MANUAL
FOR THE
LEVENSON'S
LOCUS OF CONTROL SCALE

Prepared By:
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INTRODUCTION

If you regard giving a test in driving primarily as dependent on your own effort and ability, then you see the locus of control in the situation (control over whether you pass or fail) as being with you. However, if you regard passing or failing as being predominantly out of your hands, then you see the locus of control depending upon chance or fate (e.g. how heavy the traffic is on that day) or upon powerful others beyond your influence (the driving test examiner). The former point of view would be typical of someone with internal locus of control, the latter of someone with external locus of control.

The concept of I-E was first proposed by Rotter (1966) and it forms relatively small part of a more extensive personality theory incorporating many of the principles established in psychology of learning; this theory is known as social learning theory. He proposed that the degree to which people believe their lives to be under their own control is an important dimension of individual variation. People who are relatively internal believe they are responsible for their destiny, whereas people who are relatively external believe that the good and the bad things that happen to them are determined by luck, chance or powerful others.

Before we describe the social learning theory we must emphasize that Locus of control is not a typological concept and people are not internally or externally controlled type. Locus of control is a continuum, and people can be ordered along that continuum. For the sake of convenience, we will refer people as internals or externals, but it should be emphasized that the behaviour of an individual in any given situation is determined by many converging factors. To classify one as internal or external is a typological error that ignores these factors, which oversimplifies the predictive process and thus leads to disappointing results.

In Rotter's social learning theory I-E is regarded as a characteristic attitude towards the world, referred to as a generalized expectancy. The expectancy about the locus of control over rewards and punishment generated by a person's position on the I-E dimension will influence the way that person perceives most situations, and hence will partially determine how the person will behave. Rotter regards generalized expectations as only one of the factors which determine the way person behaves in a particular situation. He believes that behaviour is a function of reinforcement, but generalized expectancies have important modifying effects on the expected relation between behaviour and reinforcement.
According to Rotter, first people have to believe that they have the capability to perform the necessary behaviour to earn the reinforcement, and also to regard the reward as worth the effort before they will act. Second, and even more important, they have to expect that when they behave appropriately they will actually receive the desired reward. Therefore, whether or not a behaviour occurs depends upon three conditions:

i) a person must have the capacity to produce the behaviour;
ii) he must regard the reward as desirable; and
iii) he must expect that the reward will be received if the appropriate behaviour is produced.

From the research summarized by Phares (1978) relating to I-E to a wide variety of behaviours, a distinct picture of the internal as compared to external people emerges. The internal person is more likely to be receptive to aspects of health care like giving up smoking, taking exercises etc. Their desire for self determination is reflected in their greater resistance to social influence and attempted attitude change. In part, this behaviour is a result of the internals' superior knowledge since they are characterized by their effort to seek out information which enables them to exert greater control over their environment.

In the area of mental health, the internals are generally found to be better adjusted and less anxious as compared to externals. External individuals beliefs are symptomatic of a number of psychiatric disorders such as depression and schizophrenia. In short, the internal individual, in contrast to the external, is independent, achieving and masterful.

Stability and Locus of Control

Weiner (1972) has introduced the notion of casual stability to complement locus of control. He argues that subjects utilize not only an internal-external dimension to explain their performance but also a stable-unstable dimension. He employs four factors as determinants of perceived achievement: ability (internal-stable), effort (internal-unstable), task difficulty (external-stable) and luck (external-unstable). He asserts that the casual stability dimension influences expectancy for success and that the locus of control dimensions influences affective responses to success and failure.
Therefore, Weiner's analysis is couched in an attributional, Expectancy X Value theoretical framework. However, at present there does not seem to be any convincing body of data supporting the utility of adding stability dimension. Most locus of control research assumes ability and effort under internal control, and luck under external control. While task difficulty could be either internal or external depending upon where the control of task difficulty lies.

Sex Differences in Locus of Control

Most of the early studies on sex differences in I-E scores failed to support presence of such differences. However, more recent work (McGinnies, Nordholm, Ward, & Bhanthummavria, 1974; Parsons & Schneider, 1974) find small differences in favour of greater extremity in women. Whether the difference between early research and more recent studies is due to change in cultural role expectation in men and women is hard to assess. However, it must be noted that, regardless of whether there is sex difference in I-E scores, sex very often affect the magnitude of the relationship between I-E scores and other behavioural measures, particularly achievement and defensiveness.

Social Class and Ethnic Differences

In the realm of ethnic and social class differences there do appears to be significant effects of I-E. In general, it is probable that such differences can be reduced most often to explanations involving access to socioeconomic power and mobility. Such data very likely reflect differences in socioeconomic status and are simply another example of the fact that middle class children are more internal than lower class children (Gruen & Ouinger, 1969).

By and large, parents who exhibit warm protective, positive, and nurturant child rearing practices spawn children who develop an internal locus of control (Chance, 1965; Davis & Phares, 1969). Consistency of parental reinforcement, discipline, and standards also seem linked to the development of internality, especially in boys (Davis & Phares, 1969; Levenson, 1973; MacDonald, 1971). Earlier born children tend to be somewhat more internal, but the effects are often small, sex-linked, and variable in their manifestation (Chance, 1965; Crandall, et. al., 1965; MacDonald, 1971; Marks, 1973).
With respect to social antecedents, the research clearly suggests a relationship between social class and locus of control. The lower one goes down the socioeconomic scale, the more one finds evidence of external beliefs. Work by Blaue & Rotter (1963), Lefcourt, Ladwig (1966), Zytkoske, Strickland, & Watson (1971), along with many others, report greater internality in whites as compared to blacks. The general role of culture has been examined by Hsieh et. al. (1969), Jessor et. al. (1968), and Parsons et. al. (1970).

Intelligence

With respect to intelligence, most research fails to find a substantial relationship to beliefs concerning locus of control (Herch and Scheibe, 1967; Kiehlbauch, 1967; Rotter, 1966).

Health and Body Care

Strickland (1974) has commented on the significant and dramatic implications that locus of control offers for physical well being. He points out that I-E appears to be related to prophylactic dental behaviour, use of seat belts in autos, preventive medical shots, participation in physical fitness activity, ability to influence post operative care, and patient behaviour in variety of kidney, diabetic, and cardiovascular conditions. Seeman and Evans (1962) noted that in a tuberculosis hospital, internal patients possessed more information about their physical condition, were more demanding of such information from both physicians and nurses, and were greatly less satisfied about the extent of information they were receiving.

Both Straits and Sechrest 1963) and James, Woodruff, and Werner (1965) found that smokers tend to be somewhat more external than non-smokers. Their study also revealed that smokers who altered their smoking behaviour tended to be more internal than those who did not alter their smoking behaviour. Further, Lundy (1972) and MacDonald (1970) demonstrated that external females are less likely to practice effective birth control than are internals.
Cognitive Control

Phares (1968) found that internals are superior to externals in the utilization of information in a problem even when both groups have learned the information equally. Internals pay more attention to potentially information relevant cues and avoid task irrelevant thoughts (Lefcourt & Wine, 1969; Lefcourt, Lewis, Silverman, 1968). It has also been found that internals are more adept at discovering the rule involved in problem solving task (DuCotte & Wolk, 1973) and are superior in the realm of incidental learning (Wolk & Ducette, 1974). Taken as a whole, the above studies clearly supports the conclusion that internals more actively seek, acquire, utilize and process information that is relevant to their manipulation and control over the environment.

Needs and Power

Rotter and Mulry’s (1965) study supports the notion that internals are motivated to do well in skill situations and externals by a desire to succeed under chance conditions. Watson and Baumal (1967) report that internals make more errors under chance conditions whereas externals are more error prone under skill conditions. These authors argue that such errors are determined by anxiety produced by tasks that are not congruent with subject’s generalized expectancies for control of reinforcement. Hrycenko and Minton (1974) found that, in males satisfaction with a power position (high or low) is determined by both the degree of power possessed and locus of control orientation. Internals are more oriented toward high power and externals toward low power. Schneider (1972) found not only that internals prefer skill activities whereas chance activities are preferred by externals, but the sex of the subject and active passive nature of the activities are important determinants of preferences.

Conformity and Influence

In any event, acceptance by an internal of the control of another will most certainly be thoughtful and analytic rather than blind and unthinking. Research by Crowne and Liverant (1963) suggests that internals are better able to resist group pressures than are externals, at least when tested in an Asch-like conformity situation. Biondo and Macdonald (1971) found conformity in externals and resistance by internals to high influence.
School Achievement

The relationship between locus of control and achievement are limited, although many people seem to expect nearly a one-to-one relationship between them. In children, internals show greater school achievement than do externals (Coleman, Campbell, Hobson, McPartland, Mood, Weinfield, & York, 1966; Crandall, Kaukovsky, & Preston, 1962; McGhee & Crandall, 1968). However, as we move nearer to college-age subjects, the relationship declines or else proves to be inconsistent and elusive (Phares, 1976). Several reasons are possible. First, in case of college students, school is a highly structured and very familiar experience. Such things as study habits or other specific academic experiences may be much more important in college than locus of control, whereas the reverse may be true in primary and secondary school, which are perhaps more ambiguous or uncertain situations for students (Rotter, 1975).

Need for Achievement (n Ach)

When we move to the relationship between I-E and measures of need for achievement. At best, the relationship is modest. Although people high in n Ach are very likely to be internally oriented. However, there is no reason to expect all low n Ach people to be external, nor should all internals be expected to be uniformly high in achievement motivation.

Relationships in this area are also often clouded by sex differences. Relationships often appear for males but not for females - perhaps because of cultural differences in the expectations for achievement aroused early in boys and girls. The capacity to forgo smaller, immediate rewards for large, delayed rewards seems to be an essential attribute of the achieving personality. In general, research has been supportive of the hypothesis that internals (especially among school-age children) are significantly more capable of delaying rewards (Bialer, 1961; Strickland 1972, 1973).

Adjustment and Anxiety

The observation has been made that locus of control beliefs are related to psychological well-being, or adjustment. The simple belief the internal has
in his own personal control leads to better personal adjustment and less anxiety. The number of studies supporting the view that externality is associated with maladjustment and anxiety is so large that we can not deal with them individually here. However, most of the important work in this area is done by Joe, 1971; Phares, 1976, Strickland, 1974; Hersch & Scheibe, 1967; Strassberg, 1973. Nearly all this research suggests that the relationship between I-E and maladjustment or anxiety are linear. The earliest hypotheses about the nature of locus of control suggested a curvilinear relationship. It was felt that extreme internals, for example, could be so obsessed with personal responsibility that extreme guilt and remorse would produce maladjustment. And extreme externals would become such social misfits that they would surely be maladjusted.

Schizophrenia

External beliefs often seem to characterize a variety of psychiatric groups. For example, Cromwell, Rosenthal, Shakow and Zahn (1961) found a sample of male schizophrenics to be more external than normal control subjects. Harrow and Ferrante (1969) and others have confirmed a similar relationship. Further, within a schizophrenic population, process schizophrenics (having a poorer premorbid adjustment pattern) were found to be more external than reactive schizophrenics (whose adjustment problems had a more recent history) (Lottman & Dewolfe, 1972). However, the specific role of I-E in schizophrenia and its cause-effect relationships are yet to be determined.

Depression

In the case of depression one might also expect to find locus of control implicated. In a sense, encountering failures or other negative outcomes should lead internals, who harbor strong feelings of personal responsibility, to get depressed (Phares, 1972). On the other hand, the external's powerlessness and low expectancies for personal control might also produce a depressed reaction. This latter view is compatible with Seligman's (1975) position that regards depression as a kind of passivity with a corresponding negative cognitive set regarding the effects of the individual's behaviour. Others have also found a correlation between externality and depressive self report. (Calhoun, Cheney & Dawes, 1974; Naditch, Gargen Michael, 1975; Wareheim & Foulds, 1971).
Alcoholics and Narcotics Users

Since an external orientation seems to so often accompany indices of maladjustment, one might expect that Alcoholics or heavy drinkers will be externally oriented. Nowicki & Hopper (1974) and Palmer (1971) have reported such findings. However, Goss & Morosko (1970) and Gozali & Sloan (1971) found the reverse relationship. Phares (1976) attempted to resolve this apparent contradiction by pointing out that chronic Alcoholics often have a history of institutionalization and participation in treatment programmes that reinforce the verbalization of confidence, self control, and personal responsibility. Recent work by Naditch (1975) with non-institutionalized drinkers would seem to reinforce such an analysis.

In case of narcotics users, Berzins and Ross (1973) found that users are more internally oriented than non users. Strassberg and Robinson (1974) found that within the narcotic users population the expression of External attitudes was associated with greater maladjustment.

THE PRESENT SCALE

The present scale is Likert Type Scale, with multiple choice responses presented in a continuum. Responses range from Strongly Agree, Agree, Undecided, Disagree to Strongly Disagree. In this five point scale, the responses are given weight from 1 to 5 as shown below:

5 Strongly Agree
4 Agree
3 Undecided
2 Disagree
1 Strongly Disagree

Approximately 150 statements were selected with an attempt to cover the whole range, i.e. powerful others, chance control, and individual control, rather evenly. These statements were then edited and only those which were to the point and short were selected. Care was also taken that the statements were in such a form that the idea they were conveying can be either accepted or rejected. Double barrelled, incomplete, and ambiguous statements were excluded from the list.
The final scale consists of 24 statements, 8 each for P-powerful others, C-chance control, and I-individual control. These statements have thoroughly been revised and edited before being included in the final scale. The statements are presented in a random order as follows:

- statements 3, 8, 11, 13, 15, 17, 20, 22 for P-powerful others,
- statements 2, 6, 7, 10, 12, 14, 16, 24 for C-chance control,
- and statements 1, 4, 5, 9, 18, 19, 21, 23 for I-individual control.

P = Belief about control by powerful others. High scores indicate that other people control your outcomes.

C = Belief about chance control. High scores indicate that unordered, chance, or random events control your outcomes.

I = Belief about individual control. High scores indicate you believe that your outcomes are controlled by you - that your current situations and your rewards are direct outcomes of things you control.

The present Scale for Locus of Control has many advantages over Rotter’s Locus of Control Scale. These can be summarized as follows:

1. There is freedom of response, i.e. the subject is not forced to choose one of the two statements as in Rotter’s scale.
2. The present scale gives result in the form of direction as well as strength of the internal-external beliefs.
3. The present scale gives score in three areas, i.e. P-powerful others, C-chance control, I-individual control. Whereas, in Rotter’s scale only one score is available.
4. The present scale helps to place the individual, with a moderate precision, at different points on the scale.
5. Group administration of the present scale is relatively efficient and can be given to a group of any size without any apparent loss of validity.
6. The present scale requires less time for administration as compared to Rotter’s Scale.
RELIABILITY

The term reliability has two closely related but somewhat different connotations in psychological testing. First, it refers to the extent to which a test is internally consistent, that is, consistency of results obtained throughout the test when administered once. Second, reliability refers to the extent to which a measuring device yields consistent results upon testing and retesting, that is, dependability for predictive purposes. Obviously, if a test does not have a high degree of reliability when used more than once, it can have but limited value in predicting an individual's future behaviour.

For this purpose, a trial run of the present scale was made to find out the reliability of the scale. First the split-half method of reliability was employed. Here the scale was divided into two parts of 12 statements each. Each part containing 4 statements each for P-powerful others, C-chance control, and I-individual control. The split-half reliability of the scale with N= 380, was found to be 0.72 for P, 0.79 for C and 0.65 for I, using Spearman-Brown. Further, with odd-even method, reliability coefficient was found to be 0.69 for P, 0.72 for C, and 0.66 for I.

The test-retest reliability was also calculated for the present scale, with N= 200, retested after one weeks time. The test retest reliability coefficient was found to be 0.75, by calculating coefficient of correlation between two sets of scores of the same individuals on the same scale, after one weeks time.

VALIDITY

An index of validity shows the degree to which a test measures what it purports to measure, when compared with the accepted criteria. The construction and use of a test imply that the instrument has been evaluated against criteria regarded as the best evidence of the traits to be measured by the test. Selection of satisfactory validation criteria and demonstration of an appropriate degree of validity are fundamental in psychological testing.

The first essential quality of any valid test is that it should be highly reliable. The present scale shows fairly high reliability coefficient (see reliability). A test that yields inconsistent results (low reliability) can not correlate well with a measure of another variable; in this case a criterion. It should be
clear that validity is indeed evaluated to the extent to which device estimates an individual's status at the time the test was administered. From the viewpoint of applied psychology, every test must have predictive validity. This is possible only when the reliability coefficient of the test is high.

Apart from the high reliability and predictive validity, the present scale was also validated against the Rotter's Locus Of Control Scale i.e., the concurrent validity was also established. A test's concurrent validity indicates the extent of its agreement with other present criteria measuring similar or same psychological operations or traits. The present scale was validated by correlating it with Rotter's Locus of Control Scale (I-E Scale). This was done by giving both the scales one after another with very little time interval in between. Scores of both the scales were then correlated with each other, and the correlation coefficient was found out to be 0.54 (with N= 220).

The correlation coefficient is not very high as the two tests differ in their construction. The present scale is a five point Likert type scale where the subject has to show extent of his agreement or disagreement with the statement related to either P (powerful others), C (chance control), or I (individual control). Whereas Rotter's scale is forced choice type scale where the subject has to indicate his choice by marking one of the two statements, one related to internal locus of control and the other related to external locus of control. Therefore, the subject is forced to choose one of the two statements even if he does not agree with either of them or even if both the statements do not stand true for him.

ADMINISTRATION

The test can be easily administered individually or in group and takes only about 10-15 minutes for completion. The instructions are printed clearly on the front page of the test booklet. The examiner reads aloud the instructions with suitable emphasis and pauses, with proper eye contact with the subject(s). Before the subject(s) start answering, the examiner makes sure that the instructions have been understood clearly by the subject(s). It occasionally happens that a subject does not understand the meaning of a term or a word in the test booklet. In this case it is permissible for the examiner to give a dictionary definition, but no other assistance is allowed.
SCORING

This test is a five point likert type scale which is to be hand scored with a stencil scoring key. Each answer scores 1, 2, 3, 4, or 5 points. A transparent scoring stencil key is placed on the test booklet and the answer appears as pencil or pen marks in the boxes on the given test booklet. The marks on the test booklet are visible through the circle for each factor, as indicated by the number printed above the circle. Add these scores separately for all three factors (P, C, and I), and write the total in the space provided at the back page of the test booklet. Also please read carefully the instructions printed on the scoring key stencil before using it.

NORMS

In many research applications the examiner will have no need to convert the raw score obtained with the scoring key stencil to sten score. However, commonly the test user would like to know how an individual stands in relation to a defined population. For this purpose the raw score should be converted into sten score. Use Table-1 to convert raw score to sten score. The term sten comes from "standard ten". The sten scores are distributed over ten equal intervals of standard scores point from 1 to 10. These sten scores can then be plotted on the profile sheet for comparison purposes, given at the back of the test booklet. The score of 5-6 devote average strength of the factor. Score above 6, i.e. from 7-10, express gradually the greater strength of the factor and scores below 5, i.e. from 1-4, indicate gradual decrease of strength.

Apart from sten scores, the percentile rankings are also given in the Table-2 for P (powerful others), C (chance control), and I (individual control) raw scores. Examiner can calculate the raw score from the scoring key stencil and find out the equivalent percentile ranking of the subject.

In Table-3 conversion of Stens to Centile is presented. Please note that the ordinary use of this table will be for whole number stens only. These are marked in bold print. The stens to a decimal place are given only for researchers who may want to work with sten values which are the means of groups. For individuals, only whole number stens are used.
### Table-1: For conversion of Raw Score into Sten Score

<table>
<thead>
<tr>
<th>STEN control</th>
<th>P (powerful others)</th>
<th>C (chance control)</th>
<th>I (individual)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10 &amp; below</td>
<td>13 &amp; below</td>
<td>25 &amp; below</td>
</tr>
<tr>
<td>2</td>
<td>11-12</td>
<td>14-14</td>
<td>26</td>
</tr>
<tr>
<td>3</td>
<td>13-14</td>
<td>16-17</td>
<td>27-28</td>
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<tr>
<td>4</td>
<td>15-16</td>
<td>18-19</td>
<td>29-30</td>
</tr>
<tr>
<td>5</td>
<td>17-19</td>
<td>20-22</td>
<td>31</td>
</tr>
<tr>
<td>6</td>
<td>20-21</td>
<td>23-24</td>
<td>32-33</td>
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<tr>
<td>7</td>
<td>22-23</td>
<td>25-26</td>
<td>34</td>
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<td>8</td>
<td>24-25</td>
<td>27-28</td>
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<tr>
<td>9</td>
<td>26-29</td>
<td>29-31</td>
<td>37</td>
</tr>
<tr>
<td>10</td>
<td>29 &amp; above</td>
<td>32 &amp; above</td>
<td>38 &amp; above</td>
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<td>Mean</td>
<td>19.03</td>
<td>22.13</td>
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<tr>
<td>S.D.</td>
<td>4.51</td>
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### TABLE-2: Percentile Ranks for Raw Scores

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### TABLE-3: Conversion of Stens to Centile

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