of hopelessness and depression were associated with more positive attitudes towards DSH. Attitudes were correlated with past behaviour; injunctive norm was also correlated with depression and past behaviour. Finally, perceived controllability correlated positively with instrumental attitude and negatively with injunctive norm.

Despite the high levels of hopelessness ($M = 11.51$, $SD = 5.10$) and depression ($M = 10.82$, $SD = 5.29$) in the sample, the participants are generally negatively disposed to future DSH attempts ($M = 2.61$, $SD = 1.95$). Similarly, the mean ratings for attitudes and norms are quite low, particularly for injunctive norms (see Table 1). Conversely, group identification and self-efficacy are higher than the other social cognitive ratings.

---

[3] It is worth noting that self-efficacy and behavioural intention are quite highly correlated. However, as the correlation differs significantly from 1.0 (i.e. by an amount in excess of twice their standard error), then this is evidence for discriminant validity.

Table 1. Zero-order correlations and descriptive statistics for all variables at Time 1

	1	2	3	4	5	6	7	8	9	10	11	12
1. Hopelessness	–											
2. Depression	.564***	–										
3. Anxiety	.491***	.584***	–									
4. Past behaviour	.408***	.445***	.500***	–								
5. Affective att	.326***	.269**	.157	.470***	–							
6. Instrumental att	.276**	.212*	.101	.290**	.724***	–						
7. Injunctive norm	.085	.246*	.172	.277**	.011	-.020	–					
8. Descriptive norm	.044	.143	.074	.298**	.249**	.002	.273**	–				
9. Self-efficacy	.573***	.448***	.304**	.621***	.588***	.404***	.132	.195*	–			
10. Controllability	-.044	-.020	-.109	.046	-.042	.183*	-.248**	-.346***	.036	–		
11. Group identity	-.274**	-.437***	-.269**	-.132	-.111	.006	-.212*	.070	-.190*	-.031	–	
12. Intention	.560***	.540***	.319**	.605***	.606***	.431***	.156	.164	.815***	.097	-.200*	–
Mean	11.51	10.82	13.37	2.80	1.99	2.53	1.18	1.53	3.26	5.16	4.67	2.61
SD	5.10	5.29	5.01	2.18	1.54	1.91	.52	1.33	2.16	2.28	2.09	1.95

Note. Affective att = Affective attitude; Instrumental att = Instrumental attitude. Control ***$p < .001$, **$p < .01$, *$p < .05$

Table 2. Hierarchical regression analysis of intention to engage in DSH in the future on social cognitive and clinical variables

	Step/Predictors	β (Step 1)	β (Step 2)	β (Step 3)	Δ R^2 for step	Total R^2
1.	Hopelessness	.326***	.083	.096	.543***	.543***
	Anxiety	− .242*	− .072	− .085		
	Depression	.291**	.201*	.203*		
	Past behaviour	.464***	.094	.087		
2.	Affective attitude		.249*	.255*	.204***	.747***
	Instrumental attitude		− .055	− .087		
	Injunctive norm		.058	.119		
	Descriptive (group) norm		− .054	− .103		
	Self-efficacy		.518***	.532***		
	Perceived controllability		.099	.098		
3.	Group identity			.187*	.024*	.771***
	Group identity × descriptive (Group) norm			.194*		

*$p < .05$, **$p < .01$, ***$p < .001$

Predicting intention to engage in DSH in the next 3 months

To test the first and second hypotheses, we conducted a multivariate hierarchical regression analysis with intention to engage in DSH in the next 3 months as the outcome variable (Table 2). The variables were entered into the regression model in a series of steps as follows: the clinical variables (hopelessness, anxiety, depression) and past behaviour were entered in the first step with all four being significant predictors of intention. Taken together, these variables accounted for 54% of the variance in intention. Next, the TPB variables (affective attitude, instrumental attitude, injunctive norm, descriptive norm, self-efficacy and perceived controllability) were entered in Step 2. Their inclusion increased the variance explained by 20.4%. Finally, the inclusion of group identity and the descriptive (group) norm × group identity interaction in Step 3 increased the variance explained to almost 80% ($R^2 = .771$) with group identity (β = 0.187, $p < .05$) and the group norms × group identity interaction (β = 0.194, $p < .05$) being significant. In short, when all of the variables were entered into the model, one out of the three clinical variables (i.e. depression) and four out of the seven social-cognitive variables (i.e. affective attitude, self-efficacy, group identity and descriptive norm, as part of the interaction term) were significant predictors of intention. As predicted by the theory, past behaviour was mediated via the TPB variables.

To investigate the group norms × group identity interaction, consistent with Aiken and West (1991), we plotted the regression lines of best fit at high (one standard deviation above the mean) and low (one standard deviation below the mean) levels of descriptive norm and group identity. Further tests were conducted separately on the slopes of the high and low group identification lines to determine whether they were significantly different from zero. Applications of the procedures outlined by Aiken and West revealed that the high, β = 0.433, $t(88) = 2.73$, $p < .01$, but not the low β = 0.161, $t(88) = . − 1.44$, *ns*. identification line differed significantly from zero. In other words, consistent with the second hypothesis, among those who strongly identify with their friends and peers, one's intention to engage in DSH increases as group norm

increases. No such pattern is evident among the low group identifiers, although their intention to engage in DSH was relatively high irrespective of group norms.

Testing mediation

Given that the regression analysis suggests that the TPB variables mediate the effect of hopelessness and anxiety on intention, we conducted formal mediation analyses for those TPB variables which met Baron and Kenny's (1986) conditions for mediation. This yielded a number of incidences of mediation: there was evidence of significant mediation by affective and instrumental attitudes of the hopelessness–intention relationship. In both cases, the addition of the attitude variable reduced the beta coefficient from $\beta = 0.560$ ($p < .001$) to $\beta = 0.406$ ($p < .001$) and from $\beta = 0.560$ ($p < .001$) to $\beta = 0.477$ ($p < .001$) for affective and instrumental, respectively. Partial mediation was confirmed by Sobel test, $z = 2.81$, $p < .001$ (affective) and $z = 2.11$, $p < .05$ (instrumental). In addition, self-efficacy mediated the hopelessness–intention relationship fully, reducing the hopelessness beta coefficient to non-significance (from $\beta = 0.560$, $p < .001$ to $\beta = 0.139$, *ns*). Self-efficacy was the only variable to mediate the anxiety–intention relationship. Its entry into the regression equation reduced the beta coefficient to non-significance (from $\beta = 0.319$, $p < .01$ to $\beta = 0.079$, *ns*). The Sobel test confirmed full mediation, $z = 2.85$, $p < .01$.

In addition, to determine whether the different measures of intention varied in their predictive capacity,[4] we conducted three more identical hierarchical regression analyses, with one exception. Instead of using the intention composite scale as the criterion variable, we inserted each of the 3 constituent intention items in turn (i.e. 'I intend to, I want to, I expect to . . . engage in deliberate self-harm in the next 3 months'). When 'I want to. . .' was entered as the dependent variable, the hierarchical regression yielded additional findings that are consistent with the composite intention regression; in this case all of the TPB variables were significant predictors together with depression and past behaviour. Of note in the 'I intend to. . .' regression was that depression was marginally significant. Finally, the 'I expect to. . .' regression was also similar to the original regression, however, the interaction term was no longer significant in the final model. Taken together, these separate regressions yielded very similar findings to the original regression.

Relationships between Time 1 measures and suicidality at Time 2

Of the participants at Time 2, approximately one third reported having no suicidal thoughts ($N = 8$), three people said that they did not really have any suicidal thoughts, with the others reporting a little ($N = 3$), a medium amount ($N = 3$) and a lot of suicidal thoughts ($N = 6$) between Time 1 and Time 2. The majority of the Time 2 participants ($N = 15$) did not engage in DSH in the intervening 3 months, however, three participants did so once, and five participants did so four to five times.

As we were only able to interview approximately one quarter of the sample at follow-up ($N = 23$), 3 months later, the primary analyses were correlational, however, these were supplemented with mediational analyses. The findings are also very similar irrespective of whether one focuses on suicidal thinking, suicidal behaviour or the

---

[4] *We would like to thank one of the referees for suggesting this analysis.*

composite suicidality measure (Table 3). We focus on the composite measure here. Both depression and hopelessness are correlated with suicidality. The strongest relationship with suicidality was past behaviour ($r = .745$, $p < .001$), followed by self-efficacy ($r = .698$, $p < .001$), intention ($r = .659$, $p < .001$), affective attitudes ($r = .477$. $p < .05$) depression ($r = .409$, $p < .05$), hopelessness ($r = .379$, $p < .05$) and perceived controllability ($r = .351$, $p < .05$).[5] Although there appear to be marked differences in the coefficients, *post hoc* Fisher's z testing confirms that there were no statistically significant differences. Moreover, if we adopt a more stringent probability level ($p < .01$), to reduce the likelihood of a Type 1 error, only past behaviour, intention and self-efficacy remain significant. The correlations between the individual measures of intention (i.e. 'I intend to, I want to, I expect to . . . engage in deliberate self-harm in the next 3 months') and suicidality were similar to those for overall intention, so are not reported further.

Table 3. Correlations between Time 1 variables and Time 2 indices of Suicidality

	Time 2 variables		
Time 1 variables	Suicidal thoughts (T2)	Suicidal behaviour (T2)	Suicidality-composite (T2)
Hopelessness	.305	.393*	.379*
Depression	.321	.433*	.409*
Anxiety	.085	.122	.113
Past behaviour	.690***	.681***	.745***
Intention	.524**	.686***	.659***
Affective attitude	.359*	.520***	.477*
Instrumental attitude	.306	.411*	.390*
Injunctive norm	.145	.147	.159
Descriptive norm	.255	.341	.324
Self-efficacy	.525**	.760***	.698***
Perceived controllability	.298	.349	.351*
Group identity	.038	−.105	−.036
Mean (SD)	1.83(1.67)	1.00(1.65)	2.83(3.05)

[a] *$p < .05$, **$p < .01$, ***$p < .001$

Finally, we conducted mediational analyses to determine whether there was any evidence for mediation by the TPB variables on the relationship between the clinical variables and suicidality. Employing Baron and Kenny's (1986) guidelines there was evidence of mediation (i) by affective attitudes, (ii) self-efficacy and (iii) intention on the depression–suicidal behaviour relationship. However, Sobel testing confirmed full mediation for self-efficacy ($z = 3.17$, $p < .01$), intention ($z = 2.90$, $p < .01$) but not for affective attitudes ($z = 1.70$, $p = .09$). There was some evidence for social cognitive variables mediating the hopelessness–suicidality relationship but because hopelessness was only weakly associated with suicidality, Baron and Kenny's first condition was not met.

---

[5] *As the standard deviation was larger than the mean for suicidal behaviour (T2) and suicidal composite (T2), we conducted non-parametric Spearman's rho correlations as well. These analyses yielded the same findings as the Pearson's.*

Discussion

This study yielded evidence in support of the four hypotheses. First, the hierarchical regression analysis supported the initial hypothesis that the social cognitive variables would explain additional variance in intention to engage in DSH in the next 3 months, beyond the variance explained by the clinical variables and past behaviour. Indeed, in the final regression model, four of the social cognitive variables were significant predictors of intention to engage in DSH (affective attitude, self-efficacy, group identity and group identity × descriptive norm interaction). Moreover, with the exception of depression, the effects of hopelessness and anxiety on DSH intention were not significant when the social cognitive variables were controlled. In short, depression was the only clinical variable to explain variance in DSH intention beyond the effects of the social cognitive variables. In support of the second hypothesis, affective and instrumental attitudes as well as self-efficacy mediated the hopelessness–intention relationship and the latter also mediated the anxiety–intention relationship. What is more striking, however, is that self-efficacy was more strongly related to one's intention to engage in DSH in the next 3 months than depression (as reflected in their beta weights, $\beta = 0.532$ and $\beta = 0.203$ for self-efficacy and depression, respectively). Although this is perhaps not that surprising given the existence of self-efficacy models of depression (e.g. Bandura, Pastorelli, Barbaranelli, & Caprara, 1999; Kavanagh & Bower, 1985).

Not only do these findings support the first two hypotheses, but they also offer considerable support for the efficacy of the dual-factor model of the TPB to explain a novel behaviour which has been traditionally contextualized within biomedical models of abnormality. We have also extended the application of the TPB beyond distal health outcomes to a behaviour that is both proximal and extreme. What is more, we provide evidence, consistent with previous research (e.g. Eagly, Mladinic, & Otto, 1994; Trafimow & Sheeran, 1998), of discriminant validity between components and that each of the components has different levels of predictive validity. Indeed, it is interesting that normative influences only had an impact upon suicidality when group identification was taken into account. They also suggest that affective rather than instrumental attitudes are more pertinent to understanding suicidality. Indeed, such a claim is consistent with research which suggests that suicidal behaviour ought to be conceptualized as a *cry of pain* (affective) rather than a *cry for help* (instrumental) and that the predominant motivation for many suicidal individuals is the cessation of their psychological pain rather than the manipulation of others (O'Connor, 2003; Shneidman, 1996; Williams, 2001). Furthermore, the importance of self-efficacy is also consistent with social-cognitive theory (Bandura, 1997).

The findings build upon O'Connor and Armitage's (2003) previous exploratory study by demonstrating that, when considered alongside mental health variables, the social cognitive factors explain variance in suicidality beyond the effects of depression, anxiety and hopelessness (cross-sectionally and prospectively). Indeed they explain an additional 23% (22.8%) of the variance in DSH intention. This suggests that interventions aimed at modifying social and personal beliefs about suicidal behaviour as well as dealing with depression may go some way in the fight against suicide. For example, as attitudes and self-efficacy are determined by beliefs concerning the probability or likelihood of certain outcomes (see Bandura, 1997), cognitive and behavioural techniques that attempt to restructure cognitions might be successful as part of a DSH intervention programme.

The third hypothesis, that group identification would moderate the descriptive norm–intention relationship, such that the relationship is stronger as group identification increases, was supported. In the final regression model, together with the main effect for group identity, the interaction between group identity and descriptive norm was significant and closer inspection of the data showed that among the high group identifiers, their intention to engage in DSH increased as a function of descriptive norms. In other words, the DSH beliefs and behaviour of friends and peers have considerable impact on one's intention to engage in DSH. In sum, group identification can buffer against suicidal intent when valued friends/peers have low group norms. What is more, the interactive effect of descriptive norm and identification on intention remains significant after the TPB, past behaviour and clinical variables are statistically controlled.

Future research may wish to investigate whether the fact that injunctive and descriptive norms varied in terms of referent (i.e. 'people who are important to me' versus 'friends and peers') had an effect on the results. Another issue that requires further exploration concerns the notion of motivation to comply. This is implicit in the measurement of injunctive norm (i.e. I'm motivated to comply with 'people who are important to me') whereas it is less clear how this issue is addressed in the descriptive norm construct: it does not necessarily follow that the beliefs of friends and family will influence one's behaviour unless one is motivated to comply. Group identification may tap this issue to a limited extent (i.e. as group identification increases so does one's motivation to comply with group norms), however, future research should investigate this matter explicitly.

Two further points regarding the third hypothesis are worthy of note. First, it is not surprising that DSH intention did not vary as function of descriptive (group) norm in the low identifier group, because if you have no sense of belonging or affiliation to a group of people (i.e. low identification), then the views of those group members will not have any impact on your beliefs and behaviour. Second, the low identifiers reported higher intentions to engage in DSH than the high identifiers (with the exception of the high group norm participants). This fits well with the existing literature on social isolation, loneliness and suicidality (e.g. Dorling & Gunnell, 2003; O'Connor & O'Connor, 2003); the low levels of group identification reported by these participants may be a measure of their social integration and support, or rather their lack of integration and support – and for this reason these individuals are at increased risk of suicidality. Our findings also support Terry and colleagues' (Terry & Hogg, 1996; Terry *et al.*, 2000) reconceptualization of social norms in terms of social identity theory. Accordingly, closer attention must be paid to modifying the attitudes and behaviour of peers and friends of target groups. Health promotion campaigns could be usefully aimed at such attitudes and behaviours.

Despite the relatively small number of participants at Time 2 ($N = 23$), there was clear support for the fourth hypothesis that the social cognitive variables would be related to suicidality at Time 2, 3 months later. With the exception of norms (injunctive and descriptive), all of the other social cognitive variables were correlated with at least one of the suicidal indices. Specifically, past behaviour, self-efficacy and intention were the strongest predictors of suicidality at Time 2. All of the other variables are rendered non-significant if one adheres to the $p < .01$ level of significance, to reduce the likelihood of making a Type 1 error.

This study also suggests that therapeutic interventions which focus on group processes and cohesion might be useful in suicide prevention. Indeed, a recent

randomized controlled trial of group therapy for repeated DSH in adolescents yielded promising results (Wood, Trainor, Rothwell, Moore, & Harrington, 2001). The group treatment comprised an initial assessment phase, attendance at six acute group sessions followed with weekly group treatment until the patient wanted to leave. The acute therapy focused upon relationships, school/family problems and peer relations, anger management, depression and self-harm, hopelessness and thoughts about the future, whereas the long-term group sessions emphasized group processes. In intention-to-treat analyses, those adolescents who had group therapy were less likely to have repeated DSH on two or more further occasions than adolescents who had routine care. Although Wood *et al.*'s findings are encouraging, further research is required to determine which components within the acute and long-term treatment sessions were particularly effective.

Despite extending previous findings, it is important to mention three limitations. First, we relied entirely on self-report questionnaires and correlational analyses; future research, if possible, ought to include a selection of objective and subjective tools to determine attitudes, norms and well-being and attempt to experimentally manipulate the key predictors. In particular, it would be desirable in future research to have a measure of actual self-harm behaviour during the follow-up period, perhaps obtained via hospital records. Second, although the sample size at Time 1 was large enough to detect meaningful effects, the generalizability of the Time 2 findings are circumscribed because of the small number of participants that we managed to follow-up at Time 2, albeit that those we missed did not differ significantly from those that we did not on any of the study variables.[6] A larger sample, which anticipates a larger attrition rate than we did would be desirable. Third, our study followed participants over a relatively short period of time. It would be interesting to determine the utility of social cognitive variables to predict longer-term changes in DSH and well-being.

Notwithstanding the limitations outlined above, there are a number of conclusions to draw from this study. First, we have demonstrated that a social cognition model is useful in the understanding of suicidal behaviour and it provides a novel (non-biomedical) framework within which to study suicidality. Second, the adherence to such a biopsychosocial framework should go some way to destigmatizing suicide by rooting it within the domain of everyday behaviour and by viewing suicidal behaviour as existing along a 'normal' continuum. Third, it extends the application of the dual-factor model of the TPB beyond distal health outcomes (e.g. exercise, cigarette smoking) to a behaviour that is both proximal and extreme (O'Connor & Armitage, 2003). Fourth, the measures included herein could form part of a screening assessment to determine those who are at increased risk of repetitive DSH, although such an attitude-based screening tool would require further research.

Acknowledgements

---

[6] *Although those who we followed up at Time 2 did not differ from those who we did not on Time 1 measures, there may be other systematic factors that differentiated the groups.*

References

Abrams, D., Hinkle, S., & Tomlins, M. (1999). Leaving Hong Kong?: The roles of attitude, subjective norm, perceived control, social identity and relative deprivation. *International Journal of Intercultural Relations*, *23*, 319-338.

Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*, 179-211.

Ajzen, I., & Fishbein, M. (2005). The influence of attitudes on behavior. In D. Albarracin, B. T. Johnson & M. P. Zanna (Eds.), *Handbook of attitudes and attitude change: Basic principles* (pp. 173-221). Mahwah, NJ: Erlbaum.

Armitage, C. J. (2003). The relationship between multidimensional health locus of control and perceived behavioural control: How are distal perceptions of control related to proximal perceptions of control? *Psychology and Health*, *18*, 723-738.

Armitage, C. J. (2005). Can the theory of planned behavior predict the maintenance of physical activity? *Health Psychology*, *24*, 235-245.

Armitage, C. J., & Arden, M. A. (2002). Exploring discontinuity patterns in the transtheoretical model: An application of the theory of planned behaviour. *British Journal of Health Psychology*, *7*, 89-103.

Armitage, C. J., & Conner, M. (1999a). Distinguishing perceptions of control from self-efficacy: Predicting consumption of a low fat diet using the theory of planned behavior. *Journal of Applied Social Psychology*, *29*, 72-90.

Armitage, C. J., & Conner, M. (1999b). The theory of planned behaviour: Assessment of predictive validity and perceived control. *British Journal of Social Psychology*, *38*, 35-54.

Armitage, C. J., & Conner, M. (2000). Social cognition models and health behavior: A structured review. *Psychology and Health*, *15*, 173-189.

Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behavior: A meta-analytic review. *British Journal of Social Psychology*, *40*, 471-499.

Armitage, C. J., Norman, P., & Conner, M. (2002). Can the theory of planned behaviour mediate the effects of age, gender and multidimensional health locus of control? *British Journal of Health Psychology*, *7*, 299-316.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

Bandura, A., Pastorelli, C., Barbaranelli, C., & Caprara, G. V. (1999). Self-efficacy pathways to childhood depression. *Journal of Personality and social Psychology*, *76*, 258-269.

Baron, R. A., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173-1182.

Barraclough, B., Bunch, J., Nelson, B., & Sainsbury, P. (1974). A hundred cases of suicide: Clinical aspects. *British Journal of Psychiatry*, *25*, 355-373.

Beck, A. T., Steer, R. A., Kovacs, M., & Garrison, B. (1985). Hopelessness and eventual suicide: A 10-year prospective study of patients hospitalised with suicidal ideation. *American Journal of Psychiatry*, *142*, 559-563.

Beck, A. T., Weissman, A., Lester, D., & Trexler, L. (1974). The measurement of pessimism: The hopelessness scale. *Journal of Consulting and Clinical Psychology*, *42*, 861-865.

Bjelland, I., Dahl, A. A., Haug, T. T., & Neckelmann, D. (2002). The validity of the Hospital Anxiety and Depression Scale – An updated literature review. *Journal of Psychosomatic Research*, *52*, 69-77.

Cantor, C. (2000). Suicide in the Western World. In K. Hawton & K. van Heeringen (Eds.), *The international handbook of suicide and attempted suicide*. Chichester: Wiley.

Cialdini, R. B., Kallgren, C. A., & Reno, R. R. (1991). A focus theory of normative conduct: A theoretical refinement and re-evaluation of the role of norms in human behaviour. *Advances in Experimental Social Psychology*, *24*, 201-234.

Conner, M., & Armitage, C. J. (1998). Extending the theory of planned behavior: A review and avenues for further research. *Journal of Applied Social Psychology, 28*, 1429-1464.

Conner, M., & Norman, P. (Eds.). (2005) Predicting health behaviour. Buckingham: Open University Press.

Conner, M., & Sparks, P. (2005). The theory of planned behaviour and health behaviours. In M. Conner & P. Norman (Eds.), *Predicting health behaviour: Research and practice with social cognition models* (2nd ed., pp. 170-222). Maidenhead: Open University Press.

Crawford, J. R., Henry, J. D., Crombie, C., & Taylor, E. P. (2001). Normative data for the HADS from a large non-clinical sample. *British Journal of Clinical Psychology, 40*, 429-434.

Department of Health. (2002). *National suicide prevention strategy for England*. London: HMSO.

Dorling, D., & Gunnell, D. (2003). Suicide: The spatial and social components of despair in Britain 1980-2000. *Transactions of the Institute of British Geographers, 28*, 442-460.

Eagly, A. H., Mladinic, A., & Otto, S. (1994). Cognitive and affective bases of attitudes towards social groups and social policies. *Journal of Experimental Social Psychology, 30*, 113-137.

Godin, G., & Kok, G. (1996). The theory of planned behavior: A review of its applications to health-related behaviors. *American Journal of Health Promotion, 11*, 87-98.

Gunnell, D., Middleton, N., Whitley, E., Dorling, D., & Frankel, S. (2003). Why are suicide rates rising in young men but falling in the elderly? A time-series analysis of trends in England and Wales 1950-1998. *Social Science and Medicine, 57*, 595-611.

Hawton, K., Fagg, J., Simkin, S., & Mills, J. (1994). The epidemiology of attempted suicide in the Oxford area, 1989-1992. In A. J. F. M. Kerkhof, A. Schmidtke, U. Bille-Brahe, D. De Leo & J. Lonnqvist (Eds.), *Attempted suicide in Europe*. Leiden: DSWO.

Hogg, M. A., & Abrams, D. (1988). *Social identifications: A social psychology of intergroup relations and group processes*. London: Routledge.

Holden, R. R., & Fekken, G. C. (1988). Test-retest reliability of the Hopelessness Scale and its items in a university population. *Journal of Clinical Psychology, 44*, 40-43.

Hunter, E. C., & O'Connor, R. C. (2003). Hopelessness and future thinking in parasuicide: The role of perfectionism. *British Journal of Clinical Psychology, 42*, 355-365.

Kavanagh, D. J., & Bower, G. H. (1985). Mood and self-efficacy: Impact of joy and sadness on perceived capabilities. *Cognitive Therapy and Research, 9*, 507-525.

Liao, S., Shao, Y. P., Wang, H., & Chen, A. (1999). The adoption of virtual banking: An empirical study. *International Journal of Information Management, 19*, 63-74.

Maris, R. F. W. (1991). Introduction to a special issue: Assessment and prediction of suicide. *Suicide and Life-Threatening Behavior, 21*, 1-17.

McClure, G. M. G. (2000). Changes in suicide in England and Wales. *British Journal of Psychiatry, 176*, 64-67.

Michel, K., & Valach, L. (2001). Suicide as goal-directed action. In K. van Heeringen (Ed.), *Understanding suicidal behaviour*. Chichester: Wiley.

O'Carroll, P. W., Berman, A. L., Maris, R. M., Moscicki, E., Silverman, M., & Tanney, B. (1996). Beyond the Tower of Babel: A nomenclature for suicidology. *Suicide and Life-Threatening Behavior, 26*, 237-252.

O'Connor, R. C. (2003). Suicidal behaviour as a cry of pain: Test of a psychological model. *Archives of Suicide Research, 7*, 297-308.

O'Connor, R. C., & Armitage, C. J. (2003). Theory of planned behaviour and parasuicide: An exploratory study. *Current Psychology, 22*, 247-256.

O'Connor, R. C., & O'Connor, D. B. (2003). Predicting hopelessness and psychological distress: The role of perfectionism and coping. *Journal of Counseling Psychology, 50*, 362-372.

O'Connor, R. C., O'Connor, D. B., O'Connor, S. M., Smallwood, J., & Miles, J. (2004). Hopelessness, stress and perfectionism: The moderating effects of future thinking. *Cognition and Emotion, 18*, 1099-1120.

O'Connor, R. C., & Sheehy, N. P. (2000). *Understanding suicidal behaviour*. Leicester: BPS Blackwell.

O'Connor, R. C., & Sheehy, N. P. (2001). State of the art: Suicidal behaviour. *Psychologist*, *14*, 20–24.

O'Connor, R. C., Sheehy, N. P., & O'Connor, D. B. (2000). Fifty cases of general hospital parasuicide. *British Journal of Health Psychology*, *5*, 83–95.

Platt, S., Hawton, K., Kreitman, N., Fagg, J., & Foster, J. (1988). Recent clinical and epidemiological trends in parasuicide in Edinburgh and Oxford: A tale of two cities. *Psychological Medicine*, *18*, 405–418.

Quine, L., Rutter, D. R., & Arnold, L. (1998). Predicting and understanding safety helmet use among schoolboy cyclists: A comparison of the theory of planned behaviour and the health belief model. *Psychology and Health*, *13*, 251–269.

Randall, D. M., & Wolff, J. A. (1994). The time-interval in the intention behavior-relationship – Meta-analysis. *British Journal of Social Psychology*, *33*, 405–418.

Rivis, A., & Sheeran, P. (2003). Descriptive norms as an additional predictor in the theory of planned behaviour: A meta-analysis. *Current Psychology*, *22*, 264–280.

Scottish Executive, Department of Health. (2002). *Choose life: A national strategy and action plan to prevent suicide in Scotland*. Edinburgh: HMSO.

Sheeran, P., & Orbell, S. (1998). Do intentions predict condom use? Meta-analysis and examination of six moderator variables. *British Journal of Social Psychology, 37*, 231–250.

Sheeran, P., Orbell, S., & Trafimow, D. (1999). Does the temporal stability of behavioral intentions moderate intention-behavior and past behavior–future behavior relations? *Personality and Social Psychology Bulletin*, *25*, 724–734.

Shneidman, E. S. (1996). *The suicidal mind*. New York: Oxford University Press.

Taifel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 7–24). Chicago: Nelson-Hall.

Terry, D. A., & Hogg, M. A. (1996). Group norms and the attitude behaviour relationship: A role for group identification. *Personality and Social Psychology Bulletin*, *22*, 776–793.

Terry, D. J., Hogg, M. A., & McKimmie, B. M. (2000). Attitude-behaviour relations: The role of in-group norms and mode of behavioural decision-making. *British Journal of Social Psychology*, *39*, 337–361.

Trafimow, D., & Finlay, K. A. (1996). The importance of subjective norms for a minority of people: Between-subjects and within-subjects analyses. *Personality and Social Psychology Bulletin*, *22*, 776–793.

Trafimow, D., & Sheeran, P. (1998). Some tests of the distinction between cognitive and affective beliefs. *Journal of Experimental Social Psychology, 34*, 378–397.

Trafimow, D., Sheeran, P., Lombardo, B., Finlay, K. A., Brown, J., & Armitage, C. J. (2004). Affective and cognitive control of persons and behaviours. *British Journal of Social Psychology*, *43*, 207–224.

US Department of Health and Human Services. (2000). *Healthy people 2010*. Washington, DC: US Government Printing Office.

Weishaar, M. E., & Beck, A. T. (1992). Clinical and cognitive predictors of suicide. In R. W. Maris, A. L. Berman, J. T. Maltsberger & R. I. Yufit (Eds.), *Assessment and prediction of suicide*. New York: Guilford Press.

Williams, J. M. G. (2001). *Cry of pain*. London: Penguin.

Wood, A., Trainor, G., Rothwell, J., Moore, A., & Harrington, R. (2001). Randomized trial of group therapy for repeated deliberate self-harm in adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, *40*, 1246–1253.

Zigmond, A. S., & Snaith, R. P. (1983). The Hospital Anxiety and Depression Scale. *Acta Psychiatrica Scandinavica*, *67*, 361–370.