ARE YOU THE MASTER OF YOUR FATE?

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs, 80*, 1-28.

Are the consequences of your behavior under your personal control or determined by forces outside of yourself? Think about it for a moment: When something good happens to you, do you take credit for it or do you think how lucky you were? When something negative occurs, is it usually your responsibility or do you just chalk it up to fate? The same question may be posed in more formal psychological language: Do you believe that there is a causal relationship between your behavior and its consequences?

Julian Rotter, one of the most influential behaviorists in psychology's history, proposed that individuals differ a great deal in where they place the responsibility for what happens to them. When people interpret the consequences of their behavior to be controlled by luck, fate, or powerful others, this indicates a belief in what Rotter called an *external locus of control* (locus simply means location). Conversely, he maintained that if people interpret their own behavior and personality characteristics as responsible for behavioral consequences, they have a belief in an *internal locus of control*. In his frequently cited 1966 article, Rotter explained that a person's tendency to view events from an internal versus an external locus of control can be explained from a social learning theory perspective.

In this view, as a person develops from infancy through childhood, behaviors are learned because they are followed by some form of reinforcement. This reinforcement increases the child's expectancy that a particular behavior will produce the desired reinforcement. Once this expectancy is established, the removal of reinforcement will cause the expectancy of such a relationship between behavior and reinforcement to fade. Therefore, reinforcement sometimes is seen as contingent upon behavior, and sometimes it is not (see the discussion of contingencies in the reading on work of B. F. Skinner). As children grow, some will have frequent experiences in which their behavior directly influences reinforcement, while for others, reinforcement will appear to result from actions outside of themselves. Rotter claimed that the totality of your specific learning experiences creates in you a generalized expectancy about whether reinforcement is internally or externally controlled.

"These generalized expectancies," Rotter wrote, "will result in characteristic differences in behavior in a situation culturally categorized as chance-determined versus skill-determined, and may act to produce individual differences within a specific condition" (p. 2). In other words, you have developed an internal or external interpretation of the consequences for your behavior that will influence your future behavior in almost all situations. Rotter believed that your locus of control, whether internal or external, is an important part of who you are, a part of your personality.

Look back at the questions posed at the beginning of this chapter. Which do you think you are, an internal or an external? Rotter wanted to study differences among people on this dimension and, rather than simply ask them, he developed a test that measures a person's locus of control. Once he was able to measure this characteristic in people, he could then study how it influenced their behavior.

THEORETICAL PROPOSITIONS

Rotter proposed to demonstrate two main points in his research. First, he predicted that a test could be developed to measure reliably the extent to which individuals possess an internal or an external locus-of-control orientation toward life. Second, he hypothesized that people will display stable individual differences in their interpretations of the causes of reinforcement in the same situations. He proposed to demonstrate his hypothesis by presenting research comparing behavior of *internals* with that of *externals* in various contexts.

METHOD

Rotter designed a scale containing a series of many pairs of statements. Each pair consisted of one statement reflecting an internal locus of control and one reflecting an external locus of control. Those taking the test were instructed to 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" (p. 26). The test was designed so that subjects were forced to choose one statement for each pair and could not designate *neither* or *both*.

Rotter's measuring device endured many revisions and alterations. In its earliest form, it contained 60 pairs of statements, but by using various tests for reliability and validity, it was eventually refined and

streamlined down to 23 items. Added to these were six *filler items*, which were designed to disguise the true purpose of the test. Such filler items are often used in tests such as this because if subjects were able to guess what the test is trying to measure, they might alter their answers in some way in an attempt to *perform better*.

Rotter called his test the *I-E Scale*, which is the name it is known by today. Table 1 includes examples oftypical items from the I-E Scale, plus samples of the filler items. If you examine the items, you can see quite clearly which statements reflect an internal or external orientation. Rotter contended that his test was a measure of the extent to which a person possesses the personality characteristic of internal or external locus of control.

TABLE 1 Sample Items and Filler Items from Rotter's I-E Scale

ITEM #	STATEMENTS
2a.	Many of the unhappy things in people's lives are partly due to bad luck.
2b.	People's misfortunes result from the mistakes they make.
11a.	Becoming a success is a matter of hard work; luck has little or nothing to do with it.
11b.	Getting a good job depends mainly on being in the right place at the right time.
18a.	Most people don't realize the extent to which their lives are controlled by accidental happenings.
18b.	There is really no such thing as "luck."
23a.	Sometimes I can't understand how teachers arrive at the grades I get.
23b.	There is a direct connection between how hard I study and the grades I get.
	FILLER ITEMS
1a.	Children get into trouble because their parents punish them too much.
1b.	The trouble with most children nowadays is that their parents are too easy with them.
14a.	There are certain people who are just no good.
14b.	There is some good in everybody.

(Adapted from pp. 13–14.)

Rotter's next step was to demonstrate that he could actually use this characteristic to predict people's behavior in specific situations. To do this he reported on several studies (by Rotter and others) in which scores on the I-E Scale (in various forms) were examined in relation to individuals' interactions with various events in their lives. These studies found significant correlations between I-E scores and situations such as those involving gambling, political activism, persuasion, smoking, achievement motivation, and conformity.

RESULTS

Following is a brief summary of the findings reported by Rotter of research in the areas mentioned in the previous paragraph. (See pp. 19-24 in the original study for complete discussion and citation of specific references.)

Gambling

Rotter reported on studies that looked at betting behavior in relation to locus of control. These found that individuals identified as internals by the I-E Scale tended to prefer betting on *sure things* and liked intermediate odds over the long shots. Externals, on the other hand, would wager more money on risky bets. In addition, externals would tend to engage in more unusual shifts in betting called the *gambler's fallacy* (such as betting more on a number that has not come up for a while on the basis that it is due).

Persuasion

An interesting study cited by Rotter used the I-E Scale to select two groups of students, one highly internal and the other highly external. Both groups shared similar attitudes, on average, about the fraternity and sorority system on the campus. Both groups were asked to try to persuade other students to change their attitudes about these organizations. The internals were found to be significantly more successful than externals in altering the attitudes of others. Conversely, other studies demonstrated that internals were more resistant to manipulation of their attitudes by others.

Smoking

An internal locus of control appeared to relate to self-control as well. Two studies discussed by Rotter found that (1) smokers tended to be significantly more external than nonsmokers, and (2) individuals who quit smoking after the original surgeon general's warning appeared on cigarette packs were more internally oriented, even though both internals and externals believed the warning was true.

Achievement Motivation

If you believe 'your own actions are responsible for your successes, it is logical to assume that you should be more motivated to achieve success than someone who believes success is more a matter of fate. Rotter pointed to a study of 1,000 high school students that found a positive relationship between an internal score on the I-E Scale and 15 out of 17 indicators of this achievement motivation. These included plans to attend college, amount of time spent on homework, and how interested the parents were in the students' school work. Each of these achievement-oriented factors were more likely to be found for students with an internal locus of control.

Conformity

One study was cited that exposed subjects to the conformity test developed by Solomon Asch, in which a subject's willingness to agree with a majority's incorrect judgment was evidence for conforming behavior (see the reading on Asch's conformity study). Subjects were allowed to bet (with money provided by the experimenters) on the correctness of their judgments. Under this betting condition, those found to be internals conformed significantly less to the majority and bet more money on themselves when making judgments contrary to the majority than did the externals.

DISCUSSION

As part of his discussion, Rotter posed possible sources for the individual differences he found on the dimension of internal-external locus of control. He referred to several studies that addressed the issue of possible causes. Three potential sources for the development of an internal or external orientation were suggested: cultural differences, socioeconomic differences, and variations in styles of parenting.

One study cited found differences in locus of control among various cultures. In an isolated community in the United States, three distinct groups could be compared: Ute Indians, Mexican Americans, and Caucasians. It was found that those individuals of Ute heritage were, on average, the most external, while the whites were the most internal. The Mexican Americans scored between the other two groups on the I-E Scale. These findings, which appeared to be independent of socioeconomic level, suggested ethnic differences in locus of control.

Rotter also referred to some early and tentative findings indicating that socioeconomic level even within a particular culture may relate to locus of control findings. These findings suggested that a lower socioeconomic position predicts greater externality.

Styles of parenting were implicated by Rotter as an obvious source for learning to be internal or external. While he did not offer supportive research evidence at the time, he suggested that parents who administer rewards and punishments to their children in ways that are unpredictable and inconsistent would likely encourage the development of an external locus of control (this is discussed in greater detail shortly).

Rotter summarized his findings by pointing out that the consistency of the results leads to the conclusion that locus of control is a definable characteristic of individuals that operates fairly consistently across various situations. Furthermore, the influences on behavior produced by the internal-external dimension are such that it will influence different people to behave differently when faced with the same situation. In addition, Rotter contended that locus of control can be measured, and that the I-E Scale is an effective tool for doing so.

Finally, Rotter hypothesized that those with an internal locus of control (i.e., those who have a strong belief that they can control their own destiny) are more likely than externals to (1) gain information from the situations in their life in order to improve future behavior in those situations or similar ones, (2) take the initiative to change and improve their condition in life, (3) place greater value on inner skill and achievement of goals, and (4) be more able to resist manipulation by others.

SUBSEQUENT RESEARCH

Since Rotter developed his I-E Scale, hundreds of studies have examined the relationship between locus of control and various behaviors. Following is a brief sampling of a few of those as they relate to rather diverse human behaviors.

In his 1966 article, Rotter touched on how locus of control might relate to health behaviors. Since then, other studies have examined the same relationship. In a review of locus-of-control research, Strickland (1977) found that individuals with an internal focus generally take more responsibility for their own health. They are more likely to engage in more healthy behaviors (such as not smoking and adopting better nutritional habits) and practice greater care in avoiding accidents. Additionally, studies have found that internals generally have lower levels of stress and are less likely to suffer from stress-related illnesses.

Rotter's hypotheses regarding the relationship between parenting styles and locus of control have been at least partially confirmed. Research has shown that parents of children who are internals tend to be more affectionate, more consistent with discipline, and more concerned with teaching children to take responsibility for their actions. Parents of externally oriented children have been found to be more authoritarian and restrictive, and do not allow their children much opportunity for personal control (see Davis & Phares, 1969, for a discussion of those findings).

A fascinating study demonstrated how the concept of locus of control may have sociological and even catastrophic implications. Sims and Baumann (1972) applied Rotter's theory to explain why more people die in tornados in Alabama than in Illinois. These researchers noticed that the death rate from tornados was five times greater in the South than in the Midwest, and they set out to determine why. One by one they eliminated all of the explanations related to the physical locations, such as storm strength and severity (the storms are actually stronger in Illinois), time of day of the storms (an equal number occur at night in both regions), type of business and residence construction masonry is as dangerous as wood-frame, but for different reasons), and the quality of warning systems (even before warning systems existed, Alabama had the same higher death rate).

With all the obvious environmental reasons ruled out, Sims and Baumann suggested that the difference might be due to psychological variables and proposed the locus-of-control concept as a likely possibility. Questionnaires containing a modified version of Rotter's I-E Scale were administered to residents of four counties in Illinois and Alabama that had experienced a similar incidence of tornados and tornado-caused deaths. They found that the respondents from Alabama demonstrated a significantly greater external locus of control than did those from Illinois. From this finding, as well as from responses to other items on the questionnaire relating to tornado behavior, the researchers concluded that an internal orientation promotes behaviors that are more likely to save lives in the event of a tornado (such as paying attention to the news media or alerting others). This stems directly from the internals' belief that their behavior will be effective in changing the outcome of the event. In this study, Alabamians were seen as "less confident in themselves as causal agents, less convinced of their ability to engage in effective action .... The data ... constitute a suggestive illustration of how man's personality is active in determining the quality of his interaction with nature" (Sims & Baumann, 1972, p. 1391).

RECENT APPLICATIONS

To say that hundreds of studies have incorporated Rotter's Locus of Control theory since his article appeared in 1966 may have been a serious understatement. In reality, there may have been thousands! A search of the three years prior to the publication of this text reveals no citations of this study in the professional literature; looking at the previous six years, the total is over 700. Such a great reliance on Rotter's theory speaks clearly to the broad acceptance of the impact and validity of the internal-external personality dimension. Following are a few representative examples from the great variety of recent studies citing his pioneering work.

Do you tend to feel sorry for yourself when you are stressed and things don't go your way? Psychologists call such a response, self-pity. A study by Stober (2003) examined how *self-pity* is linked to other personality characteristics such as, anger, loneliness, and internal-external control beliefs. One of the study's strongest findings was a connection between self-pity and locus of control. "With respect to control beliefs, individuals high in self-pity showed generalized externality beliefs, seeing themselves as controlled by both chance and powerful others" (p. 183). In addition, self-pity was shown to be associated with depression, which is linked, in turn, to an external locus of control (Yang & Clum, 2000). This connection is addressed in greater detail in the discussion of Seligman's *learned helplessness*.

Often, when Rotter's research on locus of control is being discussed, the subject of religious faith arises. Many religious people believe that it is desirable and proper at times to place their fate in God's hands, yet within Rotter's theory, this would indicate an external locus of control with its negative connotations. A fascinating recent study in the *Journal of Psychology and Religion* addressed this very issue (Welton, Adkins, Ingle, & Dixon, 1996). Using various locus-of-control scales and subscales, subjects were assessed on their degree of internal locus of control, perceived control by *powerful others*, belief in chance, and belief in *God control*. The advantages associated with an internal locus of control were also found in the subjects scoring high on the God control

dimension. The authors contend that if a person has an external locus of control as measured by Rotter's scale, but the external power is perceived as a strong faith in a supreme being, they will be less subject to the typical problems associated with externals (i.e., powerlessness, depression, low achievement, low motivation for change).

A great deal of important cross-cultural research has relied heavily on Rotter's conceptualization of the internal-external locus of control dimension of personality. For example, one study from Russian researchers examined locus-of-control and right-wing authoritarian attitudes in Russian and American college students (D'yakonova & Yurtaikin, 2000). Results indicated that among the American students greater internal locus of control was correlated with higher levels of authoritarianism, while no such connection was found for the Russian subjects. Another cross-cultural study relied on Rotter's I-E Scale to examine the psychological adjustment to the diagnosis of cancer in a highly superstitious collectivist culture (Sun & Stewart, 2000). Interestingly, findings from this study indicated that "even in a culture where supernatural beliefs are widespread, an [internal locus of control] relates positively and 'chance' beliefs relate negatively with adjustment" to a serious illness such as cancer (p. 177). Research areas other than those discussed earlier that have cited Rotter's study include posttraumatic stress disorder, issues of control and aging, childbirth methods, coping with anticipatory stress, the effects of environmental noise, academic performance, white-collar crime, adult children of alcoholics, child molestation, mental health following natural disasters, contraceptive use, and HIV and AIDS prevention research.

CONCLUSION

The dimension of internal-external locus of control has been generally accepted as a *relatively stable* aspect of human personality that has meaningful implications for predicting behavior across a wide variety of situations. The phrase relatively stable is used because a person's locus of control can change under certain circumstances. Those who are externally oriented often will become more internal when their profession places them in positions of greater authority and responsibility. People who are highly internally oriented may shift toward a more external focus during times of extreme stress and uncertainty. Moreover, it is possible for individuals to learn to be more internal, if given the opportunity.

Implicit in Rotter's concept of locus of control is the assumption that internals are better adjusted and more effective in life. Although most of the research confirms this assumption, Rotter, in his later writings, sounded a note of caution (see Rotter, 1975). Everyone, especially internals, must be attentive to the environment around them. If a person sets out to change a situation that is not changeable, frustration, disappointment, and depression are the potential outcomes. When forces outside of the individual are *actually* in control of behavioral consequences, the most realistic and healthy approach to take is probably one of an external orientation.

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