

Mapping a Psychological Process Underlying the Causal Link from Locus of Control to Intrinsic Job Satisfaction: The Mediating Role of Perceived Work Environment

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The present study investigated the relationship among internal locus of control, perceived creative work environment, and intrinsic job satisfaction. Two models were proposed based on past research. A first model tested a direct effect of internal locus of control on intrinsic job satisfaction (Direct Effect Model); and a second model tested a mediation effect of perceived creative environment linking internal locus of control to intrinsic job satisfaction (Mediation Model). Data were collected from those who graduated from a major research university in Japan ($n=227$). The study revealed that the direct effect of internal locus of control on intrinsic job satisfaction was positive and significant; also, the effect was partially mediated through perceived creative work environment. The meaning of the findings and directions for future research are discussed.

Keywords : locus of control, perceived creative work environment, intrinsic job satisfaction

1 Introduction

Over the years, dispositional influence on job satisfaction has attracted much attention in the field of organizational behavior. The considerable interest

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in this subject originates in Staw and Ross (1985) who demonstrated cross-situational and temporal stability of job satisfaction for a national random sample of 5,000 men aged 45 to 59. Since then, research has been accumulated that consistently substantiated the claim for dispositional influence on job satisfaction. For example, Gerhart (1987) found that the claim could be extended to the young cohort of the national random sample. More recently, Steel and Rentsch (1997) examined the stability of job satisfaction for military employees. As a result, they found significantly positive correlations between job attitudes recorded at two points in time (over a ten-year time interval) for those employees who performed different tasks over time as well as for those who continued to perform similar tasks. The implication of this line of research is that the personality-based view of job satisfaction cannot be easily replaced by an influential alternative view that job satisfaction is socially constructed and highly subject to situational influences (see Salancik & Pfeffer, 1977, 1978).

In late 1980's, a series of research emerged that

addressed the question of the relative strength of situational versus dispositional forces in determining job satisfaction a person experiences at work. Arvey, Bouchard, Segal, and Abraham (1989), for example, examined the extent to which job satisfaction are shared between monozygotic (identical) twins. Consequently, they found that about 30 percent of the variability in job satisfaction is explained by genetic components.

The dispositional theory on job satisfaction has made further advancements by its attempt to identify specific psychological individual difference variables that may underlie the trans-situational and temporal stability of job satisfaction. For example, some studies have indicated that positive affect (PA) was positively related to positive work attitudes (George, 1989; Watson & Slack, 1993), while negative affect (NA) was inversely associated with the criteria (George, 1989; Levin & Stokes, 1989). More recently, a meta-analytic study by Thorensen and Judge (1997) examined the links between PA and job satisfaction and between NA and job satisfaction and found overall true score correlations of +.52 and -.40, respectively. More broader constructs such as the Big-5 personality traits have also been investigated as antecedents of job satisfaction. Consequently, neuroticism (extraversion) has been found to be negatively (positively) associated with job satisfaction (Al-Mashaan, 2001; Costa & McCrae, 1980; Haynie, Hartman, & Lundberg, 2007; Judge, Bono, & Locke, 2000; Tokar & Subich, 1997).

Going a step further to continue this theoretical development, researchers have begun to explore the psychological mechanisms through which dispositional traits get translated to job satisfaction. For example, Weiss and Cronpanzano (1996) suggested the possibility that affective temperament causes emotionally significant events at work, which in turn affect job satisfaction. Also, Judge, Locke, and Durham (1997) and Judge, Bono, and Locke (2000) demonstrated that core self-evaluation, which is composed of self-esteem, generalized self-efficacy, internal locus of control, and low neuroticism, affected job satisfaction both directly and indirectly through job complexity.

As can be seen from this overview, the dispositional research can be characterized by three

developmental stages. The earliest research avenue was devoted to demonstrating cross-situational and temporal consistency of job satisfaction, without identifying what specific dispositional traits were behind the consistency (e.g., Arvey, et al., 1989; Gerhart, 1987; Staw & Ross, 1985; Steel & Rentsch, 1997). The next avenue of research attempted to fill in the “black box” of dispositions with specific psychological individual difference variables (Al-Mashaan, 2001; Costa & McCrae, 1980; George, 1989; Haynie, Hartman, & Lundberg, 2007; Levin & Stokes, 1989; Thorensen & Judge, 1997; Tokar & Subich, 1997; Watson & Slack, 1993). Finally, the most recent avenue, albeit sparse, has explored the why of the dispositional effect by mapping psychological processes through which individual dispositional traits get translated to job satisfaction (see, e.g., Judge & Bono, 2001; Judge, Bono, & Locke, 2000).

The present study belongs in the third research avenue. The purpose is to advance our understanding about the relationship among locus of control, perceived creative work environment, and intrinsic job satisfaction. More specifically, we are interested in whether locus of control leads to intrinsic job satisfaction directly and/or indirectly through the perception of work environment. As reviewed previously, locus of control is a component of Judge, Bono, and Locke’s *core self-evaluation* (self-esteem, generalized self-efficacy, low neuroticism, and locus of control). Of those components, we would like to focus on locus of control for the following reasons. First, as compared to self-esteem and self-efficacy, locus of control seems to be more stable across situations and over time. Although they are known to be stable for people who have reached maturity, self-esteem and self-efficacy may still be influenced either positively or negatively depending on their effectiveness in dealing with their work environments that are changing continuously (often radically) due to technological advancements in the modern society. Second, although it is probably as stable as locus of control, neuroticism is at least partly to predict negative emotional states. Thus, the inclusion of the trait may not bring much logical independence in the predictor-criterion relationship.

This study also addresses job *intrinsic* satisfaction rather than *overall* or *general* job satisfaction. The

reason for this comes from a methodological concern. Research suggests that intrinsic satisfaction/motivation comes mainly from the nature of the task (Deci & Ryan, 1985; Hackman & Oldham, 1980; Lawler, 1994; Thierry, 1990) and also from “internal” characteristics of the person (Amabile, Hill, Hennessey, & Tighe, 1994; Komaraju, Karau, & Schmeck, 2009; Watanabe & Kanazawa, 2009), while antecedents of extrinsic satisfaction/motivation include a variety of job context factors, such as fairness of reward system, human relations, workload, physical working conditions, etc. Thus, a model predicting intrinsic satisfaction alone, as compared to that predicting satisfaction with both job content and contextual factors, needs fewer variables to statistically control for and can avoid criticism that what is to be identified as a dispositional source of satisfaction is the product of unspecified influences of the job context factors.

In what follows, we develop a hypothesized model of the relationship among locus of control, perceived creative work environment, and intrinsic job satisfaction.

2 Hypothesized Model

Figure 1 contains the hypothesized model. As shown in the figure, the model includes a specific dispositional factor (internal locus of control) and the perception of a specific situation factor (perceived creative work environment) as antecedents of intrinsic job satisfaction.

2.1 Internal locus of control and intrinsic job satisfaction

According to the Theory of Perception Mechanism (Spector, Zapf, Chen & Frese, 2000), traits act as a filter to shape one’s perception about the world. People with some traits see the world in a negative way, while others see it in a positive way. For example, research on affective disposition has indicated that negatively disposed individuals tend to experience negative mood at work (see George, 1989; Thorensen & Judge, 1997; Watson & Slack, 1993), while positively disposed individuals tend to be satisfied in their work situations (see George, 1989; Levin & Stokes, 1989; Thorensen & Judge, 1997; Watson & Slack, 1993).

The construct of locus of control, originally developed by Julian B. Rotter (1954), is also an aspect of personality that functions as eyeglasses to shape one’s interpretation of the world. It refers to a person’s perception about what causes good or bad events in his or her life. People with high internal locus of control tend to believe that outcomes of their actions are contingent on what they do. They incline toward the belief that their behaviors are guided by their own personal decisions and efforts. Those individuals with external locus of control, on the other hand, tend to believe that their behaviors are guided by external forces or circumstances that are beyond their control. Past research has consistently showed that people high on internal locus of control have a strong tendency to be satisfied with their situations.

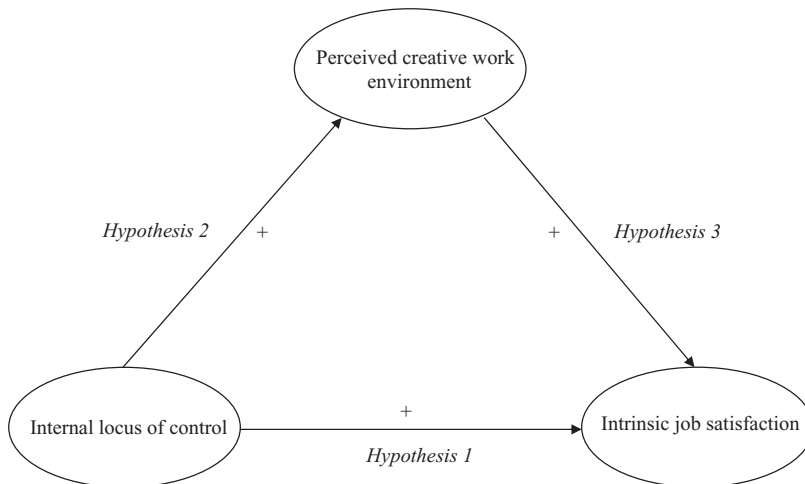


Figure. 1 Hypothesized Model for Predicting Intrinsic Job Satisfaction

For example, Judge and Bono (2001) found that internal locus of control was positively related to job satisfaction ($r = 0.32$). More recently, Ng, Sorensen and Eby's (2006) meta-analysis revealed that internal locus of control had a strong positive association with job satisfaction ($\rho = .33$). Although we are not aware of any study that estimated the strength of the relationship between internal locus of control and *intrinsic* job satisfaction, it seems reasonable to assume that those individuals high on internal locus of control would use or attempt to use their discretion in performing their work roles, thereby having a greater chance to experience higher levels of intrinsic satisfaction than those individuals who are low on this trait. Based on this line of thinking, we formulate the following hypothesis concerning the effect of internal locus of control on intrinsic job satisfaction:

Hypothesis 1: Internal locus of control will affect intrinsic job satisfaction positively.

The direct positive path from internal locus of control to intrinsic job satisfaction in Figure 1 is a visual representation of the hypothesized relationship.

2.2 Internal locus of control and perceived creative work environment

In his Attraction-Selection-Attrition (ASA) framework, Schneider (1987) presented a person-situation interaction view of organizational behavior. He posited that people are attracted to, or try to choose, organizations that fit their personality; organizations, on the other hand, try to select or recruit people whose personality matches with demands of the organizations; and employees who experience a poor person-organization fit tend to leave the organizations. Now let us ask: *what work environment would internals (people high on internal locus of control) tend to select?* Research suggests that internals would seek for creative work environments that allow them to assume great autonomy in, and responsibility and accountability for, planning, organizing, controlling, and evaluating their own work. For example, Spector (1982) indicated that internals prefer work situations where they have high decision latitude in using their abilities to perform their work roles. Judge, Bono, and Locke (2000) found significant positive relationship between core self evaluation (a

construct comprised of internal locus of control, self esteem, self efficacy and low neuroticism) and job characteristics (autonomy, skill variety, task significance, feedback and job challenge). More recently, a meta analysis by Ng et al. (2006) showed that internal locus of control was positively associated with the levels of job autonomy, skill variety, task significance, job feedback and job challenge. Drawing on the past research, we set forth the following hypothesis regarding the relationship between internal locus of control and creative work environment:

Hypothesis 2: Internal locus of control will be positively associated with perceived creative work environment.

The positive link from internal locus of control to perceived creative work environment in Figure 1 visualizes the hypothesized relationship.

2.3 Perceived creative work environment and intrinsic job satisfaction

McKinnon, Harrison, Chow and Wu (2003) and Zhou, Gao, Yang, and Zhou (2005) examined the influence of innovative work environment on job satisfaction. As a result, they found that the predictor was positively associated with the criterion. Similarly, Berson, Oreg, and Dvirs (2008) indicated that innovative organizational culture tended to increase job satisfaction. Moreover, Payne, Wall, Borrill and Carter (1999), Holman (2002), Spector (1986), and Probst (2005) consistently revealed that opportunity for personal control at a task—a situational prerequisite for people to be imaginative and creative—is positively associated with intrinsic job satisfaction. These studies consistently suggest that creative work environment affording autonomous work behaviors provides employees with opportunities to be imaginative and creative in performing their work roles, which in turn increases their intrinsic job satisfaction. Thus we have:

Hypothesis 3: Perceived creative work environment will affect intrinsic job satisfaction positively.

Combining Hypotheses 1 through 3, we propose that a person's dispositional trait could affect intrinsic job satisfaction in two different ways: directly (locus of control \rightarrow intrinsic job satisfaction) and indirectly

through perceived creative work environment (locus of control → perceived creative work environment → intrinsic job satisfaction). Figure 1 also visualizes the mediational role of perceived creative work environment linking locus of control to intrinsic job satisfaction.

3 Method

3.1 Sample

The sample consisted of graduates of a major Japanese research university who lived in the metropolitan Tokyo. They were identified through the lists of classes from 1969 to 1994. We mailed 2000 return-paid postal cards to the graduates, indicating that we needed data for the study, and asking the potential participants to mail the reply postal cards back to us if they would participate in this study. Five hundred and thirty nine graduates returned the cards to us. We then mailed them questionnaires designed for the study and return envelopes addressed to the second author. Five hundred and thirty one questionnaires were returned to us.

Of the 531 respondents, we selected for this study 227 respondents who provided usable data. The numbers of male and female participants were 188 (82.82%) and 39 (17.18%), respectively. The levels of education the participants attained were undergraduate ($n = 155$, 68.28%) and post graduate ($n = 72$, 31.72%). All individuals worked as full-time employees. Types of job that the participants held at the time of the survey consisted of management ($n = 53$), administrative, personnel, or financial affairs ($n = 17$), business planning ($n = 19$), sales ($n = 13$), research and development ($n = 24$), engineering ($n = 15$), professional ($n = 17$), and teaching ($n = 69$). The participants ranged in age from 30 to 65 ($M = 46.69$; $s.d. = 9.60$). The lengths of experience in the current jobs ranged from 12 months to 38 years and nine months ($M = 17$ years and 4.02 months; $s.d. = 10$ years and 11.10 months). The hours they worked per week, an index of workload, ranged from 40 to 70 ($M = 49.08$ hours; $s.d. = 7.69$ hours).

3.2 Control Variables

The hypothesized model presented in the previous section must be tested, with exogenous influences

controlled for. In order for this purpose, we identified a series of control variables: sex, age, workload, job tenure, and job category.

Sex. Clark (1996, 1997) indicated that women tended to seek for flexible work environment where they create and innovate, while men inclined toward jobs whose productivity is measured in monetary terms. This suggests that females, as compared to males, tend to perceive their jobs to be creative and innovative and experience higher levels of intrinsic motivation. Thus we treat sex as an exogenous variable that might affect the levels of perceived creative work environment and intrinsic job satisfaction.

Age. It is a generally accepted argument that older employees possess more seniority and work experience, which enables them to move into more attractive, challenging, responsible and satisfying jobs (Bedeian, Ferris, & Kackmar, 1992; Clark, Oswald, & Warr, 1996; Rhodes, 1983). Thus, we predict that older people tend to perceive their work environment to be creative and experience higher levels of intrinsic job satisfaction than their counterparts.

Workload. There is a widespread belief that workload pressure inhibits divergent thinking processes and leads to a decrease in creativity and satisfaction with work (e.g., Bakker, Demerouti, De Boer & Schaufeli, 2003; Farr & Ford, 1990; Lee & Ashforth, 1996; Lewing & Dollard, 2003; Zellers & Perrewe, 2001). However, there exists some research that suggests that workload can act as a motivator and increase employee creativity (e.g., Nickolson & West, 1988). Although it has produced mixed results, past research does suggest that we include workload in the model as a control variable.

Job tenure. The longer the workers have been in their current jobs, the greater would be the chance to assimilate knowledge, skills and abilities required to perform the jobs, which in turn would lead to greater latitudes in making job-related decisions and higher levels of intrinsic job satisfaction. Some studies are supportive of this assumption (e.g., Bedeian et al., 1992; Bottger & Chew, 1986). Thus, we predict that job tenure will be positively associated with both perceived creative work environment and intrinsic job satisfaction.

Job category. As explained previously, the par-

ticipants in the present study belonged in one of the following 8 job categories: (a) management, (b) administrative, personnel, or financial affairs, (c) business planning, (d) sales, (e) research and development, (f) engineering, (g) professional, and (h) teaching. In order to check if we need to statistically control for the effects of job categories in testing the aforementioned hypotheses, we followed procedures outlined in Ryan (1985)¹ and tested for differences in means for the key constructs of the study (i.e., locus of control, perceived work environment and intrinsic job satisfaction) between all pairs of the job categories. As a result, no significant mean differences were found for locus of control and for perceived creative work environment.

As for intrinsic job satisfaction, on the other hand, we found statistically significant differences between two pairs of job categories. That is, the mean of intrinsic job satisfaction for the category of administrative, personnel, or financial affairs ($M = 22.18$, $s.d. = 4.05$) was lower than that for the category of management ($M = 27.75$, $s.d. = 3.11$) at the .001 level ($F_S = 3.98$, $df = 7, 219$); it was also lower than the category of teaching ($M = 26.42$, $s.d. = 4.08$) at the .02 level ($F_S = 2.44$, $df = 7, 219$). This indicates that people in the category of administrative, personnel, or financial affairs tend to experience lower levels of intrinsic job satisfaction than do managers and teachers. The mean differences among managers, teachers, and others in the remaining five categories did not reach statistical significance. Thus, we include in the model a dummy variable named *administrative job* to indicate whether the respondents belong in the category of administrative, personnel, or financial affairs (coded as 1) or in the other categories (coded as 0; $M = 26.47$, $s.d. = 3.81$) and control its effect on intrinsic job satisfaction.

3.3 Measures

Intrinsic job satisfaction. For assessing intrinsic job satisfaction we used Minnesota Satisfaction Questionnaire (Weiss, Dawis, England & Lofquist, 1967). Seven items that seemed to be most representative of the essence of the construct were selected based on theoretical and conceptual grounds (see Table 2), such as “The chance to do different things from time to

time” and “The chance to try out my own methods of doing the job”. Respondents were asked to indicate the levels of their satisfaction for those items on 5-point scales, ranging from *very dissatisfied* (coded as 1) to *neither dissatisfied nor satisfied* (coded as 3) to *very satisfied* (coded as 5). Scores for the seven items were summed to produce a single intrinsic job satisfaction score for each respondent. The inter-item reliability coefficient was .85.

Internal locus of control. In order to measure the level of internal locus of control, we selected four items (see Table 2) from the Internality, Powerful Others, and Chance Scale (Levenson, 1981). Sample items included “I can pretty much determine what will happen in my life” and “I am usually able to protect my personal interests”. Respondents were requested to indicate the levels of their agreement with these item statements. The response alternatives were: 1 = strongly disagree; 2 = disagree; 3 = slightly disagree; 4 = slightly agree; 5 = agree; and 6 = strongly agree. The respondent’s overall index of internal locus of control index was his or her total score summed over the four items, which took a possible range from 4 to 24. The Chronbach’s α coefficient was .68.

Perceived creative work environment. The participants’ perceived creative work environment was assessed by Moos’ (1994) Work Environment Scale (see Table 2). The scale included nine items for assessing this dimension of work environment. Respondents were asked to evaluate the degree to which each item is descriptive of their work environment. Sample items are “New and different ideas are always being tried out” and “The place would be one of the first to try out a new idea”. The response alternatives for the question items were arranged on 5-point scales ranging from 1 (strongly disagree) to 3 (neutral) to 5 (strongly agree). Individual items were combined to form a single measure of perceived creative work environment. The Chronbach’s α coefficient was .86.

Controls. Sex was coded as 1 if respondents were males; otherwise, it was coded as 0. *Job category* was coded as 1 if the respondents belong in the category of administrative, personnel, or financial affairs; for respondents in the remaining job categories, it

was coded as 0. *Workload* was operationalized by asking the respondents how long (in hours) they typically worked per week. *Tenure* was indexed by asking the respondents to indicate the length of their experience on their current jobs in year and month, which we converted into a single unit of months. The respondents' *age* was recorded at the time of the survey.

3.4 Analyses

We will test the hypothesized model by using MPlus 5 (Muthén & Muthén, 1998-2007). Before starting the analysis, it is important to understand the scale properties of the variables included in the model. We regard age, tenure, workload as variables with interval scales, since the distance between any two adjacent units of measurement on each of the scales can be considered to be equal. The same assumption, however, does not hold for each of the manifest variables of the latent factors—i.e., internal locus of control, perceived work environment, and intrinsic job satisfaction. From a strict statistical point of view, the adjacent units on the scales of the manifest variables are not evenly-scaled. Thus we regard these manifest variables as ordinaly-scaled. Additionally, sex and job category are binary in nature, since these variables are to classify the respondents into dichotomous groups according to their male and female biological differences and to the types of jobs they have (i.e., administrative vs other types of job). Therefore, for estimating the structural equation model, we will use the WLSMV (weighted least square mean and variance) estimator that is known to be appropriate for ordinal and dichotomous data. This estimation method computes polychoric correlations when interval variables are correlated with ordinal or dichotomous variables; and between ordinal and dichotomous variables; polychoric correlations between ordinal variables and between dichotomous variables; and Pearson correlations between interval variables.

In estimating both measurement and structural equation models, we first assume that all covariances between the measurement errors are zero. We will then modify the models by relaxing the restriction of no correlations on the measurement errors accord-

ing to the modification indices in Mplus. Since we assume one latent variable for a set of measurement items, we expect that the measurement errors are likely to be correlated.

4 Results

Table 1 presents descriptive information about the key variables in the hypothesized model (internal locus of control, perceived creative work environment, and intrinsic job satisfaction) and available controls (age, workload, tenure, sex, and job category). Means, standard deviations, ranges, and Chronbach's α coefficients are reported. For clarity, *sex* was renamed to *male*. As for the interrelationships among the key constructs, intrinsic job satisfaction is positively associated with perceived creative work environment ($r = .44, p < .001$) and internal locus of control ($r = .26, p < .001$). The table also indicates that respondents' age, job tenure, and job category (*administrative job* = 1; otherwise = 0) are significantly related to intrinsic job satisfaction.

Table 2 shows the standardized loadings ($\hat{\lambda}$) and t -values for the measurement models. As shown in the table, all measurement items were highly significant ($p < .001$), indicating that the latent variables were measured well.

Having checked the results of the measurement models, we then focused on the results of the structural equation model. Figure 2 reports the standardized estimates of the path coefficients for the Direct Effect Model and for the Mediation Model.

Hypothesis 1 concerned the direct effect of internal locus of control on intrinsic job satisfaction. As shown in Figure 2 (PART I), the data are supportive of the hypothesis ($\beta = .39, t = 5.32, p < .001$), with the possible exogenous influences adjusted for. The goodness of fit indices for the Direct Effect Model were: $\chi^2 [39] = 53.90, p = .06; RMSEA = .04; CFI = .99; and TLI = .99$. This indicates that there exists a significant trait effect on intrinsic job satisfaction that may be mediated.

Hypotheses 2 and 3 concerned the mediational relationship among internal locus of control, perceived creative environment and intrinsic job satisfaction. With the effects of exogenous variables controlled for, the results indicated that the path from internal

Table 1. Descriptive Statistics and Correlations among Variables Used for Testing Hypotheses^{a, b}

Variables	Means (s.d)	α (# of items)	Ranges		Correlations						
			Min	Max	1	2	3	4	5	6	7
Key Variables											
1. Intrinsic Job Satisfaction	26.15 (3.98)	.85 (7)	16	35							
2. Perceived Creative Work Environment	25.59 (5.47)	.86 (9)	12	39	.44***						
3. Internal Locus of Control	17.83 (2.53)	.68 (4)	7	24	.26***	.12 [†]					
Control Variables											
4. Age	46.69 (9.60)		30	65	.29***	.12 [†]	.03				
5. Workload	49.08 (7.69)		40	70	.02	.11 [†]	-.02	-.23***			
6. Tenure	204.33 (131.10)		12	465	.22***	.12 [†]	.04	.48***	-.17**		
7. Male (D)					-.01	.10	-.06	.21**	.10	.12 [†]	
8. Administrative job (D)					-.28***	-.15*	-.01	-.13*	-.09	-.03	-.05

Note: N = 227; [†]p < .10; * p < .05; ** p < .01; *** p < .001

^{a, b}(D) indicates dummy variables (males=1, females=0; administrative, personnel, or financial affairs job=1, the remaining job categories=0)

Table 2. Results for Measurement Models

Indicating variables for latent factors	$\hat{\lambda}$	t-values
Intrinsic Job Satisfaction		
1. Being able to keep busy all the time	.59	9.77***
2. The chance to work alone on the job	.67	12.47***
3. The chance to do different things from time to time	.59	10.79***
4. The chance to do something that makes use of my abilities	.78	18.71***
5. The freedom to use my own judgment	.70	15.74***
6. The chance to try my own methods of doing the job	.72	16.35***
7. The feeling of accomplishment I get from the job	.81	19.97***
Internal Locus of Control		
1. I can pretty much determine what will happen in my life.	.76	12.37***
2. I am usually able to protect my personal interests.	.61	12.37***
3. When I get what I want, it's usually because I worked hard for it.	.63	9.87***
4. My life is determined by my own actions.	.72	13.70***
Perceived Creative Work Environment		
1. Doing things in a different way is valued.	.61	13.79***
2. New and different ideas are always being tried out.	.76	23.91***
3. The place would be one of the first to try out a new idea.	.68	18.23***
4. Variety and change are not particularly important (R).	.71	19.76***
5. The same methods have been used for quite a long time (R).	.61	11.69***
6. New approaches to things are rarely tried (R).	.78	20.92***
7. Things tend to stay just about the same (R).	.68	16.53***
8. There is a fresh, novel atmosphere about the place.	.73	19.10***
9. Things always seem to be changing.	.56	11.51***

Note: *** p < .001

(R) indicates reverse-coded variables.

locus of control to perceived creative environment was positive and significant ($\beta = .13, t = 1.90, p = .05$); and that from perceived creative work environment

to intrinsic job satisfaction also reached statistical significance ($\beta = .41, t = 6.16, p < .001$). These results shown in Figure 2 (PART II) provide support for

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PART I. Direct Effect Model



PART II. Mediation Model

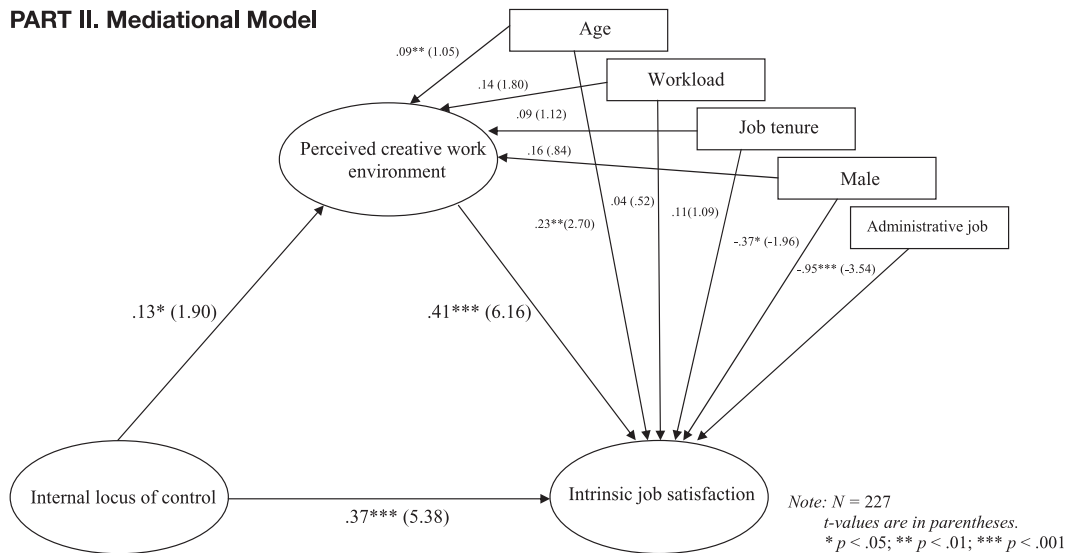


Figure 2. Results for Direct Effect and Mediation Models

Hypotheses 2 and 3. Fit statistics were: $\chi^2 [41] = 53.85, p = .08; RMSEA = .04; CFI = .99$; and $TLI = .99$.

Two additional remarks need to be made regarding the results for the Mediation Model. First, the size of the direct effect of internal locus of control on intrinsic job satisfaction remained statistically significant ($\beta = .37, t = 5.38, p < .001$), with the effect of the mediator on the dependent measure additionally controlled for. Second, the indirect path from locus of control to the dependent measure through the mediator was significant (*Sobel test statistic* = 1.94, $p = .05$). Thus, it is our conclusion that the effect of internal locus of control on intrinsic job satisfaction is both direct and partially mediated via perceived creative work environment.

5 Discussion

Since Rotter (1954) developed a notion of locus of control, a great amount of research has been accumulated that examined its predictive utility for job satisfaction. As a result, locus of control is now generally believed to be a significant source of job satisfaction (Spector, 1982; Spector & O'Connell, 1994). However, few studies exist that explicitly focused on its effect on *intrinsic* job satisfaction. More importantly, much remains to be known as to the psychological mechanism by which locus of control gets translated to job satisfaction—the *why* of the effect.

The present study investigated whether internal locus of control affects intrinsic job satisfaction directly and/or indirectly through perceived creative

work environment. The examination of the mediational process was devoted to find an answer to the *why* of the trait effect on satisfaction. As evidenced by this study, changes in the values of internal locus of control significantly accounted for changes in the values of intrinsic job satisfaction. The confirmation of the direct effect is consistent with what past research has revealed about the effect of the trait on job satisfaction.

As for the mediational process, we found that the effect of the trait is partially transmitted through perceived creative work environment. This suggests that internals, guided by their strong beliefs in their capability to control and operate on their own environments, and by their proclivity to act autonomously and innovatively at work, tend to perceive their work environment to be creative, which in turn increases their intrinsic job satisfaction. We believe that further research to examine the *why* of the effect of locus of control on job satisfaction is warranted.

5.1 Theoretical implications

There are two major traditions in psychology—the situationist school and the personologist school. And there is a long-lasting and still lively debate between those schools. The personologist school posits that a person's behavior is caused primarily by the “internal” characteristics of the person. The situationist school, on the other hand, postulates that human behavior is a function of the “external” characteristics of the situation to which the person responds. This debate, also known as the person-situation controversy, was kindled by Walter Mischel's (1968, 1973) challenge to the trait position and Alker's (1972) rebuttal to the situationist position. Out of the debate has emerged the interactionist school that holds that information about the person and the situation is equally important in predicting behavior (see, e.g., Bem & Allen, 1974; Bem & Funder, 1978; Endler, 1973; Wachtel, 1977; among others).

Tracing job satisfaction research back to 1970's, we can understand that there existed a similar debate between two camps of organizational researchers—espousers of the situationistic view of job attitudes who attacked personality-based theories of job satisfaction (see, e.g., Salancik and Pfeffer, 1977, 1978), on

the one hand; and psychologists who fought back the situationists' position by demonstrating the stability of job satisfaction across situations (see, e.g., Gerhart, 1987; Staw & Ross, 1985), on the other hand. And out of the debate has emerged a series of research that is based on the interactionist view of job satisfaction (see Dawis, 1992; Furnham & Schaeffer, 1984; Hackman & Oldham, 1980; Judge & Bono, 2001; Smart, Elton, & McLaughlin, 1986).

The present study is based on the interactionist view of job satisfaction. We placed equal emphasis on a specific person factor (locus of control) and a specific situation factor (perceived creative work environment) as determinants of intrinsic job satisfaction. The primary contribution of the study was to reveal that both the person factor and the situation factor were significant predictors of the dependent measure, and to show that the perception of the work environment was an important explanatory variable in the relationship between locus of control and job satisfaction. The results provided a psychological map to show that the effect of locus of control (a dispositional trait) on intrinsic job satisfaction is not only direct but also partially mediated through work environment perceived to be creative. In other words, this study successfully provided an insight into the psychological mechanism through which the person's dispositional trait gets translated to satisfaction.

It is important to note that the results of the present study are similar to those obtained in Judge and Bono's (2001) study. Using longitudinal data collected in a mid-sized midwestern city in the US, they suggested that job satisfaction derives partly from “internal” characteristics of the person (core self-evaluations) and partly from the “external” characteristics of the jobs performed by the person (job complexity). The present study, however, differs from theirs in several ways. First, out of the core self-evaluation components (self-esteem, generalized self-efficacy, low neuroticism, and locus of control), we focused on the locus-of-control component. The reason for this was that locus of control is logically and conceptually more independent from job satisfaction, and seems to be a more stable dispositional trait, than any other component of the core-self-evaluation construct. Second, our data consisted of Japanese

college graduates working in the metropolitan Tokyo in Japan. McGinnis, Nordholm, Ward and Bhanthumnavin (1974) showed that the level of internal locus of control differed significantly from country to country. Specifically, their data indicated that the scores for the Japanese were, on the average, higher than those for the Swedish, but lower than those for the Australians, New Zealanders, and Americans. Despite the international variability in the level of locus of control, the similar causal relations found in the U.S. and Japan would prepare the stage for understanding the generalizability of the results across cultures. Further studies are needed that use data from more diverse cultures to investigate the generalizability issue.

5.2 Practical implications

The practical implication of the study is two-fold. First, in order to increase employees' intrinsic job satisfaction, management should take into account not only employees' work environments (situation factor) but also their locus of control orientation (person factor). More specifically, if employees are high on internal locus of control, management should design their jobs so that they can enjoy a great deal of decision latitude in performing their work roles; if low, on the other hand, such job designs may not be of much use to attain the purpose. In such a case, management may have to initiate the structures of their tasks and use extrinsic rewards geared to performance to promote their extrinsic job satisfaction. However, practitioners need to be aware that it is a costly and, in fact, almost impossible practice in the organization to provide extrinsic rewards every time employees emit desirable work behaviors.

Another possible way to increase the levels of employees' intrinsic job satisfaction is to hire people who are high on internal locus of control. This solution would be effective especially when the jobs the organization seeks to fill require high levels of spontaneity, innovativeness and creativity for successful performance. Still another way is to train people so that they can see themselves as active agents to affect changes in their work environments; however, this solution may not prove to be very effective, given the relative stability of people's dispositional

traits.

Second, the findings of this study can be a recipe for an individual to *work at* job satisfaction. An individual not only reacts, but also proactively selects and shapes, his or her work environments (Caspi & Bem, 1990; Schneider, 1987). This suggests that people can choose and design their own work careers that would maximize the levels of their satisfaction. The knowledge of one's personality and preferred style of working will be the first step in the search for a practical choice of career to experience enjoyment at work. For example, for those individuals who tend to attribute success and failure to things they have control over, the things they need for intrinsic enjoyment would be the engagement in creative jobs and opportunities for learning and professional growth. Being aware of one's personality traits and the ingredients s/he needs for satisfaction could thus serve as a unique recipe for leading a happy and successful work career.

5.3 Limitations and future research directions

It is important to discuss the study's limitations, the corrections of which would lead to a significant advancement of dispositional research. There are at least three such limitations we should shed light on. One is that the sample of the present study included only Japanese workers. Although it obtained results that were similar to those produced in the U.S., the present study is mute about the generalizability of the findings across more diverse occupations, industries, and cultures. Future research that examines this point would provide important implications for human resources management in today's societies that are being increasingly globalized.

Another limitation concerns the measurement bias. The structural model tested in this study is based on self-reports of all study variables. Some might argue that self-reports are not free of social desirability bias. However, since the respondents in the present study were asked to send the questionnaire back to the second author of this study who is neither their supervisor nor their acquaintance. Therefore, we believe that the measurement of the study is relatively free from the bias. The results of the study, however,

might still be susceptible to percept-percept inflation. For example, those who believe they can control outcomes of their actions and perceived their work environment to be creative might have exaggerated the levels of their intrinsic job satisfaction. If more objective ratings, such as personality assessment by significant others and work environment scale based on a occupational coding scheme like DOT (Dictionary Occupational Titles) were available, more confidence could have been placed in the results. Future research should be designed that controls for the effects of percept-percept inflation.

A third limitation is that the data were collected just at one point in time, assuming that the relationships among the variables were stable over time. This is a weak assumption unless it is proven in studies that deal with time-structured data. Like Judge and Bono (2001) proved that relationships among core self-evaluations, job complexity, and job satisfaction were persistent over time, future studies in Japan should also collect data at multiple points in time to examine the temporal stability of the causal relations among locus of control, perceptions of work environment, and intrinsic job satisfaction.

5.4 A final word

Despite the limitations discussed, we believe that the results of the present study added an important contribution to the dispositional research by empirically demonstrating that internal locus of control affects intrinsic job satisfaction in two different ways: directly and indirectly through perceptions of work environment. In a sense, the present study successfully provided a psychological map to show how locus of control gets translated to intrinsic job satisfaction. Such endeavors for mapping psychological processes underlying dispositional influences are still sparse in the job satisfaction research (Staw, 2004). Further efforts are needed to investigate what is happening on the psychological trip from dispositional traits (not only locus of control but also Big-5 personality traits, etc.) to job satisfaction. We believe that research in this direction will lead to significant advancements in the literature.

Notes

- ¹ Ryan (1959) suggests that the multiple comparisons do not require a preliminary *F* test for comparing overall variation(s) among cell means.

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