INTERNAL-EXTERNAL LOCUS OF CONTROL AND
ITS RELATIONSHIP TO SELF-REPORTED
DEPRESSION AND TO SUICIDE

by

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Abstract

The present study attempted to assess the relationship between locus of control and suicide, and between locus of control and self-reported depression. It was hypothesized that: (a) suicidants' scores on the locus of control measures would be more external than scores of non-suicidal non-psychiatric persons and that (b) measures of external locus of control would correlate positively with depression. Five locus of control scales (as developed by Rotter, Levenson, and Kendrick) and the Beck Depression Inventory were administered to the sample consisting of four groups of 12 subjects each. There were two experimental groups of suicidants (hospitalized and non-hospitalized) and two control groups (hospitalized and non-hospitalized) without histories of suicidal behavior. A two-way between groups analysis of variance was computed in order to assess the relationship between suicide and locus of control, the effects of hospitalization on locus of control, and the suicide by hospital interaction. The impact of these variables on a measure of self-reported depression was also assessed. Correlations were used to assess the relationship between depression and locus of control. Only minimal support was offered for the hypothesis that suicidants are more externally controlled than non-suicidal non-psychiatric persons. As predicted, depression was positively correlated with external locus of control. Possible explanations for these results were discussed and recommendations for further research in the area were made. Attention was also given to the implications of the present study for the prediction of suicide and depression and for psychotherapy with suicidal and depressed persons.
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Statement of the Problem

People throughout history have concerned themselves with man's ability to control his personal environment. It seems important, however, to not only consider man's actual control, but also the extent to which man perceives he has control. These two may be consistent—that is, perceived control may be an accurate estimate of actual control. On the other hand, a person's perceptions about how well he controls life events may be an overestimation of his actual control. Or conversely, his behaviour may be quite effective in achieving control, but he may not interpret it as such. The value of studying a person's perception of control lies in the presumably strong influence that perception has on an individual's behaviour.

Julian Rotter (1966) developed from social learning theory a concept of internal-external control of reinforcement which describes the degree to which a person believes that outcomes in his life are contingent on what he does (internal control), as opposed to being determined by outside forces such as luck, chance, fate, or powerful others (external control). Social behaviour, rather than being determined by broadly generalized personality traits, depends on the individual's specific response capabilities and his expectations concerning the consequences of alternative courses of action in the situation. Persons are not viewed as either "internals" or "externals" but as individuals having locus of control expectancies which fall at some point along the continuum from extremely internal to extremely external.

To date only one previous study has examined the association between
locus of control and suicidal behaviour. Williams and Nickels (1969) investigated locus of control and suicide potentiality in introductory psychology students. In contrast, the present author was interested in studying locus of control in persons who had made an overt suicide attempt, and furthermore in examining their locus of control orientations as they relate to several specific life areas.

There are several methodological problems which arise in the study of suicide. Particularly relevant to the present study are the special problems which occur when research is done on suicide attempters. Vastly different results could be obtained depending on the time the research is done relative to when the attempt was made. If information is collected immediately after the attempt, for example, there are many confounding variables involved as a result of the attempt itself (cathartic effect, temporary reduction of anger or misery, reaction of others, etc.). The factor in the present study which largely determined when the interviews were done, was an ethical consideration, i.e., subjects were interviewed as soon after the attempt as the staff felt was advisable. This limitation should be kept in mind during an interpretation of the results. It is not necessarily a poorer time to do the interviews than immediately following an attempt; it is just a different time and as such may produce different results.

Because of its close association with suicide, the author was interested in investigating depression and how it relates to locus of control. This relationship has been investigated but the findings have been inconsistent and unclear. The author wished to examine locus of control
and depression with hopes of clarifying the issue and offering a rationale for the previously inconsistent findings and present results. The relationship of depression to locus of control in several specific life areas was also assessed.
Multidimensionality of the Locus of Control Construct

Rotter's contention (1966) was that the internal-external control concept is a generalized expectancy relating behaviour to reinforcement in a large number of learning situations, cutting across "specific need areas". However, it has been recognized since then that internal-external beliefs are not completely general but apply somewhat specifically to various life areas. Very early, Crandall, Katkovsky, and Crandall (1965) distinguished between control by impersonal forces and control by other people. Levenson (1972) devised a tripartite division of control into the dimensions of internal, powerful others, and control by chance forces. Three scales based on this distinction were constructed in order to add measures of belief in chance expectancies as separate from a powerful others orientation. The rationale for this tripartite differentiation stemmed from the reasoning that people who believe the world is unordered (chance) would behave and think differently from people who believe the world is ordered but that powerful others are in control. In the latter case a potential for control exists. Furthermore, it was expected that a person who believes that chance is in control is cognitively and behaviourally different from one who feels that he himself is not in control (low on "internal scale").

Moreover, recent work is beginning to separate personal and ideological beliefs. Gurin, Gurin, Lao, and Beattie (1969) identified four factors in a factor analysis of Rotter's Internal-External Control Scale. These were: (1) Control Ideology, (2) Personal Control, (3) System Modifiability, and (4) Race Ideology. Mirels (1970) identified two factors which were:
(1) a belief concerning felt mastery over the course of one's life and
(2) a belief concerning the extent to which the individual citizen is regarded as capable of having an impact on political institutions.

Abrahamson, Schludermann, and Schludermann (1973) identified three factors in a factor analysis of Rotter's scale: (1) personal control over course of one's own life, (2) control that people have over political and social institutions, and (3) control over personal likability. In a factor analysis of Rotter's scale, MacDonald and Tseng (1973) identified two factors for a male sample and three factors for a female sample. Factor I was the individual's control over his own life. Factor II was control of the citizen over political or world affairs. Factor III (females only) was control in interpersonal relationships. Viney (in press) identified two factors in Rotter's scale: personal responsibility and social responsibility.

The evidence presented thus far advances the position that Rotter's Internal-External Control Scale is not unidimensional but can be meaningfully defined as two relevant but separate measures; one concerning perceived personal control and the other, perceived control of broader social events. As Lefcourt (1971) noted:

Perhaps, the events of the day have created more cynicism about the controllability of world as opposed to personal events, such that what was once a more homogeneous orientation has become a more fragmented and finely discriminated set of expectancies (p. 19).

MacDonald and Tseng (1973) distinguished between "first person" and "third person" phrases on the Rotter scale and noted that people do not necessarily project their own expectations on to others. It is interesting to note that all the items in the Gurin et al. "personal factor" are
worded in the first person, while none of the items in the "system modifiability" (or Mirel's Factor II - control over political or world affairs) are in the first person. As Phares (1973) emphasized:

We seem to have very nearly a self-other distinction here. First person items relate to the individual's views as to his control while third person items relate to ideological beliefs regarding others or the nature of the system (p.20).

All statements in Levenson's (1972) three locus of control scales (Internal, Chance, and Powerful Others) were phrased so as to pertain only to the subject himself. They measure the degree to which an individual feels he has control over what happens to him, not what he feels is the case for "people in general".

In addition there is no reason to suppose that a person's tendency to credit himself with control of positive outcomes would necessarily be correlated with his beliefs about his control of negative or aversive outcomes. Crandall, Katkovsky, and Crandall (1965), Hersch and Scheibe (1967), and Dies (1968) have all emphasized the importance of separate measures of expectancies of control over positive and negative events. Mischel, Maier, and Zeiss (1974) found that the attribution of internality (i.e., responsibility) depends on both the valence of the event being analyzed and the identity (self versus other) and valence (liked, disliked) of the person whose behaviour is being interpreted. More internality was attributed to the self for positive events, and less for negative events, especially in comparison to a disliked other. Women however, attributed more responsibility for negative outcomes to themselves than to others.

The preceding discussion indicates that the locus of control variable
should be studied at a multidimensional rather than at a unidimensional level. The investigator took this into account in the selection of locus of control scales and subscales employed in the present study. The proposed scales were: (1) Rotter's (1966) Internal-External Control Scale and two subscales composed of the two factors of this scale—personal control and the control over political or world affairs—as identified by Mirels (1970) and (2) Levenson's (1972) Internal, Chance, and Powerful Others Scales. Dixon, McRae, and McKee (1973) suggested that differential factors operate along an environmental specificity dimension including world-politics, friendships, leadership, home-family, and school-job. This differentiation of "life areas" was of interest to the present author. It was decided to investigate if individuals perceive their control differently in work situations than in interpersonal relationships by devising a scale with this dichotomy in mind.

**Locus of Control and Psychopathology: A Background for the Present Study**

The present study was concerned with depression and suicide and their relationship to locus of control. A review of some of the literature on the general relationship between locus of control and psychopathology provides the background leading to the two major hypotheses on depression and suicide.

The issue of maladjustment and its relationship to perception of control is not a new one. Durkheim (1897) viewed the alienated individual as one who feels unable to control his own destiny. "He is a small cog in a big machine and at the mercy of forces too strong or too vague to control" (Rotter, 1966, p. 3). Veblen (1899) stated that a belief in
chance or luck as a solution to one's problems is characterized by less productivity and a general passivity. Although low productivity and passivity are mostly considered to be negative qualities in our culture, this is not the case in all cultures. Merton (1946) viewed belief in luck (external control) as a defensive behaviour. The person is able to maintain self-esteem by blaming failures on external forces.

Speculations, clinical observations, and experimental research on the relationship of locus of control to "adjustment" generally have supported a positive relationship between internality and "adjustment" and externality and "maladjustment" (Phares, 1973). However, as Rotter theorized, there is probably a curvilinear relationship with individuals at the extreme ends of the internal-external dimension being more maladjusted than those in the middle range. Thus, extreme internality, rather than being beneficial, may produce guilt and an over-riding sense of personal responsibility, not to mention anxiety in the many fate-controlled or other-controlled situations of modern life (Broskowski, 1966). Rotter supported a relationship between moderate internality and "adjustment" and externality and "maladjustment", based on his observations of the interaction between internality-externality and experience of success. He noted that an internal with a history of failure will probably blame himself whereas an external with a history of failure is likely to blame others (defensiveness).

Cromwell, Rosenthal, Shakow, and Zahn (1961), Duke and Mullens (1973), and Distefano, Pryer, and Smith (in press) in empirical studies found that psychiatric patients scored significantly higher on the external dimension than did non-psychiatric samples. Shybut (1968) noted that a "severely
disturbed" group differed significantly from a combined "normal-moderate" group on internal-external control, with the former group answering more externally than the latter. Shybut also found that long-term hospital patients had higher external control scores than those who were more short-term. Harrow and Ferrante (1969) supported Shybut in their finding that hospitalization is associated with increased external locus of control.

Smith, Pryer, and Distenfano, (1971) showed that "severely emotionally impaired" patients were significantly higher in external control than were "mildly impaired" patients, and normals (Distefano, Pryer, and Garrison, 1972). Related to this research is an interesting finding by Fontana, Klein, Lewis; and Levine (1968). Schizophrenic patients who wanted to impress upon others that they were healthy scored more internal on the internal-external scale than schizophrenic patients who wanted to impress upon others that they were "sick". The implication is that internals wish to convey to others that they are normal and well-adjusted while externals want to impress upon others that they are "sick" and therefore cannot be held responsible for their behaviour. An alternative interpretation is that anyone who is interested in appearing well presents himself as an "internal".

Warehime and Foulds (1971) found a significant relationship between internality and adjustment but noted that this was stronger for females than for males. Hersch and Scheibe (1967) found that "internals" were "better adjusted" on Rogers' real-ideal self inventory.

Watson (1967) showed that a more external locus of control orientation is associated with greater anxiety. Watson's finding was supported by
Platt and Eisenman (1968), Hountras and Scharf (1970), and Nelson and Phares (1971). Butterfield (1964) reported a positive relationship between external control and debilitating anxiety and introjective responses to frustration, and a negative relationship between external control and facilitating anxiety and constructive responses to frustration. Liberty, Burnstein, and Moulton (1966), Feather (1967a), and Tolor and Reznikoff (1967) lend support to Butterfield's finding.

As well as comparing a disturbed sample with a "normal" sample, as in the previously listed studies, attention has been given to the distribution of various kinds of psychiatric disorders on the locus of control continuum. Harrow and Ferrante (1969) and Duke and Mullens (1973) found that schizophrenics were more external than the total sample of non-schizophrenics. Process schizophrenics were found to be more external than reactive schizophrenics or non-schizophrenic controls (Lottmen and DeWolf, 1972). Pryer and Steinke (1973) found differences (although not all significant) among the following psychiatric disorders (listed in order from most to least external): paranoid schizophrenic, personality disorder, chronic undifferentiated schizophrenic, and depressive.

Not all studies demonstrated positive relationships between externality and psychopathology. In a study by Fontana and Gessner (1969), non-psychotic patients' locus of control scores were not significantly different from those of psychotic patients. Smith's (1970) results indicated that crisis patients were not significantly more external than non-crisis patients. Harrow and Ferrante (1969) found that acute
psychiatric inpatients' locus of control scores were not significantly different from those of "normals".

In a discussion of the relationship between specific psychiatric disorders and locus of control, attention must be given to two "disorders" which represent an exception to the largely supported finding that maladjustment and external control are related. The first is the discovery by Goss and Morosko (1970), Gozali (1970), and Distefano, Pryer, and Garrison (1972) that alcoholics are more internally oriented than "normals". The second is a study by Berzins and Ross (1973) which demonstrated that opiate addicts show strong internal expectancies on the internal-external scale, especially on items referring directly to personal control. One rationale for these perhaps unexpected findings is that alcohol and drugs provide the individual with the power to "induce feelings of internal control over moment-to-moment impulses, reactions, anxieties, physical states, and so on" (Berzins and Ross, 1973, p. 85). The person is able to alter or control unpleasant feeling states.

**Locus of Control and Depression**

One particular psychiatric disorder, depression, should be given special attention at this time because of its close association with suicide.

Although a great number of suicidal persons do not manifest the clinical features associated with depression and many depressed persons are not suicidal (Beck, 1967), there can be no doubt that depression plays a central role in the problem of suicide (Mendels, 1970). Depression is, of all psychiatric conditions, the one most likely to be associated
with suicide (Beck, 1967; Mendels, 1970). Because the relationship between depression and suicide is strong, it would seem important to investigate the relationship between depression and locus of control. It is likely that locus of control orientations in suicidal persons would be similar to generalized expectancies for control in depressives.

The study of depression and its relationship to locus of control provides conflicting points of view as to whether depressives perceive their reinforcements as contingent on their own skill, capability, proficiency, or expertise (internality), or contingent on fate, chance, luck, or other persons (externality).

Seligman viewed depression as "learned helplessness"—as "a specific cognitive distortion of the perception of the ability of one's own responses to change the environment, rather than a general 'pessimism'" (Miller and Seligman, 1973, p. 62). This view of depression was proposed by clinical investigators (Beck, 1967; Bibring, 1953; Lichtenberg, 1957; Melges and Bowlby, 1969) although they did not test it experimentally. Seligman stated (1973) that externals seem more susceptible to learned helplessness (depression) than internals. Since externality is hypothesized to decrease the potential for occurrence of "purposive" or "goal-striving" behaviour, and such a lack of "purposefulness" or "meaningfulness" characterizes much of the behaviour of depressed individuals, Abramowitz (1969) anticipated that externally-oriented relative to internally-oriented persons would report greater depression and along with Miller (1971) gave experimental support for a significant correlation between external control and depression. Although these
correlations were statistically significant, they were unimpressive in that they accounted for less than 8% of the variance.

Seligman, Maier, and Greer (1968) and Hiroto (1971) noted the similarity between external control and the concept of learning that reinforcement and responding are independent. Hiroto found that when externals and internals had been subjected to inescapable, unavoidable loud noise, externals were significantly poorer in learning to escape and avoid trauma in a new situation. The externals overgeneralized, for even though they had the opportunity to escape in the new situation they did not escape because they were not able to discriminate the new situation from the old. Miller and Seligman (1973) were not successful in demonstrating that externals perceive reinforcement as more response independent than internals in situations where reinforcement is response dependent. From the learned helplessness model of depression, it was predicted that greater depression should be associated with a greater tendency to perceive reinforcement and responding as independent in a skill task. Miller and Seligman (1973) found this correlation in the predicted direction but it was not statistically significant. The same investigators found no correlation between depression and locus of control.

Calhoun, Cheney, and Dawes (1974) noted that previous research (Goss and Morosko, 1970; Harrow and Ferrante, 1969) has supported a positive relationship between intensity of depression and external locus of control among varied clinical populations, and they went on to support this point of view in their research with non-psychiatric subjects. Calhoun et al. found that both males and females with "relatively enduring"
symptoms" of depression scored externally. When the transitory mood aspect of depression was measured, only males showed a significant positive correlation between depression and externality. A possible reason for this was given by Douvan and Adelson (1966) who observed that adolescent females engage in more self-criticism and self-blame than adolescent males.

One can consider alternative models of depression to Seligman's. It would seem that the depressive could be viewed as "pathologically internal"—as a person who has excessive guilt, anxiety, and an over-riding sense of personal responsibility. Beck (1967) in a systematic study of depressed individuals, showed that the majority of these persons were self-blaming and self-criticizing, suggesting that they assume personal responsibility for their unhappiness (Melges and Bowlby, 1969). This tendency to attribute the causes of depression to oneself would suggest that depressed persons are internally controlled. As Lamont (1972) noted:

The verbalizations of depressed patients...lead one to question whether they have an E orientation. More commonly, the depressed patient will accept blame for any and all bad events, and consider his lack of positive reinforcers as due to his own failure to obtain them. In short, he describes himself not as a pawn of fate but a highly responsible failure... (p. 342).

Calhoun, Cheney, and Dawes (1974) pointed out this paradox—that although depressed persons attribute unhappiness and failure to internal causes, depressives are also characterized by a general self-perception of helplessness, "suggesting that depression is positively related to an external orientation which views events as the outcome of factors beyond the limits of one's personal control" (p.1). The two viewpoints are not really incompatible. It seems very possible that a person could blame himself for troubles that befell him (internal) but feel helpless when it comes
to doing something about the problems (external). Relevant here is Mischel, Maier, and Zeiss's (in press) discovery that peoples' perception of their own control varies depending on whether the particular event is a negative or positive one. For example, a person may be "internal" in believing that he has control over the negative things that happen to him (self-blame), but "external" in believing that he has no control over such positive things as making life better for himself (helplessness). Referring back to Lamont's statement—"...the depressed patient will accept blame for any and all bad events..."(Lamont, 1972, p. 342), one notes that Lamont, in describing the depressive as internal, speaks only of his perception of control over negative events.

Although the majority of the research seems to favour an external locus of control in depressives, this relationship still remains unclear. Following Seligman's model, if externals are more susceptible to depression, then they are more susceptible to suicide. However, if extreme internals are more susceptible to depression than externals, this would lead one to question the relationship between depression and locus of control as support for the hypothesis that suicide and externality are associated. As previously mentioned, it could be that the concept of internal and external control has been oversimplified, and that in order to fully understand the relationship between depression and locus of control, the latter should be studied on a multidimensional rather than a unidimensional level. If this is the case, it would be important to obtain measures of depression and locus of control and to further analyze the internal-external items for perception of control over positive versus
negative events.

The previous discussion leads to the first of two major hypotheses under investigation in the present study: measures of external locus of control correlate positively with measures of depression.

Locus of Control and Suicide

One psychiatric disorder which has been given very little attention in relation to the locus of control variable is suicide. Problems with control have been suggested as central to suicide potential (Durkheim, 1951; Leonard, 1967). Wilson (1968) reported that a high chaotic energy characterized the patients in his study who were eventual suicides. Leonard, in a study on depression and suicidality (1974), said that indications of being changed or out of control best characterize the high-suicidality patient rather than feelings of despondency or hopelessness. Leonard also noted that "further suggestion of difficulty with dependency and/or control is seen in the very significant relationship between high suicidality and long hospitalizations" (p. 104). Leonard felt that dependency on hospitalization possibly reflects an unusual dependency on external controls. He advised that the study of dependency and control problems may prove more useful in predicting suicide than the study of depression.

A review of the literature on suicide on the one hand and internal-external locus of control on the other, suggests that these two areas may be related. This relationship is supported by the previous discussion on maladjustment and locus of control and by a comparison of the characteristics of suicidal individuals with the characteristics of individuals
holding internal or external control orientations. Williams and Nickels (1969) presented a comprehensive review of the characteristics of the potentially suicidal individual. He has been characterized as:

"rigid (Fairbank, 1932; Vinoda, 1966; Wall, 1944), introverted and asocial (Hendin, 1950; Hopkins, 1937; Williams, 1936), timid and dependent (Batchelor and Napier, 1954; Faris, 1934), easily embarrassed, overly sensitive, restrained in forming friendships, and lacking in self-confidence and initiative (Farberow and Devries, 1967), feeling fearful, worthless, and unwanted (Devries, 1966), irritable and resentful (Lester, 1967; Stoneman and Perth, 1935), and poorly integrated, weak in character, or abnormal in personality (Andics, 1947; Raphael, Power, and Berridge, 1937; Sainsbury, 1955; Schneider, 1954—reviewed by Robin, 1956; Siewers and Davidoff, 1942)" (p. 486)

Farberow, McKelligott, Cohen, and Darbonne (1966) found that suicidal patients differed from non-suicidal patients, the former being more dependent, impulsive, alert, anxious, agitated, apprehensive, depressed and distressed over their illnesses. Litman and Tabachnick (1967) described the suicide-prone person as masochistic, depressive, dependent, passive, immobilized, constricted, and disinterested in physical activity. In a study by Tabachnick, Litman, Osman, Jones, Cohn, Kasper, and Moffat (1966), suicide-prone persons were found to be closely integrated with and highly dependent on individuals in their environments.

A large number of the descriptive adjectives from the previous studies derive from non-empirical reports.

From research on the internality-externality and suicide variables, Williams and Nickels (1969) concluded that many of the characteristics attributed to the external orientation are those typically associated with suicide proneness. Both externally-oriented and suicide-prone persons tend to be dependent, guilty, anxious, timid, depressive, and non-achieving.
Both reveal their lack of initiative and self-control (Williams and Nickels, 1969). Williams and Nickels (1969) set out to directly investigate the relationship between suicide proneness and internal-external control in college students. They found that externally-oriented subjects generally scored higher on the suicide potentiality scales than internally-oriented subjects.

The speculations, clinical observations, and experimental research on the relationship between locus of control and maladjustment, the review of the literature on "suicidal" individuals and characteristics of externally-controlled persons, and the research on locus of control and depression, lead to the second of two major hypotheses under investigation in the present study: "suicidants'" scores on the locus of control dimension are more external than scores of non-suicidal, non-psychiatric persons. The suicidant is viewed as a person who has largely given up believing that what he does or does not do makes any great difference to his life (externally controlled). External and internal control have been previously defined. The definition of "suicidant" presents a problem. Are "suicidants" persons who think about suicide, threaten suicide, attempt suicide or complete suicide? For the purposes of the present study, "suicidants" were defined as persons who had attempted suicide one or more times and as a result were admitted to the emergency ward of a hospital. That a suicide attempt had occurred, had to have been self-acknowledged and also confirmed by the medical staff.

Several factors contradict the second major hypothesis that suicidants are more externally controlled than non-suicidal, non-psychiatric persons.
The first is based on the relationship between depression and locus of control. As previously mentioned, although most of the research supports a positive relationship between depression and externality, the tendency of depressed individuals toward self-blame, self-criticism, etc., might lead one to expect an internal orientation in depressives. If this were the case, the strong relationship between depression and suicide would then lead us to suspect that suicidal individuals are more internally controlled. The second factor is the findings that alcohol and drug abusers are internally controlled. Can not the suicidant, as well as the alcoholic and drug addict, also be viewed as a person who has available to him a means of rapidly altering or modifying unpleasant subjective states, either through manipulation of the environment or through death? A third factor involves a consideration of the suicidal act itself. Is the suicidal act a behaviour consistent with an external orientation? It would seem that the suicide attempt, whether done to manipulate others or to destruct one's self, would be the ultimate internal-type act a person could perform. Through the act of suicide, many individuals are attempting to retain some shred of control over their own fate by choosing to play one last active role in their lives—that of picking their own time and type of death. Leonard (1963) called this kind of individual an "implementer" and described him as one who has an active need to control his environment.

If the second major hypothesis were not supported, these three factors may have been responsible.

The previous discussion on the relationship between the suicidal act
and locus of control suggested the possibility of experimentally in-
vestigating such a relationship. It seemed possible to classify suicide
attempters into four groups:

1. those who are SERIOUS and who have a real desire
to die (INTERNAL). This could be coupled with desires
to manipulate others in the environment although this
would be of secondary importance.

2. those who are SERIOUS but allow a possibility for
fate to intervene (EXTERNAL).

3. those who are NON-SERIOUS and allow for fate to
intervene (EXTERNAL). An example here would be a person
who takes a calculated risk to lose his life or an "adver-
tent gamble" with death in which he has stacked the cards
against his survival.

4. those who are NON-SERIOUS and who are primarily in-
volved in manipulating others in the environment (INTERNAL).

Weiss (1957) describes suicide Types Two and Three, the attempts with an
external orientation, as follows:

Many suicide attempts have at least in part the character
of a gamble with death, a sort of Russian roulette, the
outcome of which depends to some extent on chance. The
attempts are consciously or unconsciously arranged in such
a manner that the lethal probability may vary from almost
certain survival to almost certain death; and "fate"—or
at least some force external to the conscious choice of
the person—is compelled in some perhaps magical way to
make the final decision (p. 21).

In Suicide Type One, the SERIOUS-INTERNAL attempter is viewed as a person
who wishes to take one last active role in his life—that of picking his
time and type of death. This type of person seems to believe that he
will indeed effect this end. In Suicide Type Four, the NON-SERIOUS-
INTERNAL attempter is one who desires to manipulate others in the environment
and believes he can do so through a non-serious suicide attempt, e.g., a
husband who attempts suicide in order to prevent his wife from leaving him.
The "call for help" after a suicide attempt would seem to be an internally controlled act.

The investigator wished to know the frequency of each of the four types of suicide attempts made by suicidants in the present study. Also of interest was the relationship between the individual's generalized expectancy for locus of control and the type of suicide attempt made; i.e., do more internal/external suicidants make more internal/external-type attempts, and are these attempts serious or non-serious? This information may be of value in predicting the type of suicide attempt likely to be made by potentially suicidal individuals.

The purpose of the present study, therefore, was twofold: (1) to determine whether greater depression is associated with greater external locus of control. As previously mentioned, this issue remains unclear and controversial. It was hoped that support could be offered for the majority of studies which suggest that depressives are more externally controlled than non-depressed persons (2) to determine whether suicidants are more externally controlled than a non-suicidal, non-psychiatric population. Accordingly, two hypotheses were advanced: firstly, measures of external locus of control correlate positively with measures of depression; and secondly, suicidants' scores on the locus of control dimension are more external than scores of non-suicidal, non-psychiatric persons.
Method

Subjects

The study examined four groups of 12 subjects each. Two experimental groups (12 subjects each) were selected from persons who had attempted suicide one or more times and who, as a result, had been admitted to emergency wards of hospitals in the Greater Vancouver area. The first group were, by their own choice, in contact with a "Suicide Attempt Follow-up Evaluation and Research" worker (for a description of S.A.F.E.R., see Appendix A). The S.A.F.E.R. subjects were discharged after a brief stay in the emergency ward to go home. The contact with the S.A.F.E.R. worker was limited to a period of six weeks. The second experimental group consisted of inpatients in hospital settings who were not in contact with the S.A.F.E.R. program. Subjects in this latter group came from three hospitals—a large provincial mental hospital, a university psychiatric hospital, and a general hospital with two psychiatric wards. The suicidal subjects were the first 24 referred from a group of suicidants who agreed to participate in the study. Children, persons with brain damage, and psychotics were not included in the study. No subject was interviewed if the attempt occurred more than 40 days before contact by the experimenter. The mean length of time between attempt and interview was 20.33 days. The range was three to 40 days.

Two control groups of 12 subjects each were also tested. The first was a group of hospitalized non-psychiatric patients with general medical problems (e.g., dislocated hip, degenerate lumbar disc, gall bladder, cancer, etc.). These subjects were from two hospitals. The second control group was comprised of persons chosen "randomly" from the population at
large, through door-to-door canvassing of three areas in Vancouver.

An attempt was made to make the two experimental groups comparable with the two control groups on the variables of sex, age, marital status, and socio-economic status (as determined by occupation). Table 1 presents these four demographic variables by group. Because cell frequencies were too small data were combined, for chi-square analysis, in the manner presented in Table 1. Analyses of the data ($\chi^2$) revealed no significant differences among the four groups on the variables of sex, age, marital status, and socio-economic status.

**Instruments**

The Beck Depression Inventory (Beck, 1967) was completed by all subjects. The self-report measures for assessing locus of control were Rotter's Internal-External Control Scale (Rotter, 1966), Levenson's Internal, Powerful Others, and Chance Scales (Levenson, 1972), and the author's Internal-External Scale (Kendrick, 1974). The latter scale consists of a total score for 48 items as well as scores for two subscales: "work situation" (24 items) and "interpersonal relationships" (24 items) (see Appendix B).

The validity and the reliability of the Rotter and Levenson scales have been reported elsewhere (Rotter, 1966; Levenson, 1972). In order to test the validity and reliability of the Kendrick scale, several pilot studies were completed. The first was undertaken in order to test the content validity of the items. Thirty-five judges were administered the first draft of the Kendrick scale, a forced choice 24-pair locus of control scale, and asked to complete this scale as if they were (1) internally oriented or (2) externally oriented (see Appendix C for scale
Table 1
Demographic Variables of Sex, Age, Marital Status, and Socio-economic Status by Group

<table>
<thead>
<tr>
<th>Variable</th>
<th>Non-hospital Control</th>
<th>Hospital Control</th>
<th>S.A.F.E.R.</th>
<th>Hospital Suicidant</th>
<th>Total</th>
<th>$\chi^2$</th>
</tr>
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<tr>
<td>Sex</td>
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<td></td>
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<tr>
<td>Female</td>
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<td>3.19</td>
</tr>
<tr>
<td>Male</td>
<td>4</td>
<td>7</td>
<td>2</td>
<td>6</td>
<td>19</td>
<td>$p &gt; .05$</td>
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<tr>
<td>Mean Age</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(range 19-78 yrs.)</td>
<td>30.75</td>
<td>41.66</td>
<td>30.16</td>
<td>29.41</td>
<td>32.79</td>
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<td>over/under 28 yrs.</td>
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<td></td>
<td></td>
<td>$p &gt; .05$</td>
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<td>6</td>
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<td>0</td>
<td>3</td>
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<td>4</td>
<td>17</td>
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<tr>
<td>Socio-economic Status by Occupation</td>
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<tr>
<td>Unpaid/paid</td>
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<td>2</td>
<td>2</td>
<td>7</td>
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<td>3</td>
<td>2</td>
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<td></td>
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<tr>
<td>unskilled</td>
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<td>4</td>
<td>2</td>
<td>3</td>
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<td>semiskilled</td>
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<td>1</td>
<td>2</td>
<td>$p &gt; .05$</td>
</tr>
<tr>
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<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
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<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
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<td>3</td>
<td>2</td>
<td>3</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>other</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
and instructions). In this way it was hoped that the content of the items—that is, whether or not the items reflect internal versus external expectancies of control—could be assessed. Any items which did not have 90% agreement were not used; however, none of the 24 pairs was incorrectly "labelled" by more than 10% of the subjects so all the items were retained.

A second study involved administering to 22 subjects the Rotter Internal-External Control Scale, the forced choice 24-pair locus of control scale, (See Appendix D for new instructions), and the Marlowe-Crowne Social Desirability Scale (Crowne and Marlowe, 1960). This was done in order to test the concurrent validity of the first draft of the Kendrick scale with the Rotter scale. The correlation between the Rotter scale and the first draft of the Kendrick scale was .54. The correlation of the latter scale with the Marlowe-Crowne was .15 suggesting that the scale is not correlated with a measure of social desirability.

A third study involved administering the Rotter scale, a revision of the Kendrick scale, and the Marlowe-Crowne scale to 21 other subjects. The revision of the Kendrick scale was comprised of the 24 pairs separated and the items randomly ordered. It was felt that this revised scale would be influenced to a lesser degree by social desirability. The isolation of items would seem to result in less comparison of the social desirability of two corresponding items. The correlation of the revised Kendrick scale with the Marlowe-Crowne was .10 indicating that the scale is not correlated with a measure of social desirability.

Unlike the forced-choice format, the revised Kendrick scale allowed an opportunity to employ a Likert six-point scale measuring degrees of
agreement and disagreement towards each item. The Likert 6-point scale has been suggested as more appropriate than the forced-choice format. James and Shepel (1973) found the forced-choice format of the Rotter scale produced irritation and lack of co-operation in some (particularly non-university) subjects. They noted that such observed resistance is frequently a hazard of this format.

The revised Kendrick scale (from now on referred to as the Kendrick Internal-External Scale) was correlated with the Rotter scale, again to test concurrent validity but more specifically to test the relationship between two scales, one employing a forced-choice format and the other a Likert 6-point scale. The correlation between the Kendrick and Rotter scales was .55.

In order to assess the test-retest reliability of the Kendrick Internal-External Scale, 10 subjects completed the questionnaire and then completed it again one month later. The correlation was .93. A split-half reliability test was also done in order to test the internal consistency of the scale. The correlation was .80.

Evidence has been presented (see Review of the Literature) to support the study of locus of control at a multidimensional rather than a unidimensional level. The two factors of Rotter's Internal-External Control Scale—personal control versus control over political or world affairs—as identified by Mirels (1970) were investigated. It was hypothesized that the Kendrick Internal-External Scale would separate between belief in control over work situations versus interpersonal relationships. It was also hypothesized that the Kendrick scale could be used to distinguish between the individual's perception of
control over positive versus negative events. Thus, it was necessary to assign valences to the 48 items in the scale. Three judges decided on the "event" in each of the 48 statements (e.g., "Actions are more important than looks in winning friends." The event is "winning friends"). Agreement among the three judges was 100%. Five other judges assigned a valence to each event. There was 100% agreement among the judges. Eighteen of the items were assigned positive valences, 22 were assigned negative valences, and eight items were considered neutral.

Procedure

The non-hospital suicidants were contacted by their respective S.A.F.E.R. workers and those who agreed to participate in the study were contacted by the experimenter. The majority of testing sessions with the subjects were held in subjects' homes. The 24 hospitalized suicidal and non-psychiatric patients were contacted by hospital staff and again, those agreeing to participate were contacted by the experimenter. The testing of these subjects was done in the hospital. The 12 non-hospital non-suicidal subjects were selected by door-to-door canvassing of three areas in Vancouver, and testing was done in the homes.

Subjects were told that their help was requested in order to aid in some research being done by the experimenter at the University of British Columbia. It was made clear that participation was voluntary, that they could withdraw at any time during the interview, and that the results were confidential. Upon completion of the questionnaires, subjects were informed as to the nature of the present study and any questions were answered.
All 48 subjects were tested by the same experimenter. The three locus of control scales were administered to subjects in a counterbalanced order. Due to the more personal nature of the Beck Depression Inventory, it was felt that it would be best to administer it after the three locus of control measures were obtained.

Demographic information was gathered from the subjects themselves. Information on the suicide attempts and individual problematic situations was gathered from medical records and brief interviews with the S.A.F.E.R. or hospital workers involved with the subjects. As previously mentioned, the suicide attempts were classified by the experimenter into four types: SERIOUS-INTERNAL, SERIOUS-EXTERNAL, NON-SERIOUS-EXTERNAL, NON-SERIOUS-INTERNAL. Information needed to classify the attempts was gathered in the following manner. The seriousness of the suicide attempt was assessed by ratings, on a scale from 1 (low) to 9 (high), of "probability of death" (lethality of method) and allowed "opportunity for intervention". These ratings were determined separately by both the professional and the suicidant himself.

Suicide Type One (SERIOUS-INTERNAL) was assigned by the experimenter a high probability of death rating (7, 8, or 9) in combination with a low opportunity for intervention rating (3, 2, or 1). It could be described either as manipulative or non-manipulative. The experimenter assigned Suicide Type Two (SERIOUS-EXTERNAL) a high probability of death rating (7, 8, or 9) coupled with a high opportunity for intervention rating (4 - 9). The attempt was described as non-manipulative. Suicide Type Three (NON-SERIOUS-EXTERNAL) was assigned a low probability of death
rating (1 - 6) and a high opportunity for intervention rating (4 - 9).
The attempt was non-manipulative. Suicide Type Four (NON-SERIOUS-INTERNAL) was assigned a low probability of death rating (1 - 6) in combination with a high opportunity for intervention rating (4 - 9). The attempt was described as manipulative. Criterion contamination was avoided because the ratings of the seriousness of the suicide attempt and the classification of attempts into categories were done independently by different judges. The staff members and suicidants rated the seriousness of the attempt, and the classification of attempts was done by the experimenter. Also, the experimenter had no knowledge of depression or locus of control scores at the time the attempts were rated and classified.

As mentioned, information on the individual problematic situations was gathered from medical records and brief interviews with the S.A.F.E.R. or hospital workers involved with the subjects. In reviewing the situations of all suicidants the experimenter found that six "types" of problems predominated. Each suicidant was assigned a maximum of two of these six problematic-situation types: (1) family, (2) love/sex, (3) inadequacy, (4) loneliness, (5) drugs/alcohol, (6) work/school. Again, criterion contamination was avoided as the descriptions of the problems, and the classification and assignment of two problematic-situation types were done by independent judges.

Data were computer processed with cross-tabulations computed among all variables in order to assess similarities and differences among the four groups. A two-way between group analysis of variance on measures of depression and locus of control was computed in order to assess the
relationship between suicide and locus of control, the effects of hospitalization on depression and locus of control, and the suicide by hospital interaction. Intercorrelations among demographic variables, among scales and subscales, and between depression and locus of control measures were based on the Pearson product-moment correlation. Pearson and biserial correlations were used to assess the relationship between type of suicide attempt and depression and locus of control. A factor analysis was performed on the locus of control scores.
Results

Before looking at the results relating to the two major hypotheses, data were examined regarding the comparability of the four samples.

An attempt had been made to make the two experimental groups (non-hospital suicidant – S.A.F.E.R. and hospital suicidant) comparable with the two control groups (non-hospital control and hospital control) on important demographic variables. Tests of significance ($\chi^2$) revealed no significant differences among the four groups on the variables of sex, age, marital status, and socio-economic status.

Appendix E presents the primary problem areas for S.A.F.E.R. and hospital suicidants. There were no significant differences ($\chi^2 = .02$, $p > .05$) between the S.A.F.E.R. suicidants and hospital suicidants on the "type of problem" variable.

A Wilcoxon rank sum test was applied to the probability of death and opportunity for intervention ratings. S.A.F.E.R. and hospital suicidants did not differ on the probability of death variable as judged by both suicidants ($Z = .41$, $p > .05$) and staff ($Z = .76$, $p > .05$). S.A.F.E.R. and hospital suicidants also did not differ on the opportunity for intervention variable as judged by both suicidants ($Z = 1.59$, $p > .05$) and staff ($Z = 1.33$, $p > .05$).

Seven S.A.F.E.R. suicidants and four hospital suicidants were judged to have made manipulative attempts. Five S.A.F.E.R. suicidants and eight hospital suicidants made non-manipulative attempts. These differences were not significant ($\chi^2 = .67$, $p > .05$).

Significant relationships occurred between suicidants' and staffs'
perceptions of the seriousness of the suicide attempt. The correlation between the two perceptions of probability of death was significant ($r = .65, p < .001$) and the correlation between the two perceptions of opportunity for intervention was also significant ($r = .97, p < .001$). This suggests that suicidants and staff members were similar in their perceptions of the seriousness of the suicide attempt.

**Correlations Involving Demographic Variables**

Seriousness of the suicide attempt was significantly related to length of stay in hospital. Probability of death as judged by staff was correlated with length of hospitalization ($r = .41, p < .05$) as was opportunity for intervention as judged by both suicidant ($r = -.57, p < .01$) and staff ($r = -.50, p < .01$).

There was a significant correlation ($r = .35, p < .05$) between the length of hospitalization and perception of control by powerful others, as measured by the Levenson Powerful Others Scale (Levenson 3). A longer stay in hospital was associated with greater attribution of control to other persons. Scores were obtained from suicidal and non-suicidal hospitalized persons.

There was a significant relationship between age and scores on Rotter's locus of control scale. Younger persons answered in a more external direction than older persons on the Rotter scale ($r = -.29, p < .05$) and on the perception of control over political and world affairs subscale of the Rotter ($r = -.26, p < .05$). Age did not correlate significantly with other locus of control measures nor with depression.

The seriousness of the suicide attempt (as determined by probability
of death and opportunity for intervention ratings) did not correlate significantly with measures of depression or locus of control. Neither depression measures nor locus of control measures were correlated with the amount of manipulation that appeared to exist in the suicide attempt.

Suicide attempts were classified into four types: (1) SERIOUS-INTERNAL, (2) SERIOUS-EXTERNAL, (3) NON-SERIOUS-EXTERNAL, (4) NON-SERIOUS-INTERNAL. (Appendix F presents the types of attempts made by S.A.F.E.R. and hospital suicidants). Overall, the two groups did not differ significantly from each other with regard to type of attempt ($\chi^2 = .19, p > .05; \chi^2 = .17, p > .05$).

The two components of the type of suicide attempt variable—seriousness of attempt and amount of manipulation appearing to exist in the attempt—did not correlate with measures of depression or locus of control. It may be concluded, therefore, that type of suicide attempt made is not related to depression or to a generalized expectancy for locus of control.

Analyses of Variance of Depression and Locus of Control Measures for Suicidal and Non-suicidal Subjects.

Means and standard deviations for measures of depression and locus of control as assessed by the Beck, Rotter, Kendrick, and Levenson scales and subscales were computed separately for each group and appear in Table 2.

It was hypothesized that suicidants’ scores on the locus of control dimension would be more external than scores of non-suicidal non-psychiatric persons. In order to evaluate this hypothesis, a two way between-groups analysis of variance was computed to determine if there were differences on depression and locus of control scores between suicidal (groups 3 and 4)
Table 2
Means and Standard Deviations for Measures of Depression and Locus of Control for the Total Sample and by Group

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
<th>Range</th>
<th>All Ss</th>
<th>Non-Hospital Control</th>
<th>Hospital Control</th>
<th>S.A.F.E.R.</th>
<th>Hospital Suicidants</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Beck</strong></td>
<td>depression inventory</td>
<td>46</td>
<td>M 14.94</td>
<td>M 5.08</td>
<td>M 10.58</td>
<td>M 20.25</td>
<td>M 24.67</td>
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<td></td>
<td></td>
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<td>SD 12.71</td>
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<tr>
<td><strong>Rotter 1</strong></td>
<td>total score</td>
<td>18</td>
<td>M 9.19</td>
<td>M 8.17</td>
<td>M 8.33</td>
<td>M 10.00</td>
<td>M 10.25</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>SD 4.40</td>
<td>SD 4.51</td>
<td>SD 3.63</td>
<td>SD 4.53</td>
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<tr>
<td><strong>Rotter 2</strong></td>
<td>political world affairs</td>
<td>4</td>
<td>M 1.63</td>
<td>M 1.67</td>
<td>M 1.42</td>
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<td></td>
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<td></td>
<td>SD 1.27</td>
<td>SD 1.37</td>
<td>SD 1.08</td>
<td>SD 1.16</td>
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<td><strong>Rotter 3</strong></td>
<td>personal mastery</td>
<td>9</td>
<td>M 3.25</td>
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<td></td>
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<td>SD 2.19</td>
<td>SD 1.83</td>
<td>SD 1.04</td>
<td>SD 3.11</td>
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<td>102</td>
<td>M 80.88</td>
<td>M 77.67</td>
<td>M 74.75</td>
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<td>61</td>
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<td>M 41.92</td>
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<td>SD 7.69</td>
<td>SD 6.69</td>
<td>SD 8.01</td>
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<td>M 20.50</td>
<td>M 21.17</td>
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<td></td>
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<td>SD 10.27</td>
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<tr>
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<td>powerful others</td>
<td>41</td>
<td>M 14.13</td>
<td>M 11.00</td>
<td>M 14.67</td>
<td>M 13.67</td>
<td>M 17.17</td>
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<td>SD 9.56</td>
<td>SD 7.22</td>
<td>SD 7.11</td>
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and non-suicidal (groups 1 and 2) persons and between hospitalized (groups 2 and 4) and non-hospitalized (groups 1 and 3) persons. This analysis is summarized in Appendix G. There were significant differences between the suicidal and non-suicidal groups on scores on the Beck Depression Inventory ($F = 23.37$, $df = 1/44$, $p < .001$), the Levenson Internal Scale ($F = 5.56$, $df = 1/44$, $p < .05$), and the Kendrick subscale of perceived control over negative events ($F = 4.44$, $df = 1/44$, $p < .05$).

The two groups of suicidal persons (S.A.F.E.R. and hospital) had significantly more depressed scores on the depression inventory, and scores which were significantly less internal on the Levenson Internal Scale and significantly more external on the perception of control over negative events subscale than did the two non-suicidal groups (non-hospital control and non-psychiatric hospital control).

In a consideration of the five locus of control scales, only one (Levenson Internal) revealed a significant difference ($F = 5.56$, $df = 1/44$, $p < .05$) between suicidants and non-suicidants in the predicted direction. Although between-group differences on nine of the 11 measures did not reach the $\alpha = .05$ level of significance, they were all in the direction predicted.

Although partial support is given for the hypothesis that suicidants' scores are more external than those of non-suicidants, the results of the present study suggest that the null hypothesis be accepted.

There were no significant differences between hospitalized and non-hospitalized groups on the depression inventory or on any of the locus of control measures.

There was no significant interaction between the suicide/non-suicide
and hospital/non-hospital variables on the depression inventory or on any of the locus of control measures.

Although the suicide by hospital interaction was not significant, an interesting finding was noted with regard to Levenson's Belief in Chance Scale. An analysis of variance revealed a significant difference between non-hospital and hospital control subjects on the Levenson Chance Scale \( F = 4.83, \text{df} = 1/22, p < .05 \). Hospitalized control subjects believed in chance to a greater degree than the non-hospitalized control subjects. This could be explained by the observation that four of the 12 hospitalized control subjects interviewed had been involved in a serious automobile accident. Each of the four mentioned to the experimenter that their answers would have been much different had the interviews taken place before the accident occurred. This finding is presented with the realization that an additional non-orthogonal comparison has been made, so the significance level may not be a true indication of a chance finding.

Although the null hypothesis was accepted, there were trends in the predicted direction. It was thought that a multivariate analysis of variance might demonstrate a significant difference in the profiles of the suicidal and non-suicidal subjects, when a combined criterion of locus of control was constructed. However, the multivariate analysis of variance revealed no significant difference between the two groups.

Correlations Between Depression and Locus of Control

It was hypothesized that measures of external locus of control would correlate positively with measures of depression. In order to evaluate this hypothesis, correlations were computed between scores on the Beck
Depression Inventory and scores on the 11 locus of control scales and subscales. Intercorrelations among these measures are presented in Table 3. As predicted, externality was directly related to self-reported depression. Out of 11 correlations, seven reached statistical significance. The four non-significant correlations involved subscales; all the major locus of control scales (Rotter, Kendrick, and Levenson) were significantly related to the depression measure. Two of the subscale measures—Rotter's personal mastery and Kendrick's work situations were also significantly related to depression. Thus, it can be concluded that greater depression is associated with greater external locus of control.

**Analyses of Scales and Subscales**

The present study adds a new locus of control scale—the Kendrick Internal-External Scale—to the existing ones. The results of the present study support the validity of the new Kendrick Internal-External Scale. As Table 3 indicates, of 30 possible intercorrelations of the Kendrick scale and subscales with the other locus of control measures, all 30 were statistically significant. Fifteen of the 30 correlations were highly significant \( (p < .001) \).

A factor analysis demonstrated the content validity of the Kendrick Internal-External Scale. A Principal Components Factor Analysis on the Rotter scale, the three Levenson scales and the positive and negative events subscales of the Kendrick scale revealed that one factor accounted for a large portion (55.6%) of the variance. It was concluded, therefore, that the Kendrick scale was measuring the same thing as the other locus of control scales.
Table 3
Correlation Matrix of Measures of Depression and Locus of Control (n = 48)

<table>
<thead>
<tr>
<th></th>
<th>Beck</th>
<th>Rot 1</th>
<th>Rot 2</th>
<th>Rot 3</th>
<th>Ken 1</th>
<th>Ken 2</th>
<th>Ken 3</th>
<th>Ken 4</th>
<th>Ken 5</th>
<th>Lev 1</th>
<th>Lev 2</th>
<th>Lev 3</th>
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<tbody>
<tr>
<td>Beck</td>
<td>1.00</td>
<td>* .28</td>
<td>* .03</td>
<td>* .36</td>
<td>* .26</td>
<td>.14</td>
<td>.32</td>
<td>.18</td>
<td>.18</td>
<td>-.36</td>
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<td>* .25</td>
</tr>
<tr>
<td>Rot 1</td>
<td>.28</td>
<td>1.00</td>
<td>***</td>
<td>**</td>
<td>.77</td>
<td>* .41</td>
<td>.38</td>
<td>.38</td>
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<td>.29</td>
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</tr>
<tr>
<td>Rot 2</td>
<td>.03</td>
<td>.69</td>
<td>1.00</td>
<td>***</td>
<td>.26</td>
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<td>* .45</td>
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<td>Rot 3</td>
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<td>**</td>
<td>.77</td>
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<td>.47</td>
<td>.42</td>
<td>-.36</td>
<td>.44</td>
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</tbody>
</table>

* p < .05, one-tailed test
** p < .01, one-tailed test
*** p < .001, one-tailed test
Perceived control over work situations versus interpersonal relationships (as measured by the Kendrick subscales 3 and 4 respectively) did not prove to be a meaningful distinction in the present study. The two measures were significantly intercorrelated ($r = .71, p < .001$). This suggests that those subjects with scores in an internal direction on the work situations subscale, also had scores in an internal direction on the interpersonal relationships subscale, etc.

The correlation between perceived control over positive versus negative events (Kendrick subscales 4 and 5 respectively) was .54. This suggests that if subjects had scores in an internal direction on the positive events subscale, they did not necessarily have scores in an internal direction on the negative events subscale, etc. Contrary to the evidence presented by the factor analysis, the present group of subjects did make a discrimination between perception of control over positive and negative events. The three Levenson measures (Internal, Chance, and Powerful Others) were significantly related to one another. The Chance and Powerful Others measures were correlated ($r = .44, p < .01$) and both were negatively related to the Internal Scale ($r = -.38, p < .01; r = -.36, p < .01$ respectively). These results are similar to those found by Levenson (1972).

Support was offered for Mirel's (1970) division of the Rotter scale into two factors: personal control versus control over political or world affairs. The correlation between these two subscale measures did not reach statistical significance ($r = .26, p > .05$). This suggests that contrary to the evidence presented by the factor analysis, the present group of subjects did make a discrimination between two factors on Rotter's locus of control scale.
Discussion

Locus of Control and Suicide

Until the present time, there has been only one study investigating the relationship between locus of control and suicide. Williams and Nickels (1969) found that externality was associated with higher "suicide potentiality". Williams and Nickels' research involved introductory psychology students who completed Rotter's Internal-External scale and two suicide potentiality scales. The main thrust of the investigation was based on intercorrelations of the data, thereby limiting the conclusions which could be made. A minor analysis of variance which provided additional support, involved an arbitrary dichotomy of the locus of control dimension into "external" and "internal" with suicide proneness as a dependent variable.

In contrast to the work by Williams and Nickels, subjects in the present study were persons who had made an overt suicide attempt which was acknowledged by both staff members and the suicidants themselves. A two-way analysis of variance was employed with suicide and hospitalization as independent variables and locus of control as the dependent variable, thus avoiding an arbitrary dichotomy of the locus of control dimension. In contrast to the research by Williams and Nickels, the present study, concerned with a finer discrimination of internal-external control, employed four locus of control scales in addition to the Rotter. These five scales allowed for an examination of differences between suicidants and non-suicidants in their perceptions of control over their own lives, over political and world affairs, interpersonal relationships, work situations, and positive and negative events. In addition, the distinction was made
between two aspects of external control—control by chance and control by powerful others.

It was hypothesized that suicidants' scores on the locus of control dimension would be more external than scores of non-suicidal non-psychiatric persons. Research reviewed earlier on the relationship between locus of control and psychopathology, Williams and Nickels' study on locus of control and suicide, and the finding in the present study of a significant relationship between externality and depression seemed to indicate that the hypothesis would be confirmed. However, the hypothesis of an association between suicide and external locus of control was only minimally supported by the data. Although all five measures of locus of control (Rotter, Kendrick, and three Levenson scales) indicated trends in the predicted direction, only one reached statistical significance. Suicidants did perceive less control over their lives than non-suicidal non-psychiatric persons as measured by Levenson's Internal Scale. Suicidants did not perceive events in their lives to be controlled to any greater extent by chance forces ($p > .07$) or powerful others, than non-suicidal persons. There was no significant difference between suicidants and non-suicidants on the Rotter and Kendrick measures (total scores).

Suicidants did perceive significantly less control over negative events than did non-suicidants. This may reflect the suicidal person's preoccupation with failures and unhappy events accompanied by a perceived inability to overcome them.

The measure which was significant (Levenson Internal) and a second
which approached significance (Levenson Chance), involved two of the three scales which the present author considers come closest to satisfying the criteria for a well-developed locus of control scale. (See pages 4, 5, and 6 for an extensive discussion of this issue.)

Although there were trends in the predicted direction (suicide associated with external locus of control), the results on the whole lead the present author to question the universality of Williams and Nickels' findings. Two major considerations come to mind which may explain the apparent inconsistency between findings by Williams and Nickels and those of the present author. The first is whether outcomes resulting from studies employing college students can be generalized to research involving subjects of a wide variety of ages, levels of education, and occupations. There has been an increasing skepticism about generalizing from college students to other populations. Watkins and Davidson (1969), for example, demonstrated that methods of coping with stress which may be effective for normals cannot necessarily be assumed to be effective for psychiatric patients. They advise that caution be used when generalizing from university students to psychiatric populations.

A second consideration is whether generalizations can be made from persons completing suicide potentiality scales to persons who have attempted or completed suicide. Devries (1963), after a review of the literature, noted that the suicide researcher has come to think about the general classification of suicide as consisting of threatened, attempted, and committed suicides. Support has been offered for this
proposed classification on the basis of personality differences found between threatened and attempted suicides, and between attempted and completed suicides. Although suicide potentiality is not included in this classification of suicidal behaviours, it is highly probable that associated personality differences also occur between suicide potentiality and suicidal threats, attempts, and deaths. In addition, it can be noted that numerous difficulties arise in attempting to predict suicidal behaviour from suicide potentiality scales. Farberow et al. (1973) emphasized that although the scales may be useful in identifying a high risk group, their predictive value for eventual suicides is low.

The above information suggests that we should, therefore, be skeptical about generalizing from measures of suicide potentiality to attempted or committed suicides.

It is the author's view that while there is value in examining suicide potentiality, there is greater value in studying suicidal behaviours given that it is the attempted and committed suicides which are so costly to the victim, the immediate family, friends, and society at large.

The lack of agreement between findings by Williams and Nickels and those of the present author may be, as discussed, a result of major differences between the designs employed in the two studies. However, it is also possible that improvements in the present study may have resulted in an overall significant relationship between suicide and external locus of control. Greater experimental control resulting in
a decrease of the within-group variance may have resulted in significant differences between suicidants and non-suicidants on more of the measures. On the other hand, an increase in sample size would decrease the effects of the within-group variance and may have produced significant differences.

It has been suggested (Phares, 1973) that locus of control orientation is a transient personality characteristic rather than a permanent character trait. Research has demonstrated that one's locus of control can shift to a rather large extent as a result of significant life events (Phares, 1973). The concept was previously discussed of the suicidal act as "the ultimate internal-type act a person could perform". It seems possible that were the locus of control scales administered at the time of the suicide attempt, the individual would answer in a much more internal direction. However, as time passes and the individual "recovers" from the actual attempt, he becomes increasingly more external. The implication here is that in the suicidant, externality is the usual state or characteristic but it is temporarily upset when a suicide attempt is made. (This would not apply to the minority of external-type attempters--see page 20 -- who would presumably not make this shift to internal control at the time of the attempt.) Perhaps if the scales in the present study had been administered at a later time (e.g., three months after the suicide attempt), the suicidants would be more externally oriented than they were at 20.33 days (mean length of time between attempt and interview).

In order to evaluate if a change in expectancy for locus of control is taking place, locus of control scales would have to be administered
at several times, i.e., as soon after the attempt as possible, perhaps six weeks later, and then again in several months time. It would also be of value to obtain locus of control scores for an individual before he makes a suicide attempt. It is highly unlikely that data could be obtained immediately preceding the attempt. However, data could be obtained from persons with a high risk for suicide (suicide potentiality scales would be of value here) and it is possible that some of these individuals would attempt suicide in the not too distant future.

In any case, the time at which locus of control scales are administered relative to when a suicide attempt is made, seems to be a critical consideration. In the present study, the controlling factor was, for the most part, an ethical consideration, i.e., subjects were interviewed as soon after the attempt as the staff felt was advisable. Ethical considerations are naturally of utmost importance but remain unfortunately, a limitation to optimal research designs.

There was some suggestion in the literature for a hypothesis that suicidants are more internally controlled than non-suicidants. This was indicated by the findings that alcohol and drug abusers are internally controlled. It was questioned whether the suicidal, as well as the alcohol and drug addict, could not also be viewed as a person who has available to him a means of rapidly altering or modifying unpleasant subjective states, either through manipulation of the environment or through death. The hypothesis was also indicated by the suggestion that depressives may be more internal than non-depressives and also by
a consideration of the suicidal attempt as a highly internal-type act. It can be said that the results of the present study offer no support for an association between suicide and internal locus of control.

The relationship between the suicidal act itself and locus of control was experimentally investigated. Suicide attempts were classified into four types: 1) SERIOUS-INTERNAL 2) SERIOUS-EXTERNAL 3) NON-SERIOUS-EXTERNAL 4) NON-SERIOUS-INTERNAL. The relationship between type of suicide attempt made and a generalized expectancy for locus of control was not significant. However, this issue still remains of interest to the present author. It is possible that greater refinement of the criteria used in classifying the attempts may have resulted in some interesting relationships. The two components of suicide type were: 1) seriousness of attempt—probability of death and opportunity for intervention ratings as assessed by appropriate staff and the suicidants themselves, and 2) the amount of manipulation that appeared to exist in the attempt as assessed by appropriate staff members. Perhaps a smaller scale (1-5 instead of 1-9) for all three measures would have resulted in a less arbitrary selection of numbers to represent the probability of death, opportunity for intervention, and amount of manipulation associated with the attempt. Another refinement would be to obtain ratings from several staff members (instead of just one) as well as the suicidants themselves, as this would increase the reliability of the ratings. A third refinement would be an explicit description of the criteria associated with each of the five levels. Specifying the criteria associated with each level would be a rather extensive
task but would most certainly increase the accuracy of the ratings.

Suicide, Hospitalization and Depression

There were significant differences between suicidants and non-suicidants on scores on the Beck Depression Inventory. Self-reported depression was significantly greater for suicidal subjects than for non-suicidal subjects. This finding is in keeping with the fact that depression is consistently reported as an accompaniment to suicidal behaviour (Leonard, 1974).

Although the results must be interpreted with caution because an additional non-orthogonal comparison was made, it was found that hospitalized control subjects were significantly more depressed than non-hospitalized control subjects. There was no significant difference between hospitalized and non-hospitalized suicidants on the depression measure.

Locus of Control and Depression

The hypothesis that measures of external locus of control would correlate positively with depression was supported by the data. Externality was positively correlated with measures of self-reported depression. This finding is consistent with Seligman's model of depression as "learned helplessness" and supports Seligman in his hypothesis (1973) that externals would be more susceptible to learned helplessness (depression) than internals. The results are also in line with studies by Abramowitz (1969), Miller (1971), and Calhoun, Cheney, and Dawes (1974) which support a positive relationship between external locus of control and depression. The results of the present study
contradict the model of depression which depicts depressives as "pathologically internal"—this view being based on the depressive's excessive guilt, anxiety, and over-riding sense of personal responsibility (Beck, 1967; Lamont, 1972; and Melges and Bowlby, 1969).

It was felt important to consider whether the two viewpoints—"depressive as external" or "depressive as internal"—are contradictory or paradoxical, the latter case implying that they are opposing but compatible viewpoints. Calhoun, Cheney, and Dawes (1974) conceptualized a paradox whereby depressed persons attribute unhappiness and failure to internal causes but are also characterized by a general self-perception of helplessness (external control). The author has chosen to discuss two possible explanations for this paradox which are felt to be particularly relevant to the present study.

First of all, one can consider to what is being referred when the term "locus of control" is used. Does it refer to the individual's perception of control over events that happen to him in the past (e.g., the loss of a job) or his perception of control over possibilities for action in the future (e.g., improving a marriage) or both? Returning to Rotter's original definition of locus of control—perception of control over "an event regarded...as a reward or reinforcement" (Rotter, 1966, p. 1)—it would seem that Rotter implies both. An "event" could refer to both events that have already happened as well as possible events in the future. The present author is in agreement with Rotter's implication that locus of control refers to perception of control over past as well as future events. In the author's opinion this seems to be
the most heuristic way of viewing the concept of locus of control. It appears however, that locus of control researchers often refer to perception of control over past events and not future events—or future events and not past events. The author feels that it is important for researchers in this area to either 1) explicitly define whether they are referring to perception of control over past or future events or to 2) come to an agreement as to what the term locus of control means. They may decide that locus of control refers to only past events, only future events, or that it is a multidimensional concept encompassing both.

One could question whether or not to expect a generalized expectancy for locus of control operating across both past and future events. The research on depressives (Beck, 1967; Lamont, 1972; Melges and Bowlby, 1969; and Seligman, 1971) leads us to conclude that we cannot always expect a generalized expectancy for locus of control over past events and the possibility for future events. One explanation for the paradox, then, is that depressives perceive their lives to be both internally and externally controlled depending on whether the life event is in the past (internal) or future (external).

A second explanation for the paradox of the depressed person as "internal" in some situations and "external" in others relates to Mischel, Maier, and Zeiss's (in press) discovery that peoples' perceptions of their own control varies depending on whether the particular event is a negative or positive one. Thus the depressed person may be internal in believing that he has control over the negative
things that happen to him (self-blame), but external in believing that he has no control over such positive things as making life better for himself (helplessness).

It may be of value to formulate a locus of control scale which combines and evaluates these two aspects of the paradox of "depressive as internal" and "depressive as external". One scale could be devised which measures the individual's perception of control over:

1) positive events which have happened (past)
2) negative events which have happened
3) positive events which could happen (future)
4) negative events which could happen

The relationship between this differentiation and depression could prove to be interesting.

Two possible explanations have been given for the paradox of the depressed person as both internal and external. The results of the present study, however, indicate a positive relationship between depression and external locus of control. This finding suggests that even though the depressive may perceive his life to be internally controlled in some circumstances and externally controlled in others, susceptibility to helplessness (externality) is a more important factor in the dynamics of depression than is self-blame (internality).

Multidimensional Locus of Control and Depression

The present study, in contrast to previous research on the relationship between depression and locus of control, employed four locus of control scales in addition to the Rotter. This allowed for an
investigation of the relationship between depression and several specific life areas.

Levenson's Internal, Chance, and Powerful Others measures were all significantly related to depression. Greater depression was associated with greater belief in control by chance forces and powerful others and lesser belief in control by the individual.

The results of the present study suggest that the more depressed a person is, the less he believes in his ability to control the course of his life and the less he perceives control in work situations. Persons who are more depressed do not perceive less control than less depressed persons in areas pertaining to their interpersonal relationships and views on political and world affairs.

The distinction between perception of control over work situations versus interpersonal relationships did not prove to be a meaningful one for the subjects in the present study. The correlation between the two subscale measures was too high to warrant the belief that two distinct aspects were being measured. The implication here is that the significant correlation between depression and perception of control in work situations is meaningless, probably the result of chance. It is suggested that a further study be undertaken to investigate the expectancy for locus of control in work situations and interpersonal relationships among other non-depressed non-suicidal subjects.

Consistent with work by Mischel, Mailer, and Zeiss (1974) the distinction between perception of control over positive versus negative events did prove to be a meaningful distinction in the present study.
The correlation between the two subscale measures was not high enough to warrant the belief that one aspect was being measured. However, depression was not related to perception of control over either positive or negative events. The more depressed persons did not differ from the less depressed persons in the amount of perceived control over positive and negative outcomes in life. This finding casts some doubt on a point made earlier that depressives would be "internal" in believing that they have control over the negative things that happen to them (self-blame), but "external" in believing that they have no control over such positive things as making life better for themselves (helplessness).

A Principal Components Factor Analysis on the five locus of control scales (Rotter, Kendrick, and Levenson) revealed that one factor accounted for a large portion of the variance. However, correlations suggested that subjects did make distinctions between two factors of Rotter's scale and between the positive and negative events subscales of the Kendrick. Separate dimensions of the same underlying concept are indicated.

A General Comment on Research on Locus of Control and Depression

Lamont (1972a, 1972b) criticized the studies on depression and its relationship to locus of control as measured by Rotter's scale. Lamont felt that correlations between scores on depression inventories and Rotter's internal-external scale might be due to the largely pessimistic wording of the external items and the largely optimistic wording of the internal items, rather than to the item content. In order to determine
whether this were the case with the new Kendrick Internal-External Scale, 10 subjects were asked to rate the 48 statements for "pessimistic" versus "optimistic" wording. Lamont's criticism was also supported as applying to the Kendrick Scale as is apparent from the following results:

(1) One hundred eighty-seven external statements were rated as being pessimistically worded. Only four external statements were rated "optimistic".

(2) One hundred twenty-seven internal statements were rated "optimistic". Only 19 of the internal statements were rated "pessimistic".

It can be concluded therefore that the external items on the Rotter and Kendrick locus of control scales are, for the most part, viewed as pessimistically worded and the internal items are viewed as optimistically worded. It still remains as speculation whether depressed persons choose external items merely because they are pessimistically worded or because they agree with the intended item content. In addition, one cannot say that pessimism and locus of control are unrelated. It is possible that pessimism and locus of control are orthogonal or independent concepts; however, it is also possible that pessimism is a component of locus of control or vice versa. Further research is required in order to determine the exact nature of this relationship.

Control by Powerful Others and Length of Stay in Hospital

A longer stay in hospital was found to be associated with greater attribution of control to other persons. There was a significant correlation between length of hospitalization and perception of control by powerful others, as measured by the Levenson Powerful Others Scale. This lends support to the finding by Levenson (1973) that a hospitalized
sample believed that they were controlled by powerful others to a greater extent than a normal sample. It is possible that these two findings are a function of the detrimental effects of hospitalization on the persons involved. There can be no doubt that one of the major goals of any therapeutic intervention is to make the client aware that he is responsible for what happens to him. As Hanna Levenson (1973) noted: "the goal of therapy is often seen as the encouragement of an internal locus of control signifying mastery over the environment and competence" (p. 397). It is probable that hospitalization increases rather than decreases the individual's belief in control by powerful others. A likely reason for this is that in a hospital setting, attempts to make the patient more independent and "internal" co-exist and perhaps are overpowered by dependency on hospitalization and obvious "control" by others. Martin (1955), Sommer and Witney (1961), Wing (1963), and Gruenberg (1963) have all stressed the development of dependency as a consequence of prolonged hospitalization.

Implications

The results of the present study suggest that knowledge of an individual's belief in personal control can aid in predicting his potential for depression. The results suggest, however, the necessity to re-examine the use of locus of control as a critical variable in evaluating the potential for suicide.

One of the major goals of any therapeutic intervention is to make the client aware that he is responsible for what happens to him. The results of the present study suggest that in order to facilitate
rehabilitation of depressive persons, it is necessary to focus on encouraging beliefs in internal control "signifying mastery over the environment and competence" (Levenson, 1973, p. 397). The results suggest, however, that this philosophy be re-examined with regard to psychotherapy with suicidal persons.
References


Calhoun, L. G., Cheney, T., and Dawes, A. S. Locus of control, self-reported depression and perceived causes of depression. *Journal of Consulting and Clinical Psychology, 1974, 42*, 736.


Mischel, W., Mailer, J., and Zeiss, A. Attribution of internal-external control for positive and negative events: Developmental and stimulus effects. 1975, in press.


Ray, W. J. and Katahn, M. Relation of anxiety to locus of control. 
Psychological Reports, 1968, 23, 1196.

Rotter, J. Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, 1966, 80 (1, whole No. 609).


Wilson, G. C. Suicide in psychiatric patients who have received hospital treatment. *American Journal of Psychiatry*, 1968, 125, 752-757.
APPENDIX A

Description of the S.A.F.E.R. Project

The S.A.F.E.R. Project (Suicide Attempt Follow-up Evaluation and Research) is a community-based service which was instigated in 1972 in the Vancouver General Hospital and which has now been extended to service three other hospitals in the Greater Vancouver area (St. Paul's, Burnaby General, and Royal Columbian Hospitals).

The aim of intervention by the S.A.F.E.R. Project is to provide a service to the emergency patient at the time of crisis by be-friending him through a personal contact and acting as facilitator among the patient, professional services, and the community for a six week period following the suicide attempt. During this follow-up period, the patient is contacted on a daily, bi-weekly, and then weekly basis, by telephone and through home visits by a S.A.F.E.R. worker. This schedule of service is flexible as some cases require more extensive follow-up. During this time, the patient is encouraged to recognize those problems which led to the crisis and to utilize community resources that may help in the resolution of the problem, thus reducing the likelihood of his re-attempting suicide as a solution. The S.A.F.E.R. workers say that the emphasis of the Project is not "therapeutic" but rather is one of "objective concern for the total person in his environmental situation". S.A.F.E.R. also serves to relieve the emergency wards of some of their burden of social problems through quick referral to appropriate community agencies.
APPENDIX B

The Kendrick Internal-External Scale

QUESTIONNAIRE

INSTRUCTIONS

This is a questionnaire to find out the way in which certain important events in our society affect different people. For each item please choose a point along a six-point scale, which expresses what you believe to be the case as far as you're concerned.

example:

I believe there should be no more wars.

answer: C

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>strongly agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>strongly disagree</td>
</tr>
</tbody>
</table>

Be sure to select the point you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief: obviously there are no right or wrong answers.

Your answers to the items on this inventory are to be recorded on a separate answer sheet which is loosely inserted in the booklet.

Please answer these items carefully but do not spend too much time on any one item. Be sure to find an answer for each item. Find the number of the item on the answer sheet, choose the point which expresses how you feel, and write the letter beside the corresponding number.

Try to respond to each item independently when making your choice; do not be influenced by your previous choices.
1. Employers don't usually care too much about their workers' feelings.

2. It wouldn't be my fault if my child were a liar.

3. I feel that there is a direct connection between my behaviour and the way friends react towards me.

4. Things that go wrong at work are usually a result of peoples' mistakes.

5. Being good at something is largely a matter of effort.

6. If a couple is experiencing marital difficulties, separation or divorce will probably result.

7. It's only wishful thinking for a worker to believe he can really influence company policies.

8. If housewives work hard, they'll be appreciated at some time or other.

9. Getting a promotion depends on how well you work.

10. There's no point in arguing with people who disagree with me.

11. If I organize my time when I'm working, I usually am able to carry out my plans.

12. If I've had a good time on an evening out, it's usually because I get involved in what's going on.

13. A worker can change company policies if he can just make himself heard.

14. Even if employers didn't like me, working hard could probably make up for it.

15. Success in business is largely a matter of getting the right breaks.

16. Actions are more important than looks in winning friends.

17. In an argument, I am sometimes successful at changing peoples' opinions.

18. People who don't have innate abilities in a certain line of work, can never hope to be good at it.

19. It's important that people who are unhappy with their work, learn to accept things as they are.

20. If employers had not had it in for me, I would have been much more successful.
21. A person usually chooses a career because he or she is interested and good at it.

22. No matter what parents do, factors beyond their control largely determine what their kids do.

23. I usually make my decisions without consulting anyone.

24. If a relationship is getting worse, things will usually improve if an individual works at it.

25. It's usually possible for a housewife to do things outside the home if she feels tied down.

26. There's nothing you can do about people you don't like.

27. Making friends is a process which either happens or doesn't.

28. The work that most people choose to do, is usually a result of chance.

29. Marriage failure is usually a result of people not trying hard enough to work out their problems.

30. Things that go wrong at work are usually a result of accidents.

31. In our society, recognition is earned as a result of hard work and perseverance.

32. Getting a promotion depends on how well the boss likes you.

33. If I've had a rotten time at a party, it's usually because no one talks to me.

34. Employers are usually concerned when a worker expresses dissatisfaction.

35. In a marriage if both partners try, most problems can be worked out.

36. In order to make friends, it requires an effort on your part.

37. It's quite possible to do something about people who bother you.

38. When relationships begin to deteriorate there's nothing much you can do.

39. Parents have the unique change to strongly influence their children's development.

40. Others play the most important role in influencing one's decisions in life.
41. Many times the reactions of people close to me seem haphazard.

42. Housewives don't get enough credit for their hard efforts no matter how hard they try.

43. If I had a child who grew up to be a criminal, it would be mostly my fault.

44. People who dislike their jobs should try to improve things or change to something else.

45. Most marital problems are inevitable and very difficult to resolve.

46. I would make more friends if I were more physically attractive.

47. Even if I organize my time at work, things always happen to disrupt my plans.

48. A housewife is stuck at home and can't do anything about it.
APPENDIX C

The First Draft of the Kendrick Internal-External Scale

QUESTIONNAIRE

INSTRUCTIONS

Julian Rotter was interested in studying internal and external control. Internal control refers to the belief that outcomes in one's life are dependent on what one does. That is, the rewards (good or bad) that one receives are a result of one's behaviour. External control refers to the belief that outcomes in life are determined by outside forces such as luck, fate, or powerful others. So, an "external" person might feel that luck or chance controls what happens to him. He might feel that fate has preordained what will happen to him. He might feel that powerful others control what happens to him or he might feel that he simply can not predict the effects of his behaviour because the world is too complex and confusing.

Internal control then refers to the belief that individuals can influence the environment—that rewards come as a result of peoples' own behaviour. External control refers to the belief that all rewards come from external forces such as luck, fate, or powerful others.

If you do not clearly understand this distinction, please let the instructor know and he or she will clarify it.

This questionnaire is designed to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the viewpoint an internal/external person would take. Do not select the one you believe to be true for yourself—select the one which you believe an internal/external person would choose.

EXAMPLE:

a. I am the master of my fate. (internal)
b. A great deal that happens to me is probably a matter of chance. (external)

You would select a/b

Your answers to the items on this inventory are to be recorded on a separate answer sheet which is loosely inserted in the booklet. Please answer these items carefully. Be sure to find an answer for every choice. Find the number of the item on the answer sheet and circle the letter of the item which you believe to be more internal/external.
1. a. Housewives don't get enough credit for their hard efforts no matter how hard they try.
   b. If housewives work hard, they'll be appreciated at some time or other.

2. a. In order to make friends, it requires an effort on your part.
   b. Making friends is a process which either happens or doesn't.

3. a. In our society, recognition is earned as a result of hard work and perseverance.
   b. Success in business is largely a matter of getting the right breaks.

4. a. When relationships begin to deteriorate there's nothing much you can do.
   b. If a relationship is getting worse, things will usually improve if an individual works at it.

5. a. A worker can change company policies if he can just make himself heard.
   b. It's only wishful thinking for a worker to believe he can really influence company policies.

6. a. Many times the reactions of people close to me seem haphazard.
   b. I feel that there is a direct connection between my behaviour and the way friends react towards me.

7. a. People who don't have innate abilities in a certain line of work, can never hope to be good at it.
   b. Being good at something is largely a matter of effort.

8. a. I usually make my decisions without consulting anyone.
   b. Others play the most important role in influencing one's decisions in life.

9. a. It's important that people who are unhappy with their work, learn to accept things as they are.
   b. People who dislike their jobs should try to improve things or change to something else.

10. a. Actions are more important than looks in winning friends.
    b. I would make more friends if I were more physically attractive.

11. a. Things that go wrong at work are mostly caused by peoples' mistakes.
    b. Things that go wrong at work are usually a result of accidents.

12. a. If I've had a rotten time at a party, it's usually because no-one talks to me.
    b. If I've had a good time on an evening out, it's usually because I get involved in what's going on.

13. a. Getting a promotion depends on how well you work.
    b. Getting a promotion depends on how well the boss likes you.
14. a. It wouldn't be my fault if my child were a liar.
   b. If I had a child who grew up to be a criminal, it would be mostly my fault.

15. a. A housewife is stuck at home and can't do anything about it.
    b. It's generally easy for a housewife to do things outside the home if she feels tied down.

16. a. In an argument, I am sometimes successful at changing peoples' opinions.
    b. There's no point in arguing with people who disagree with me.

17. a. The work people choose to do, is usually a result of chance.
    b. A person usually chooses a career because he or she is interested and good at it.

18. a. In a marriage if both partners try, most problems can be worked out.
    b. Most marital problems are inevitable and very difficult to resolve.

19. a. If I organize my time when I'm working, I usually am able to carry out my plans.
    b. Even if I organize my time at work, things always happen to disrupt my plans.

20. a. There's nothing you can do about people you don't like.
    b. It's quite possible to do something about people who bother you.

21. a. Employers are usually concerned when a worker expresses dissatisfaction.
    b. Employers don't usually care too much about their workers' feelings.

22. a. No matter what parents do, factors beyond their control largely determine what their kids do.
    b. Parents have the unique chance to strongly influence their children's development.

23. a. If employers had not had it in for me, I would have been much more successful.
    b. Even if employers didn't like me, working hard could probably make up for it.

24. a. Marriage failure is usually a result of people not trying hard enough to work out their problems.
    b. If a couple is experiencing marital difficulties, separation or divorce will probably result.
APPENDIX D

New Instructions for the First Draft of the Kendrick Internal-External Scale

INSTRUCTIONS

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief: obviously there are no right or wrong answers.

Your answers to the items on this inventory are to be recorded on a separate answer sheet which is loosely inserted in the booklet.

In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you're concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.
APPENDIX E

Primary Problem Areas for S.A.F.E.R. and Hospital Suicidants*

<table>
<thead>
<tr>
<th></th>
<th>S.A.F.E.R.</th>
<th>Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Love/Sex</td>
<td>6</td>
<td>3</td>
</tr>
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<td>Inadequacy</td>
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<td>6</td>
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<td>Loneliness</td>
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<td>Drugs/Alcohol</td>
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<td>3</td>
</tr>
<tr>
<td>Work/School</td>
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<td>1</td>
</tr>
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</table>

*Because cell frequencies were too small data were combined, for chi square analysis, in the manner presented above. This resulted in a 2 x 2 table with each cell having a frequency greater than five.
APPENDIX F

Types of Suicidal Attempts made by S.A.F.E.R. and Hospital Suicidants*

<table>
<thead>
<tr>
<th>Type</th>
<th>S.A.F.E.R.</th>
<th>Hospital</th>
<th>S.A.F.E.R.</th>
<th>Hospital</th>
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</thead>
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<td>2</td>
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<td>4</td>
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<tr>
<td>(Serious-</td>
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<td></td>
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<tr>
<td>Internal)</td>
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<tr>
<td>Type 3</td>
<td>2</td>
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<td>2</td>
<td>3</td>
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<tr>
<td>(Non-serious</td>
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<tr>
<td>External)</td>
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<tr>
<td>Type 4</td>
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<td>4</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>(Non-serious</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ x^2 = .19 \]

\[ x^2 = .17 \]

*Because cell frequencies were too small data were combined, for chi square analysis, in the manner presented above. This resulted in two 2 x 2 tables with each cell having a frequency greater than five.
APPENDIX G

Two-way Analysis of Variance of Depression and Locus of Control Measures (df = 1,44)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Suicide vs Non-suicide</th>
<th>Hospital vs Non-hospital</th>
<th>Suicide x Hospital Interaction</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>MS</td>
<td>F</td>
<td>MS</td>
</tr>
<tr>
<td>Beck</td>
<td>2566.69</td>
<td>23.76***</td>
<td>295.02</td>
</tr>
<tr>
<td>Rotter 1</td>
<td>42.19</td>
<td>2.14</td>
<td>.52</td>
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<tr>
<td>Rotter 2</td>
<td>.33</td>
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<td>Rotter 3</td>
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<td>.75</td>
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<td>Kendrick 1</td>
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<td>2.27</td>
<td>4.08</td>
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<tr>
<td>Kendrick 2</td>
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</tr>
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<tr>
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<td>.87</td>
<td>154.08</td>
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* p < .05  
** p < .01  
*** p < .001