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Basic need satisfaction, work motivation, and job performance in an industrial company in Iran

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Abstract

Through the application of self-determination theory, relations among autonomy support, need satisfaction, work motivation and job performance were investigated. Data were collected from employees in an industrial company in Iran. Results using structural equation modeling (SEM) showed that autonomy support predicted satisfaction of three psychological needs, which in turn predicted work motivation and job performance. In addition, need satisfaction partially mediated these relationships. Discussion and implications of the results are presented in the study.

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1. Introduction

One reason the concept of needs has been so appealing is that it has heuristic utility for delineating dimensions of the environment that would be expected, a priori, to lead to positive versus negative work-related outcomes. Aspects of the environment likely to allow need satisfaction are predicted to yield positive outcomes, whereas those likely to thwart need satisfaction are predicted to yield negative outcomes (Baard, Deci, & Ryan, 2004).

According to self-determination theory all human beings share three basic and universal psychological needs for autonomy, competence, and relatedness (Deci & Ryan, 1985a, 2000, 2002, 2008). “Autonomy” reflects the need to actively determine own behavior and experience mastery at work based on such self-determined behavior without the influence of others. “Competence” reflects the need for efficient use of energy and effectiveness at work, and to experience having work tasks well in hand. “Relatedness” reflects the need to have meaningful relations with significant others. SDT defines these needs as nutriment that are essential for people's survival, growth, and integrity (Ryan, Sheldon, Kasser, & Deci, 1996). Research has suggested that people are more likely to persist and have better qualitative performance on activities that satisfy these needs (LaGuardia, Ryan, Couchman, & Deci, 2000). The satisfaction of the three basic psychological needs depends in big part on the context in which the activity takes place. Many research focused mostly on investigating how decreases in experienced autonomy

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influenced motivation and effective functioning (e.g., Deci et al., 2001; Deci, Koestner, & Ryan, 1999). Research by Baard, Deci, and Ryan (2000) explored the relation between need satisfaction on the job and both work performance and psychological adjustment.

The theory further differentiates between two types of interpersonal contexts (Deci & Ryan, 1985; Deci et al. 1994; Ryan & Deci, 2000). A context is said to be *autonomy supportive* when significant others, such as managers, teachers, or parents encourage choice and participation in decision-making, use non-pressuring language in communicating information (e.g. use modal operators such as may, could etc.) would typically provide a good rationale for asking someone to engage in an activity, and acknowledge the person's feelings toward activity. In contrast, the interpersonal context is said to be *controlling* when significant others pressure people to act in specified ways by using pressuring language during interpersonal communication (e.g. use modal operators such as should and must), and when significant others do not provide choice or rationale (Deci et al. 1994). SDT proposes that social contexts influence people's intrinsic need satisfaction and then motivation and performance. One social-contextual factor that has been researched extensively is autonomy support (Deci & Ryan, 1987), which in work organizations concerns the general interpersonal orientation used by one's manager or supervisor (Deci, Connell & Ryan, 1989).

A substantial body of research has shown that autonomy-supportive contexts promote self-motivation (Deci, Schwartz, Sheinman, & Ryan, 1981; Grolnick & Ryan, 1989), satisfaction (Deci et al., 1989), and performance in various settings (Benware & Deci, 1984; Koestner, Ryan, Bernieri, & Holt, 1984). Some studies have shown that the relationship between autonomy support and positive outcomes is mediated by need satisfaction. Baard et al. (1999) and Deci et al. (2001) found support for a model where management autonomy support was related to the satisfaction of employees' needs, which was related in turn to higher performance evaluation, engagement in one's work, and well-being, in both Bulgarian and American samples. Autonomy support may also help prevent negative outcomes, such as turnover. For example, Rhoades, Eisenberger, and Armeli (2001) found that perceived organizational support was negatively related to voluntary turnover. Autonomy-supportive managers will facilitate satisfaction of all three intrinsic needs; for example, through worker empowerment (Champy, 1995), removing the obstacles of excessive work rules (Deming, 1986), and promoting high involvement (Lawler, 1986).

The present study and hypotheses

The need satisfaction model, which was derived from S. D. theory and tested in this research, states that employee's perceptions of their managers' autonomy support will promote satisfaction of their all three needs (H1), and overall need satisfaction relate positively to work motivation and job performance (H2 & H3). That is, overall need satisfaction is the mediator between managerial autonomy support and both work motivation and job performance (H4 & H5). The proposed model presented in Figure 1, uses satisfaction of each need as an indicator of the latent variable overall need satisfaction.

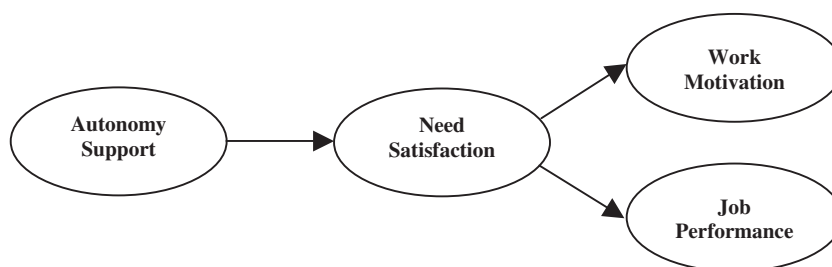


Figure 1. Proposed need satisfaction model

2. Method

Participants

Respondents for this study were selected by stratified random sampling method from an industrial company in Iran. Anonymous questionnaires were distributed to 680 full-time employees (working in various company units). All together, 550 questionnaires were returned and analyzed. The response rate was 80.9%.

Measures

The participants were asked to complete four questionnaires that measured autonomy support, need satisfaction, work motivation, and job performance.

Work Climate Survey (WCS). It was developed by Deci et al. (1989). Items from the first two sections from the four sections of this survey, which was patterned after the Job Diagnostic Survey (Hackman & Oldham, 1975), were used to assess the employees' perceptions of their work climate. 22 items, consisting of five subscales, concern the degree to which the work context is autonomy supportive. The first three subscales consisted of statements that workers rated on a 7-point scale. Three items concerned the autonomy support by immediate supervisor (e.g. my supervisor gives me a great deal of choice about how to do my work and how to handle problems I encounter; $\alpha=.75$), three items concerned the autonomy support by top management (e.g. the managers at this company consider carefully the impact of decisions on the workers lives; $\alpha=.82$), and four items concerned the supportive structure of the work environment (e.g. at this company, there are guidelines and regulations that let me know what to do in almost every situation; $\alpha=.69$). The other two subscales consisted of adjectives describing either the work environment or the subordinates' feelings in the work context. Subjects rated, on a 4-point scale, how applicable the descriptor was to their own situation. The first one contained four adjectives describing the supportiveness of the work environment (e.g. supportive; $\alpha=.85$), and the second contained seven adjectives describing how people feel in the environment (e.g. flexible; $\alpha=.88$). Items within each of these two subscales were averaged, and then the five subscales were averaged to create a variable labeled autonomy support; $\alpha=.82$.

Intrinsic need satisfaction. Twenty-one items assessed employee's experiences of psychological need satisfaction at work (Ilardi, Leone, Kasser & Ryan, 1993). Participants responded on 5-point Likert-type scale from "1" (not true at all) to "5" (definitely true) the extent to which they felt satisfaction of needs for autonomy (seven items; $\alpha=.75$), relatedness (six items; $\alpha=.79$), and competence (eight items; $\alpha=.66$). Examples of items are: "I feel like I can make a lot of input to deciding how my work gets done" (autonomy), "I enjoy the challenge my work provides" (competence), and "I really like the people I work with" (relatedness). Items within each subscale were averaged, and the three subscales were then averaged to form a variable labelled need satisfaction at work.

Job performance. Job performance was measured with the 7-item scale developed by Williams and Anderson (1991). Sample item is: "This employee adequately completes assigned duties ($\alpha=.89$).

Work motivation. Work motivation, defined as the direction, intensity, and persistence of work-related behaviors desired by the organization or its representatives (Mitchell, 1997), was measured using a general measure of work motivation first developed and validated by Patchen et al. (Patchen, 1970; Patchen, Petz & Allen, 1965). This 4-item measure asks individuals to rate themselves on how involved they are in their work (direction) and how hard they work (intensity) on a set of 5-point response scale. Baldwin (1984, 1990) added item concerning persistence to his adaptation of Patchen's original 4-item scale and achieved an acceptable level of internal reliability ($\alpha=.68$). This study measured work motivation 5-item measure employed by Baldwin (1984, 1987, 1990). Items were measured on either a six-point (coded 1-6) strength of agreement (strongly disagree through strongly agree), or a five-point (coded 0-4) frequency of occurrence (almost never/never through almost always/always).

3. Results

Before all proposed relationships were tested simultaneously, first a correlational analysis was conducted (Pearson correlations) among all variables included in this study. The correlations of variables/means and standard deviations are reported in table 1.

The proposed model was evaluated with a two-phase approach outlined by Anderson and Gerbing (1988). According to this approach one first tests the fit of the measurement components of the model and, assuming that fit is acceptable, the fit of the structural model is then tested. AMOS 7 (Arbuckle, 1999) a software package designed to perform SEM model approach to path analysis was used to test both phases.

First, the confirmatory factor analysis was done. All fit indices suggest that the fit of the measurement model were modestly adequate, $\chi^2/df=3.2$, GFI=.96, CFI=.97, TLI=.96, NFI=.89, and RMSEA=.06.

Next, the full structured model was tested. The hypothesized model fit the observed data adequately, $\chi^2/df=2.9$, GFI=.98, CFI=.97, TLI=.97, NFI=.96, and RMSEA=.04.

As expected, hypothesis 1 was supported, perceived autonomy support was related positively to need satisfaction ($\beta=.41$, $p < .001$). Consistent with H1 & H2, need satisfaction was positively related to work motivation and job performance ($\beta=.35$, $p < .001$; $\beta=.19$, $p < .001$, respectively).

Because of the proposed mediation effects (need satisfaction mediating the relationship between autonomy support and work motivation, autonomy support and job performance), the procedure recommended by Baron and Kenny (1986) was followed. Accordingly, three regression models were investigated for two mediating paths. For the first path, that is, autonomy support \rightarrow need satisfaction \rightarrow work motivation, three regression models are: the work motivation on the autonomy support, the proposed mediator (need satisfaction) on the autonomy support, and the work motivation on the autonomy support and need satisfaction together. For the second path, that is, autonomy support \rightarrow need satisfaction \rightarrow job performance, three regression models are: the job performance on the autonomy support, the proposed mediator (need satisfaction) on the autonomy support, and the job performance on the autonomy support and need satisfaction together. If the beta of the autonomy support is significant in the first model but nonsignificant or substantially reduced in the combined model, we have a pattern consistent with mediation. Results of this analysis are presented in Table 1. Mediation of need satisfaction in relationship between autonomy support and work motivation was indicated, as the beta of autonomy became nonsignificant when need satisfaction was added to the regression model. A similar pattern of reduced but still significant autonomy support beta is shown for autonomy support-job performance relation. Thus, the emerged pattern suggests a mediating role of need satisfaction.

Table 1. Descriptive statistics and inter-correlations for study variables

Variable	M	SD	1	2	3	4
1. Autonomy Support	64.32	8.02	—	—	—	—
2. Need Satisfaction	101.20	17.42	0.47**	—	—	—
3. Work Motivation	22.14	6.23	0.32**	0.39**	—	—
4. Job Performance	17.44	3.45	0.25**	0.23**	0.14*	—

* $P < 0.01$ ** $P < 0.001$

Table 2. Analysis of the mediating role of need satisfaction

Independent Variable	Work Motivation		Job Performance	
	Step 1	Step 2	Step 1	Step 2
Autonomy Support	0.33**	0.14*	0.25**	0.15*
need Satisfaction		0.40**		0.24**
R ² at each step	0.11**	0.23**	0.06**	0.11**
ΔR^2		0.12		0.05

Note: Standardized parameter estimates are shown. In both cases, the beta of need satisfaction regressed on the autonomy support variable was significant.

* $P < 0.05$ ** $P < 0.001$

4. Discussion

The main goal of the present study was to examine the applicability of self-determination theory in the workplace. This study tested a self-determination model, with perceived autonomy support can influence satisfaction of the intrinsic needs for competence, autonomy and relatedness, and satisfaction of these needs can exert pervasive effects on work motivation and job performance. The model, which had received support from previous studies, was examined with data from employees in an industrial company in Iran.

Results of the current study provide further support for the relevance of self-determination theory to motivation and performance in the workplace. It was found that autonomy support is related to need satisfaction, that need satisfaction is related to work motivation and job performance, and that there was partial mediation of need satisfaction in the relationship between autonomy support and dependent variables. This last test is critical to the model and suggests that need satisfaction play a central role in the process from autonomy support to work motivation and job performance. The data show that manager's interpersonal orientations did relate to the satisfaction of three basic needs. Thus when managers keep in mind the needs of their subordinates, they ought to be able to provide the conditions that will allow need satisfaction and lead to positive work outcomes (Baard, 2002). Specifically, the results suggest that the study of basic psychological needs may be relevant across quite divergent cultures with different political, economic, and value systems.

It is important to highlight some limitations of the present study which can guide future research. First, given the cross-sectional design of this study, causal relationships among the variables cannot be established. Longitudinal studies should be employed to test the hypotheses. Second, personality-based orientations have not been included in proposed model, according to a sub-theory of SDT—Causality Orientation Theory (Deci & Ryan, 1985b), people can interpret the same situation as autonomous or controlled (see Gagne & Deci, 2005). The influence of personality-based orientation should be examined in future works. Finally, the use of self-report measures may have inherent limitations (e.g. inability to recall, social desirability). A combination of self-report questionnaires and objective assessments would be ideal.

Despite these limitations, the results of this study indicate that the concept of intrinsic psychological needs, defined as the nutriments necessary for human survival and growth, is useful for studying motivation and performance in the workplace. The implication of these findings is that managers may need to be more autonomy supportive in their attempts to promote positive work-related outcomes like work motivation and job performance.

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