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THE HOPELESSNESS THEORY OF SUICIDALITY¹

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Abramson, L.Y., Alloy, L.B., Hogan, M.E., Whitehouse, W.G., Gibb, B.E., Hankin, B.L., & Cornette, M.M. (2000). The hopelessness theory of suicidality. In T.E. Joiner & M.D. Rudd (Eds.). Suicide science: Expanding boundaries. Boston: Kluwer Academic Publishing.

THE PUZZLE OF SUICIDE

Suicide is perhaps the most paradoxical of behaviors. Over their phylogenetic and ontogenetic pasts, humans have developed many behaviors which aid in their survival. Yet, in suicide, a person intentionally destroys himself or herself. Moreover, despite its defiance of the laws of survival, suicide is not extremely rare. Indeed, the Surgeon General recently declared suicide a serious national threat. In the United States alone, at least 30,000 individuals commit suicide each year which translates into 1 suicide every 20 minutes (Andreasen & Black, 1991). Moreover, this figure probably is a gross underestimate because many deaths reported as accidents actually may be suicides. For example, it has been estimated that at least 15% of all fatal automobile accidents actually are suicides (Finch, Smith, & Pokorny, 1970). For each person who commits suicide, at least 10 more attempt to kill themselves (Andreasen & Black, 1991). Thus, each year over a quarter of a million people in the United States attempt suicide. As with completed suicides, this figure for attempted suicides probably is a gross underestimate. Currently, suicide is the eighth leading cause of death among American adults.

Of particular concern, suicide rates have risen dramatically among American adolescents over the past 3 decades, with estimated increases ranging from 142% (Allberg & Chu, 1990) to 312% (Fingerhut & Kleinman, 1988). Suicide is now the second leading cause of death among individuals between the ages of 15 and 24 in the United States (Bureau of the Census, 1994). According to a 1990 survey, 27% of American high school students thought about suicide, 16% developed a plan, and 8% made an attempt (cited in Rotheram-Borus et al., 1994). Similarly, suicidality is a serious problem on college campuses. Estimates of the percent of American college students exhibiting suicidal ideation over a 1-year period have ranged from 26% (Meehan et al., 1992) to 44% (Rudd, 1989), with approximately 2% making an attempt to kill themselves (Rudd, 1989).

Some intriguing epidemiological facts suggest that psychosocial factors contribute to suicide. First, large international variations exist in suicide rates among European countries with Southern European countries (e.g., Spain and Italy) having the lowest rates and Central European and Scandinavian countries (e.g., Hungary, Austria, and Denmark) the highest rates (Diekstra, 1996). Second, twice as many single people as married people kill themselves, and childless women are more likely to commit suicide than those with children (Hoyer & Lund, 1993). Third, being divorced or widowed increases suicide risk by 4 to 5 times (Davison & Neale, 1998). Fourth, suicide rates rise during economic depression years, remain stable during years of prosperity, and decrease during war years (Davison & Neale, 1998). Finally, as noted above, suicide has increased dramatically among adolescents in the United States over the past 3 decades. We suggest that the hopelessness theory of depression (Abramson, Metalsky, & Alloy, 1989) may be especially useful for understanding the psychosocial processes giving rise to suicidality, ranging from suicidal ideation to completed suicide.

A CASE STUDY

One of us has been seeing a client whose life history tragically illustrates the hopelessness theory of suicidality. Here is her story.

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between the content areas of an individual's cognitive vulnerability and the negative life events he or she encounters for the cognitive vulnerability-stress interaction to predict the development of suicidality.

Over the course of therapy, much evidence suggested that A.B. exhibited marked cognitive vulnerability across a wide variety of domains. She, then, would be much more likely to make hopelessness-inducing inferences following the death of her biological mother than another individual not exhibiting cognitive vulnerability. We speculate (see section below on "Developmental Origins of Cognitive Vulnerability to Suicidality") that the horrific maltreatment A.B. experienced during development importantly contributed to the formation of her cognitive vulnerability to suicidality. Another individual, also given up for adoption by her biological mother at birth, but placed soon after in a loving home might have developed a much more positive cognitive style and, thus, have drawn very different inferences about the death of the biological mother after finally meeting her. The individual with the positive cognitive style may have mourned the loss of the biological mother but also have felt some closure, albeit bittersweet, about her past, and may have been ready to meet the future armed with the images of a biological mother who had loved her all these years from afar and adoptive parents who cherished and nurtured her.

Evidence for the Hopelessness Theory of Suicidality

As discussed above, according to the hopelessness theory (Abramson et al., 1989), suicidality, on a continuum from suicidal ideation to completed suicide, is a core symptom of hopelessness depression. Therefore, individuals exhibiting the hypothesized cognitive vulnerability featured in the hopelessness theory (i.e., a tendency to attribute negative events to stable, global causes, infer that negative consequences will follow from current negative events, and believe that the occurrence of negative events means that the self is flawed) should be at risk for suicidality, mediated by hopelessness.

Although work has only just begun to test whether the more distal negative cognitive styles provide risk for suicidality, a vast number of studies have demonstrated a powerful link between hopelessness and suicidality among adults. In one of the earliest studies, Beck, Kovacs, and Weissman (1975) found that hopelessness was a better indicator of current suicidal ideation among suicide attempters than depression. Moreover, in prospective studies, hopelessness predicted eventual suicide over a 10-year period among adult patients hospitalized with suicidal ideation (Beck et al., 1985; Beck, Brown, & Steer, 1989) and adult psychiatric outpatients (Beck et al., 1990). Finally, suicide expert Edwin Shneidman (1992) constructed a "suicidal scenario," a summary of the 6 elements usually present in the decision to take one's life, based on accounts of people who survived suicide attempts and research on those who died. One of these elements was, "An overwhelming desperate feeling of hopelessness -- a sense that nothing effective can be done." (pp. 51-52).

Among adolescents, the relationship between hopelessness and suicidality is less clear (for a review, see Weishaar, 1996). For example, paralleling findings with adults, Kazdin et al. (1983) found that suicidal intent was more consistently related to hopelessness than to depression among psychiatrically disturbed inpatient

children. In contrast, Cole (1989) reported that among high school students, hopelessness was unrelated to suicidal behaviors for boys and only modestly related for girls when depression was statistically controlled. Future work is needed to determine why the link between hopelessness and suicidality is less robust among children and adolescents than among adults.

In contrast to the large well-established body of work on hopelessness and suicidality, research testing whether negative cognitive styles provide vulnerability for suicidality, mediated by hopelessness, is still in its infancy. In a longitudinal test of the cognitive vulnerability-stress hypothesis, Priester and Clum (1992) reported that college students with a style to attribute negative events to stable causes exhibited greater hopelessness and suicidal ideation in response to a low exam grade than students who did not exhibit this attributional vulnerability. In a prospective test of the specific vulnerability hypothesis, Joiner and Rudd (1995) found that college students with a stable, global attributional style for negative interpersonal events showed increases in suicidality when they experienced interpersonal stressors. Consistent with domain specificity, a depressogenic attributional style for negative achievement events did not predict suicidality in response to interpersonal stressors. However, contrary to prediction, hopelessness did not mediate the relation between the depressogenic attributional style for interpersonal events and increases in suicidality.

The behavioral high-risk prospective design (Depue et al., 1981) utilized in our two-site Temple-Wisconsin Cognitive Vulnerability to Depression (CVD) Project (Alloy & Abramson, 1999) enables a powerful test of the hopelessness theory of suicidality. Similarly to the genetic high-risk paradigm, the behavioral high-risk design involves studying individuals who currently do not have the disorder of interest but who are hypothesized to be at high risk for developing the disorder. In the CVD Project, university freshmen who were nondepressed and had no other current Axis I psychopathology at the outset of the study, but who were selected to be at high or low risk for hopelessness depression based on their cognitive styles, were followed prospectively every 6 weeks for approximately 2 and 1/2 years and then every 16 weeks for 3 more years with questionnaire self-report and structured interview assessments of negative life events, cognitions including hopelessness, symptoms including suicidality, and diagnosable episodes of psychopathology. In this chapter, we report results for the initial 2 and 1/2 year prospective follow-up period (Abramson et al., 1998).

Consistent with prediction, Abramson et al. (1998) reported that the high cognitive risk (HR) participants were more likely than the low cognitive risk (LR) participants to exhibit suicidality, measured by both structured diagnostic interview and questionnaire self-report, during the 2 and 1/2 year prospective follow-up period. Moreover, also consistent with prediction, hopelessness appeared to mediate the obtained relationship between cognitive vulnerability and suicidality. That these theoretically predicted effects were maintained even when prior history of suicidality was controlled is noteworthy. Controlling for prior history of suicidality in tests of the cognitive vulnerability hypothesis may be unduly conservative because prior history of suicidality may, itself, be a result of cognitive vulnerability (see also Alloy et al., 1999a; Meehl, 1971). Because Abramson et al. (1998) defined cognitive risk "generically" by using measures of cognitive vulnerability derived from both the hopelessness theory and Beck's (1987) theory, it is not possible to

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determine whether the negative cognitive styles featured in the hopelessness theory, by themselves, predicted the development of suicidality.

Abramson et al.'s (1998) study design also permitted examination of the cognitive vulnerability hypothesis of suicidality in the context of other hypothesized risk factors for suicidality not explicitly specified in the hopelessness theory, including past suicidality (e.g., Beck, Steer, & Brown, 1993; Hawton, 1987), personal history of depressive disorders (e.g., Hawton, 1987; Lewinsohn, Rhode, & Seeley, 1993), borderline (Isometsa et al., 1996) and antisocial (Garvey & Spoden, 1980) personality dysfunctions, and parental history of depression (e.g., Brent et al., 1994; Wagner, 1997). Of interest, with the exception of anti-social personality dysfunction, HR participants were more likely than LR participants to exhibit all of these other risk factors. The fact that the theoretically predicted relationship between cognitive vulnerability and suicidality did not vanish when these other hypothesized risk factors were controlled suggests that they were not mediating the effects of cognitive vulnerability. Finally, Abramson et al. (1998) obtained strong support for hypotheses linking these other factors to suicidality, even when controlling for cognitive vulnerability. Thus, there appears to be a family of risk factors for suicidality that are related to one another but operate at least somewhat independently.

A limitation of Abramson et al.'s report is that they did not evaluate the role of negative life events in examining the relationship between cognitive vulnerability and suicidality. A core prediction of the hopelessness theory is that it is only in the presence of negative life events that cognitive vulnerability will increase the likelihood of suicidality (Joiner & Rudd, 1995). Insofar as we (Alloy & Abramson, 1999) measured negative life events during the prospective period, we will be able to perform a test of this critical cognitive vulnerability-stress hypothesis of suicidality in the future.

At a general level, Abramson et al.'s (1998) results corroborated other work suggesting that suicidality is a serious problem on the college campus. Based on a metric derived from their diagnostic interview, 20% of Abramson et al.'s college student participants exhibited suicidality at least once during the 2 and 1/2 year period. Study participants reported a range of suicidality from suicidal ideation to attempted suicide. A typical example of mild suicidal ideation involved a participant who had thoughts of stepping out in front of a moving car. Other participants acted on their suicidal ideation in some way without actually making a suicide attempt. For example, one participant went to the top of a high rise dorm and threatened to jump off, but did not actually jump. Finally, one participant made an apparent suicide attempt, but was saved by the intervention of another person. In this case, the participant swallowed hydrogen peroxide, but was taken to the hospital by her boyfriend and recovered. No study participants died by suicide during the prospective follow-up period.

In sum, work on the hopelessness theory of suicidality is promising. Further tests of the cognitive vulnerability-stress component of the theory should be a high priority. In addition, the role of hopelessness in child and adolescent suicide needs to be more completely elucidated. Moreover, the relationship between the constructs featured in the hopelessness theory of suicidality and the "problem solving deficits" found to characterize suicidal individuals in a wide variety of studies (e.g., Bonner & Rich, 1988; D'Zurilla, Chang, Nottingham, & Faccini, 1998) needs to be clarified. Specifically, do cognitive vulnerability and

hopelessness contribute to poor problem solving which, in turn, contributes to the belief that suicide is the only solution to a life problem? This chain of events would be consistent with the logic of the hopelessness theory insofar as hopelessness is hypothesized to lead to decreases in voluntary responses (Abramson et al., 1989) which would be expected to compromise problem solving activity. Alternatively, the possibility that poor problem solving abilities would predispose people to hopelessness when confronted with difficult situations also is compelling. Perhaps a reciprocal relationship exists between hopelessness and problem solving deficits. Given that the hopelessness theory of suicidality evolved independently of the vast literature on problem solving deficits and suicidality, integration of these two theoretical domains will be important (e.g., D'Zurilla et al., 1998).

SUBINTENTIONAL DEATH AND SELF-DESTRUCTIVE BEHAVIORS

We typically think of suicide as an intentional act explicitly designed to terminate one's life such as shooting oneself in the head. However, self-destructive behaviors such as consuming large amounts of alcohol over many years also may be related to intentional suicide. Indeed, suicidologists regard such self-destructive behaviors as suicidal and term them "subintentional death" (Shneidman, 1973). Do similar processes underlie intentional suicide and subintentional death?

Recent work by Peterson (1995) suggests that cognitive vulnerability is related to a wide variety of self-destructive behaviors. Specifically, Peterson and colleagues have examined the relationship between attributional vulnerability and health-relevant behavior. Individuals exhibiting attributional vulnerability (i.e., the tendency to make internal, stable, global attributions for negative events) smoke, drink, and refrain from exercise more than individuals with positive attributional styles (Peterson, 1988). Moreover, individuals with attributional vulnerability often respond passively when they fall ill (Lin & Peterson, 1990). In contrast, individuals exhibiting positive attributional styles take active steps such as visiting a doctor in order to feel better (Peterson, Colvin, & Lin, 1992).

An important question is whether the apparently self-destructive behaviors of cognitively vulnerable individuals actually hasten their deaths. A first step in answering this question is determining whether cognitive vulnerability is associated with poor health outcomes which, in turn, may predispose earlier death. To this end, Peterson, Seligman, and Vaillant (1988) examined the relationship between attributional vulnerability and health among men over a 35-year prospective interval using data from the Harvard Study of Adult Development begun in 1937. Overall, as expected, the physical health of the men worsened as they grew older. However, individual differences in healthiness among the men also increased over the years. Although all of the men exhibited very good physical health at the outset of the study given the stringent selection criteria (e.g., 30% of potential participants were excluded from the study at the outset for reasons of poor physical and/or psychological health), some became quite sickly as they grew older. Results indicated that men exhibiting attributional vulnerability at age 25 were less healthy later in life than their more positive attributional style counterparts, even when initial physical and emotional health were controlled statistically. In particular, attributional vulnerability was unrelated to health at ages 30-40, but after that a relationship emerged that was most robust at age 45.

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To test the generality of the relationship between attributional vulnerability and poor health, Peterson (1988) examined the relationship between attributional vulnerability and physical illness in a 30-day prospective study among college students. Results indicated that students exhibiting attributional vulnerability reported more days of illness, chiefly colds and flu, than students with more positive attributional styles.

These initial findings of a relationship between attributional vulnerability and the development of illness and poor health are intriguing. Future work is necessary to determine whether the other components of cognitive vulnerability, the tendencies to infer negative consequences and negative implications about the self when negative events occur, also contribute to poor health. In addition, it will be important to ascertain whether poorer health outcomes attained by cognitively vulnerable individuals contribute to earlier death. Finally, it will be critical to determine whether the self-destructive behaviors exhibited by cognitively vulnerable individuals actually are contributing to these individuals' poorer health (and earlier death?) or whether some other mechanism is at work. If self-destructive behaviors do mediate the relationship between cognitive vulnerability and poorer health and, in turn, earlier death, it would seem that similar processes, at least in part, underlie suicidality as typically defined and subintentional death.

DEVELOPMENTAL ORIGINS OF COGNITIVE VULNERABILITY TO SUICIDALITY

If negative cognitive styles do confer vulnerability for suicidality, as the work reviewed above is beginning to suggest, then it is important to understand the antecedents of these cognitive styles. What are the developmental origins of cognitive vulnerability to suicidality? In the CVD Project, we directly studied the parents of the cognitively HR and LR participants with respect to parents' cognitive styles, parenting behaviors, psychopathology, and personality as well as the HR and LR participants' early childhood life events and neglect and maltreatment experiences. Below, we briefly review preliminary findings from the CVD Project on possible developmental precursors of negative and positive cognitive styles. We emphasize that the CVD Project findings presented in this section indeed are preliminary because analyses still are in progress. Moreover, many of our initial explorations of potential precursors of cognitive styles have relied on retrospective designs and, thus, should be construed as generating hypotheses for more definitive testing with future prospective designs.

Parental Psychopathology and Children's Cognitive Vulnerability to Suicidality

Prior research (e.g., Wagner, 1997) has demonstrated that children of depressed parents are at increased risk for suicidality. Parental depression may contribute to the development of depressogenic cognitive styles and, thus, cognitive vulnerability to suicidality in their offspring through a variety of mechanisms including genetic transmission, modeling, and negative parenting practices, among others. To explore the possible familial origins of negative cognitive styles, Abramson et

al. (1999) examined the association between CVD Project participants' cognitive risk status and their parents' depression based on the participants' reports of their parents' psychiatric history using the family history method as well as direct interview of the parents themselves. Both child and parent reports about parents' depression were consistent in showing greater lifetime depression in the mothers of HR than LR individuals. These findings are consistent with the hypothesis that mothers' depression may contribute to the development of cognitive vulnerability to suicidality in their offspring. Future work is necessary to determine precisely how mothers' depression contributes to cognitive vulnerability to suicidality in their offspring.

Developmental Maltreatment and Cognitive Vulnerability to Suicidality

Rose and Abramson (1992) hypothesized that a developmental history of maltreatment and neglect may contribute to the origins of cognitive vulnerability to depression and suicidality. Noting that research on "depressive realism" suggests that depressives may not be as irrational as originally portrayed in Beck's cognitive distortion theory of depression (e.g., Alloy, Albright, Abramson, & Dykman, 1990), Rose and Abramson (1998) suggested that people's negative cognitive styles might be the internal representations of maltreatment or adverse environments they actually experienced rather than cognitive distortions. On this view, our client A.B.'s marked cognitive vulnerability would be her internal representation of the chronic and severe maltreatment she endured. Consistent with this hypothesis, we found that HR participants in our CVD Project reported more developmental maltreatment than did LR participants (Gibb, Alloy, & Abramson, 1999a). Moreover, cognitive vulnerability was linked more specifically to emotional, rather than sexual or physical, maltreatment during development. Thus, as Rose and Abramson (1992) suggested, emotional maltreatment may be a particularly virulent contributor to cognitive vulnerability to suicidality because, unlike physical or sexual maltreatment, the abuser, by definition, supplies negative cognitions to the victim. Consistent with this hypothesis, we (Alloy et al., 1999b) also found, based on CVD participants' reports of parental behavior, that both mothers and fathers of HR participants provided more depressogenic feedback about causes and consequences of negative life events that happened to their child (i.e., CVD participants) than did mothers and fathers of LR participants.

Given these results supporting Rose and Abramson's (1992) hypothesis about the origins of negative cognitive styles as well as work demonstrating a link between developmental maltreatment and suicidality (e.g., Browne & Finkelhor, 1986), we (Gibb, Alloy, & Abramson, 1999b) have just begun preliminary analyses with CVD Project data of the role of cognitive vulnerability and hopelessness in mediating the link between developmental maltreatment and suicidality. Results indicated that hopelessness, but not cognitive vulnerability, mediated the link between reported maltreatment during development and suicidality during the prospective follow-up. Although these data cannot establish that the association between early maltreatment and subsequent hopelessness/suicidality is causal, they are consistent with the hypothesis that developmental maltreatment predisposes hopelessness and, in turn, suicidality. These results underscore the importance of future prospective tests of this hypothesis with children. Insofar as suicidality has

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CONCLUSION

We have reviewed promising evidence for the hopelessness theory of suicidality. Moreover, we have begun to explore the developmental origins of cognitive vulnerability to suicidality. Many important theoretical issues remain to be addressed such as further examination of the vulnerability-stress component of the theory. Moreover, prospective studies with young children are needed to more definitively explore the developmental origins of cognitive vulnerability to suicidality. A particularly intriguing question is how "plastic" is cognitive vulnerability to suicidality? How may this vulnerability change over the lifetime? Finally, the logic of the hopelessness theory suggests that some individuals may become so profoundly hopeless that they cannot muster the effort to kill themselves even though they desperately want to die. Will future research identify individuals who are too hopeless to commit suicide? If their hopelessness does not remit, what happens to such individuals?

Given the apparent paradox of suicide, it is crucial to understand the psychosocial processes culminating in this outcome. The work reported in this chapter suggests that the hopelessness theory of suicidality may contribute to such understanding. In turn, theoretical understanding of the processes underlying suicidality has considerable significance for alleviating and perhaps even preventing the tragedy of suicidality, such as experienced by A.B.

Notes

1. This chapter was supported by National Institute of Mental Health Grants MH 43866 to Lyn Y. Abramson and MH 48216 to Lauren B. Alloy. The first two authors contributed equally to this article. Correspondence about the article should be sent to either Dr. Lyn Y. Abramson, Department of Psychology, University of Wisconsin, 1202 W. Johnson Street, Madison, WI 53706 or Dr. Lauren B. Alloy, Department of Psychology, Temple University, Weiss Hall, 13th Street and Cecil B. Moore Avenue, Philadelphia, PA 19122.

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