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Cognitive style and suicidal behaviour: implications for therapeutic intervention, research lacunae and priorities

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ABSTRACT *Cognitive style is a well-established theoretical construct but there is considerable ambiguity in the way it has been used and uncertainty regarding the nature of its role in suicide. There is no evidence that specific cognitive dispositions prime people for suicide but there are indications that suicide is associated with a constriction in cognitive style. This constriction leads to decrements in problem-solving and information processing that can be addressed in therapeutic contexts. To help a suicidal person become a better problem-solver is not a trivial task but the evidence suggests that enriching cognitive styles through the development of thinking skills is possible when the therapy session is construed as a learning collaboration.*

Introduction

Cognitive style has long been implicated as a risk factor for depression and suicidal behaviour. The concept refers to the way people search for, acquire, interpret, categorise, remember, and retrieve information in making decisions and solving problems. The significance of understanding how information is processed and evaluated is perhaps best captured by Jung's (1923) theory of psychological types. Jung suggests that people are either 'sensing' or 'intuitive'. Sensing individuals prefer to gather information from their environment, focus on immediate experience and demonstrate acute powers of observation and memory for detail. Intuitive people prefer to focus on possibilities, meanings, and relationships by way of insight and deductive thinking. They tend to engage in more abstract thinking with a bias towards future orientation. Thus, people are either 'thinking'

or 'feeling' oriented. 'Thinking individuals' rely on principles of cause and effect and they make decisions analytically. This is somewhat analogous to Lazarus and Folkman's (1984) problem-focused coping style. 'Feeling individuals' prefer to weigh the relative merits of an issue and to rely on an understanding of personal and group values in their decision-making. They prefer to rely on affect over cognition and tend to use logic to support feelings. This is analogous to emotion-focused coping. Clues to a person's cognitive style can be communicated in different ways. Some people may talk about how they spend a lot of time ruminating on what they should or should not have done or said. Others may indicate their agitation when people seem to jump from topic to topic in a conversation. Myers (1962) extended Jung's theory by proposing a further distinction between a preference for information processing and information evaluation. According to Myers, perceptive individuals prefer to collect rather than evaluate information, to remain flexible and to keep their options open. Evaluators prefer to assess and judge information and demonstrate a preference for order and control.

While cognitive style is a well-established theoretical construct there is considerable ambiguity in the way it has been used. Many authors have treated cognitive style and learning style as synonyms, suggesting that a negative cognitive style incorporates a way of learning that has itself been learned. Most definitions of cognitive and learning style refer to variations in individual information processing. Thus, cognitive style has been described as a predictable pattern of behaviour within a range of individual variability (Cornett, 1983); a way of responding to and using stimuli in a learning environment (Claxton & Ralston, 1978); a preference for processing information and learning (Dunn & Dunn, 1978); the way individuals organise experiences (Kolb, 1984); and an expression of psychological differentiation within characteristic modes of information processing (Witkin & Goodenough, 1981).

Despite the ambiguities, there is consensus that cognitive style is concerned with an unconscious strength of preference for processing information and as such is different from cognitive skill. People may choose to acquire cognitive skills that are not necessarily consonant with their preferences. They can resist or over-ride their preferences and choose to act in ways that may appear to be inconsistent with their cognitive style. Thus, there is no suggestion that some cognitive dispositions prime people for suicide. Treating cognitive style as a psychological millstone would imply an commitment to a 'bad apple' theory of suicide: if only the 'bad apples', those who are 'suicide primed', could be detected early by identifying the telltale 'cognitive style', they could be treated appropriately at an early stage (see O'Connor & Sheehy, 2001, 2000). There is no evidence that 'thinking' and 'feeling' individuals, for instance, are differentially susceptible to suicide. The link between cognitive style and suicide is more subtle. It is based on two hypotheses. First, that suicide is associated with a constriction in cognitive style rather than with style *per se*. Thus, to use Jung's distinction, both sensing and intuitive styles can become constricted. Second, that suicide is correlated with an increase in negative affect.

Suicide and impairments to cognitive style

Impaired problem-solving is a well-established suicide risk factor. Those at high risk tend to endure impairments in their social and interpersonal problem-solving abilities. This is often most noticeable in difficulties experienced when conceptualising, identifying and formulating appropriate solutions to familiar social problems. For example, studies using the Means–End Problem-Solving Scale (MEPS) (Platt *et al.*, 1975), in which respondents are invited to generate solutions to a number of social dilemmas, have shown that suicidal people generate fewer solutions and often their solutions are less relevant (Pollock & Williams, 1998). Other studies have shown that suicidal and depressed individuals tend to generate overly general autobiographical memories (i.e. summaries of experiences) and take longer to recall positive memories than matched controls (Williams, 1997; Williams & Broadbent, 1986). Williams explains this in terms of a ‘mnemonic interlock’—the suicidal person is fixed at an intermediate level of memory recall and is able to access general but not specific memories. These memory biases have been attributed to changes in problem-solving proficiency (Evans *et al.*, 1992). Solving personal and interpersonal problems entails recalling similar dilemmas with satisfactory solutions. Difficulties accessing specific events from long-term memory are likely to diminish one’s problem-solving capacity. In effect, suicidal individuals engage in efforts to solve interpersonal dilemmas burdened by a significant information processing handicap. In other domains of psychology it is often the case that previous behaviour is the best predictor of future behaviour but the problem-solving history of the suicidal person is often not fully available to inform the formulation of solutions to current crises. General solutions cannot provide the level of detail required to address the details in particular problems and so the suicidal person has to work harder and longer to generate a number of potential solutions and to recall positive memories that might assist them.

The suicidal person tends to endure a pessimistic view of the future, their general environment and themselves and they tend to manifest a depressogenic attributional style. Traditionally measured along three dimensions—internal–external, stable–unstable, global–specific—depressed and suicidal individuals tend to attribute negative life events to internal, stable and global causes (Peterson *et al.*, 1982). This pattern of thinking can be particularly potent when applied to negative interpersonal experiences, such as the break-up of a long-term relationship, rather than negative achievement-related events, such as failure to pass an examination. To assess the suicidal risk of a particular negative life event on, say, a young person, it is crucial that one distinguishes between severity and impact: a relationship crisis may not appear to be *severe* (low severity from a loved one’s point-of-view) but it can have considerable *impact* on the young person (high impact).

Consider another example, an adolescent bereaved through the suicide of a parent may believe that they played a contributory role (an internal cause) either by their own actions or their failure to notice signs of their parent’s troubled mind. They may perceive their role in the suicide as an expression of some intractable (stable) personal characteristic and find evidence for this in selective memories of other

relationships in which they rejected, or were rejected by, others (a global characteristic). This pattern of thinking can be associated with an extended phase of negative affect and cognition, leading to decrements in problem-solving and an increased sense of hopelessness which in turn elevates their suicide risk. Indeed their constricted problem-solving may lead them to conclude that their own suicide would be a logically appropriate way of permanently removing the gap between themselves and their deceased parent.

The relationship between decrements in positive thinking about the future can occur independently of depression, although the nature of the links between changes in cognitive styles and hopelessness are poorly understood. O'Connor *et al.* (2000b) assessed a sample of parasuicidal people and matched hospital controls the day following admission to hospital on measures of cognitive style, depression, anxiety, future directed thinking and hopelessness. They measured cognitive style using the Cognitive Style Questionnaire (see Abramson *et al.*, 1998) which, in addition to assessing the traditional attributional dimensions, includes measures of consequences and self-worth. They found that people in their parasuicide sample differed from hospital controls on measures of depression, future positive expectations and negative cognitive style in the predicted direction and that these three measures explained 70.5% of the variation in hopelessness. They also found that positive future thinking was not correlated with depression or negative cognitive style. Their findings suggest that a negative cognitive style, as distinct from depression, is not related to impaired positive thinking. This outcome is a partial replication of MacLeod and colleagues' original work on prospective cognitions. They investigated whether the cognitive style of suicidal individuals was similarly characterised by the presence of negative future expectations or the lack of positive future positive cognitions (MacLeod *et al.*, 1993) and whether this pattern differed from the non-suicidally-depressed and matched controls. Their evidence demonstrated that parasuicides did not differ from the depressed group in terms of the number of negative future cognitions but were significantly impaired in their ability to generate positive future cognitions. This is a key study as it demonstrates that positive and negative cognitions are not functionally equivalent. A characteristic of those who engage in parasuicidal acts is the paucity of their positive future cognitions. What sets parasuicides apart from the rest is their lack of positive future cognitions. This dearth cannot be attributed to depression because, as O'Connor *et al.* (2000a) have shown, impairment in future positive cognition can occur independently of depression and also of negative cognitive style. This has prompted further speculation about the correlates of diminished positive prospective cognitions.

A possible correlate is that of perfectionistic tendencies. It is conceivable that higher levels of perfectionism are associated with apprehension for future events because each event represents a potential occasion for failure. Perfectionism has been implicated in psychopathology for some time (Pacht, 1984), in particular with eating disorders, arguably another type of self-harming (Vohs *et al.*, 1999). Thus, its association with suicidal behaviour should not be surprising. Dean and Range (1999), using the Multidimensional Perfectionism Scale (MPS; see Hewitt & Flett, 1991), assessed 132 clinical outpatients on measures of life events, multidimensional

perfectionism, depression, hopelessness, reasons for living, and suicide ideation. Their evidence suggests that two components of the MPS may be precipitants to suicide (Hewitt & Flett, 1991). The first, socially-prescribed perfectionism, is the degree to which we perceive unreasonable expectations/demands placed upon us by significant others. The second is self-oriented perfectionism and represents the extent to which we place unrealistic standards on ourselves. Socially-prescribed perfectionism is consistently associated with suicidality, although the story is less clear for self-oriented perfectionism. Dean and Range (1999) identified a significant pathway from socially-prescribed perfectionism to depression, from depression to hopelessness, and from hopelessness to suicide thinking and impoverished reasons for living. In another study in Scotland, O'Connor *et al.* (2000a) found a negative correlation between socially-prescribed perfectionism and positive future thoughts but no such relationship for self-oriented perfectionism. Contrary to predictions, their data suggested that self-oriented perfectionism may not precipitate risk but rather buffer against hopelessness (O'Connor, 2001). However, this relationship is tentative and has yet to be demonstrated within a prospective investigation.

Many different models of suicidal behaviour have been postulated, some have included cognitive risk factors, others have not. Those like Blumenthal's overlap model of youth suicidal behaviour (Blumenthal & Kupfer, 1990) or Maris' notion of a suicidal career (Maris, 1994) have served as useful heuristics but lacked predictive utility. More recently, Williams (1997), who has incorporated his conceptualisation of self-harm as a cry of pain into an escape theory of suicide, may have more success. Specifically, Williams and Pollock (2001) argue that suicidal behaviour is a 'cry' or response to a stressful situation that has three components. First, the situation causes feelings of defeat or rejection. Second, the individual wishes to escape from this situation and hence evaluates their escapability and concludes that there is no escape. Third, they conclude that there are no rescue factors (e.g. social support) to alleviate the crisis. This triumvirate is then thought to activate a psychobiological 'helplessness script' (similar to the learned helplessness paradigm in animals) that facilitates the impulse to escape by suicidal actions. Whether or not suicidal solutions are preferred is determined by other factors including modelling effects and the availability of means. Hence, a person's judgements as to how (i) stressful, (ii) escapable the situation is, and (iii) how much support is available are affected by memory and attentional biases, as outlined above. According to this view, suicidal behaviour is not inherently abnormal, the product of abnormal psychological processes, but the normal expression of normal psychological processes, and this affords opportunities to explore new avenues to suicide prevention.

Family cognitive styles?

Just as individuals appear to have cognitive preferences, ongoing intact groups such as families may also have stable cognitive preferences which have developed over time and remain relatively consistent across situations. For example, the family context is a formative influence in the development of children's attributional styles (Nolen-Hoeksema *et al.*, 1986). Thus, it might be useful to approach decision-making

processes within families as 'group dispositions' that develop over time and remain relatively consistent across settings. Decision-making and problem-solving often involves information processing and evaluation by a group of family members rather than by an isolated individual. Even when individuals seek to solve problems entirely on their own the imagined reactions from, and impact on, family members will often be taken into account. Although it seems reasonable to propose that a group-level variable, family cognitive style, may be implicated in suicide, the evidence is, as present, largely indirect. For example, maladaptive attributions have been found to predict the level of family distress and have proved useful in ranking abusive families in terms of prognosis for rehabilitation (Silvester *et al.*, 1995). More specifically, a history of psychopathology is a well-established risk factor for suicide (O'Connor & Sheehy, 2000) and more recent research has identified other familial risk factors that may be implicated in suicide risk, including poor family communication and problem-solving skills, a tendency to scapegoating, the perceived or actual loss of a significant attachment figure and marital dysfunction (Bongar *et al.*, 2000).

Suicide is known to affect the interpersonal dynamics of bereavement (Thornton *et al.*, 1989). Suicide bereaved children generally come from families with a history of psychopathology and substantial family disruption (Cerel *et al.*, 2000). Families of suicidal young people are often described as disorganised, unstable and rigid (Davidson & Linnoila, 1990; Pfeffer, 1989), characteristics that we also associate with the suicidal person. It is well established that suicide within the family can cause disturbances to family dynamics, although the possibility of a reciprocal interaction has not been studied in any detail (Fergusson *et al.*, 2000). It may be, for example, that the occurrence of suicide within a family increases the likelihood that other family members will incorporate this into their repertoire of problem-solving behaviours. There is some evidence, albeit of a preliminary nature, that there may be an inter-generational cycle of adverse childhood attachment experiences implicated in childhood suicide (Maris *et al.*, 2000; Sequin *et al.*, 1995).

Implications for therapy and counselling

If cognitive, affective, and psychological traits are relatively stable stylistic indicators of how people perceive and interact with others, changes in style may index increased risk for suicide. These may be more easily noticed when the changes are abrupt but more difficult to detect when the changes are gradual and cumulative. However, one implication for prevention is that therapeutic interventions can beneficially track transformations in problem-solving and autobiographical memories and use these as one indicator of change in suicide risk. A second is that working with the person to remove these impairments in problem-solving can have positive consequences which can promote self-esteem and reduce hopelessness. Of course, to help a suicidal person become a better problem-solver is not a trivial task, especially if the client has severe problem-solving deficits and has not consistently adapted well to their environment for some time. A suicidal person may have spent years using maladaptive problem-solving styles that served some psychological function for them. Half a dozen sessions targeted on enriching their problem-solving skills will

probably not make much of a difference with a chronically poor problem-solver (Heppner, 1990). Moreover, gains achieved with the support of a therapist may be difficult to sustain beyond the therapeutic setting.

MacLeod and colleagues (1998) attempted to help their clients improve positive future thinking (and thereby reduce the risk of repetitive parasuicide) through a brief, manual-assisted cognitive-behaviour therapeutic intervention—MACT (Barber & Thomson, 1999; Evans *et al.*, 1992). Their clients were offered a series of six cognitive orientated, problem-focused therapeutic sessions. At follow-up, 6 months later, those who received the MACT intervention showed a significant improvement in positive future thinking compared with a group of parasuicidal people who had treatment as usual. This finding was complicated by the fact that the non-hospital control group also showed an improvement in positive future thinking. More convincing evidence has been reported with people who had suffered from depression (Williams, 2000). Recovered depressed people were randomly allocated to mindfulness-based cognitive therapy or treatment as usual. Those who received the cognitive therapy showed a significant reduction in the recall of generic memories, compared to the control group. These findings have yet to be replicated with a parasuicide population.

Sidley *et al.* (1999) attempted to improve the specificity of risk assessment for parasuicide repetition by supplementing established socio-demographic predictors (Kreitman & Foster, 1991) with two psychological variables: personal future fluency or prospective cognitions (MacLeod *et al.*, 1997) and autobiographical memory (Williams & Broadbent, 1986). They assessed a high-risk group of people as soon as practicable after their parasuicide episode and followed them for a year. They found that (i) scores on the Beck Hopelessness Scale were the best predictors of future self-harm at 6 months follow-up, and (ii) history of previous parasuicides was the strongest predictor one year later. However, neither personal future fluency nor specificity of autobiographical memory increased risk assessment.

Conclusion

A cognitive learning style is a relatively stable preference for perceiving and organising information and for responding to stimulation. Enriching cognitive styles through the development of thinking skills in therapeutic settings is supported by theories of cognition that see people as active creators of their knowledge. Clients are viewed as creating new ways to solve personal and interpersonal problems by learning to search out meanings and impose structures. This implies that therapy sessions will have a degree of open-endedness and uncertainty in order to provide opportunities to explore ways to impose meaning, to make judgements or to produce multiple solutions. Clients need the time and opportunity to talk about their thinking processes, to make their own thought processes more explicit, to reflect on their problem-solving strategies and thereby gain a greater sense of being in control of their own thinking. Thus, acquiring and using meta-cognitive skills has emerged as a powerful idea for promoting enriched thinking in a therapeutic context.

New knowledge and alternative strategies for thinking are socially constructed not only through informed therapist guidance but through practical dialogue, reflection and discussion. Enriching one's cognitive style may have as much to do with creating a disposition to be a good thinker as it has to do with acquiring specific skills and strategies to address particular interpersonal problems. Therapy sessions to enrich cognitive styles are likely to be characterised by open-minded attitudes about the nature of knowledge and thinking and an atmosphere where talking about thinking—questioning, predicting, contradicting, doubting—is actively pursued. Thus, enriching cognitive styles and developing problem-solving skills has implications not only for clients' thinking but for inspiring therapists' ways of thinking too, as well as for the ethos of the therapy session as a learning collaboration.

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