

# Big Five Personality Traits and Equity Sensitivity and Transformational Leadership

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**Abstract**—The relationship among the three of Big Five personality traits (extraversion, agreeableness, and openness to experience) and equity sensitivity (benevolence) and transformational leadership behavior was examined with the subject of 104 MBA students at a graduate school in the US. Equity sensitivity refers to the individual differences in the preference for exceeding personal efforts relative to the organizational outcomes. As a result, openness to experience and equity sensitivity showed significant positive relationships with transformational leadership. The effect of equity sensitivity on transformational leadership was beyond that of Big Five personality traits.

**Index Terms**—Benevolence, equity sensitivity, openness to experience, transformational leadership.

## I. INTRODUCTION

As the current organizations struggle to survive in the competitive environment, it becomes more important to elicit the best performance of employees. In various settings, transformational leadership has been shown to be effective in motivating employees to put extra efforts into the development of organization [1]. Transformational Leaders are concerned about how to satisfy their employees' individual needs, stimulate their thoughts, and inspire and motivate them to yield positive outcomes for their organizations. A significant amount of empirical studies support the effectiveness of transformational leadership in organizations [2].

Relative to accumulated work regarding the effects of transformational leadership, there has been little concern on what determines transformational leadership. The present study explores equity sensitivity (benevolence) as well as some of Big Five personality (extraversion, agreeableness, openness to experience) as important antecedents of transformational leadership emphasizing its contribution-oriented characteristic.

In business education, there has been little interest in the relationship between benevolent characteristics and business leadership (but not necessarily limited to business area) that can significantly impact on organizational performance. The proposed study, which explores the relationship between equity sensitivity (benevolence) and transformational leadership, may shed a light on the importance of benevolent characteristics of effective leaders.

## II. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Cross-cultural validity of Big Five personality model [3] has been proved [4], and a significant amount of research has used this model in studying the relationship between personality and leadership [5]. Big Five personality traits consist of extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. Extraversion is the tendency of being "sociable, gregarious, assertive, talkative, and active," and agreeableness is being "courteous, flexible, trusting, good-natured, cooperative, forgiving, soft-hearted, and tolerant." Conscientiousness is the tendency of being "dependability, careful, thorough, responsible, organized, and planful," and openness to experience refers to being "imaginative, cultured, curious, original, broad-minded, intelligent, and artistically sensitive." Lastly, neuroticism is associated with the tendency of being "anxious, depressed, angry, embarrassed, emotional, worried, and insecure." [6]

Based on the strong predictability of the Big Five personality traits, researchers have examined the relationship between personality and transformational leadership behavior. As transformational leadership predicts positive job performance and employee satisfaction, it has been meaningful to discover the association between personality and transformational leadership. However, a meta-analysis [7] finds relatively less significant relationship between personality and transformational leadership than between personality and leadership emergence. Due to the mixed results of previous studies and based on popularity of personality tests, this study examined the relationship among Big Five personality traits and transformational leadership.

Since transformational leadership requires frequent interactions with followers to inspire and motivate them, extraversion can be positively related to transformational leadership. Based on frequent interactions, by forming a close relationship with followers, extraverted individuals may be more likely to be transformational leaders than introverted individuals.

*Hypothesis 1: Extraversion is positively related to transformational leadership.*

Since transformational leaders exhibit higher individualized consideration to employees than traditional leaders, agreeableness was also assumed to have a positive relationship with transformational leadership. Helping, cooperating, and nurturing behaviors could enhance the process of motivating followers to go beyond their own interests toward the organizational vision.

*Hypothesis 2: Agreeableness is positively related to transformational leadership.*

A positive relationship between openness to experience and job performance has been shown when job requires a significant degree of creativity and innovation [8], [9]. It may influence leaders' ability to adapt to changing environments. Being "artistically sensitive and broad-minded" may support individualized consideration and intellectual stimulation which are important dimensions of transformational leadership. Transformational leaders pursue development of organizations and employees by showing a specific future vision and acting as change agents. Openness to experience is assumed to be positively associated with transformational leadership by making leaders adapt to change of organization and illustrate a future vision to others in effective ways.

*Hypothesis 3: Openness to experience is positively related to transformational leadership.*

Next, transformational leaders tend to be more willing to care for the whole organization rather than pursuing their own interests [10]. The explanation of willingness to care for people is close to the conceptualization of benevolence in equity sensitivity theory [11]. Equity sensitivity theory [11] was developed out of equity theory [12], which explains that people had a tendency of comparing their ratios of outcomes/inputs with the ratios of their referent others. According to the explanation by Chhokar et al. [13], inputs are referred to as the "age, social status, education, effort, and ability," and outcomes are related to the "money, increased status, authority, enjoyable work, and duties." (p. 80) In short, Inputs provide sources of a social exchange, and outcomes are attained by exchange. According to equity theory, when people perceive inequity between two independent ratios, they feel emotional distress and tension and try to restore the equity between their ratios and their referent-others' ratios. Equity sensitivity theory classifies individuals into three specific categories: entitled, equity sensitive, and benevolent.

Entitled individuals tend to assume that the organization and other people are their debtors, and thus usually do not endure the situations in which they are paid less than their referent others. They prefer their outcome/input ratio to exceed those of their referent others, and try to gain from the organization as much as possible. [14]. they mainly focus on the outcomes of their jobs and try to maximize their benefits. They prefer extrinsic to intrinsic rewards [15]. However, equity sensitive individuals prefer that their outcome/input ratios are equal to the ratios of their referent others and normally follow the norm of reciprocity in equity theory.

In contrast to the entitled and equity sensitive individuals, benevolent individuals are more tolerant of an under-reward situation [16]. Their level of dissatisfaction and intent to leave are much lower than the other types of individuals in the under-reward situation [17]. Rather, benevolent individuals prefer a relatively higher ratio of their inputs to the outcomes from their organization [18]. They focus more on their contribution to their organizations than on the organizations' rewards. They are also concerned with keeping good relationships with others and have more

emphasis on intrinsic rewards. Thus, they have a tendency to be more cooperative with others and consider others' interests as important. Based on this tendency, they can recognize the importance of their organizational value and mission, and they may draw others' attention to organizational values. In addition, benevolent individuals can affect their co-workers or followers by showing positive attitudes toward their organizations and accommodating the organizational benefits rather than pursuing their own interests. Therefore, benevolent characteristics of individuals are assumed to be positively associated with their transformational leadership.

*Hypothesis 4: Equity sensitivity is positively related to transformational leadership (Specifically when benevolence increases, transformational leadership also increase).*

### III. METHOD

One hundred and twelve MBA students enrolled in a management course of a large university in the southern part of U.S. were asked to respond to survey questionnaire at two different points of time. 104 MBA students completed both points of time, and the response rate was 93 percent. Among the sample, 46 were male students (45%), and 56 were female (55%). Almost every student had a current or previous job experience except five. The average age was 27.

The Personality Inventory Questionnaire, Equity Preference Questionnaire (EPQ), and Multifactor Leadership Questionnaire-Form 5X (MLQ-5X) were used to measure individual personality, equity sensitivity, and transformational leadership. Personality Inventory Questionnaire, which was developed by Goldberg [19], is an "easily available, broad-bandwidth personality inventory." [20]. In contrast to the previous researchers [21], Goldberg developed items through international collaboration and presented them on an internet website. Differentiated from MLQ [10], MLQ-5X [22] separates the attribution of idealized influence from the behavior, which makes it more concise and effective to measure transformational leadership behavior than the previous.

With respect to equity sensitivity, most of previous researchers had used the Equity Sensitivity Instrument (ESI) [11], however there were some problems in using the ESI. It was composed of five questions to make respondents divide 10 points to two choices (entitled and benevolent) for each sentence according to how closely the choice describes their ideas and characteristics. The ESI score was calculated by the sum of the scores in five benevolent choices. Among the respondents, people below 1/2 standard deviation from the mean of the ESI scores were categorized into entitled individuals, while people above 1/2 standard deviation were characterized as benevolent. People between the two groups were conceived as equity sensitive individuals. The rationale of this scoring procedure, however, was potentially affected by the sample specific characteristics [17]. In other words, individuals with the same score could be perceived as different groups in other settings. There was no obvious explanation for why the organizational context should impact the score of equity sensitivity and how it could be corrected

by the application of different cutting scores [23]. Based on this critique, the EPQ was developed with 16 items and a five-point of Likert scale, and the validity and internal consistency was proved by the study of Sauley and Bedeian [23]. In contrast to the nominal measure of the ESI, the EPQ is a continuous measure, and the EPQ score means the degree of the benevolent preference that a respondent possesses. Considering these aspects, the EPQ should be considered as the primary measurement of equity sensitivity.

Personality and Equity sensitivity as well as demographic characteristics (age, gender, and major) were measured first, and then transformational leadership measured after about one month to reduce the common method variance. The data was analyzed by hierarchical multiple regression analysis (two steps) using PASW 18.0 program. The first step model included Big five variables as independent variables. The second model included equity sensitivity as additional variable to examine the significance of partial explanation.

#### IV. RESULTS

##### A. Descriptive Analyses

Before conducting multiple regressions analysis, mean,

standard deviation, Cronbach alpha, and zero-order correlation was checked. As presented in Table 1, Extraversion, agreeableness, conscientiousness, neuroticism, openness to experience, and equity sensitivity all have a significant positive correlation (negative for neuroticism) with transformational leadership. Equity sensitivity has the strongest association with transformational leadership followed by openness to experience, conscientiousness, neuroticism, extraversion, and agreeable- ness.

##### B. Hypotheses Testing

Table 2 presents results of hierarchical multiple regression analyses. Basically, in model 1 (step 1), the relationship is tested between Big Five personality traits and transformational leadership. In model 2 (step 2), the relationship is tested between Big Five personality and equity sensitivity and transformational leadership checking the significance of incremental explanation by equity sensitivity.

TABLE I: DESCRIPTIVE STATISTICS, CORRELATIONS, AND RELIABILITIES

Variables	Mean	SD	1	2	3	4	5	6	7
1. Extraversion	32.94	8.65	(.90)						
2. Agreeableness	38.68	5.77	.26**	(.79)					
3. Conscientiousness	37.82	6.48	.10	.24*	(.84)				
4. Neuroticism	27.86	7.84	-.19	-.07	-.20*	(.88)			
5. Openness to experience	37.23	5.38	.28***	.14	.35***	-.33***	(.74)		
6. Equity sensitivity (Benevolence)	63.29	9.77	.16	.23*	.36***	-.23*	.14	(.87)	
7. Transformational leadership	11.63	2.13	.23*	.20*	.28**	-.25**	.47***	.49***	(.52)

$n = 104$ ; alpha reliabilities are given in parentheses. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Control variables (age, gender, major) are excluded in correlation table since they did not show any significant correlation with transformational leadership.

TABLE II: MULTIPLE REGRESSION ANALYSIS (TRANSFORMATIONAL LEADERSHIP)

Variables	Model 1			Model 2		
	B	SE B	$\beta$	B	SE B	$\beta$
Constant	3.547	2.144		-.489	2.106	
Extraversion	.017	.023	.071	.008	.021	.034
Agreeableness	.037	.034	.101	.017	.031	.046
Conscientiousness	.031	.031	.095	-.011	.030	-.034
Neuroticism	-.024	.025	-.087	-.004	.023	-.016
Openness to Experience	.149***	.039	.376	.160***	.036	.403
Equity sensitivity (Benevolence)				.091***	.019	.420
F	6.970***			11.049***		
Adjusted R2	.225			.369		
$\Delta R2$				.144***		

\*\*\*  $p < .001$ .

Results did not show any significant relationship between extraversion and transformational leadership ( $\beta = .071, p > .05$ ). Hypothesis 1 was not supported. Results did not show any significant relationship between agreeableness and transformational leadership ( $\beta = .101, p > .05$ ). Hypothesis 2 was not supported.

However, as assumed in hypothesis 3, there was a significant relationship between openness to experience and transformational leadership ( $\beta = .376, p < .001$ ). When the model controlled Big Five personality traits at step 1, equity sensitivity still had a significant relationship with transformational leadership. Thus, hypothesis 4 was supported ( $\beta = .420, p < .001; \Delta R^2 = .144, p < .001$ ). In model 2, the significant relationship between openness to experience and transformational leadership was not disappeared ( $\beta = 0.403, p < 0.001$ ).

Overall, model 1 which included extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience explained 22.5% of the variance in transformational leadership, and it means personality traits

are important determinants of transformational leadership. Model 2 which included both equity sensitivity and personality traits explained 36.9% of the variance in transformational leadership, and this suggests that equity sensitivity is an important antecedent of transformational leadership as well.

#### V. DISCUSSION

Openness to experience and equity sensitivity are shown to be important antecedents for transformational leadership. Individuals who have open mind for various perspectives and new challenges motivate others to go further than current status. Benevolent individuals also inspire others to go beyond expectation for their community. However, some cautions are required to interpret the results of this study. According to the explanation of [24], effects of personality traits can be varied by the kind of sample groups. Thus, effects of personality should be explained within specific context.

There were limitations in methods. First of all, the data is collected from small number of MBA students. In order to generalize results of this study, future researchers should collect data from other types of group with more sufficient sample size. In addition, independent variables and dependent variable were measured by a single source; despite they were measured at different points of time. Future studies can reexamine the relationship between equity sensitivity and personality and transformational leadership collecting leadership data from other sources.

In conclusion, this study supports trait-based research by suggesting personality traits (openness to experience) and equity sensitivity (benevolence) as important determinants of transformational leadership. It is noticeable that the degree of explanation by benevolence on transformational leadership was beyond that of Big Five personality traits. Future researchers should consider benevolence as an important foundation of transformational leadership and try to find how this characteristic can be attained. It might be drawn from individual value propositions or attitudes such as organizational commitment. Organizational practitioners or school teachers can use benevolence and openness to experience for employee selection tests or leadership education, since benevolent and open-minded individuals are likely to be transformational leaders.

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