

Desire for control, locus of control, and proneness to depression

Jerry M. Burger, *Wake Forest University*

Abstract

Two personality constructs, desire for control and locus of control, were related to depression among college students. Measures of levels of depression, desire for control, and locus of control were taken from subjects. Approximately six months later 71% of these subjects returned a questionnaire concerning their experiences with depression during that six-month period. It was found that locus of control scores, particularly the extent to which subjects perceived that their lives were controlled by chance, were significantly related to the depression levels. It was also found that high desire for control subjects who held external perceptions of control were most likely to seek nonprofessional help for depression. In addition, high desire for control subjects who perceived their lives as generally controlled by chance were most likely to have suicidal thoughts. The results are interpreted in terms of a general style that may promote a proneness to depression for certain individuals.

Much recent theorizing and research about the causes of depression has concerned the role of cognitive processes. Beck (1972) proposed that certain cognitions, such as negative views of oneself, pessimism about the future, and interpretation of ongoing experiences in a negative manner, precede and indeed are responsible for subsequent depressive episodes. More elaborate models of the relation between cognitions and depression have been introduced in recent years. Most notably, Abramson, Seligman, and Teasdale (1978), and Miller and Norman (1979) have provided attributional models for "learned helplessness" and human depression. Basically, these models maintain that the attribution of causality one makes for a traumatic uncontrollable event will determine the type and extent of one's depression. For example, attributing the loss of one's job to internal, stable, and global causes (e.g., "I am a stupid individual incapable of holding any job") is said to lead to a more severe and widely generalized depression than would an attribution focusing on external, unstable, and specific causes (e.g., "The boss was in a bad mood and picked me at random to fire").

Several investigations have found some of the hypothesized cognitions present in association with other behavioral and affective aspects of

Requests for reprints should be sent to Jerry M. Burger, Department of Psychology, Box 7778, Wake Forest University, Winston-Salem, N.C. 27109.

Journal of Personality 52:1, March 1984. Copyright © 1984 by Duke University Press.

depression (e.g., Barthe & Hammen, 1981; Klein, Fencil-Morse, & Seligman, 1976; Kuiper, 1978; Rizley, 1978). Other investigations have been concerned with predicting depression from cognitions through some type of time-lag procedure. While some predictive power for cognitions has been uncovered (Golin, Sweeney, & Shaeffer, 1981), other studies have failed to find this link (Lewinsohn, Steinmetz, Larson, & Franklin, 1981).

One difficulty with research attempting to predict depression from cognitions is pinpointing the appropriate time-lag between the occurrence of the cognitions and the onset of the other depressive symptoms. It is conceivable that some depressive episodes evolve in a very short time-span, perhaps even a matter of hours or minutes. Other episodes may develop gradually over the course of several months. Thus, measuring the cognitions at a moment when they exist but have not yet led to the depressive affect and behavior may prove to be a difficult, if not impossible task.

One approach to resolving this difficulty is the examination of general cognitive styles. That is, certain individuals may exhibit general, stable patterns of cognitions that theoretically are related to depression. This cognitive style might then lead the individual into a susceptibility to depressive episodes. One of the most distinctive features of depression is its recurrent nature. Perhaps the best predictor of who will be hospitalized for depression is whether or not the individual has been hospitalized for depression previously (Grof, Angst, & Haines, 1973). There are, no doubt, many reasons for this recurrent pattern. The individual may, for example, return after hospitalization to the same environment that contributed to the onset of depression in the first place. Certainly, labeling effects can influence this pattern. Persons who have been hospitalized are labeled by themselves and others as depressives. Differential treatment by others as well as the tendency to interpret small mood swings as confirmation of one's "illness" can contribute to the recurrent hospitalization.

However, another contributor to recurrent bouts of depression may have to do with the cognitive style of the depressive. Perhaps certain individuals tend to think in ways that make them increasingly susceptible to depressive episodes when faced with certain types of situations. This pattern of attending, perceiving, and interpreting information may increase the likelihood of generating the depression-inducing cognitions proposed by several theorists. Research on this approach may thus involve the examination of stable, attributional patterns (Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982). This approach suggests that a certain stable style of interpreting events (e.g., usually blaming oneself when things go wrong) may make some people

more prone to depression than others. Research on attributional style and depression has produced partial support for this approach (Manly, McMahon, Bradley, & Davidson, 1982; Metalsky, Abramson, Seligman, Semmel, & Peterson, 1982; Miller, Klee, & Norman, 1982; Raps, Peterson, Reinhard, Abramson, & Seligman, 1982; Seligman, Abramson, Semmel, & von Baeyer, 1979). Another approach that examines relatively stable cognitive patterns and depression is presented below.

Perception of Personal Control

One variable that appears to be related to the cognitive patterns expressed by depressed individuals is concerned with the perception of personal control. It often has been observed (e.g., Beck, 1972) that depressed persons express a general belief in external control of the events in their lives. Statements such as "Nothing I do will help" and "Things can only get worse" are not uncommon among severely depressed persons. The attributional processes described in the learned helplessness models are said to operate only after the individual perceives that he or she is unable to control the particular traumatic event. These observations have led some to postulate that depressed persons may display what Rotter (1966) refers to as a generalized external locus of control. According to Rotter, individuals differ along a continuum on the extent to which they believe that events in their lives are controlled by themselves (internal locus of control) or by external sources, such as powerful others and chance (external locus of control). Extensive research on this individual difference variable (cf. Lefcourt, 1981, 1982; Phares, 1976) has uncovered many behavioral and attitudinal differences between internals and externals. Several scales have been developed to measure the locus of control construct for general and specific contexts and for general and specific populations (cf. Lefcourt, 1981).

Several investigators have examined the correlation between measures of locus of control and measures of depression (see Rehm & O'Hara, 1979, for a review). Unfortunately, these studies have found only a small and somewhat inconsistent tendency for depression to be correlated with an external locus of control. However, the extent to which such findings can or cannot be interpreted as support for the notion that a generalized external locus of control is a cause of depression is limited for several reasons. First, most of the investigations have employed the Rotter (1966) Locus of Control Scale. Several factor-analytic studies have demonstrated that the Rotter I-E Scale may be measuring more than one type of locus of control belief (e.g., Cherlin & Borque, 1974; Gurin, Gurin, Lao, & Beattie, 1969; Mirels, 1970; Viney, 1974). For example, it is unclear whether an external locus of control score reflects

a belief that powerful others or chance or a combination of both is responsible for what happens to the individual. Second, many of the studies reviewed by Rehm and O'Hara (1979) used special populations (e.g., hospitalized mental patients, alcoholics) which may represent a limited range of locus of control scores and may not generalize to a more normal population. Third, there may be interacting variables, such as the one described below, that, together with the locus of control construct, can account for a significant proportion of depression-related behaviors, thoughts, and feelings.

There are several related areas of investigation that provide indirect support for the notion that locus of control patterns may influence susceptibility to depression. First, a large body of literature on "learned helplessness" (cf. Garber & Seligman, 1980; Seligman, 1975) finds that under certain experimental conditions subjects perceiving a lack of personal control over traumatic events will exhibit increased signs of depression (e.g., Gatchel, Paulus, & Maples, 1975; Miller & Seligman, 1975). A key experimental manipulation in the creation of this helplessness appears to be the altering of the subject's cognition from one of assumed control to one of no or little control over the experimental task or stimuli.

Second, a few investigations examining the influence of locus of control beliefs within a learned helplessness experimental setting have found that internals and externals respond differently to the experience of uncontrollability. Investigations by Hiroto (1974) and Cohen, Rothbart, and Phillips (1976) found that externals performed more poorly on certain tasks after experiences with uncontrollable situations than did internals. However, Pittman and Pittman (1979) found this to be the case only with relatively mild experiences with uncontrollability. Hiroto (1974) suggests that the internal-external individual difference may be a more general parallel of the response-reinforcement independence produced in the learned helplessness laboratory setting.

Third, some research has suggested that a change from internal to external expectancies of control may be an important antecedent to a suicide attempt. Melges and Weisz (1971) asked patients who had recently attempted suicide to reconstruct their cognitions prior to the suicide action. These researchers discovered a shift toward a lower expectation of personal control as the subject relived the experience. Slater and Depue (1981) found that suicide attempters tended to report an increase in experience with events that were outside of their control for a period of time prior to the suicide action. Thus, changes in locus of control may be related to suicide attempts, one of the most dramatic depression-related behaviors. Taken together, these various sources point to the conclusion that the generalized expectancies the individual

has for internal vs. external sources of reinforcement may be related to depression.

Motivation for Personal Control

Research on learned helplessness models of depression has found that the individual's reaction to an experience of a lack of personal control is affected by the extent to which it is important to the individual to control the event (cf. Wortman & Brehm, 1975). Certainly, we all face numerous unpleasant events daily over which we have little or no control. Whether we will have an emotional reaction to the experience may depend to a great extent on whether or not we desire to control or increase our control over the particular experience. Wortman and Brehm proposed that we react to those uncontrollable events for which we have a strong desire to control with an initial increase in our efforts to assert or increase control. Continued experience with the uncontrollable event is said to result in the typical helplessness response. According to the model, the more the individual finds the control of the event important, the greater the initial effort to increase control and the more severe the eventual helplessness reaction. Miller and Norman (1979) also have incorporated this importance variable as one of the dimensions used to predict depression in their learned helplessness model.

Several investigations have found support for the Wortman and Brehm model (e.g., Hanusa & Schulz, 1977; Tennen & Eller, 1977). It is probably true that learned helplessness experiments typically employ experimental tasks that should be important for college-student subjects to control. For example, the task usually consists of some academic-achievement test (e.g., anagrams), with the strong implicit suggestion that some intellectual or academic aptitude is being assessed. It is not certain that the helplessness reactions would be found in these experiments if the task were concerned with something unimportant to the subject, such as guessing crowd size or taste distinctions among foreign herbs and spices.

Although the above analysis and research suggest that the extent to which the individual desires to control events has an important effect upon depression, the difficulty of specifying who is going to be exposed over a given period of time to events that he or she finds important to control remains. Recently, Burger and Cooper (1979) designed an instrument to assess the extent to which individuals hold a general desire to control the events in their environments. Psychometric data suggest that some people do seem to hold a strong desire to control many events in their environments a great deal of the time, while others seem to report a consistently low desire to exercise such control (Burger &

Cooper, 1979). When this Desirability of Control (DC) measure was given to subjects in a learned helplessness experiment (Burger & Arkin, 1980), it was found that high-DC subjects expressed greater depression affect and showed more behavioral signs of depression than did the low-DC subjects. These findings suggest that general individual differences in the desire to control events, as well as differences in the general perceived locus of control of events, may have important effects upon depression. More specifically, because both of these personality concepts, locus of control and desire for control, are conceived of in terms of fairly stable and general cognitive styles, they may be useful in explaining why certain individuals appear to have repeated experiences with depression. It may be that a certain general approach to life's events, as interpreted through these two control-related concepts, may render some people highly susceptible to reacting to experiences in a depressed manner.

In the following study, locus of control and desire for control measures were taken for a large number of individuals. Approximately six months later subjects were recontacted and levels of depression were assessed. It was expected that levels of depression would be highest for those subjects who maintained a generally high level of desire for control, but who also perceived a general external locus of control. These individuals tend to approach life in a manner that should make them highly susceptible to depressive episodes. Essentially, these persons tend to find themselves more frequently in the situation of the laboratory subject who discovers that he or she cannot control a task or stimuli that he or she finds important to control (i.e., the subjects expressing the highest levels of depression). Subjects for whom life's events generally appear to be controllable (internals) or for whom the control of events is not generally very important (low-DCs) should not be as susceptible to these episodes of depression.

The instrument used in the present investigation also allows for the examination of different aspects of locus of control. Locus of control is divided into three factors: perception of internal control; perception of control by powerful others; and perception of events controlled by chance. Although no specific hypotheses were made for the relative importance of each of these three aspects of locus of control for predicting depression, this division should provide a better understanding of how locus of control and depression are related.

Studies examining depressed populations usually draw their subjects from inpatient or outpatient lists at various hospitals, institutions, or clinics. However, as Gong-Guy and Hammen (1980) recently pointed out, the depressed individual who seeks professional help may differ from the depressed person who does not seek such help. This problem

is especially evident when we examine differences in perception of and motivation for control. It seems likely that those subjects expressing an external locus of control or a low desire for control may be less likely to seek professional help and thus may be less likely to be selected for an experiment on depression using these special populations. Accordingly, subjects in the present study were selected from a normal population (college students). The extent to which subjects in the present experiment sought help for their depression, as well as other signs of depression, was measured.

Method

Subjects

Ninety-nine undergraduate students served as subjects in the original sample in exchange for class credit. Seventy-one of these subjects, 28 males and 43 females, returned the mailed questionnaire when contacted approximately six months later.¹

Procedure

Subjects were administered a package of inventories during the first month of the school year. This package consisted of, in order: the Beck Depression Inventory (Beck, 1972); the Desirability of Control Scale (Burger & Cooper, 1979); and the Levenson (1974) Locus of Control Scales. The Beck Depression Inventory (BDI) consists of 21 items assessing the extent to which the individual currently exhibits or experiences each of 21 behaviors, thoughts, or affective features commonly associated with depression. The Desirability of Control (DC) Scale measures the extent to which individuals maintain a general desire to control the events in their lives. The scale contains 20 items asking subjects to indicate the extent to which they agree with statements describing a general or specific, high or low desire for control (e.g., "I prefer a job where I have a lot of control over what I do and when I do it," "I wish I could push many of life's daily decisions off on someone else"). The Levenson Locus of Control Scales provide scores indicating the extent to which the individual believes that what happens to him or her is generally under the control of each of three sources. The three scores provided by the scales are: the extent to which one believes that one is personally responsible for what happens to one (internal scale); the extent to which one believes that powerful others tend to control what happens to one (powerful others scale); and the extent to which one believes that what happens to one is determined by chance (chance scale). The three scores, although moderately correlated with each other, are derived from separate items and can be treated independently (cf. Levenson, 1981). Subjects also were asked to provide information concerning their local and permanent addresses.

1. Aside from the higher proportion of females relative to males, those returning the questionnaire did not differ significantly on any of the initial measures from those not returning the questionnaire.

Approximately six months later (one and one-half months before the end of the second semester), subjects were recontacted by mail with a second questionnaire. Subjects were told that the experimenter was interested in studying depression among college students, and were asked to fill out and return the questionnaire in the stamped, self-addressed envelope that was provided. Subjects were promised that, through the use of a code system, their responses would be completely anonymous, even to the experimenter. No other incentive was offered for participation. The subjects did not know at the time of the original participation that a later contact would be made. To avoid anxiety that might develop from the perception of pressure to return the questionnaire, no attempt was made to recontact the subject if he or she failed to return the questionnaire. Seventy-one subjects completed and returned the questionnaire. Only one subject's questionnaire was returned undelivered because she had left school.

The second questionnaire asked subjects to report on their experiences with depression during the six-month period that elapsed since initial contact. First, as a measure of their general level of depression during this time period, subjects were asked to complete a modified version of the Beck Depression Inventory. The instructions for the BDI were modified to ask the subject to "select the one statement that best describes the way you have felt *generally* since school began last fall." The wording of the items on the BDI also was modified slightly in order to be consistent with the instructions. For example, "I do not feel sad" was changed to "I have not felt sad."²

In addition to the modified BDI, subjects were asked, also in reference to the school year, to list: the number of times they sought professional help (e.g., from a psychologist, counseling center, chaplain) for depression or problems they found depressing; the number of times they sought help from a friend, relative, or resident dorm advisor for depression or a problem they found depressing; and the number of days they had felt a little depressed during at least part of the day. Subjects also were asked to rank on 9-point scales the extent to which they had preferred to be left alone and the extent to which they felt overwhelmed and helpless about schoolwork. The last two items were included because they were believed to be notable ways depression might be expressed among college students. Because nearly all subjects in this study lived in dormitories at a relatively small liberal arts school, opportunities for social interactions were prevalent. Thus, the social withdrawal typically associated with depression (Beck, 1972) was felt to be a particularly good indication of depression among this population. Similarly, because of the pressure to perform well in classwork typically found on this and other campuses, it was felt that the experience of being overwhelmed and helpless about schoolwork would be a relevant indicator of depression for these subjects. Finally, subjects were asked how many times, if any, during the school year they had thought about the possibility of committing suicide.

2. Although these modifications of the BDI are minor, it should not be assumed that this measure possesses the psychometric properties (e.g., reliability and validity) of the original scale. Problems with subjects' abilities to recall and the possibility of distortion from current moods must be considered. This modified scale was employed because no instrument for assessing depression over such a long period of time was available.

Results

The research design allowed for two means of examining the relation between the two personality measures and depression. First, the relation between current depression levels and personality scale scores could be examined. Second, the relation between those personality scale scores and the subject's reported experiences with depression over the following six months could be examined. This latter approach allows for an examination of the stability of the personality-depression relation.

The subjects' DC scores and their three locus of control scores (internal, powerful other, chance) were correlated with the initial and six-month depression scores. These correlations, presented in Table 1, indicate that the personality indices were highly related to depression both at the time of the original testing and during the six months following the testing. The extent to which subjects perceived their lives as controlled by chance was strongly related to depression levels, with higher beliefs in chance associated with greater depression. Higher beliefs in powerful others controlling one's life also were related to higher levels of depression. There was a weaker correlation between belief in internal control and depression, with higher internality associated with lower depression. Finally, there was a slight tendency for higher DC scores to be related to lower depression levels.

An examination of the correlations among the personality variables indicated that they cannot be assumed to be independent. The DC score correlated with the other three variables $-.46$ (internal), $.36$ (powerful others), and $.36$ (chance). The internal scale correlated with the powerful others scale $-.22$ and with the chance scale $-.31$. The powerful others and chance scales correlated $.56$. Because of these correlations, the measures cannot be employed as independent variables in a simple ANOVA procedure. Instead, a series of multiple regression analyses was employed to examine the relative contribution of the desire for control and locus of control variables on depression levels. That is, the DC score and one of the three locus of control scores were entered into a regression analysis for each of the dependent variables. This procedure then

Table 1. Correlation matrix for independent variables with depression scores.

	Initial BDI	Second BDI
Desire for control scale	-.23	-.14
Internal scale	.27	.25
Powerful others scale	-.43	-.39
Chance scale	-.59	-.53

Note.—The higher the DC score, the more subjects prefer personal control. The lower the three locus of control scores, the more subjects hold the perception.

was repeated for the DC score and each of the other two locus of control scores. Thus, while the role of locus of control and depression was examined with each of the three scales in separate analyses, it should be kept in mind that each represents a different, not necessarily independent, examination of the relation.

Several dependent variables were employed. First, the subjects' initial depression scores (initial BDI), taken at the same time as the independent variables scores, were examined. Next, the reported levels of depression over the six-month period (second BDI) were examined. Finally, the additional items on the follow-up questionnaire concerned with depression experiences during the prior six months were employed as dependent variables. The scores for two of these items, the number of times subjects sought professional help and the number of times subjects thought about suicide, were not normally distributed. That is, the majority of subjects responded that they had never sought professional help and had never thought about committing suicide. These items, therefore, were not included in the regression analyses and instead were examined through nonparametric procedures described below.

Regression Analyses

Six dependent variables were examined within the multiple regression analyses. These were: the initial BDI score; the second BDI score; the number of times help was sought from a nonprofessional; the number of days feeling depressed; the extent to which the subject preferred to be alone; and the extent to which the subject felt overwhelmed by work. Each of these variables was examined in the regression analyses as described earlier. Several significant effects emerged in these analyses and are presented in Table 2. A list of means created by dividing the subjects into high and low groups on each of the independent variables, based upon a split at the mean score, may be found in Tables 3, 4, and 5.

The initial BDI score provides a measure of how depressed the subjects were at the time when the desire for control and locus of control scores were taken. As can be seen in the tables, each of the three locus of control scores were significantly related to depression levels. Low internal, high powerful others, and high chance scores were associated with higher depression scores.

The second BDI asked subjects to describe the extent to which they exhibited the 21 features of depression on the inventory generally during the past six months. High powerful others and high chance scale scores were associated with higher levels of depression.

Whether or not subjects sought help from nonprofessionals for their depression was significantly related to the earlier belief that their lives

Table 2. Regression analyses results.

	B	R ²	F
Initial BDI			
Model		.08	4.52**
Internal	.21		
DC	-.06		
Model		.19	11.26**
Powerful others	-.38**		
DC	-.04		
Model		.35	26.27**
Chance	-.50**		
DC	-.01		
Second BDI			
Model		.06	2.32
Internal	.28		
DC	-.01		
Model		.15	6.08**
Powerful others	-.38**		
DC	.00		
Model		.28	13.47**
Chance	-.45**		
DC	.03		
Nonprofessional help			
Model		.04	1.30
Internal	.55		
DC	.20		
Model		.04	1.06
Powerful others	-.39		
DC	.14		
Model		.22	8.04*
Chance	-.87**		
DC	.28*		
Days depressed			
Model		.01	0.44
Internal	.68		
DC	-.13		
Model		.02	0.56
Powerful others	-.70		
DC	-.14		
Model		.07	2.55
Chance	-1.53*		
DC	.05		

were controlled by chance. Subjects who held the belief that chance controlled a large part of their lives were significantly more likely to seek such help than were those who generally did not hold this belief. In addition, high levels of desire for control were found to be related to

Table 2, continued

	B	R ²	F
Prefer alone			
Model		.03	1.05
Internal	.08		
DC	.02		
Model		.06	2.16
Powerful others	-.09*		
DC	.01		
Model		.06	2.25
Chance	-.08*		
DC	.02		
Overwhelmed			
Model		.13	4.95**
Internal	.13*		
DC	-.02		
Model		.08	2.88
Powerful	-.05		
DC	-.04		
Model		.19	8.18**
Chance	-.13**		
DC	-.02		

* $p < .05$.** $p < .01$.

a higher tendency to seek nonprofessional help. As shown in Tables 3, 4, and 5, these effects reflect an interaction between the chance scale score, and the other two locus of control scores, with the DC score. High-DC subjects who also held an external locus of control (e.g., a strong belief in control by chance) were most likely to seek help from a nonprofessional for their depression.

The number of days depressed was significantly related to subjects' chance scores, with stronger chance beliefs associated with more days of depression. Similarly, the extent to which subjects desired to be left alone was significantly related to the subjects' powerful others and chance scores. Subjects scoring high on both of these measures were more likely to prefer to be left alone than subjects scoring low on these scales. The extent to which subjects felt overwhelmed by their school work was significantly related to the internal and chance scores, with low internal and high chance scores being associated with greater feelings of being overwhelmed and helpless.

Nonparametric analyses. Two of the items on the follow-up questionnaire did not have distributions that permitted the examination of these scores in the regression analyses. Instead, subjects were divided into those who either had or had not sought professional help and into those who either had or had not thought about committing suicide. In addition,

Table 3. Means for dependent variables.

	High DC		Low DC	
	High internal	Low internal	High internal	Low internal
Initial BDI	3.64	5.58	4.80	7.29
Second BDI	5.92	6.67	3.09	8.58
Nonprofessional help	2.45	15.00	5.50	2.78
Days depressed	34.52	47.00	30.18	34.35
Prefer alone	3.96	4.11	2.91	4.36
Overwhelmed	3.42	5.22	4.00	5.36

Table 4. Means for dependent variables.

	High DC		Low DC	
	High powerful others	Low powerful others	High powerful others	Low powerful others
Initial BDI	6.07	3.20	7.47	4.77
Second BDI	8.36	4.62	7.80	5.94
Nonprofessional help	12.50	1.19	2.75	4.41
Days depressed	45.77	32.90	30.74	35.87
Prefer alone	4.50	3.67	4.21	3.59
Overwhelmed	4.43	3.52	4.84	5.06

Table 5. Means for dependent variables.

	High DC		Low DC	
	High chance	Low chance	High chance	Low chance
Initial BDI	6.38	3.25	8.13	4.16
Second BDI	8.54	5.00	8.20	5.47
Nonprofessional help	14.44	2.05	3.35	3.88
Days depressed	50.10	32.71	36.22	29.38
Prefer alone	4.45	3.79	4.31	3.47
Overwhelmed	5.27	3.25	5.53	4.29

subjects were divided into high and low groups on the independent variable measures, based upon a split at the mean score. These scores then were examined within chi-square analyses for multiple independent variables. Each of these dependent variables was examined within three such analyses, one for each of the locus of control measures in combination with the DC measure.

Only seven of the 71 subjects in the sample had sought professional help for depression during the six-month period, and no significant effects emerged from the analyses on this variable. However, several significant effects emerged from the chi-square analyses with the suicide

variable (see Table 6). First, two of the locus of control scores were found to be significantly related to the suicide measure. High-powerful others subjects were significantly more likely to have thought about suicide than were low-powerful others subjects, $\chi^2(1) = 5.93, p < .02$. Similarly, more high-chance than low-chance subjects reported such thoughts, $\chi^2(1) = 7.84, p < .01$. Significant interactions between the DC score and the internal score, $\chi^2(3) = 12.06, p < .007$, and between the DC score and the chance score, $\chi^2(3) = 12.96, p < .005$, were also found.³ As shown in Table 4, the DC-internal interaction appears to be caused by a curious lack of suicide thoughts by high internal-low DC subjects. The DC-chance interaction is a bit clearer, with a frightening 50% of the high DC-high chance subjects thinking of suicide.

Discussion

The results of the study provide some support for the notion that general individual differences in locus of control and desire for control are associated with the tendency for certain individuals to experience repeated bouts of depression while others remain relatively free of such experiences. It was found that depression levels remained fairly stable over the six-month period of the investigation and that the relation between depression and the individual difference variables also remained fairly stable during this period.

The general pattern that appears to be associated with depression is a perception that one has little internal control over the events in one's life, that these events are instead under the control of powerful others and/or chance. The perception that chance controls a great deal of one's life was an especially strong correlate with both initial and later levels of depression. This finding is consistent with observations about the behaviors and statements of depressed individuals (cf. Beck, 1972) and with the theories of depression (e.g., learned helplessness) that stress the perception of a lack of personal control as a central factor in the development and maintenance of depression.

There was less support for the prediction that desire for control and the interaction of desire for control and locus of control would predict depression levels. Although the desire for control score generally was not as useful as the locus of control measures in accounting for depression, the variable was successful in identifying those subjects who sought nonprofessional help for depression and those who had suicidal thoughts. Specifically, while a general external locus of control was associated with depression, only those external subjects who also held a high desire to control events appeared to take steps to correct their depression.

3. When one of the cells in these analyses contained zero subjects, analyses were conducted by adding 0.5 to each cell.

Table 6. Presence or absence of suicidal thought by condition.

	Suicidal thought	No suicidal thought
High internal		
High-DC	5	20
Low-DC	0	12
Low internal		
High-DC	2	7
Low-DC	6	19
High powerful others		
High-DC	4	9
Low-DC	6	14
Low powerful others		
High-DC	3	18
Low-DC	0	17
High chance		
High-DC	5	5
Low-DC	5	15
Low chance		
High-DC	2	22
Low-DC	1	16

When subjects were either low in the desire for control or maintained a generally internal locus of control, or both, they sought help from friends and family relatively infrequently. Investigators examining only those subjects who seek help may need to be aware of this bias built into such a sample.

The findings concerning the seeking of nonprofessional help have some additional implications. Several researchers have been concerned with the impact that friends and relatives can have upon the maintenance of depression (cf. Coates & Wortman, 1980). According to Coates and Wortman, friends who encourage the depressed person to become more active or whose negative reactions cause the depressed person to reduce depressive behaviors may be doing more harm than good, because the depressed individual will attribute his or her responses to extrinsic pressure rather than to any personal improvement. As applied to the present study, high-DC, externally oriented subjects, who were the most likely to seek help from nonprofessionals, may be the most susceptible to the problems described by Coates and Wortman. These people already have a tendency to perceive events as externally caused. In addition, Burger (Note 1) found that high-DC subjects were more susceptible to the undermining of intrinsic motivation in the presence of extrinsic pressures than were low-DC subjects. This suggests that

while these high-DC externals are most likely to seek help from friends, they may be least likely to be helped by it.

The interaction of desire for control and the perception that one's life is controlled by chance was particularly useful in identifying those subjects who would think about the possibility of committing suicide over the course of the following six months. Whereas only about 7% of the low-chance subjects reported thoughts of suicide, one third of the high-chance subjects reported such thoughts and one half of the subjects in the high DC-high chance group reported having such thoughts. Consistent with the analysis provided earlier, the combination of wanting to control much of one's environment and the perception that one's environment is largely controlled by chance can create some serious problems.

A major limitation of the study is the limited range of depression found in the college population sampled. Only 14% of the subjects fell within even the "mild" depression category on the BDI as described by Beck (1972). Whether these results would be obtained in a more severely depressed population needs to be explored. Nonetheless, the importance of understanding the "nonclinical" levels of depression examined here should not be overlooked. On the average these students reported experiencing some depression almost one out of every five days. Similarly, it was alarming to find that nearly one out of every five students in this sample (18%) had thought about the possibility of committing suicide during the six-month period.

Another unresolved question concerns the causal sequencing of the personality differences and depression levels. That is, do individuals tend to become depressed because they hold an external locus of control and, for some aspects of depression, a high desire for control? Or does the depressed individual come to develop these personality orientations? While it is certainly possible that depression may cause people to develop, for example, the belief that their lives are controlled by chance, it also seems likely that the personality variables reflect some subject's tendency to interpret events in a manner that may increase their proneness to depression. Consistent with the theories of depression discussed earlier, the individual who often perceives that he or she cannot control events but who has a strong desire to control events would appear to be at risk for depression.

A final caution in interpreting these findings concerns the subject's ability to recall accurately his or her experiences with depression during the previous six months. Much recent research indicates that current mood levels can affect the type of material recalled (cf. Bower, 1981). It is possible that subjects who were depressed when completing the follow-up questionnaire reported higher levels of depression during the

six-month period than was actually the case. This may have exaggerated the difference between the conditions and may have increased the likelihood of finding significant effects. However, this potential problem does not seem to be able to account for the direction of those effects. On the other hand, as suggested by some research by Alloy and Abramson (1979), it may be that those subjects who were relatively nondepressed at the time of the follow-up questionnaire reported inaccurately low levels of depression. Obviously, if and how such reports are affected by current mood level awaits further investigation.

While it is clear that more research must be conducted in this area, the present investigation provides some needed direction and insight into the question of why some individuals tend to experience recurrent bouts of depression and into the relation between certain individuals' styles of approaching and perceiving the world and depression. Although conclusions must be tentative, some suggestions for future application of these findings include the identification of those people who are susceptible to depression and some directions for treatment strategies. Perhaps altering the extent to which the depressed individual desires to control the events in his or her life or changing the perception of personal control may provide some relief for the depressed individual.

Reference Note

1. Burger, J. M. Effectance motivation and the overjustification effect. Unpublished Doctoral Dissertation, University of Missouri-Columbia, 1980.

References

- Abramson, L. Y., Seligman, M. E. P., & Teasdale, J. D. Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology*, 1978, 87, 49-74.
- Alloy, L. B., & Abramson, L. Y. Judgment of contingency in depressed and nondepressed students: Sadder but wiser? *Journal of Experimental Psychology: General*, 1979, 108, 441-485.
- Barthe, D. G., & Hammen, C. L. The attributional model of depression: A naturalistic extension. *Personality and Social Psychology Bulletin*, 1981, 7, 53-58.
- Beck, A. T. *Depression: Causes and treatments*. Philadelphia: University of Pennsylvania Press, 1972.
- Bower, G. H. Mood and memory. *American Psychologist*, 1981, 36, 129-148.
- Burger, J. M., & Arkin, R. M. Prediction, control and learned helplessness. *Journal of Personality and Social Psychology*, 1980, 38, 482-491.
- Burger, J. M., & Cooper, H. M. The desirability of control. *Motivation and Emotion*, 1979, 3, 381-393.
- Cherlin, A., & Borque, L. B. Dimensionality and reliability of the Rotter I-E Scale. *Sociometry*, 1974, 37, 565-582.
- Coates, D., & Wortman, C. B. Depression maintenance and interpersonal control. In A. Baum and J. E. Singer (Eds.), *Advances in environmental psychology*, Vol. 2. Hillsdale, N.J.: Erlbaum, 1980.
- Cohen, S., Rothbart, M., & Phillips, S. Locus of control and the generality of learned helplessness in humans. *Journal of Personality and Social Psychology*, 1976, 34, 1049-1056.

- Garber, J., & Seligman, M. E. P. *Human helplessness: Theory and applications*. New York: Academic Press, 1980.
- Gatchel, R. J., Paulus, P. B., & Maples, C. W. Learned helplessness and self-reported affect. *Journal of Abnormal Psychology*, 1975, 84, 732-734.
- Golin, S., Sweeney, P. D., & Shaeffer, D. E. The causality of causal attributions in depression: A cross-lagged panel correlational analysis. *Journal of Abnormal Psychology*, 1981, 90, 14-22.
- Gong-Guy, E., & Hammen, C. Causal perceptions of stressful events in depressed and nondepressed outpatients. *Journal of Abnormal Psychology*, 1980, 89, 662-669.
- Grof, P., Angst, J., & Haines, T. The clinical course of depression: Practical issues. In J. Angst (Ed.), *Classification and prediction of outcome in depression*. New York: Schattauer-Verlag, 1973.
- Gurin, R., Gurin, G., Lao, R. C., & Beattie, M. Internal-external control in the motivational dynamics of Negro youth. *Journal of Social Issues*, 1969, 25, 29-53.
- Hanusa, B. H., & Schulz, R. Attributional mediators of learned helplessness. *Journal of Personality and Social Psychology*, 1977, 35, 602-611.
- Hiroto, D. Locus of control and learned helplessness. *Journal of Experimental Psychology*, 1974, 102, 187-193.
- Klein, D. C., Fencil-Morse, E., & Seligman, M. E. P. Learned helplessness, depression, and the attribution of failure. *Journal of Personality and Social Psychology*, 1976, 33, 508-516.
- Kuiper, N. A. Depression and causal attributions for success and failure. *Journal of Personality and Social Psychology*, 1978, 36, 236-246.
- Lefcourt, H. M. *Research with the locus of control construct*, Vol. 1. New York: Academic Press, 1981.
- Lefcourt, H. M. *Locus of control: Current trends in theory and research*, 2nd Edition. Hillsdale, N.J.: Erlbaum, 1982.
- Levenson, H. Activism and powerful others: Distinction within the concept of internal-external control. *Journal of Personality Assessment*, 1974, 38, 377-383.
- Levenson, H. Differentiating among internality, powerful others, and chance. In H. M. Lefcourt (Ed.), *Research with the locus of control construct*, Vol. 1. New York: Academic Press, 1981.
- Lewinsohn, P. M., Steinmetz, J. L., Larson, D. W., & Franklin, J. Depression-related cognitions: Antecedent or consequence? *Journal of Abnormal Psychology*, 1981, 90, 213-219.
- Manly, P. C., McMahon, R. J., Bradley, C. F., & Davidson, P. O. Depressive attributional style and depression following childbirth. *Journal of Abnormal Psychology*, 1982, 91, 245-254.
- Melges, F. T., & Weisz, A. E. The personal future and suicidal ideation. *Journal of Nervous and Mental Disease*, 1971, 153, 244-250.
- Metalsky, G. I., Abramson, L. Y., Seligman, M. E. P., Semmel, A., & Peterson, C. Attributional styles and life events in the classroom: Vulnerability and invulnerability to depressive mood reactions. *Journal of Personality and Social Psychology*, 1982, 43, 612-617.
- Miller, I. W., Klee, S. H., & Norman, W. H. Depressed and nondepressed inpatients' cognitions of hypothetical events, experimental tasks, and stressful life events. *Journal of Abnormal Psychology*, 1982, 91, 78-81.
- Miller, I. W., & Norman, W. H. Learned helplessness in humans: A review and attribution theory model. *Psychological Bulletin*, 1979, 86, 93-118.
- Miller, W. R., & Seligman, M. E. P. Depression and learned helplessness in man. *Journal of Abnormal Psychology*, 1975, 84, 228-238.
- Mirels, H. L. Dimensions of internal versus external control. *Journal of Consulting and Clinical Psychology*, 1970, 34, 226-228.
- Peterson, C., Semmel, A., von Baeyer, C., Abramson, L. Y., Metalsky, G. I., & Seligman, M. E. P. The attributional style questionnaire. *Cognitive Therapy and Research*, 1982, 6, 287-300.
- Phares, E. J. *Locus of control in personality*. Morristown, N.J.: General Learning Press, 1976.

- Pittman, N. L., & Pittman, T. S. Effects of amount of helplessness training and internal-external locus of control on mood and performance. *Journal of Personality and Social Psychology*, 1979, 37, 39-47.
- Raps, C. S., Peterson, C., Reinhard, K. E., Abramson, L. Y., & Seligman, M. E. P. Attributional style among depressed patients. *Journal of Abnormal Psychology*, 1982, 91, 102-108.
- Rehm, L., & O'Hara, M. W. Understanding depression. In I. H. Frieze, D. Bar-Tal, and J. S. Carroll (Eds.), *New approaches to social problems*. San Francisco: Jossey-Bass Publishers, 1979.
- Rizley, R. Depression and distortion in the attribution of causality. *Journal of Abnormal Psychology*, 1978, 87, 32-48.
- Rotter, J. B. Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 1966, 80, (1, Whole No. 609).
- Seligman, M. E. P. *Helplessness: On depression, development and death*. San Francisco: Freeman, 1975.
- Seligman, M. E. P., Abramson, L. Y., Semmel, A., & von Baeyer, C. Depressive attributional style. *Journal of Abnormal Psychology*, 1979, 88, 242-247.
- Slater, J., & Depue, R. A. The contribution of environmental events and social support to serious suicide attempts in primary depressive disorder. *Journal of Abnormal Psychology*, 1981, 90, 275-285.
- Tennen, H., & Eller, S. J. Attributional components of learned helplessness and facilitation. *Journal of Personality and Social Psychology*, 1977, 35, 265-271.
- Viney, L. L. Multidimensionality of perceived locus of control: Two replications. *Journal of Consulting and Clinical Psychology*, 1974, 42, 463-464.
- Wortman, C. B., & Brehm, J. W. Responses to uncontrollable outcomes: An integration of reactance theory and the learned helplessness model. In L. Berkowitz (Ed.), *Advances in experimental social psychology*, Vol. 8. New York: Academic Press, 1975.

Manuscript received November 25, 1982; revised July 28, 1983.

This document is a scanned copy of a printed document. No warranty is given about the accuracy of the copy. Users should refer to the original published version of the material.