

Job Characteristics' Causal Effects on Individual Job Performance Perceptions and Mediating Role of Job Satisfaction

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Abstract

This study aims to reveal the dimensions of job characteristics' causal effects on the dimensions of job performance perception and the mediating role of extrinsic and intrinsic job satisfaction in this relationship. All the variables are examined for individual-organization interaction at the individual level.

Primary research data were gathered by using a structured questionnaire that included valid and reliable scales, namely Job Characteristics Inventory, Minnesota Job Satisfaction Questionnaire, and The Job performance quality scale. The sample of the study consists of 472 employees randomly chosen from five private and public hospitals in Turkey. Exploratory and confirmatory factor analyses are used for factor validation. Path analysis and bootstrap analyses are used to detect direct and mediating effects on a path model using the structural equation modeling technique. Findings revealed that skill variety and friendship have a positive causal effect on compliance and task performance. Friendship, skill variety, and autonomy have a positive causal effect on job satisfaction. Internal job satisfaction has a positive causal influence on compliance, contextual, and task performance. Friendship, skill variety, and autonomy's causal effects on compliance, contextual, and task performance are mediated by intrinsic and extrinsic job satisfaction.

Keywords: Job Characteristics, Job Performance, Intrinsic Job Satisfaction, Extrinsic Job Satisfaction, Health Workers

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1. Introduction

In early studies of job design and work engagement, the need for previous empirical pieces of evidence to test the job characteristics' causal effects on individual work behavior is emphasized (Hackman & Lawler, 1971). But, in the following research history, core and interpersonal job characteristics such as job identity, autonomy, skill variety, feedback, cooperation, and friendship have been separately investigated for the correlations with job performance and job satisfaction in various empirical studies that stemmed from Job Characteristics school. Even though some researchers indicated the need for more empirical research testing the job characteristics' effects on performance perception and the mediating role of job satisfaction is required (Fried & Ferris, 1987; Loher et al., 1985; Wegman et al., 2018), there found only a few studies on job characteristics' direct determination on job satisfaction and job performance and the mediation effect of job satisfaction on the relationship between job characteristics and job performance perception in Wegman et al.'s (2018) meta-analysis.

This study is designed to fill this gap in the literature by testing the direct causal effects of job characteristics on job performance. Moreover, although satisfaction and performance relationship research history goes back to the rise of industrial-organizational psychology (Roznowski & Hulin, 1992), it should still be considered as a research area due to unceasing changes in the compositions of characteristics of jobs in today's organizations. So, the mediation of job satisfaction in the relationship between job characteristics and job performance perception is also tested in this study.

In the findings of this study, it is expected to find some more evidence that contributed to the causal relationships among job characteristics, job satisfaction, and job performance. Two main research questions are formulated as "Do job characteristics' determine job performance perceptions?" and "Are job characteristics' determinations on job performance perceptions mediated by job satisfaction?" As the majority of the empirical studies examining job characteristics' effects on job performance evaluations are in the field of health organization workforce, to make contributions to the job performance evaluation problems among health industry workers, the empirical findings of research in health organizations are used for comparisons.

2. Literature Review

2.1. Job characteristics' influence on job performance

The job characteristics model illustrates a work redesign in which characteristics of enriched jobs are tested to lead to positive performance outcomes (Hackman & Oldham, 1976). In an integrative work design approach, job characteristics are listed in detail under four groups: task (task identity, task significance, feedback, autonomy), knowledge (job complexity, skill variety), social (interdependence, feedback from

others, support from society) physical (work conditions, ergonomics, workload), and additional (workday cycles, time pressure) job characteristics (Grant et al., 2009). The importance of the dimensions of the job characteristics model is subject to change as well (Oldham & Hackman, 2010). Among many of the job characteristics scales in the literature, six dimensions as friendship, skill variety, autonomy, feedback, work identity, and cooperation are found to be mostly measured (Sims et al., 1976).

Friendship is the level of ability to build informal relationships and friendships at the job. It is a sort of social support that decreases turnover intentions while increasing job satisfaction, organizational commitment (Hackman & Lawler, 1971; Morgeson & Humphrey, 2008). Skill variety is the level of number and variety of activities and talents of the job required. It may bring about meaningfulness to work, work motivation, satisfaction and, involvement at work. But it may also have reverse returns such as high compensation expectations (Morgeson & Humphrey, 2008). Autonomous work groups and job enrichment are two popular attempts for skill variety in jobs (Parker and Wall, 1998). Autonomy is the level of work-related discretion, and freedom workers can get in how to do their job in terms of methods and scheduling. Anxiety, stress, ambiguity, burnout, and conflicts at work could be reduced by giving more autonomy to employees. It may bring about job satisfaction, organizational commitment, and work motivation (Morgeson & Humphrey, 2008; Park & Searcy, 2012). Feedback is the level of information a worker can get about his performance on the job (Humphrey et al., 2007). Identity of work is the clarity and uniqueness level of a job assignment which means that work with identity should be permanently observable, identifiable, and sustainable. The work is a whole made up of meaningful pieces (Grant et al., 2009). Cooperation is the degree to which a job requires employees to deal with other people to complete the work (Sims et al., 1976).

Individual work performance is measurable employee behaviors that contribute to organizational goals (Viswesvaran & Ones, 2000). Thus, individual work performance is a latent construct made up of multiple dimensions that can be measured by the indicators of these dimensions (Viswesvaran, 2002). These dimensions are task performance, compliance performance, contextual performance, and counterproductive behavior at work (Koopmans et al., 2011).

Task performance as the traditional focus of the performance is the proficiency in the performance of the central job tasks. Completing job tasks and work quantity and job skills are some of its indicators. In-role performance, technical proficiency, and job knowledge are used to express task performance (Koopmans et al., 2011; Viswesvaran et al., 2002). Compliance performance refers to the employee's adaptability to change levels in a working system or work roles. Creative problem-solving, adapting to new people and new surroundings, dealing with uncertainty and, learning new tasks are some of its indicators. It is closely related to the openness to change and coping with change (Koopmans et al., 2011). Contextual performance is not directly related to technical and core job behaviors. It is related to the behaviors

that support the social, psychological, and organizational environment of the job. Some of its indicators are enthusiasm, attention to duty, resourcefulness, and industriousness. It is closely related to interpersonal relations, extra-role performance, and citizenship behavior (Koopmans et al., 2011). The behaviors that harm the well-being of the organization are called counterproductive work behavior. Absenteeism, destructive and hazardous behaviors, off-task behaviors, and aggression are some of its indicators (Koopmans et al., 2011; Murphy, 1989).

There are empirical findings from various cultures that the job characteristics of the employees directly influence their job performance (Judge et al., 2001). In an early study that used measurement tools from Hackman and Oldham (1976) and Churchill et al. (1979), Tyagi (1985) found that U.S. insurance salespersons' skills variety ($\beta=0.39$, $p<0.01$) and autonomy ($\beta=0.38$, $p<0.01$) have direct effects on their job performance. Singh (1998), using measurement tools from Hackman and Oldham (1976) and Dubinsky and Mattson (1979), found that in U.S. salespersons, skills variety has a direct effect on their job performance ($\beta=0.21$, $p<0.01$). Trépanier et al. (2015), using measurement tools from Van de Ven et al. (2008) and Williams and Anderson (1991), found that Canadian nurses' autonomy has a direct effect on their job performance ($\beta=0.26$, $p<0.01$). Johari and Yahya (2016), using measurement tools from Hackman and Oldham (1975), Williams and Anderson (1991), Van Dyne and Le Pine (1998), and Podsakoff et al. (1990), found that Malaysian supervisors' skills variety has a direct effect on their job performance ($\beta=0.67$, $p<0.05$). Millette and Gagné (2008), using measurement tools from Hackman and Oldham (1976), found that U.S. health workers' skills variety ($\beta=0.21$, $p<0.05$) and autonomy ($\beta=0.25$, $p<0.01$) have a direct effect on their job performance. Chu and Lai (2011), using measurement tools from Hackman and Oldham (1976), found that Taiwanese accountants' autonomy has a direct effect on their job performance in terms of problem-solving ($\beta=0.35$, $p<0.001$) and innovativeness ($\beta=0.08$, $p<0.01$). Peiró et al. (2020), using measurement tools from Morgeson and Humphrey (2008) and Abramis (1994), found that Colombian employees' autonomy ($\beta=0.17$, $p<0.01$) and skills variety ($\beta=0.17$, $p<0.01$) have a direct effect on their job performance. Based on the evidence given above, job characteristics are expected to have a positive causal effect on job performance, and the following hypotheses are suggested:

- H1. Skill variety has a significant positive influence on job performance.
- H2. Autonomy has a significant positive influence on job performance.
- H3. Friendship has a significant positive influence on job performance.

2.2. Job characteristics' influence on job satisfaction

Job satisfaction is one's emotional or affective response to various job facets (Kinicki & Fugate, 2016). Intrinsic Job Satisfaction is the extent to having a sense of achievement and having the chance to use abilities at the job (Fields, 2002). Extrinsic

Job Satisfaction is satisfaction with chances for progress at work, pay, and recognition (Judge et al., 2001).

There are empirical findings that the job characteristics have a direct causal effect on job satisfaction in both western and non-western cultures. Jansen et al. (1996), using measurement tools from Algera et al. (1986) and Boumans (1990), found that Netherlander nurses' skills variety ($\beta=0.21$, $p<0.01$) has a direct effect on their job satisfaction. Singh (1998), using measurement tools from Hackman and Oldham (1976) and Jansen et al. (1996), found that U.S. salespersons' autonomy has a direct effect on their job satisfaction ($\beta=0.17$, $p<0.01$). Van den Berg and Feij (2003), using measurement tools from Taber and Taylor (1990) and Hackman and Oldham (1975), found that U.S. job applicants' autonomy ($\beta=0.39$, $p<0.01$) and skills variety ($\beta=0.21$, $p<0.01$) have a direct effect on their job satisfaction. Namm (2003), using measurement tools from Hackman and Oldham (1980) and Hackman and Oldham (1975), found that U.S. employees' skills variety has a direct effect on their job satisfaction ($\beta=0.17$, $p<0.01$). Dore (2004), using measurement tools from Hackman and Oldham (1975) and Idaszak and Drasgow (1987), found that US IT professionals' autonomy ($\beta=0.16$, $p<0.05$) and skills variety ($\beta=0.13$, $p<0.05$) have a direct effect on their job satisfaction. Millette and Gagné (2008), using measurement tools from Hackman and Oldham (1975), found that U.S. volunteer servants' autonomy ($\beta=0.35$, $p<0.001$) and skills variety ($\beta=0.27$, $p<0.01$) have a direct effect on their job satisfaction. Ford and Wooldridge (2012) found that U.S. service workers' autonomy ($\beta=0.51$, $p<0.01$) and skills variety ($\beta=0.71$, $p<0.01$) have a direct effect on their job satisfaction. Ali et al. (2014), using measurement tools from Hackman and Oldham (1974), found that Malaysian restaurant managers' autonomy ($\beta=0.44$, $p<0.001$) and skills variety ($\beta=0.21$, $p<0.05$) have a direct effect on their job satisfaction. Riasudeen and Venkatesakumar (2014), using measurement tools from Hackman and Lawler (1971) and MacDonald and Intyre (1997), found that Indian service employees' autonomy ($\beta=0.60$, $p<0.01$) and skills variety ($\beta=0.41$, $p<0.05$) have a direct effect on their job satisfaction. Giles et al. (2017), using measurement tools from Guest et al. (2001), found that Australian nurse consultants' autonomy has a direct effect on their job satisfaction ($\beta=0.22$, $p<0.05$). Garcia et al. (2019), using measurement tools from Morgeson and Humphrey (2008) and Cooper et al. (1989), found that Spanish workers' autonomy has a direct effect on their internal ($\beta=0.44$, $p<0.01$) and external ($\beta=0.18$, $p<0.01$) job satisfaction. Based on the empirical evidence, job characteristics are expected to have a positive causal effect on job satisfaction, and the hypotheses below are proposed:

H4. Autonomy has a significant positive influence on job satisfaction.

H5. Skill variety has a significant positive influence on job satisfaction.

H6. Friendship has a significant positive influence on job satisfaction.

2.3. Job satisfaction's influence on job performance

Job satisfaction positively influences individual job performance perception (Judge et al., 2001), and there is empirical evidence about job satisfaction's causal effect on job performance in both western and non-western cultures. Keaweney and Nelson (1993) found that U.S. marketing personnel's job satisfaction has a direct effect on their job performance perception ($\beta=0.29$, $p < 0.001$). Gül et al. (2008), using MSQ as a measurement tool, found that Turkish health workers' job satisfaction has a direct effect on their job performance perception ($\beta=0.39$, $p < 0.01$). Funmilola et al. (2013) found that Nigerian SME employees' external job satisfaction has a direct effect on their job performance perception ($\beta=0.39$, $p < 0.05$). Perera et al. (2014), using the measurement tools from Weiss et al. (1967) and Cox and Nkomo (1986), found that Sinhalese factory employees' job satisfaction has a direct effect on their job performance perception ($\beta=0.67$, $p < 0.001$). Al (2016), using measurement tools from Bakan and Büyükbeşe (2004) and Choo (1986), found that Turkish salespersons' job satisfaction has a direct effect on their job performance perception ($\beta=0.55$, $p < 0.001$). Topcu et al. (2017), using measurement tools from Judge et al. (2001) and Sigler and Pearson (2000), found that Turkish employees' job satisfaction has a direct effect on their job performance perception ($\beta=0.42$, $p < 0.001$). Yustina and Valerina (2018), using measurement tools from Hartline and Ferrel (1996) and Jones et al. (2010), found that Indonesian accountants' job satisfaction has a direct effect on their job performance perception ($\beta=0.60$, $p < 0.01$). Shafique et al. (2018), using measurement tools from Bell et al. (2012) and Lynch et al. (1999), found that Pakistani tourism employees' job satisfaction has a direct effect on their job performance perception ($\beta=0.71$, $p < 0.001$). Marbawi et al. (2018), using a measurement tool from Siahaan (2018), found that Indonesian bank employees' job satisfaction has a direct effect on their job performance perception ($\beta=0.23$, $p < 0.01$). Riyadi (2019), using the measurement tool Simamora (1997), found that East Borneon manufacturing employees' job satisfaction has a direct effect on their job performance perception ($\beta=0.25$, $p < 0.05$). Idris et al. (2020), using measurement tools from Mabaso and Dlamini (2017) and Jamil and Raja (2011), found that Indonesian civil servants' job satisfaction has a direct effect on their job performance perception ($\beta=0.76$, $p < 0.05$). Astuti et al. (2020), using a hybrid measurement tool, found that Indonesian civil servants' job satisfaction has a direct effect on their job performance perception ($\beta=0.68$, $p < 0.01$). Edward and Kaban (2020) found that Indonesian shipyard employees' job satisfaction has a direct effect on their job performance perception ($\beta=0.27$, $p < 0.01$). Mardanov (2020), using measurement tools from Scarpello and Campbell (1983) and Marques-Quinteiro and Cural (2012), found that Taiwanese construction employees' job satisfaction has a direct effect on their job performance perception ($\beta=0.25$, $p < 0.001$). Dinc and Plakalovic (2016) found that there is an indirect relationship between overall job satisfaction and job performance of bank employees through a mediating role of affective commitment in Bosnia and Herzegovina. Based on the empirical evidence given above, job

satisfaction is expected to have a positive causal effect on job performance, and the following hypothesis is suggested:

H7. Job satisfaction has a significant positive influence on job performance.

2.4. Job satisfaction's mediating effect in the relationship between job characteristics and job performance

In the study with civil servants in Indonesia, (Idris et al., 2020) reported that the work environment's influence on job performance is positively mediated by job satisfaction ($\beta=0.26, p<0.05$). In the other study in Indonesia, it is reported that job satisfaction mediated family-work conflicts ($\beta=0.42, p<0.05$) and work-family conflicts ($\beta=0.42, p<0.05$) (Yustina & Valerina, 2018). In research with the Indonesian sample, job satisfaction is found to have a mediating effect on the personal competencies effect of job performance perception (Edward & Kaban, 2020). Based on the scarce empirical evidence given above and the modern job design approach (Grant et al., 2009), the hypothesis below is proposed as internal job satisfaction needed to be tested for a mediating effect in the relationship between job characteristics and job performance:

H8. Job characteristics' influence on job performance is positively mediated by internal job satisfaction.

The research model draws on the job characteristics and relational job theories stating that job characteristics constitute the internal motivating aspect of the work. As employees see that their work has significant effects on others, they attribute more meaning to work and thus have a high internal motivation (Hackman & Oldham, 1974). So, the first argument in the model is that job characteristics positively influence job performance perception. The next argument is the job satisfaction's mediating effect that increases the strength of the effect in this relationship. The conceptual research model examined in this study is shown in Figure 1.

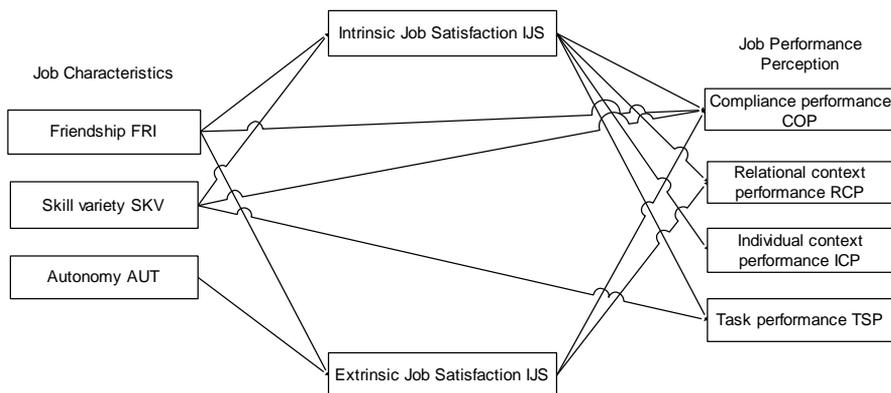


Figure 1. Primary Research Model

In the primary research model, friendship, skill variety, autonomy, feedback, work identity, and cooperation with others were exogenous latent variables. Work identity and cooperation are dropped in the analysis. Internal and external job satisfaction was the endogenous latent variables that were placed as mediators. Compliance performance, relational context performance, individual context performance, task performance, and counterwork performance were latent dependent variables. Counterwork performance is dropped in the analysis. Gender, level of education, marital status, position, and income levels of participants were placed to control the primary model.

3. Methods

3.1. Statistical analysis

The scope of the research is limited to employees, and the research variables are examined at the organization-individual interaction level by analyzing primary data gathered by a structured questionnaire. In the process of analysis, first, the normal distribution assumptions are tested. Then, the factor structures of all research scales are tested by using exploratory and confirmatory factor analyzes with internal reliability analysis in the Turkish sample. The direct effect hypotheses are tested with the regression coefficients on the final path model in AMOS and, the indirect effect hypotheses are tested by a bootstrapping plugin (Gaskin & Lim, 2018).

3.2. Sampling and procedure

The minimum sample size required for the path model was calculated as 184 by using the A-priori sample size calculator (Soper, 2021). In the formula, 0.1 entered for the expected size of the effect, 0.8 for the statistical power level desired, 0.05 for the level of probability, 17 for the number of latent variables and, 100 for the number of observable variables (Westland, 2010). The participants were chosen on a simple random basis from three private and two public hospitals in five different cities that allowed survey execution in 2018 in Turkey. The hospitals in the research sample have an average of 696 employees and ten years of activity in the field. The employees voluntarily participated in the survey. The actual sample size was 472 hospital employees, which meets the number needed for confirmatory factor analyses as well (Boomsma, 1982).

3.3. Measures

Demographic questions and Likert-type scales with 6-point valued 97 reflective statements are used for measurement in the survey. Calculations are made by having averages.

Job characteristics scale: A Turkish adaptation of the 30-item Job Characteristics Inventory is used to measure job characteristics (Sert, 2017; Sims et al., 1976). The scale has six dimensions as friendship, skill variety, autonomy, feedback, work identity, and cooperation which are similar to dimensions in The Job Diagnosis Scale

(Hackman & Oldham, 1974). The internal consistency reported for the scale varied between ($\alpha=0.62$) and ($\alpha=0.84$) in a health organization (Sims et al., 1976).

Job satisfaction scale: A Turkish adaptation of the 20-item short-form MJSQ is used to measure job satisfaction (Fields, 2002; Yıldızbaş, 2015). Two dimensions in the scale are intrinsic job satisfaction ($\alpha=0.85$) and extrinsic job satisfaction ($\alpha=0.91$).

Job performance scale: A Turkish adaptation of 47-item The JPQ scale is used to measure job performance perception (Aslan, 2017; Koopmans et al., 2011). The self-rating measure had four factors with satisfactory reliability values [task performance ($\alpha=0.93$), context performance ($\alpha=0.91$), compliance performance ($\alpha=0.93$) and counterproductive work behavior ($\alpha=0.81$)]. Calculations for counterproductive work behavior were made after reversing the scores (Koopmans et al., 2011).

3.4. Data gathering and normality

Research data is gathered by pen and paper questionnaires with the help of an interviewer who has a general idea about the research. The data set included 472 participants and 97 statements, and five demographic variables. First, all the reverse encoded variables have been corrected. All participants and variables preserved their place in the data set as the number of missing values did not exceed 10%, both based on participants and variables which were filled by the mean for continuous variables and the median for discrete variables. Skewness and kurtosis calculations are made with absolute values as the sample size is larger than 300 (West et al., 1995).

The responses for all scales were normally distributed, with skewness values between -1 and $+1$ ($SE=0,11$) and kurtosis values between -3 and $+3$ ($SE= 0,22$) (West et al., 1995). There were no outliers and influential values beyond these thresholds. There were no multicollinearity problems ($VIF < 3$) among measurement variables in the equation either (Hair et al., 2010)

4. Results

4.1. Descriptive findings

The descriptive information about survey participants and their organizational information is presented in Table 1.

Table 1. Participants' information

Variable		Account	Ratio
Gender	Female	321	68.0%
	Male	151	32.0%
Marital status	Married	194	41.1%
	Non-married	278	58.9%
Educational level	Elementary	20	4.2%
	High school	165	35.0%
	College	155	32.8%

	Undergraduate school	107	22.7%
	Graduate school	25	5.3%
Position	Manager	113	23.9%
	Employee	359	76.1%
Income level	Expenses exceed income	48	10.2%
	Equilibrium	181	38.3%
	Income exceeds expenses	243	51.5%
Hospitals	Private	273	57.8%
	Public	199	42.2%

4.2. Exploratory factor analyses

The factorial structure of survey scales is explored in the Turkish sample; the items of the instruments were exposed to exploratory factor analysis (Netemeyer et al., 2003). MLS (eigenvalue=1) and Promax-kappa 4 rotation methods were preferred as the method of inference for all scales. The factor structure is based on MLS covariance matrices. Items that have no cross-loading in the final pattern matrix under a certain number of factors indicated discriminant validity. The items had values greater than 0.3 in a factor, and the average value is greater than 0.5 for each factor indicated convergent validity.

Job characteristics: The 30-item instrument used for measuring job characteristics was subjected to exploratory factor analysis. The adequacy of sampling for the analysis was satisfactory (KMO=0.94), $BTS X^2 (210) = 5552.97, p < 0.001$. The MLS factor analysis with a cutoff point of 0.47 and Kaiser's criterion of eigenvalues greater than 1 produced a three-factor solution as the best fit for the data, accounting for 59% of the variance (Field, 2002). As presented in Table 2, the final scale had internally consistent 21 items (Bowling, 2002; Loewenthal, 2004). EFA produced a three-factor solution which is different from the original scale with a six-factor structure as feedback, work identity, and cooperation factors are dropped due to insufficient factor loadings (Sims et al., 1976). This is found as a parsimonious solution, given that exploring fewer factors contributes to parsimony (Gibson et al., 2020). But at the same time, it suggested that the participants in our sample perceived the statements in the job characteristics scale as slightly different from the previous studies (Field, 2002).

Job satisfaction: The 20-item job satisfaction instrument was subjected to exploratory factor analysis. The sampling adequacy for the analysis was satisfactory (KMO=0.93), $BTS X^2 (75) = 3,474.29, p < 0.001$. The MLS factor analysis with a cutoff point of 0.56 and Kaiser's criterion of eigenvalues greater than 1 offered a solution with two factors as the best fit for the data, accounting for 63% of the variance (Field, 2002). There were internally consistent 13 items (Bowling, 2002; Loewenthal, 2004) under the factors internal and external job satisfaction in the final scale (Table 3). The factor solution was quite similar to the two-factor original study suggesting that the participants in our sample perceived the structure of job satisfaction quite similar to the previous studies (Field, 2002; Sims et al., 1976).

Table 2. Job characteristics pattern matrix

Items	Factors		
	FRI $\alpha= 0.94$	SKV $\alpha= 0.78$	AUT $\alpha= 0.72$
isk21	0.779		
isk24	0.757		
isk25	0.753		
isk29	0.748		
isk28	0.748		
isk16	0.727		
isk26	0.684		
isk27	0.684		
isk20	0.671		
isk22	0.669		
isk17	0.658		
isk15	0.644		
isk23	0.644		
Isk 6		0.668	
Isk 7		0.653	
Isk 3		0.636	
Isk 1		0.479	
isk11		0.470	
Isk 8			0.667
isk10			0.569
isk13			0.490

Extraction Method: Maximum Likelihood. Rotation Method: Promax with Kaiser Normalization. Rotation converged in 8 iterations. (isk: job characteristics)

Table 3. Job satisfaction pattern matrix

Items	Factors	
	IJS $\alpha= 0.89$	EJS $\alpha= 0.88$
it2	0.793	
it6	0.767	
it9	0.747	
it5	0.736	
it7	0.723	
it4	0.599	
it10	0.581	
it15		0.827
it14		0.820
it17		0.730
it13		0.726
it16		0.667
it19		0.556

Extraction Method: Maximum Likelihood. Rotation Method: Promax with Kaiser Normalization. Rotation converged in 3 iterations. (it: job satisfaction)

Job performance: The 47-item job performance instrument was subjected to exploratory factor analysis. The adequacy of sampling for the analysis was satisfactory (KMO=0.95), $BTS X^2(435) = 10,834.49, p < 0.001$. The MLS factor analysis with a cutoff point of 0.48 and Kaiser's criterion of eigenvalues greater than 1 produced a solution surprisingly with one more factor having internally consistent 30 items (Loewenthal, 2004) (Table 4).

Table 4. Job performance perception pattern matrix

Items	Factors				
	CPW $\alpha = 0.95$	COP $\alpha = 0.92$	RCP $\alpha = 0.91$	ICP $\alpha = 0.90$	TSP $\alpha = 0.76$
zvd4r	0.909				
zvd3r	0.887				
zvd2r	0.871				
zvd5r	0.863				
zvd6r	0.860				
zvd7r	0.846				
zvd1r	0.750				
up5		0.898			
up7		0.844			
up3		0.800			
up6		0.755			
up8		0.722			
up2		0.628			
up4		0.612			
up1		0.497			
ip11			0.867		
ip9			0.842		
ip10			0.737		
ip8			0.674		
ip12			0.669		
ip14			0.568		
ip13			0.519		
ip5				0.846	
ip4				0.737	
ip3				0.675	
ip2				0.645	
ip6				0.629	
gp2					0.967
gp1					0.575
gp5					0.477

Extraction Method: Maximum Likelihood. Rotation Method: Promax with Kaiser Normalization.

Rotation converged in 6 iterations. (zvd: counterproductive work behavior, up: compliance performance, ip: relational performance, gp: task performance)

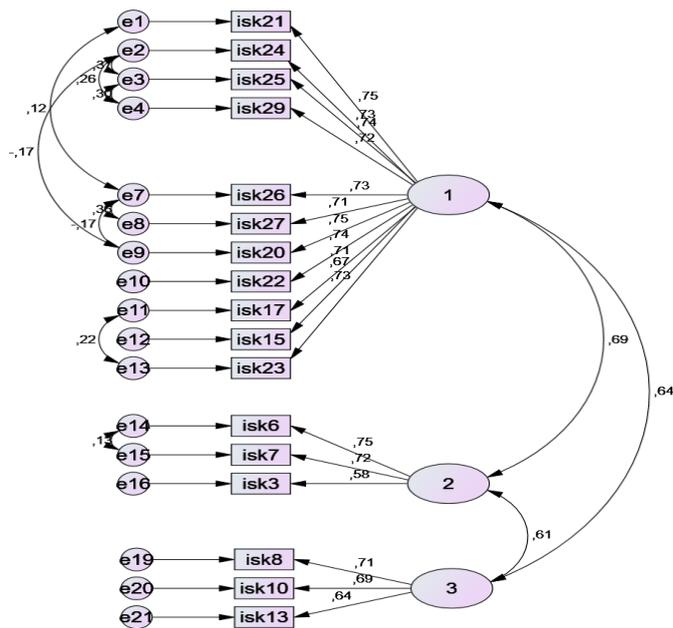
The factor solution was different from the four-factor original study (Koopmans et al., 2011). The context performance appeared to be in two categories which are named relational context performance and individual context performance, as items

were grouped into two categories. All the five factors responsible for 70% of the variance best fit the data. This suggested that the participants in our sample perceived the structure of job performance as slightly different from the previous studies, which may be due to translation and cultural differences among samples (Field, 2002).

4.3. Measurement models

The models that arose in the exploratory factor analyses were then examined by using confirmatory factor analyses for validity considerations. In the process of obtaining goodness of fit in measurement models, measurement model incompatibilities are eliminated in two ways. First, incompatible observed variables that are considered to be connected with another latent variable are removed from the scales. Second, covariance assignments are made among error values of observed variables within the same latent variable. Model fit attained regarding thresholds (Bollen & Lennox, 1991; Browne & Cudeck, 1992; Hair et al., 2010; R. Hoyle, 1995; Jöreskog & Sörbom, 1989; Kline, 2015; MacCallum et al., 1996; Pedhazur, 1997).

Job characteristics: Three latent and 17 observed variables remained in the final job characteristics measurement model after dropping four observed variables (Figure 2).



(CMIN/DF 2,743; SRMR 0,041; GFI 0,933; RMSEA 0,061; TLI 0,943; CFI 0,955)

Figure 2. Job characteristics measurement model

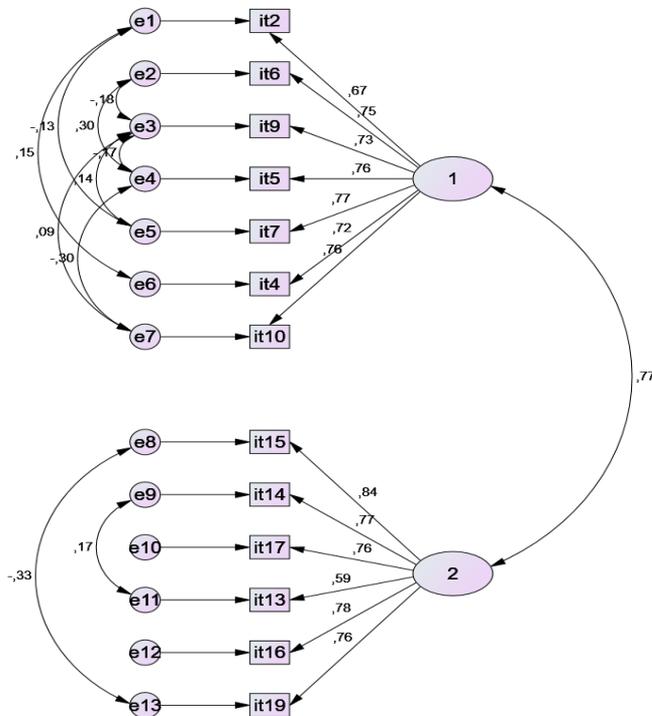
The latent variables are named friendship (1), skill variety (2), and autonomy (3). The results of job characteristics measurement model validity analyses in Table 5 are satisfactory (Hu & Bentler, 1999).

Table 5. Validity analyses of job characteristics

	CR	AVE	MSV	MaxR(H)	1	2	3
1 FRI	0.925	0.528	0.474	0.925	0.727		
2 SKV	0.726	0.471	0.474	0.740	0.688***	0.686	
3 AUT	0.723	0.466	0.415	0.726	0.645***	0.607***	0.683

Reliability (CR>0,7), Convergent validity (AVE>0,5), (CR>AVE), Discriminant validity (MSV<AVE), Partly discriminant validity (ASV>inter-factor correlations)

Job satisfaction: The latent and observed variables remained unchanged in the final job satisfaction measurement model (Figure 3).



(CMIN/DF 2,638; SRMR 0,034; GFI 0,959; RMSEA 0,059; TLI 0,963; CFI 0,974).

Figure 3. Job satisfaction measurement model

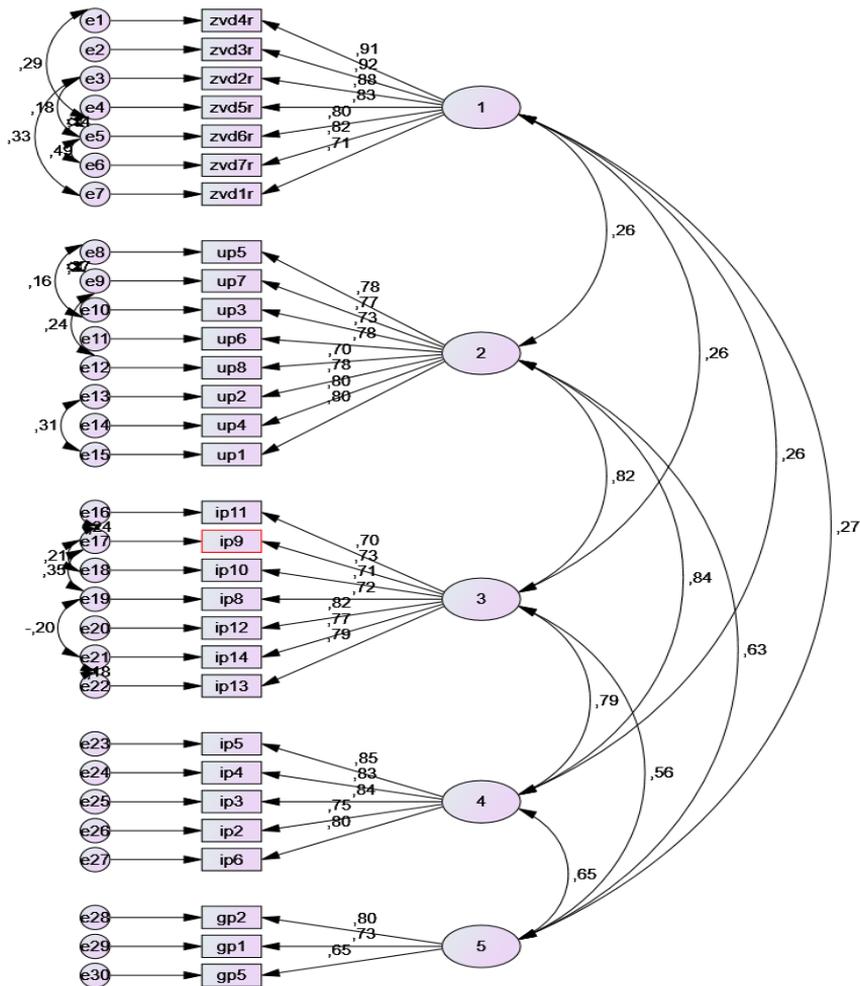
The latent variables are named intrinsic job satisfaction (1) and extrinsic job satisfaction (2). The results of job satisfaction measurement model validity analyses are in Table 6 are satisfactory.

Table 6. Validity analyses of job satisfaction

	CR	AVE	MSV	MaxR(H)	1	2
1 IJS	0.893	0.545	0.590	0.895	0.738	
2 EJS	0.887	0.569	0.590	0.897	0.768***	0.754

Reliability (CR>0,7), Convergent validity (AVE>0,5), (CR>AVE), Discriminant validity (MSV<AVE), Partly discriminant validity (ASV>inter-factor correlations).

The number of latent variables remained unchanged (Figure 4).



(CMIN/DF 1,921; SRMR 0,038; GFI 0,906; RMSEA 0,044; TLI 0,962; CFI 0,967).

Figure 4. Job performance perception measurement model

The latent variables are named counterproductive work behavior (1), compliance performance (2), relational contextual performance (3), individual contextual performance (4), and task performance (5). The results of job performance measurement model validity analyses in Table 7 are satisfactory.

Table 7. Validity analyses of job performance perception

	CR	AVE	MSV	Maks R(H)	1	2	3	4	5
1 CWB	0.944	0.708	0.075	0.954	0.842				
2 COP	0.920	0.589	0.706	0.921	0.264***	0.768			
3 RCP	0.899	0.561	0.666	0.903	0.261***	0.816***	0.749		
4 ICP	0.906	0.660	0.706	0.910	0.259***	0.840***	0.786***	0.812	
5 TSP	0.773	0.533	0.417	0.786	0.275***	0.629***	0.557***	0.645***	0.730

Reliability (CR>0,7), Convergent validity (AVE>0,5), (CR>AVE), Discriminant validity (MSV<AVE), Partly discriminant validity (ASV>inter-factor correlations)

4.4. Path model

Based on the confirmatory factor analysis results, the factors and their sub-dimensions in the data set are averaged. The descriptive statistical values of the variables are presented in Table 8.

Table 8. Descriptive statistics and correlation matrix

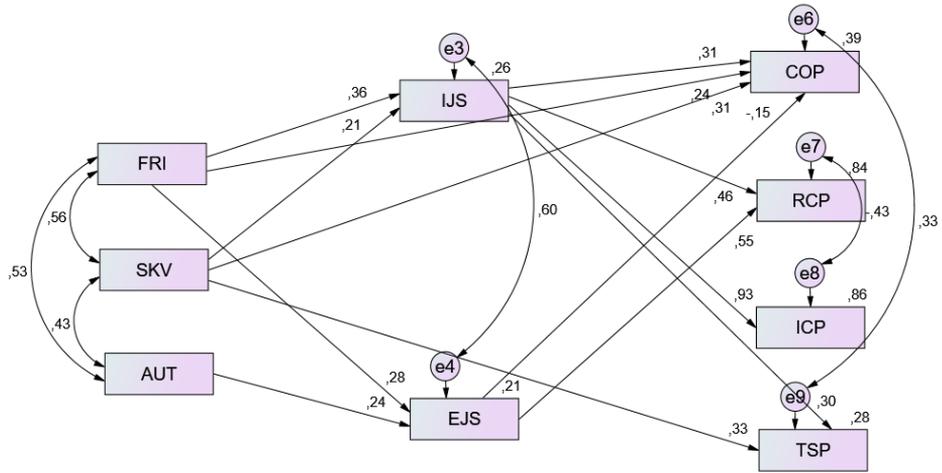
	\bar{X}	s	FRI	SKV	AUT	IJS	EJS	COP	RCP	ICP	TSP
FRI	4.20	1.10	-								
SKV	4.33	1.13	0.562**	-							
AT	3.87	1.18	0.530**	0.432**	-						
IJS	4.27	1.09	0.475**	0.440**	0.339**	-					
EJS	3.87	1.22	0.405**	0.307**	0.422**	0.679**	-				
COP	4.61	1.11	0.515**	0.529**	0.302**	0.456**	0.250**	-			
RCP	4.17	1.10	0.475**	0.397**	0.405**	0.835**	0.844**	0.355**	-		
ICP	4.11	1.12	0.461**	0.388**	0.348**	0.929**	0.672**	0.421**	0.735**	-	
TSP	4.48	1.24	0.392**	0.464**	0.279**	0.444**	0.305**	0.547**	0.376**	0.398**	-

n= 472 *<0.05 (2-tailed). **<0.01 (2-tailed).

The parameters indicated plausible dispersion. There were no multicollinearity problems (VIF<3) among measurement variables in the equation (Hair et al., 2010). Moderate levels of correlations among research variables provided the basis for hypothesis testing on a path model (mean r=0.45).

The remaining endogenous latent variables in the final model had high R2 values as IJS=0.26, EJS=0.21, COP=0.39, RCP=0.84, ICP=0.86, and TSP=0.28. This indicated that the model tested accounted for a quite large proportion of the variance in the measured items. All the significant path coefficients indicating causal effects are given in Figure 5.

Job Characteristics' Causal Effects on Individual Job Performance Perceptions...



(CMIN/DF 2.272; SRMR 0.029; GFI 0.983; RMSEA 0.052; TLI 0.986; CFI 0.993)

Figure 5. Path model with standardized regression coefficients

The direct effects of job characteristics' dimensions on job satisfaction dimensions and job performance dimensions are tested and shown as statistically significant direct effects coefficients in Table 9.

Table 9. Direct path coefficients of the hypothesized model

	Path	S. estimate	S.E.	C.R.	P
FRI	→ IJS	0.358	0.046	7.937	***
FRI	→ EJS	0.281	0.052	6.121	***
SKV	→ IJS	0.213	0.037	5.534	***
AUT	→ EJS	0.240	0.040	6.190	***
FRI	→ COP	0.238	0.046	5.397	***
SKV	→ COP	0.306	0.043	6.922	***
SKV	→ TSP	0.334	0.047	7.780	***
IJS	→ COP	0.312	0.052	6.153	***
IJS	→ RCP	0.458	0.023	19.371	***
IJS	→ ICP	0.928	0.018	54.134	***
IJS	→ TSP	0.297	0.049	6.924	***
EJS	→ COP	-0.151	0.042	-3.271	0.001
EJS	→ RCP	0.545	0.020	24.440	***

* <0.05 ** <0.01 *** <0.001

Job characteristics' influence on job performance: Skill variety significantly and positively affects compliance performance ($\beta=0.306$, $p<0.001$) and task performance ($\beta=0.334$, $p<0.001$)—the hypothesis H1. Skill variety has a significant positive influence on job performance supported - the hypothesis H2. Autonomy has a significant positive influence on job performance not supported as there found no

quantitative evidence. Friendship significantly and positively affects compliance performance ($\beta=0.238$, $p<0.001$)—the hypothesis H3. Friendship has a significant positive influence on job performance supported.

Job characteristics' influence on job satisfaction: Autonomy significantly and positively affects extrinsic job satisfaction ($\beta=0.240$, $p<0.001$)—the hypothesis H4. Autonomy has a significant positive influence on job satisfaction supported. Skill variety significantly and positively affects intrinsic job satisfaction ($\beta=0.213$, $p<0.001$)—the hypothesis H5. Skill variety has a significant positive influence on job satisfaction supported. Friendship significantly and positively affects intrinsic job satisfaction ($\beta=0.358$, $p<0.001$) and extrinsic job satisfaction ($\beta=0.281$, $p<0.001$)—the hypothesis H6. Friendship has a significant positive influence on job satisfaction supported.

Job satisfaction's influence on job performance: Intrinsic job satisfaction has a significant and positive influence on compliance performance ($\beta=0.312$, $p<0.001$), relational contextual performance ($\beta=0.458$, $p<0.001$), individual contextual performance ($\beta=0.928$, $p<0.001$), and task performance ($\beta=0.297$, $p<0.001$). Extrinsic job satisfaction significantly and positively influences relational contextual performance ($\beta=0.545$, $p<0.001$). But extrinsic job satisfaction significantly and negatively affects compliance performance ($\beta= -0.151$, $p<0.01$), regarding the reverse effect of extrinsic job satisfaction on compliance performance, hypothesis H7. Job satisfaction has a significant positive influence on job performance is partly supported.

4.5. Mediation of job satisfaction

The mediation effects are tested on the path model with the bootstrap technique as a more advantageous method over others that is based on the biased corrected confidence interval (Hair et al., 2010; MacKinnon et al., 2007; Shrout & Bolger, 2002). The specific indirect effects plugin is used for calculating all possible mediating effects between variables in the path model (Gaskin & Lim, 2018). The bootstrap analysis calculated a 95% confidence interval on the path model with 472 samples. The results are given in Table 10.

The intrinsic job satisfaction's full mediations revealed that friendship has significant and positive influence on relational contextual performance ($\beta = 0.164$, $p < 0.01$, BC, CI = 0.125 [0.208), individual contextual performance ($\beta = 0.333$, $p < 0.001$, BC, CI = 0.271 [0,428) and task performance ($\beta = 0.107$, $p < 0.001$, BC, CI = 0.081 [0.173) which originally did not exist. The extrinsic job satisfaction' full mediating role revealed that friendship has significant and positive effect on relational contextual performance ($\beta = 0.153$, $p < 0.001$, BC, CI = 0.110 [0.208) which originally did not exist. The intrinsic job satisfaction's full mediations revealed that skill variety has significant and positive effect on relational contextual performance ($\beta = 0.098$, $p < 0.001$, BC, CI = 0.065 [0.123), and individual contextual performance ($\beta = 0.198$, $p < 0.001$, BC, CI = 0.137 [0.254) which originally did not exist.

Table 10. Indirect path coefficients of hypothesized model

Indirect Path	Lower	Upper	P-Value	Standardized Estimate	Mediation
FRI → IJS → COP	0.076	0.168	0.001	0.112***	Partial
FRI → IJS → RCP	0.125	0.208	0.001	0.164**	Full
FRI → IJS → ICP	0.271	0.428	0.001	0.333***	Full
FRI → IJS → TSP	0.081	0.173	0.001	0.107***	Full
FRI → EJS → COP	-0.079	-0.021	0.001	-0.042***	Partial Negative
FRI → EJS → RCP	0.110	0.208	0.001	0.153***	Full
SKV → IJS → COP	0.042	0.097	0.001	0.066***	Partial
SKV → IJS → RCP	0.065	0.123	0.001	0.098***	Full
SKV → IJS → ICP	0.137	0.254	0.001	0.198***	Full
SKV → IJS → TSP	0.046	0.100	0.000	0.063***	Partial
AUT → EJS → COP	-0.057	-0.017	0.001	-0.036***	Full Negative
AUT → EJS → RCP	0.082	0.157	0.001	0.131***	Full

* <0.05 ** <0.01 *** <0.001

The extrinsic job satisfaction’s full mediation revealed that autonomy has significant and positive effect on relational contextual performance ($\beta = 0.131, p < 0.001, BC, CI = 0.082 \text{ } \square \text{ } 0.157$) which originally did not exist. The extrinsic job satisfaction’s full mediation revealed that autonomy has significant and negative effect on compliance performance ($\beta = -0.036, p < 0.001, BC, CI = -0.057 \text{ } \square \text{ } -0.017$) which originally did not exist.

The intrinsic job satisfaction positively and partially mediated friendship’s positive effect on compliance performance ($\beta = 0.112, p < 0.001, BC, CI = 0.076 \text{ } \square \text{ } 0.168$). The intrinsic job satisfaction positively and partially mediated skill variety’s positive effects on compliance performance ($\beta = 0.066, p < 0.001, BC, CI = 0.042 \text{ } \square \text{ } 0.097$) and task performance ($\beta = 0.063, p < 0.001, BC, CI = 0.046 \text{ } \square \text{ } 0.100$). The extrinsic job satisfaction negatively and partially mediated friendship’s positive effect on compliance performance ($\beta = -0.042, p < 0.001, BC, CI = -0.079 \text{ } \square \text{ } -0.021$).

In the final evaluation of mediation findings - hypothesis H8- job characteristics' influence on job performance is positively mediated by job satisfaction is partly supported regarding the extrinsic job satisfaction's negative indirect effect on job performance.

5. Discussion

According to the results, job characteristics have a positive influence on both job satisfaction and job performance perception. On the other hand, job satisfaction's influence on job performance perception is both in positive and negative directions. The hypotheses tested for the subdimensions of the structures in the study revealed various results that offer implications for theory and practice.

5.1. Theoretical implications

Results from the Turkish sample confirmed job characteristics' direct influence on job performance evaluation and supported similar findings of previous empirical studies. The contributions made to human resource management literature are explained in detail below.

The descriptive findings of the study provided insights into the correlations among job characteristics, job satisfaction, and job performance perception. The highest mean values for skill variety ($\bar{X}=4.33$) were found to be similar to the findings of a study in Latin American culture (Peiró et al., 2020).

The results indicated that skill variety has a direct positive impact on compliance performance and task performance. The findings are aligned with the assumptions of work design theory (Grant et al., 2009) and empirical research findings. General support came from the findings of various research (Johari & Yahya, 2016; Millette & Gagné, 2008; Peiró et al., 2020; Singh, 1998; Tyagi, 1985). In other words, when the employees perceive their job as more enriched, their compliance and task performances will be higher. Friendship had a significant and positive effect on compliance performance. Friendship could increase compliance performance by promoting positive interactions among people and enhancing the social exchange relationship's quality between co-workers and supervisors. This is supported by Sariköse & Göktepe's (2021) empirical findings showing that staffing and colleague solidarity are important factors affecting job performance. But there found no evidence about autonomy's effect on job performance.

Autonomy had a direct positive effect on extrinsic job satisfaction. This finding is supported by some empirical evidence about job characteristics' effect on extrinsic (García et al., 2019) and overall job satisfaction (Ali et al., 2014; Dore, 2004; Ford & Wooldridge, 2012; Giles et al., 2017; Millette & Gagné, 2008; Riasudeen & Venkatesa-kumar, 2014; Singh, 1998; Van den berg & Feij, 2003). It can be concluded that the employees with autonomous jobs have more extrinsic job satisfaction.

Skill variety had a direct positive effect on intrinsic job satisfaction, which is aligned with some empirical research results in the related literature (Ali et al., 2014; Dore, 2004; Ford & Wooldridge, 2012; Jansen et al., 1996; Millette & Gagné, 2008; Namm, 2003; Riasudeen & Venkatesakumar, 2014; Van den berg & Feij, 2003). It can be concluded that when the employees perceive their job as more enriched, their intrinsic job satisfaction will be higher.

Friendship had a positive influence on both extrinsic and intrinsic job satisfaction. This finding had a base in social exchange theory in which the employees with intrinsic job satisfaction enhance the quality of the social exchange for individuals in the workplace relationships.

Intrinsic job satisfaction had a quite high level of effect size, explaining 84% of the total variance for relational contextual performance ($R^2=0.84$) and 86% of the total

variance for individual contextual performance ($R^2=0.86$). This is interpreted as the employees with a chance to use their abilities and feeling of accomplishment are likely to be industrious and resourceful people with extra-role behaviors at work.

Intrinsic job satisfaction had a positive influence on compliance performance, relational contextual performance, individual contextual performance, and task performance. This finding is generally supported by some empirical findings (Al, 2016; Astuti et al., 2020; Edward & Kaban, 2020; Gül et al., 2008; Idris et al., 2020; Keaweney & Nelson, 1993; Marbawi et al., 2018; Mardanov, 2020; Perera et al., 2014; Riyadi, 2019; Shafique et al., 2018; Topcu et al., 2017; Yustina & Valerina, 2018). This means that when the employees have intrinsic job satisfaction, their overall (compliance, relational contextual, individual contextual, and task) performance will be higher. Extrinsic job satisfaction had a positive effect on relational contextual performance. This is supported by the findings of the study in Nigeria (Funmilola et al., 2013). This means that when employees have extrinsic job satisfaction, their relational contextual performance will be higher. Extrinsic job satisfaction is found to negatively influence compliance performance. This may be interpreted that the employees who are satisfied by advancement, payment, and recognition are prone to have difficulties in adapting to changes and coping with uncertainties at work.

Findings were consistent with the previous empirical evidence that agreed on job satisfaction's positive effect on job performance (Al-Ahmadi, 2009; Jung Choi & Tae Kim, 2012). Our findings were aligned with the literature as intrinsic job satisfaction is more critical than extrinsic job satisfaction on job performance (Hackman & Oldham, 1975; Tyagi, 1985). Findings contribute to the social exchange theory in that individuals have better performance when they are pleased and satisfied with the advantages of the exchange in the workplace (Blau, 1964).

This study deepens the understanding of the mediation role of job satisfaction on job characteristics' influence on job performance perception by revealing details. Friendship acquires positive effects on the relational contextual, individual contextual, and task performances through intrinsic job satisfaction's full mediation. Friendship acquires a positive effect on the relational contextual performance through extrinsic job satisfaction's full mediation. The finding is supported by empirical evidence (Idris et al., 2020; Yustina & Valerina, 2018) and contributed to the modern job design approach (Grant et al., 2009). The individuals who perceive friendship as a character of their job have a better relational contextual performance perception as they have more extrinsic job satisfaction. Skill variety acquires positive effects on the relational and individual contextual performances through intrinsic job satisfaction's full mediation. Autonomy acquires a positive effect on relational contextual performance through extrinsic job satisfaction's full mediation. To conclude, job satisfaction as a full mediator revealed that friendship, skill variety, and autonomy had positive determination on job performance.

Autonomy acquires a negative effect on compliance performance through extrinsic job satisfaction's full mediation. To conclude, extrinsic job satisfaction as a full mediator revealed that autonomy negatively influences compliance performance.

Friendship's positive effect on compliance performance will be higher through intrinsic job satisfaction's partial positive mediation. Skill variety's positive effect on compliance and task performances will be higher through intrinsic job satisfaction's partial positive mediation. Friendship's positive effect on compliance performance will be lower through extrinsic job satisfaction's partial negative mediation. The mediation effects of job satisfaction found between the job characteristics' dimensions and job performance perception are the most important contribution of the study to the theory (Idris et al., 2020; Yustina & Valerina, 2018). The dimensions of job characteristics acquiring direct effects on the dimensions of job performance showed that job satisfaction has an important mediating role in this relationship. Testing the mediating effects in a sample from the service industry is another aspect of the study's contribution to the literature.

The use of structural equation modeling as a robust method in the study allows future research to make more precise comparisons about the relationships among the dimensions of job performance and job characteristics.

The results of the study suggest that the employees should have sufficient control over their job to accomplish their job tasks. The jobs should be designed fairly autonomous. Many other benefits along with individual job performance may be attained when the work redesign is retained as an active change and intervention instrument by the management. The findings comply with management concepts suggesting less control and supervision in teamwork, empowerment, and flexibility.

5.2. Practical implications

Our findings have important implications for human resource managers in the job designing process. According to the findings of the study, adapting to the new work system, colleagues and roles are hard for the employees whose jobs are designed with autonomy and friendship as dominant characters. A high level of extrinsic job satisfaction may result in negative compliance performance for these kinds of jobs. Managers are advised to determine the adequate level of extrinsic satisfaction such as job security, recognition from the company for these kinds of jobs in case of reorganizing and reengineering.

The human resource managers are also advised to use each job characteristic as a criterion in personnel selection and compensation to have substantial job performance improvements in complicated jobs and tasks.

6. Conclusion and Limitations

The main ideas of the study were verified that job characteristics have meaningful effects on job performance and that job satisfaction has a mediating role in this

relationship. There found some exceptional findings as well: Extrinsic job satisfaction negatively influences compliance performance; Autonomy acquires a negative effect on compliance performance through extrinsic job satisfaction's full mediation; Friendship's positive effect on compliance performance will be lower through extrinsic job satisfaction's partial negative mediation.

The findings should be interpreted with some limitations. Survey data on job performance were gathered from employees due to organizational characteristics. The performance evaluation of supervisors who have no turnover concerns could reflect the more realistic performance of employees and reduce common-method variance. But the findings of a study in which common method variance was controlled showed that core job characteristics have significant effects on job performance despite gathering all survey data from the same source (Glick et al., 1986). Another limitation is that the survey sample was not heterogeneous due to volunteer participation in the survey. Future studies should have more heterogeneous samples to generalize findings.

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