

A Comparative Analysis of Internal-External Locus of Control among Hospital Personnel in Turkey and its Managerial Implications on Health Sector

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Abstract: Rotter's concept of "internal-external locus of control" has its foundation in "social learning theory" which is currently one of the most studied variables in psychology and the other social sciences. Locus of control (LOC) is a well-known cognitive-behavioral psychological dimension used to describe a person's characteristic way of perceiving the world. LOC is typically measured on an internal-external continuum. To the degree that a person's LOC is external, he or she will tend to perceive reinforcements as being the result of other people, luck, and circumstances beyond personal control. To the extent that a person's LOC is internal, he or she will report more control over life circumstances, and claim more personal responsibility for outcomes. Put another way, people with a more external LOC tend to believe that life experiences happen from the "outside-in," while those with a more internal LOC have an "inside-out" psychology. In this research, internal-external locus of control of hospital personnel in Istanbul-Turkey was comparatively analyzed. On the terms of internal-external LOC, statistically no meaningful differentiation was found among the health sector personnel at University, Ministry of Health and Private hospitals on the institutional base. It was found that there was not statistically meaningful difference on internal-external LOC for doctors when compared with managers and nurses. When the issue comes to nurses vs. managers, it was found that nurses were more externally controlled than the managers. Surprisingly, there was no positive meaningful correlation among the LOC scores with "educational level" and also "marital status". The variables that seemed to affect the scores of internal-external LOC were "age" and "work experience". With the increase in "age" and "work experience" of the participants, it was determined that they tended to behave more likely internally controlled.

Key words: Locus of control (LOC) % Internal locus of control % External locus of control % Social learning theory % Hospital

INTRODUCTION

Locus of control (LOC) as being a part of "social learning theory" is one of the most researched constructs since its introduction in the mid-1960 (Rotter, 1990). Since the mid-1960, there have been hundreds of studies concerning locus of control, and interest in the construct appears to still be growing. Not surprisingly, the concept of LOC has been widely applied to various interpersonal (e.g., seeking information, taking political action) and intrapsychic (e.g. defensive externality, attribution) phenomena (Strickland, 1989).

Definition of locus of control: A basic assumption of Rotter's "social learning theory" is that an individual's behavior is determined not only by the nature or importance of goals or reinforcements but also by the person's anticipation or

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expectancy that these goals will occur. "Expectancy" is defined as "a probability or contingency held by the subject that any specific reinforcement or group of reinforcements will occur in any given situation or situations". According to Rotter's theory, expectancies are the result of reinforcements, which act to either increase or decrease the expectancy that a particular behavior will lead to further reinforcements. In addition, to the extent that one situation is perceived as similar to another situation, a generalization of expectancies will occur. Therefore, expectancies for a given situation are a function of the reinforcement history in that situation and a generalization of expectancies from other related behavior-reinforcement sequences (Rotter, 1954).

According to Rotter's theory, an individual's expectancy of an outcome will predict behavior in a given circumstance. Rotter and his colleagues were interested in predicting how reinforcements alter behavior. Developing the concept of LOC was a useful way to explain these predictions. In addition, when the behaviorist approach competed with the emerging emphasis on cognitive psychology during the 1960s, development of the LOC concept was a way for social learning theorists to combine behavioral learning and cognitive learning theories (Rotter, 1975). With LOC, they explained how certain cognitions about control influence behavior change. Researchers simultaneously were moving away from emphasizing concepts of stable personality traits to an interest in behavior change. LOC was one notion that bridged this transition because it incorporated an individual characteristic as a means of predicting behavior change (Lefcourt, 1992).

LOC comprises beliefs about one's role in determining personal life outcomes. It is considered a generalized expectancy regarding the contingency between personal actions and their outcomes (Lefcourt, 1982). People are described as holding "internal" LOC beliefs when they perceive themselves as active and effective agents who determine their own life outcomes. Others are described as "external" if they believe that what happens in their lives to be determined by forces beyond themselves such as luck, chance, fate, or powerful others.

Rotter saw LOC as a relatively stable trait and believed that once formed, these beliefs can be difficult to change (Lawrence and Winschel, 1975). Rotter (1966) hypothesized that there are individual differences in the LOC variable that is important in comprehending learning processes and influencing behavior in many situations. And also, an individual does not have a clearly defined internal or external LOC, since LOC is a continuous variable, not a dichotomous one, and can vary situational (Rotter, 1966).

LOC refers to the perception that one can personally affect particular outcomes. Those with an internal LOC (internals) believe that work outcomes are based on their own effort, will, initiative and ability. Conversely, those with an external work locus of control (externals) believe that work outcomes depend on external factors, such as luck, fate, circumstance or knowing the right people (Spector, 1988).

Scales of Locus of Control: The research into the LOC construct was given momentum by Rotter Internal-External (I-E) Scale. This measure has received extensive use across a variety of studies with adult populations. Although other locus of control measures has been developed more recently, Rotter's scale has been used most widely. Rotter's (1966) locus of control scale was developed to measure only a general expectancy and therefore it could be argued either that it should not be used to predict actions in specific situations or domains of activity, or that it can predict all types of behavior in all situations. Since such a LOC scale is a device to measure a general orientation, if more accurate prediction of actions in specific situations is wanted then, argued Rotter (1975), a more specifically designed scale is necessary.

Although widely used, Rotter's (1966) I-E scale and the internal-external LOC construct are not without their problems. One misconception about the LOC concept mentioned by Rotter (1975) was the "good guy (internal), bad guy (external)" syndrome. In response to criticisms that the external scale of Rotter's I-E measure was not one-dimensional, Levenson (1975) developed the "Internal, Powerful Others, and Chance (IPC) Scale". In addition to an internal scale, Levenson divided the external scale into chance and powerful others dimensions.

Perhaps the most widely used general scale after that of Rotter's is Levenson's three-dimensional scale called the IPC scale which has been successfully used with various groups including prison inmates (Levenson, 1975). Levenson (1975) expanded this concept by proposing three independent dimensions: internality, influence of powerful others, and effects of chance occurrences. Internality corresponds to self-blame, and influence of powerful others corresponds to other-blame. An additional factor, "chance", was added to include those events that individuals believe are out of anyone's control.

In the last decade, researchers in some academic fields have moved away from the dichotomous conceptualization of LOC as either "internalizing" or "externalizing." Because some do not understand the concept of "chance", three LOC factors have been identified: internal, powerful others, and unknown causes (Connell, 1985). An "internal" LOC reflects the belief that one has personal control over events that occur. In contrast, a "powerful-other" orientation reflects the belief that events are not determined by one's own behaviors but by those of others who are in positions of authority or of power over the individual. Finally, an unknown orientation reflects a state in which an individual does not know why events occur.

Former Applications of Locus of Control: Locus of control is an important variable describing individual differences and predicting behavior in organizational settings (Spector, 1982). Individuals holding internal expectancies are more likely to take responsibility for their actions than are external individuals (Davis and Davis, 1972), and to attribute responsibility to others in situations where it is clearly indicated that the situation is beyond their control (Sosis, 1974). In task situations where performance plays a big role, internals are perceptually alert and attentive (Wolk and DuCette, 1974) and appear to put together and process information effectively for solving problems (DuCette and Wolk, 1972). Externals, on the other hand, appear to repeat tasks regardless of failure and make more erratic shifts than internals (Phares, 1957). As individuals move into adolescence, their LOC typically becomes more internal (Nowicki and Strickland, 1973).

Many writers have pondered the reasons for the phenomenal success of the LOC construct. Rotter argues that it may reflect the perception of increasing social problems and of the complexity of our world, with the attendant feelings of powerlessness and vulnerability (Rotter, 1975.). Lefcourt's wide-ranging review reaches a similar conclusion (Lefcourt, 1982). The construct has been particularly employed with children experiencing difficulties of learning, affect or behavior. One popular LOC scale for children (Nowicki and Strickland, 1973), for example, has been used in over 1,000 studies and published in many languages. Clearly, the construct taps into issues of fate and causality that have fascinated humankind since pre-recorded history (Rotter, 1990).

A major attraction of the LOC construct is that research has consistently shown a difference between normal and special populations. A greater inability to recognize a contingent relationship between one's behavior and subsequent outcomes has been demonstrated in studies of children with emotional and behavioral difficulties (Nunn and Parish, 1992), delinquency (Ollendick, *et al.*, 1980) and children with learning difficulties (Bender, 1987). Allied to these findings are studies which claim to demonstrate that various forms of psychological intervention can help such populations to recognize contingent relationships (Denkowski, *et al.*, 1983).

LOC has also been shown to be associated with other psychological characteristics and perceptions. People with an external LOC have been characterized by a preference for extreme risks, low persistence, and atypical shifts in level of aspiration in response to questions concerning academic, occupational, and cognitive situations (DuCette and Wolk, 1972); furthermore, they are less effective than people with an internal LOC in coping with life stress (Parkes, 1991) and evidence greater anxiety and depression (Benassi, *et al.*, 1988).

The construct of LOC has helped investigators to understand many contemporary issues. An internal LOC has been significantly related to academic achievement, social maturity, and appears to be a correlate of independent, striving, self-motivated behavior (Lefcourt, 1992). Conversely, an external LOC has been correlated with obesity, cigarette smoking, and other negative health behaviors (Greenberg, 1993). Even internally controlled people who were subjected to conditions of uncontrollable stress reported higher self-ratings of helplessness, tension, anxiety, depression, and autonomic nervous system changes (Breier, *et al.*, 1987).

Individuals with an internal LOC are more achievement oriented than those with an external LOC, and it reinforces the notion that individuals with an external LOC, who feel less effective in controlling their destinies, will be less well adjusted (i.e., more preoccupied with failure) than individuals with an internal LOC. A considerable body of research on the locus of control construct suggests that internals in the Rotter (1966) sense process information more effectively than externals and exercise greater mastery over their environment (Phares, 1976). This general mastery suggests that internals may be more effective on the job in some situations. Lefcourt, Martin, Fick, and Saleh (1985) reported evidence that both general internality and internality in LOC for affiliation were related to social sensitivity and social skill (Lefcourt, *et al.*, 1985), whereas locus of control for achievement was essentially unrelated to these criteria (Witt, L. Alan., 1988).

It also appears that LOC is associated with the way persons perceive themselves and believe others perceive them. Burns (1979), for example, found that individuals with high self-esteem and positive feelings of competence had an internal LOC, whereas those who felt insecure, unlucky, or inadequate, reported an external locus (Burns, 1979). Others have also found that externals report lower self-evaluations (Bellack, 1975) and poorer self-concepts than those with an internal LOC (Chandler, 1976). With specific reference to physical self-esteem and body image, individuals who possessed negative feelings about their bodies had lower general self-esteem and an external LOC (Mable, *et al.*, 1986). In another study, people who perceived themselves as having excellent physical skills had higher general self-esteem, an internal LOC, a lack of social anxiety and self-consciousness (Ryckman, *et al.*, 1982).

Nowicki and Strickland (1973) cited a variety of studies showing a relationship between internal LOC and higher achievement in reading, math, and self-esteem (Nowicki and Strickland, 1973). In an academic environment, LOC refers to the way a student accounts for personal successes and personal failures in school. In addition, Trice and Milton (1987) found that procrastinators had greater external locus of control than nonprocrastinators (Trice, 1987). In addition, Rothblum, Solomon, and Murakami (1986) found that procrastinators were more likely than nonprocrastinators to attribute success on exams to external factors. The link between LOC and procrastination has also been investigated by others (Rothblum, *et al.*, 1986). Nonprocrastinators have displayed greater internality than procrastinators [44], while procrastinators attribute success on examinations to external and unstable factors, a pattern consistent with an external LOC (Rothblum, Solomon and Murakami, 1986).

External LOC has been linked with a particular way of coping. The individual with an external LOC is perceived to see obstacles as insurmountable in comparison to internals who perceive these obstacles as generally surmountable since they hold a belief in their own control (Aiken and Baucom, 1982). Studies in the United States have reported an association between an external locus of control and depression (Aiken and Baucom, 1982). Sidrow and Lester (1988) reported that an external LOC was also associated with suicidal preoccupation (Sidrow and Lester, 1988).

Evidence indicates that locus of control has important implications for performance and well-being at work; thus, as compared with externals, internals tend to be more purposeful and goal-directed in work activities, and to be more active in attempting to control their work situation. Externals who perceived their work to be high in demand and low in discretion (high-strain conditions) showed higher levels of affective distress than internals under similar conditions.

LOC has been shown to moderate the relationship between job characteristics and job-related outcomes. Parkes (1991) found that LOC moderated the relationship between job demand and autonomy and stress. High demand-low autonomy jobs were more stressful for externals than for internals. Even under low demand-high autonomy conditions, externals still experienced anxiety (Parkes, 1991). Spector (1982) suggested that externals may be best suited to employment situations with less autonomy (Spector, 1982). Thus, LOC is related to reactions to one's work environment.

METHODS

Participants and data collection: There are totally 50 hospitals of Ministry of Health in Istanbul, 18 of them are educational and research hospitals and 32 of them are service hospitals. In addition to this, there are 7 university hospitals and 135 private hospitals in Istanbul. The sample of this research included 360 individuals from 6 hospitals. These

hospitals were chosen as 2 hospitals from each 3 categories of ministry, university and private hospitals for a better homogeneity.

The aim of the study was to reach 20 doctors, 20 nurses and 20 hospital managers from each of these 6 hospitals to reach a total sample of 360 individuals. At the end of the application, the total number of the questionnaire collected was 276 with an in return percentage of % 76. The participants were composed of 95 doctors (%34.4), 111 nurses (%40.2) and 70 hospital managers (%25.4).

Procedure and Scale: In the beginning of the application phase, the forms and useful information about the questionnaires was given face to face to the Head of Doctors of 6 hospitals. The aim was to get the questionnaires back in a week, but to increase the participation level, the hospitals were visited at least 3 at most 5 times. It was decided at the beginning of research to put the ones out of the research that did not fill the questionnaires after 5 times of effort. This research was conducted during February 2006-May 2006 in Istanbul.

The socio-demographic part of the questionnaire (5 questions) was formed with the contribution of two academicians from the statistics and management fields after being applied to 10 test subjects in advance. The main part of the questionnaire was "Rotter's Internal-External Focus of Control Scale" which was translated firstly into Turkish by Hüseyin Da- in 1991. Rotter's (1966) Internal-External Locus of Control Scale is a 29 item forced-choice test measuring an individual's generalized expectations about how reinforcement is controlled by internal or external means. The higher the scores mean the greater external orientation in locus of control (Öahin, Nesrin Hisli, 1997).

Statistical Treatment: The data were analyzed in SPSS 11.5 statistical program. As directed in the manual of the program, the negative-directed questions were transformed into positive. In the analysis; frequency dispersion, t-test in independent groups, one-way variance analysis, Tukey test for post hoc evaluations, Pearson correlation test and multiple regression analysis (enter and stepwise) were used.

RESULTS

Table 1: The Socio-Demographic Characteristics of the Participants

Characteristics	Categories	n	%
Type of Hospital	University	89	32.2
	Ministry of Health	99	35.9
	Private	88	31.9
Occupation	Doctor	95	34.4
	Nurse	111	40.2
	Manager	70	25.4
Marital Status	Single	107	38.8
	Married	169	61.2
Total	276	100.0	

The participants were composed from 3 types of hospitals; university hospitals with a percentage of % 32.2, ministry of health hospitals with % 35.9 and private hospitals with the percentage of % 31.9. The participants were % 40 nurses, % 34 doctors and % 25 managers while % 61 of them were married.

The participants had an average age of 34.9 ± 8.9 and average work experience of 6.7 ± 2 . The youngest of the participants was 28 while the oldest was 65 years old. The shortest work experience was 1 while the longest was 30 years.

The scale average of the total score was between 0 and 23 points in determining the internal-external locus of control. The least score was 1 while the most was 19 and the average score appeared as 9.90 ± 3.7 .

A meaningful statistical difference was not found when the “marital status” of the participants were compared with the scores of the locus of control scale ($p=0.273$). The “educational status” of the participants was classified to 5 categories from high school to doctorate degree. The average scores of locus of control of the participants were differentiated between 9.4 ± 3.5 and 10.6 ± 2.8 and a statistically meaningful difference was not found among these differentiated data ($p<0.05$).

Table 2: The Average Scores of Locus of Control of the Participants among Hospitals

Hospitals	n	Mean	Std. Deviation
University	89	10.7528	3.49441
Ministry of Health	99	9.6970	3.79165
Private	88	9.2955	3.62037
Total	276	9.9094	3.68028

When the average scores of locus of control of the participants were in comparison with the type of hospitals, participants of university hospitals had an arithmetic mean of 10.75 ± 3.5 , participants of ministry of health hospitals had 9.69 ± 3.8 and participants of private hospitals had 9.29 ± 3.6 . They can be listed as; private, ministry of health and university hospitals on an internal-external continuum.

Table 3: The Comparison of Average Scores of the Locus of Control Scale of Participants among Hospitals

Hospitals Compared		Difference in Means	p	f
University	Ministry of Health	1.05	0.118	3.802
	Private	1.45	0.022*	
Ministry of Health	Private	0.40	0.733	

* Statistical Meaningfulness

When the scores above are compared, a statistically meaningful difference was found between the university and private hospitals ($p<0.05$).

Table 4: The Average Scores of Locus of Control Scale of Participants among Occupations

Occupations	n	Mean	Std. Deviation
Doctor	95	9.75	3.98
Nurse	111	10.58	3.50
Manager	70	9.04	3.34
All participate together	276	9.90	3.68

The doctors had 9.75 ± 3.98 , the nurses had 10.58 ± 3.50 and the managers had 9.04 ± 3.34 of average scores of locus of control scale while the average of the whole participants was 9.90 ± 3.68 . As the score increases that means greater external control, the occupations can be listed as manager, doctor and nurse on an internal-external continuum.

Table 5: The Comparison of the Average Scores of Locus of Control Scale of Participants among Occupations, (One-Way Variance Analysis Was Used)

Groups Compared		Difference in Means	p	f
Doctor	Nurse	-0.82	0.236	3.97
	Manager	0.71	0.427	
Nurse	Manager	1.54	0.001*	

* Statistical Meaningfulness

A statistically meaningful difference was not found among the average scores of locus of control of the doctors with nurses and also managers. But a statistically meaningful difference was found between the average scores of locus of control of the nurses and managers ($p < 0.05$).

Table 6: The Score Correlation of Locus of Control Scale of the Participants on the Base of Age and Work Experience, (Pearson Correlation Test Was Used)

Groups of Correlated	R	P
Age-Score	-0.271	0.000
Work Experience-Score	-0.138	0.021

In the correlation analysis, a weak and negative correlation was found between “age” and the score of locus of control scale and between “work experience” and the score of locus of control scale ($p < 0.05$). This correlation was found statistically meaningful

Due to a known interaction between “age” and “work experience”, a multiple regression analysis was operated for these variables. In the regression analysis phase, firstly “enter” secondly “stepwise” methods were operated. In both situations, the effect of the “age” was found as meaningful ($p = 0.000$), while the effect of the “work experience” was found meaningless ($p = 0.742$). According to these inferences the formulation of the linear regression analysis appeared as follows: $\text{Score} = 13.8 - 0.270 * \text{age}$ ($p = 0.000$ for both 13.8 and also 0.27)

DISCUSSION AND CONCLUSIONS

On the terms of internal-external locus of control, statistically no meaningful differentiation was found among the health sector personnel of university, ministry of health and private hospitals. Similar to this, there was no positive meaningful correlation among the locus of control scores and “educational level” and also “marital status”. The reason for this observation could be the general rise in educational level which also affects the approach to marriage decision.

It was found that nurses were more externally controlled than the managers. They were statistically differentiated from managers, considering the weak participation of them in management process of the hospitals when compared with managers who highly involve in decision making process of management issues. It was found that there was not statistically meaningful difference of internal-external locus of control between the doctors and managers, considering the doctors’ control and influence over management issues like managers due to their higher social status. Because the doctors are obliged to do almost the same service in clinics with nurses as close partners, no statistically difference was found between the doctors and nurses as to the extent of locus of control. One more reason for the doctors’ similarity on the locus of control with the nurses and managers could be the nature of their multi-disciplined job’s interdependency with nurses and managers to get the best result at work.

The variables that seemed to affect the scores of internal-external locus of control were “age” and “work experience”. With the increase in “age” and “work experience” of the participants, it was determined that they tended to behave more likely internally controlled. The interaction between the “age” and “work experience” is already known. Multiple linear regression analysis was used to determine whether “age” or “work experience” had an effect on the scores of locus of control scale. Surprisingly found that not the “work experience” but the “age” had an effect on the scores of the locus of control scale with an “r square coefficient” of 0.07.

Parallel to the improvements through the world, Turkey has opened a new period with the reforms in health to institutionalize the national health sector. Although the reorganizations of the public and private sector health institutions were important, the “human resource management” activities are believed to play the most important role in this reform process. The desired human resource management approach in health sector emphasizes the transition of the classical

“personnel management approach” into the “strategic management” and “strategic planning”. They are focused on “shared vision” of health sector manpower by uniting the different perspectives of health sector components (doctors, nurses, managers) on a common framework.

The internal-external locus of control has also connotation with the “culture” which derives from social anthropology. Culture is a collective phenomenon, because it is at least partly shared with people who live or lived within the same social environment, which is where it was learned. Every person carries within him or herself patterns of thinking, feeling, and potential acting which were learned throughout their lifetime. Countless social scientists, particularly cross-cultural psychologists and cultural anthropologists with the cultural frameworks of Kluckhohn and Strodtbeck (1961), Hall (1976), Hofstede (1980) and Trompenaars (1998) give an initial understanding of the cultures they describe, and are useful for understanding differences in cultures on effective management.

American anthropologists Kluckhohn and Strodtbeck (1961) developed a framework of six dimensions to describe the values orientation of a culture. One of the dimensions so called “activity orientation” questions, “what the primary mode of activity in a given society is doing, being, or controlling? Is it “being” or accepting the status quo, enjoying the current situation, and going with the flow of things; or “doing” or changing things to make them better, setting specific goals, accomplishing them within specific schedules, and so forth? In a doing culture, emphasis is on action, achievement, and working. Motivation is gained through increases in salary, promotions, and other forms of recognition (Kluckhohn and Strodtbeck, 1961).

Fons Trompenaars also developed a framework to examine cultural differences, using Kluckhohn and Strodtbeck's theory (1961) described previously. Trompenaars describes cultural differences using seven dimensions. In Trompenaars' “relationship to nature” dimension “internal-oriented cultures” believe nature is controllable in which inner-directed employees tend to believe they control their own destinies. In “external-oriented societies” the individual, group or organization is in control of a situation in life while “outer-directed employees” are more flexible who try to harmonize with the environment and have more focus on the “other” (McFarlin Dean, *et al.*, 2006).

In internal-oriented cultures, people see the major focus affecting their lives and the origins of vice and virtue as residing within the person of which motivations and values are derived from within. External-oriented cultures see the world as more powerful than individuals who see the nature as something to be feared or emulated (Trompenaars, *et al.*, 1998).

Although internal versus external locus of do not exactly distinguish the successful from the less successful, success is identified with control over outside circumstances in West cultures. Outer-directed need not mean God-directed or fate-directed, it may mean directed by the knowledge or the hierarchy which is easier to manage (Trompenaars and Hampden-Turner, 1998).

From the point of managers, inner versus outer-directedness is a vital issue in conflict management. Inner-directed managers generally override the opinions of those around them and talk less which may cause to intensify the magnitude of the conflicts. Inner-directed managers make deathless decisions, against which the ideas of subordinates cannot prevail in which the situation is worse in steep hierarchy (Hampden-Turner, *et al.*, 2000).

The importance of the cultural diversity movement stems in large part from the predicted demographic shifts that are already underway in health sector labor force. The nation's workforce will be reshaped by the next century with respect to age, sex, and race composition. Those predictions suggested that public and private health sector workforces would become more socially diverse because of shifts in the overall population. Increasing diversity forces organizations to recognize the unique needs and cultural backgrounds of their personnel. With this respect, public and private health organizations should begin to respond to those demographic projections. In particular, organizations should develop and implement an assortment of diversity training programs with the ultimate goal of remaining viable and competitive.

The developments in this changing world force the health sector to inaugurate reforms from the “human resources perspective” firstly. Then, it’s obvious to have a better understanding of the human resources of the sector. Determining the scores of internal-external locus of control of the doctors, nurses and managers will help to have a better understanding of the manpower with the other variables altogether.

The results of this research emphasize that the “age” and “work experience” factors should be determined firstly in designing the work flows and job analysis of doctors, nurses and managers. The extent of internal-external locus of control has also a vital importance in understanding and solving problems of health sector as a whole.

Those organizations which can adapt to "culturally different" individuals will have the opportunity to attract and retain the most qualified people in these groups and to elicit the best performance from them.

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