

Theoretical Analyses

The Limits of the Use of Locus of Control in Industrial Psychology: A Critical Evaluation

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Abstract

Locus of control is a personality variable that is employed by researchers from diverse disciplines. This article examines the limits of the construct's usage in industrial and organizational psychology. Although locus of control is documented to predict a wide array of workplace behavior such as job satisfaction, job performance and turnover intention, some important conceptual, methodological and empirical flaws raise suspicions on the explanations proposed by researchers. Considering the shortage of experimental and longitudinal evidence, it is argued that the causal direction of the well-established correlations between locus of control and other organizational behavioral variables might be the opposite of the theory's expectation. It is also claimed that some related constructs such as self-efficacy and belief in a just world might provide further explanations for observed correlations.

Keywords: locus of control, attribution, industrial psychology

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Introduction

Locus of control is a personality variable, which expresses individual's belief in whether successes and failures occur as a result of luck or effort (Rotter, 1966). While individuals with internal locus of control believe that they can control their life outcomes by means of hard work and effort, people with external locus of control believe that life outcomes depend on luck, fate or other external factors that cannot be controlled (Joe, 1971). Locus of control is one of the most established variables in psychology and is used by psychologists from diverse orientations (Rotter, 1990). Despite being considered as a cognitive construct today, locus of control was originally proposed in the scope of Rotter's (1960) social learning theory, which is developed as a revision on behaviorism. In the earliest version of the theory, locus of control was operationalized as an experimental condition (Rotter, Liverant, & Crowne, 1961, as cited in Rotter, 1966). When participants perceived the rewards they received as dependent on their behavior, i.e. they were led to believe that they could affect the outcomes, better performance was observed (Rotter, Liverant, & Crowne, 1961, as cited in Rotter, 1966). Marks (1998) stated that internal locus of control has been considered the healthier and more desirable pole of the dimension.

A forced-choice scale which requires the participants to choose one of two alternative expressions, one emphasizing luck, other stressing the importance of personal agency was developed by [Rotter \(1966\)](#) to measure the construct as a trait. The scale is used to predict a wide array of behaviors, ranging from entrepreneurial intentions ([Brockhaus, 1975](#)) to relapse of compulsive gambling ([Johnson, Nora, & Bustos, 1992](#)). A review by [Wallston and Wallston \(1978\)](#) on health psychological literature documented that locus of control was related to a wide array of health behavior, such as smoking ([James, Woodruff, & Werner, 1965](#)), birth control utilization ([Mac Donald, 1970](#)), and weight loss ([Balch & Ross, 1975](#)). A study by [Bhagat and Chassie \(1978\)](#) showed that locus of control, along with self-esteem, was a strong predictor of performance, program satisfaction and life satisfaction of undergraduate students.

Locus of Control in Industrial/Organizational Psychology

As the theorization of the construct is closely related to performance and achievement ([Rotter, 1966](#)), locus of control is employed by industrial psychologists ([Spector, 1982](#)). As alternatives of the original scale by [Rotter \(1966\)](#), two scales that aimed to measure the locus of control in work and organizational context specifically were developed in late 1980s. The less-frequently used one was developed by [Furnham \(1986\)](#), designed to measure the variable that is named “economic locus of control”. The scale consists of 22 items that make up four factors, which are labeled “internal”, “chance”, “external/denial” and “powerful others”. Internal factor had a positive correlation with the Protestant Work Ethic and a negative correlation with Rotter’s I-E scale ([Rotter, 1966](#)). In chance factor, women had higher scores, while conservative voters were higher on internal and lower on chance factors.

The more commonly used “Work Locus of Control Scale” is a 16-item unidimensional scale which was developed by [Spector \(1988\)](#). The higher scores indicated external work locus of control. As expected, the scale was negatively correlated with job satisfaction, consideration, influence and commitment and had a positive correlation with intention of quitting and external generalized locus of control.

In an earlier, longitudinal study, [Anderson \(1977\)](#) found a relation between managerial locus of control and perceived stress and performance. The results suggested that internals who improved their performance became more internal, while externals who had poorer performance became more external. Anderson argued that the relation between the variables was a reciprocal causation. Although a literature on locus of control and organizational behavior was already existent, [Spector \(1982\)](#) was the first to theoretically analyze the usage of locus of control in industrial context and draw a road map for further studies. He claimed that internals’ relatively higher independence and self-direction would make them more suitable candidates for complex tasks that require autonomy and creativity. In contrast, externals would fit simple tasks and close supervision better. [Anderson \(1977\)](#) also summarized the construct’s relations with other industrial psychological variables. Job performance and satisfaction was mostly found to be higher in internals. The research on perceived job characteristic and turnover was, however, inconsistent.

Similar results were reported in the meta-analysis by [Judge and Bono \(2001\)](#). The researchers analyzed the studies on relations of job satisfaction and job performance with the core self-evaluation traits, namely self-esteem, generalized self-efficacy, locus of control and emotional stability. The authors documented that mean correlation of internal locus of control and job satisfaction was .32 in 80 studies. The average corrected correlation between locus of control and job performance was found .22 using 35 studies. A more recent meta-analytical study on locus

of control in organizational context by [Ng, Sorensen, and Eby \(2006\)](#) examined the predicted behaviors in categories of well-being, motivation and behavioral orientation. General well-being, job satisfaction, commitment, job motivation, job performance, career success and positive task experiences were the variables that were positively correlated with internal locus of control, while negative task experiences and turnover intention were correlated negatively.

Rather than an independent or predictor variable, some studies employed locus of control as a moderator or mediator variable in organizational context. [Allen, Weeks, and Moffitt \(2005\)](#) found that locus of control moderated the relation between turnover intentions and voluntary turnover, in that internals with higher intention exhibited more voluntary turnover behavior. Similarly, [Chiu, Chien, Lin, and Hsiao \(2005\)](#) reported that locus of control moderated the relation between job stress and turnover intentions of hospital employees. Locus of control was also found to moderate the relationship between work stressors and felt stress ([Roberts, Lapidus, & Chonko, 1997](#)).

The Problems of Research on Locus of Control

Despite being one of the most widely-researched personality variables in psychology, locus of control received a considerable amount of criticism. The criticism can be categorized in two groups, namely methodological and theoretical. While methodological criticism stated the flaws of the scales employed to measure the construct ([Levenson, 1981](#)), theoretical criticism contrasted the variable to some related variables such as self-efficacy ([Judge, Erez, Bono, & Thoresen, 2002](#)) and belief in a just world ([Zuckerman & Gerbasi, 1977](#)).

Although [Rotter \(1975\)](#) claims his I-E scale should be considered unidimensional, some studies (e.g., [Levenson, 1981](#); [Marsh & Richards, 1986](#)) suggest that the scale might have more than one factor. The study by [Lange and Tiggemann \(1981\)](#) showed that the items on political world in I-E scale loaded on a different factor. Thus, they claimed that while half of the scale deals with one's sense of control over personal life, the second factor measures the perceived control in a different area, namely politics. [Gurin, Gurin, and Morrison \(1978\)](#) asked twenty statements from I-E Scale to a representative US sample and found that items about personal control, control ideology and political control formed three different factors. Similarly, the study by [Collins \(1974\)](#) presented the 46 I-E Scale statements in a Likert format and established four factors: belief in a just world, belief in a difficult world, belief in a politically responsible world and belief in a predictable world. [Marsh and Richards \(1986\)](#) further argued that the scale contained five factors which can be labeled as general luck, political control, success via initiative, interpersonal control and academic situations. Such an approach is consistent with the recent theorizing in attribution theory, which argues that internal and external attributions encompass only a little part of the reasons people use to explain events and behaviors (e.g., [Malle, 2004](#)).

[Rotter \(1966\)](#) theorized the externality and internality as opposite poles of the same dimension. However, the forced-choice format of the original I-E Scale prevents the empirical test of this bipolarity assumption, as respondents are forced to choose either an internal or an external statement and not allowed to evaluate the statements independent from each other. Employing the same method that was used by [Collins \(1974\)](#), [Marsh and Richards \(1986\)](#) converted the I-E Scale into Likert format and found that the correlation between internality and externality scores was $-.30$. Although this correlation was statistically significant and clearly suggested a negative relation between the two halves of the scale, it was not high enough to support the bipolarity assumption. The same study also showed that alternative formats of the scale had better test-retest reliability than the standard forced-choice

format, casting still more doubts on the assumption suggested by Rotter (1966) and shared by the researchers who interpreted the literature on locus of control (e.g., Ng, Sorensen, & Eby, 2006; Twenge, Zhang, & Im, 2004; Wallston & Wallston, 1978).

Apart from the flaws of the I-E scale, critics of the locus of control theory argued that its relationship to other variables can be interpreted in terms of different theories or related contrasts. Weiner, Nierenberg, and Goldstein (1976) contrasted the attribution theory to social learning approach of locus of control theory, stating that the former predicts that stability of causes influence one's expectancy, while the latter predicts that one's attributional style cause one to perceive the situation in a pre-determined way. Weiner, Nierenberg, and Goldstein (1976) tested the contradicting hypotheses derived from these two approaches in an experiment, documenting that attribution of stability was a better predictor of expectancy of success than locus of control. The authors stated that although correlational studies supported the locus of control hypothesis, the experimental studies, such as the one they carried out, mostly failed to provide any evidence.

Another challenge the locus of control theory faced is the construct's close relation to some other widely-used personality variables. A meta-analytical study by Judge et al. (2002, Study 1) examined 75 studies that measured locus of control, self-esteem, generalized self-efficacy and neuroticism. Locus of control's correlation was .40 with emotional stability (the opposite pole of neuroticism), .52 with self-esteem and .56 with generalized self-efficacy. They further argued that these four variables should be considered as indicators of the same core construct.

Zuckerman and Gerbasi (1977) claimed that what is measured by the I-E scale and documented to correlate a wide range of attitude and behaviors might be belief in a just world rather than locus of control. Belief in a just world is one's tendency to believe that good things happen to good people and people in any kind of disadvantaged state deserve their undesired situation (Lerner, 1980). Zuckerman and Gerbasi (1977) stated that I-E scale has a high correlation with just world scale and with many variables that are documented to be related to belief in a just world. The authors also reported that people with internal locus of control are more likely to have a conservative orientation and blame the victims and less likely to get involved in political movements. Similarly, higher belief in a just world is related with blaming rape victims (Strömwall, Alfredsson, & Landström, 2013), and poor people in the Third World (Harper, Wagstaff, Newton, & Harrison, 1990) for their situation, i.e. making internal attributions. Thus, having a sense of control over one's life partly reflects a delusion that paints a fairy-tale like world.

The Evaluation of the Research on Locus of Control in I/O Psychology

Although considerable criticism is raised against the locus of control theory, a decrease in its usage in industrial and other subfields of psychology was not observed. While it may be true that the construct has merits for the fields such as health or learning psychology, the criticism that is summarized is crucial for the locus of control literature in industrial psychology. The implications of problems of scales and the construct's discouraging relationship with some other personality variables for the industrial psychological research are discussed below.

First of all, as can be seen in the meta-analytical studies (e.g. Judge & Bono, 2001; Ng, Sorensen, & Eby, 2006), nearly all of the industrial psychological research on locus of control assumes that the variable is unidimensional and bipolar and uses the construct to compare the tendencies of internals versus externals. As it is stated above,

however, there are good reasons to doubt the unidimensionality of I-E scale. It should be stated that the same criticism is viable for the Work Locus of Control Scale by Spector (1988), which is found to consist of two factors, namely internal and external (Macan, Trusty, & Trimble, 1996). Considering the fact that a construct which is measured by seemingly multidimensional scales such as I-E Scale (Rotter, 1966) and Spector (1988)'s scale is considered unidimensional (e.g. Chiu et al., 2005; Spector & O'Connell, 1994), it would not be unfair to claim that one should be highly suspicious of the interpretation of the studies which assume that externality and internality are opposite poles of the locus of control dimension (e.g. Ng, Sorensen, & Eby, 2006; Spector, 1982; Twenge, Zhang, & Im, 2004).

Secondly, as emphasized by Weiner, Nierenberg, and Goldstein (1976), the shortage of experimental and longitudinal studies prevents the researchers from inferring causal relationships. Although most of the research in the industrial psychology is correlational by nature (Mitchell, 1985), the conceptual difficulties of locus of control make this shortcoming more critical, as reported correlations can easily be interpreted using alternative theories. Indeed, the documented causal relationship between locus of control and most of other variables can be the opposite of what the theory expects. This can be the case for the variable's relationship with performance (Judge & Bono, 2001), career success and positive task experiences (Ng, Sorensen, & Eby, 2006). One's consistent lack of success or bad performance can cause her to perceive events as uncontrollable, as can be inferred from attribution theory. The research on locus of control fails to provide any evidence to eliminate this explanation. Organ and Greene (1974), for example, reported a negative correlation between external locus of control and work satisfaction, a negative correlation between role ambiguity and work satisfaction and a positive correlation between external locus of control and role ambiguity. The authors concluded that externals perceive more role ambiguity and in turn felt less satisfied with their work. It is, however, perfectly plausible that higher role ambiguity caused workers to perceive less sense of control. The problem is more apparent in the study by Chen and Silverthorne (2008), which has a title that uses the word "impact" and implies a causal relation, in which external locus of control causes higher job stress and lower job performance and satisfaction, although the study is correlational.

It should also be added that one of the few quasi-experimental studies on locus of control and industrial psychology (Hansemark, 1998) did not support the explanation provided by the locus of control approach. The study showed that participating in an entrepreneurship programme increased the internality of participants, which was measured by Rotter (1966)'s scale. Although internal locus of control is considered as one of the antecedents of entrepreneurship in the literature (e.g. Jain, 2011; Mueller & Thomas, 2001), the quasi-experiment by Hansemark (1998) suggests that entrepreneurship can be the antecedent of internality.

Thirdly, the personality variables that are related to locus of control can also be used to explain its industrial correlates. One of the closely related variables, self-efficacy, is established to be a strong predictor of work-related performance in a meta-analytical study (Stajkovic & Luthans, 1998). Furthermore, in a longitudinal research, Abele and Spurk (2009) found that people's level of self efficacy at career entry affected their later salary and hierarchical status.

Finally, Rotter's (1966) I-E scale's high correlation with just world scales (Zuckerman & Gerbasi, 1977) poses another problem that should be considered when interpreting the literature on industrial psychology. One can argue that higher performance, job satisfaction or motivation might lead a worker to perceive the world as a just place and in turn show higher internality on locus of control scales. It can also be argued that another construct that has strong ties with belief in a just world, system justification (Jost, Banaji, & Nosek, 2004), can mediate the established

relationships, considering the fact that conservative ideology, a powerful predictor of system justification (Napier & Jost, 2008), is also related with internal locus of control (Gurin, Gurin, & Morrison, 1978; Zuckerman & Gerbasi, 1977), although any research to support such a hypothesis does not exist. Nevertheless, the items in the scales by Spector (1988) and Furnham (1986) strongly resemble the items in the economic system justification scale of Jost and Thompson (2000).

Conclusion

Locus of control is a personality variable that is widely elaborated in almost every subfield of psychology. Despite its common usage, the construct suffers from some methodological and theoretical problems. The scales that are used to measure the variable do not seem to be unidimensional as the theory suggests, while the construct's high correlation with some other traits raise suspicions on its authenticity. Moreover, supporting experimental or longitudinal data is almost absent and alternative theories hypothesize a causal direction that is the opposite of the one the theory defends. As argued above, these problems seem crucial for the studies in industrial psychology, which are exclusively correlational and mostly use unidimensional locus of control scales.

In spite of its shortcomings, locus of control is established to predict a considerable amount of workplace behavior, such as work performance, job satisfaction and turnover intention. It is claimed that such relationships can be better understood in terms of other variables such as self-efficacy, which is not only highly correlated with locus of control, but also with the industrial variables it predicts, e.g. work performance. It should also be considered that the related workplace constructs can affect one's perception of ability to control her life, as much as they are affected by it. Finally, belief in a just world and system justification are also proposed as alternative mediators of the relationships in the literature. It can be said that more experimental and longitudinal research is needed to compare the contrasting explanations which are proposed by alternative frameworks. In addition, the development of multidimensional field-specific scales, such as the Multidimensional Health Locus of Control Scales by Wallston, Wallston, and DeVellis (1978), which can differentiate locus of control from similar constructs in industrial context, could provide better means to analyze its reciprocal relation with organizational psychological variables.

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Competing Interests

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