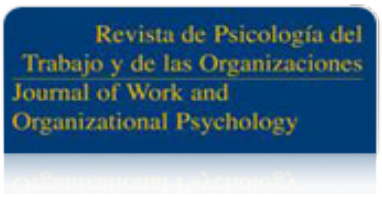

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Work Values and Employee Effort: A Needs-Supplies Fit Perspective

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A B S T R A C T

This study aimed to investigate the impact of work values (i.e., autonomy, competence and growth, and job security) on employee effort from a needs-supplies fit perspective. Using data from 295 employees and their 57 supervisors in two organizations, the results indicated that employee effort increased as employees' perceived values increased toward their preferred values. Moreover, employee effort did not show consistent patterns when the perceived work values exceeded the preferred values. Specifically, regarding autonomy and competence and growth, employee effort continued to increase as the perceived values exceeded the preferred values. However, regarding job security, employee effort declined as the perceived values substantially exceeded the preferred values. Furthermore, this study found that the higher the fit level between the perceived and preferred values, the greater the employee effort. Nevertheless, the findings regarding job security, which were inconsistent with our expectations, revealed that a considerably higher fit led to a decline in employee effort.

Los valores del trabajo y el esfuerzo de los empleados: una perspectiva del ajuste necesidades-recursos

Palabras clave:
Regresión polinómica
Valores del trabajo
Ajuste de valores
Ajuste necesidades-recursos
Esfuerzo en el trabajo

R E S U M E N

Este estudio busca investigar la repercusión de los valores del trabajo (como autonomía, competencia y crecimiento o seguridad en el empleo) en el esfuerzo de los empleados desde una perspectiva del ajuste necesidades-recursos. Los datos de 295 empleados y 57 supervisores de dos organizaciones indicaron que el esfuerzo aumentaba a medida que los valores percibidos de los empleados aumentaban hacia los valores preferidos. Además, el esfuerzo no mostraba patrones coherentes cuando los valores percibidos del trabajo superaban a los valores preferidos. Específicamente, en lo relativo a la autonomía y a la competencia y crecimiento, el esfuerzo de los empleados seguía aumentando a medida que los valores percibidos superaban a los valores preferidos. No obstante, en cuanto a la seguridad en el empleo, el esfuerzo de los empleados disminuía a medida que los valores percibidos superaban sustancialmente a los valores preferidos. Por otra parte, este estudio muestra que a mayor nivel de ajuste entre los valores percibidos y los preferidos mayor es el esfuerzo. Sin embargo, los resultados referidos a la seguridad en el empleo, contrariamente a nuestras expectativas, mostraban que un esfuerzo considerablemente mayor daba lugar a una disminución del esfuerzo de los empleados.

Employee effort is the amount of attentional resources that an employee dedicates to a job task (Yeo & Neal, 2004). Motivating employees to increase their work effort to achieve organizational goals is an important issue for managers (Ren, 2010). As employees' organizational duties have become less routinized and defined, organizations increasingly seek to retain individuals who uphold high levels of work effort on their own (Dysvik, Kuvaas, & Buch, 2013). Consequently, managers usually try to benefit from motivation theories by inducing their employees to work harder (Mohr & Bitner, 1995). Relative to its significance as a central variable in organizational research (Ollo-Lopez, Bayo-Moriones, & Larraza-Kintana, 2010), employee effort has not received enough attention in the management literature (Testa, 2001). The concepts of employee performance and effort are distinctive and should not be used interchangeably, and employee effort has been found to be a positive antecedent of employee performance (e.g., Blau, 1993; Brown & Leigh, 1996; De Cooman, De Gieter, Pepermans, Jegers, & Van Acker, 2009; Edwards, Franco-Watkins, Cullen, Howell, & Roy E. Acuff, 2014; Yeo & Neal, 2004). Employee effort is a behavior representing an input of managerial and work performance, while performance is an outcome of this behavior (Christen, Iyer, & Soberman, 2006; Mitchell, 1974; Ollo-Lopez et al., 2010). This confusion is explicitly expressed

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by Christen et al. (2006) who argued that sometimes the relationship between effort and performance is unclear or inconsistent with received theory and that there is a need to clearly distinguish these two concepts. Based on the above, it could be concluded that no research has specifically delved into the relationship between work value fit and employee effort. Therefore, focusing on effort could add to our knowledge given that employee effort is a facet of job performance (Dysvik et al., 2013), and other elements and factors, such as skills, abilities, and special knowledge, could help shape employee performance.

Since motivation plays an important role in explaining how much effort and persistence employees show (Blau, 1993), the majority of studies that investigated the antecedents of employee effort relied on motivation and its related concepts such as goal setting, valence, and self-efficacy as fundamental predictors of employee effort (Yeo & Neal, 2004). Values have motivational implications (Jolibert & Baumgartner, 1997; Meglino & Ravlin, 1998; Ravlin & Meglino, 1987; Rokeach, 1973), represent the cognitive manifestation of needs and are described as second-order needs (Lyons, Higgins, & Duxbury, 2010). Similar to the functions of needs, values induce valences on objects and events (Feather, 1995), although there have been some theoretical implications posing that values have a direct impact on employee effort. In addition, Feather (1995) indicated that the strength of a person's values may affect how much effort he/she exerts for an activity and how long he/she will persist at an activity, although this research path has not received proper attention in the literature. In particular, to the best of our knowledge, empirical studies have not yet addressed the association between employees' organizational effort and their perception of supplied work values in comparison to their own preferred ones, i.e., the needs-supplies fit (NS fit).

NS fit is a major type of person-environment fit (PE fit). From an employee's point of view, NS fit may be the most important type of fit as part of the basic motivation for an employee is gaining access to the inducements an organization offers in return for their contributions (Cable & DeRue, 2002). In this respect, effort generally refers to an individual's valued resource and that resource, as assumed in social exchange theory, will continue to flow only if a person experiences a valued return that is contingent upon it (Emerson, 1976). However, some more complicated research inquiries may arise regarding the potential relationship between work value (in)congruence and employee effort; namely, when employees perceive that their own set of preferred values are inadequately provided, do they withhold or reduce proper effort as a result of this value shortage, as explained earlier, or do they increase their effort in an attempt to meet their work requirements? In the same vein, what is the effect of perceived excessive supplies of work values on employees' needs for such values? Should employees keep on given that they have already fulfilled their own needs for such values or should they increase their effort in response to the generosity of the organization? Could excessive supplies harm the intrinsic motivation of employees through the perception of being over-controlled in their work? Actually, the answers to these inquiries are not as straightforward as they might seem. Based on the extant literature, the reaction pattern of a certain outcome in response to work value incongruence is expected to largely depend on how well the organizational supplies meet an employee's needs (Greguras & Diefendorff, 2009). Furthermore, the response of the increase or decrease of an employee's effort in terms of an outcome to an excess of supplies is determined by whether these increasing inducements promote or inhibit the fulfillment of the different needs of that employee (Lambert, Edwards, & Cable, 2003). Therefore, we cannot generalize constant relationships between work value incongruence and employee effort; rather, employee effort will vary based on the extent to which this effort can help the employee meet his/her various needs or keep his/her desired status.

As Lyons et al. (2010) posit, given that employees control the means of production through their individual effort, creativity, and innovation, it is necessary for organizations to understand their employees' work values and to develop work environments that are congruent with employees' values. Extending the literature on PE fit, the current study might be the first to investigate the relationship between work values and employee effort based on NS fit. Specifically, this study explored the relationship between three work values (i.e., autonomy, competence and growth, and job security; see below for reasons for selecting these values) and employee effort, with the purpose of addressing the extent to which a match and a mismatch (in either direction) between employees' preferred and perceived work values impact their level of work effort. This is particularly important for both researchers and practitioners because NS fit strongly reflects self-determination theory (SDT; Ryan & Deci, 2000), indicating that fulfilling the basic needs of employees causes them to be more engaged and exhibit favorable, productive behaviors. By linking NS fit-based work values to employee effort, this study highlights an essential PE fit process in which individuals seek to have a proper response to environments and make adjustments to cope with misfit (Su, Murdock, & Rounds, 2015). Furthermore, the current study, consistent with the literature, defines employee effort as an individual's behavior that is distinct from its results, which can depend on either situational factors that are not controlled by an individual (Edwards & Shipp, 2007) or other variables, such as higher proficiency skills, that moderate the effort-task performance relationship (Kristof-Brown, Zimmerman, & Johnson, 2005). Thus, this study takes the initiative by adopting more precise measures of evaluating individual performance that distinguish between employee effort and effectiveness.

Development of Hypotheses

Work Values

Work values are generalized beliefs about the desired status of different aspects of work, such as working conditions and outcomes such as accomplishments (Lyons et al., 2010). Stated differently, work values represent evaluative standards and goals in the organizational context (Froese & Xiao, 2012). The scope of work values includes diverse items such as pay, achievement, enjoyment, and health conditions. However, researchers generally distinguish between two types of work values, intrinsic (or cognitive) and extrinsic (or instrumental) (cf. Lyons et al., 2010). While intrinsic work values are mainly focused on self-actualization and self-expression, extrinsic work values are related to job security and material acquisition (Vansteenkiste, Soenens, & Lens, 2007). Among these various work values, autonomy, competence and growth, and job security are focused on in this study. Autonomy is the extent to which job gives employees freedom and discretion in scheduling their work and in determining the ways they can do their work (Hackman & Oldham, 1975). Competence and growth are related to achievement and development of knowledge and skills (Meyer, Irving, & Allen, 1998). Job security is the extent to which employees feel secure in terms of keeping their jobs. Studying such work values is significant because job security and growth opportunity are viewed as some of the most important work attributes individuals consider when they choose jobs (Judge & Bretz, 1992). Moreover, autonomy is a basic psychological need that individuals share across all cultures (Chirkov, Ryan, Kim, & Kaplan, 2003). In an organizational context, autonomy is particularly prominent as decision making has been increasingly delegated to the lower levels of organizations (Simmering, Colquitt, Noe, & Porter, 2003). Furthermore, these three work values are common denominators in studies on work value-effort relationships (e.g., Green, 2004;

Liden, Wayne, Jaworski, & Bennett, 2004; Ollo-Lopez et al., 2010; Siegrist et al., 2004).

Work Value (Mis)fit and Employee Effort

Values have motivational rules, and exert their effects through valences that are attached to objects and events in a person's psychological environment following activation of values people perceive to be important for themselves (Feather, 1995). When employees perceive that their organizations support work values are consistent with their own values and self-interests, they are expected to identify their personal goals with those of the organization and to invest greater effort in pursuing these organizational goals (Brown & Leigh, 1996). Given that actions and outcomes are linked to the cognitive-affective system through a person's dominant needs and values (Feather, 1992) and that a person's emotions and effort are closely related (Sakurai & Jex, 2012), it is expected that when employees' preferred work values are adequately considered by their organizations, employees will exert greater effort than employees who are dissatisfied with the way their organizations meet these values. Furthermore, based on the effort-reward imbalance (ERI) model, as employees feel that the organization does not support them in terms of their preferred organizational resources, they will not stay in an imbalanced high-effort-low-reward situation; rather, they will try to cognitively and behaviorally reduce their effort (van Vegchel, de Jonge, Bosma, & Schaufeli, 2005). McClean and Collins (2011), based on the process of social exchange, posited that when organizations fulfill employees' needs, employees will be more willing to reciprocate and more intrinsically motivated to perform in a manner that will benefit their organizations. As a result, it is expected that employee effort increases as supplies of resources continue to reach employees' preferred levels of these values.

With regard to competence and growth, employees need to perceive that their organizations are concerned with their developmental goals by creating work environments that provide employees with opportunities for skill mastery and achievement. Employees prefer work environments that facilitate the use of their knowledge and skills and address their needs and values; meeting employees' needs should affect their perceptions of the probability that effort will lead to performance (Bretz & Judge, 1994). Employees then exert effort not only to achieve their current tasks but also to develop the ability to master future tasks. This drive should, in turn, facilitate higher levels of work effort (Dysvik & Kuvaas, 2013).

As indicated above, we could infer that as supplies of values fall short of preferred values, employee effort will decrease. Hence, the next logical inquiry is regarding the impact of surfeit supplies of work values on employee effort. Although many PE fit studies generally treat deficits and surfeits as interchangeable in terms of their impact on postulated outcomes, this uniform treatment is conceptually indefensible (Tinsley, 2000). Complementary fit theory and the psychological need fulfillment theory indicate that while people become dissatisfied when supplies provided by the environment fall short of the levels they desire, their reactions to excess supplies depend on the nature of employees' needs (Cable & Edwards, 2004; Taris & Feij, 2001). Helping employees by providing opportunities for growth, achievement, and development should increase employee effort as employees feel obligated to reciprocate by exerting extra effort to benefit the organization (Dysvik et al., 2013; Kuvaas & Dysvik, 2009). Additionally, excess supplies of competence and growth may facilitate and foster employees' sense of success given that transaction cost economics suggest that individuals may withhold effort when conditions do not allow them to make their own accomplishments (Liden et al., 2004). Accordingly, employees are expected to react to this increased attractiveness of their work environment with more positive attitudes and behavior toward the firm, including increased work effort (Ollo-Lopez et al., 2010).

Furthermore, high autonomy leads to proactive behaviors (Dutton, Ashford, O'Neill, & Lawrence, 2001), which increase employees' opportunities for personal achievement and growth (Porath & Bateman, 2006). A promotion beyond one's ambition may enhance status and accomplishment (Edwards, 1996) and increase one's perception of autonomy and decision-making ability. Furthermore, excess competence and growth (e.g., being a leader of a new project team, though it was not planned) could increase one's self-confidence and may also inhibit the possible perception of job security. The prior argument could be extended to imply that organizational supplies of autonomy and competence and growth that exceed employees' preferred levels may enhance work effort. Specifically, research has shown that employees who obtain more job autonomy demonstrate more internal motivation, more creativity, and self-confidence (Naus, van Iterson, & Roe, 2007).

Importantly, it is assumed that substantial autonomy has an interference effect because substantial autonomy is thought to cause some burden of responsibility (Edwards, 2002) and deprive employees of guidance from others (Edwards & Rothbard, 1999). However, this assumption could be challenged based on the fact that the concept of autonomy has frequently been theoretically confounded with that of independence (Crocker & Park, 2004), and this misconception may have led to the previous conclusion. Chirkov et al. (2003) indicated that according to SDT, which suggests that behavior can be characterized in terms of the degree to which individuals are autonomous versus controlled (Gagne & Deci, 2005), individuals are most autonomous when they behave based on their own authentic interests or integrated values and desires. The opposite of autonomy is not dependence but rather heteronomy or the context in which an individual's actions are perceived as controlled by factors that force one to behave in specific ways regardless of one's values or interests (Chirkov et al., 2003; Gagne & Deci, 2005; Ryan & Deci, 2000). Critically, SDT defines dependence as reliance on others for guidance, support, or needed supplies (Chirkov et al., 2003). Based on the above discussion, it seems that there is still no clear research evidence indicating that excess autonomy could lead to interference effects. Rather, based on the argument presented above, it could have been more plausible to infer that substantial independence may have an interference effect on other values. Nevertheless, suggesting that excess autonomy may have interference effects should not be ruled out since it is thought that excess autonomy, which is associated with decreased monitoring, could lead to opportunistic behaviors, including decreased employee effort (Ollo-Lopez et al., 2010). However, given that an organization's monitoring procedures can help minimize potential opportunistic behaviors resulting from employees' high autonomy (Langfred, 2004), apparently the potential positive impact of excess autonomy on employee effort would outweigh its supposed negative impact. Considering the above discussion, the following hypothesis is proposed:

Hypothesis 1a: For autonomy and competence and growth, employee effort increases as the perceived work values increase toward the preferred work values and continues to increase as the perceived values exceed the preferred work values.

Loi, Ngo, Zhang, and Lau (2011) pointed out that concerns about job security could act as a hindrance stressor or as an undesirable work-related demand that interferes with an individual's work achievement. Different from challenge stressors, which are manageable, this hindrance stressor of job security is perceived by employees as a barrier beyond their own control, encumbering their personal growth opportunities. Based on findings of the meta-analysis conducted by Lepine, Podsakoff, and Lepine (2005), when job security is perceived as a hindrance stressor, employees are less likely to exert extra effort because they believe that it will not lead to valued outcomes. In addition, prior research showed

that organizational characteristics that inhibit self-expressive behavior are expected to lead to opposition and resistance, ultimately leading to unfavorable attitudes and behavior (Naus et al., 2007). Accordingly, satisfying employees' needs for autonomy is key to generating intrinsic motivation, which, in turn, stimulates employees to exert increased effort for their work (Dobni, Ritchie, & Zerbe, 2000; Ren, 2010). Research has shown that as employees meet their autonomous goals, which are driven by a sense of utter willingness and choice, they most likely invest more sustained effort into these goals (Sheldon & Elliot, 1998). Increased job security acts as a relational psychological contract based on greater trust (Kraimer, Wayne, Liden, & Sparrowe, 2005) that, in turn, is expected to help employees deal more appropriately with challenging tasks, enhance their experience, skills and konwledge, and encourage them to make the most of the autonomy provided by their organizations (i.e., carryover effects). Therefore, based on the argument above, I expect that excess supplies of job security will contribute to an increase in work effort.

Nevertheless, when employees feel too secure in their jobs, they may encounter interference effects. Given that complacency is related to a high level of job security (Brockner, Grover, Reed, & Dewitt, 1992; Greenhalgh & Rosenblatt, 1984), a substantially low level of job security could have a demotivating impact on employee effort. Excessive job security may tempt employees to postpone working on particular duties and cause them to lose the enthusiasm necessary for challenging tasks, ultimately leading to a decrease in the level of work effort. Considering the above discussion, the following hypothesis is suggested:

Hypothesis 1b: For job security, employee effort increases as the perceived work value increases toward the preferred work value and continues to increase as perceived values exceed preferred work values, decreasing only when excess perceived values are substantial.

Work Value Fit Level and Employee Effort

People may compare the adequacy of organizational resources to some referents, including their expectations or needs or general societal norms (Cropanzano & Greenberg, 1997). Further, when their input-outcome ratio (e.g., ratio of effort to job security or autonomy), compared to the ratio of other employees, is unequal, employees seek to restore equity by a number of mechanisms, including adjusting their effort level (Blakely, Andrews, & Moorman, 2005). As Lambert et al. (2003) suggested, when employees set ambitious standards for themselves and attain these targets, this represents an accomplishment that results in feelings of competence and self-esteem. Therefore, employees who obtain high levels of supplies, regardless of which type of supply is involved, are satisfied because they perceive that they have sought and attained substantial supplies from their employer. On the other hand, achieving low levels of job attributes merely signifies that a modest goal has been met. Therefore, satisfaction is expected to be higher when perceived and preferred job attributes are both high than when both are low (Edwards, 2002).

Given that organizational resources are relatively scarce, the social exchange theory may suggest as employees perceive that organizational resources better meet their needs, the more effort they exert as a means of increasing their work contribution in response to "consideration" of the organization. As noted earlier, work value fit occurs when organizations furnish employees with job attributes that meet their preferences. Consequently, employees are expected to exert organizational effort commensurate with the level of match between their own desires and the provided supplies. Given that there is consensus that higher levels of job attributes, such as job rotation, autonomy, and communication, cause employees to apply more cognitive resources in their job and, in turn, leads to greater involuntary mental effort (Ollo-Lopez et al., 2010), it is expected that the higher the level of the value fit between the preferred and perceived work values, the more effort employees exert. Considering the above discussion, the following hypothesis is posited:

Hypothesis 2: Employee effort is higher when perceived and preferred work values are aligned at a high level than when they are aligned at a low level.

Method

Sample and Procedures

This study was conducted in two organizations in El-Gharbia governorate, Egypt. One organization produces painting products, and the other is a construction company. The employees in these organizations perform regular duties with low to moderate difficulty in jobs, such as painting technicians, clerks, and engineers in the first organization and construction workers, electricians, clerks, and operating engineers in the second organization. Surveys were sent out to 500 employees and 180 supervisors, who were assured confidentiality. The employees provided responses to items related to their preferred and perceived work values and control variables, while supervisors rated the work effort of employees and provided demographic information. The back-translation technique was employed to ensure that translated items reflected original items (Mullen, 1995). We matched employees' responses with their corresponding supervisors' ratings, and the sample of this study includes a total of 295 (59%) usable employees (191 from the painting organization and 104 from the construction organization) with matched employee effort data from 57 (32%) supervisors (37 from the painting organization and 20 from the construction organization). Sixty-eight percent of employees were males, mean age was 35.49, and average tenure was approximately 5.26 years. Seventy-one percent of supervisors were males; the average age was 45.3; on average, the supervisors had worked for their organizations for 7.8 years; and all the supervisors had earned a university degree. The number of supervisor ratings ranged from 2 to 10, with an average of 5.2.

Measures

Except for demographic variables, the study variables were assessed using 7-point scales. For work values, the scale ranged from *not important at all/not at all* to *very important/very much*. The other scales ranged from *not agree at all* to *strongly agree*.

Preferred and perceived work values. Employees were asked to rate the three work value dimensions twice. They first rated how much each work value item was important to them in their work life. Second, they rated how much they perceived that their organizations provided each value item to them. Four items adapted from Karasek (1979) were used to assess autonomy. Statements were specifically selected to reflect the value of autonomy, differentiating it from independence. An example is "having control over tasks and duties in my job" (scale reliabilities for preferred and perceived job autonomy were .83 and .81, respectively). Four statements were selected to assess competence and growth; these were proposed by Meyer et al. (1998) based on the work values inventory by Manhardt (1972). Sample items are "provides a feeling of accomplishment" and "encourages continued development of knowledge and skills" (scale reliabilities for preferred and perceived competence and growth were .81 and .83, respectively). Job security was measured using 4 items from the job security scale used by Kraimer et al. (2005). A sample item is "my job will be there as long as I want it" (scale reliabilities for preferred and perceived job security were .78 and .83, respectively).

Employee effort. Five items from the scale of De Cooman et al. (2009) were used to measure work effort. This scale showed good psychometric properties, including convergent validity with task performance, i.e., $r = .53$, $p < .01$. However, to enhance the scale validity for the current study, a clear explanation was provided to supervisors regarding what we mean by employee effort, and they were asked to assess their employees' work effort regardless of the extent to which employees achieved their assigned tasks. Sample items are "[employee name] does his/her best to do what is expected of him/her", and "does not give up quickly when something does not work well "(α = .82).

Control variables. People's belief in their efficacy influences how much effort they exert to achieve their tasks (Bandura, 1997), and it is seen as a predictor of employee effort (Bandura, 1982). Self-efficacy was assessed by summing and averaging four items from the general self-efficacy scale of Chen, Gully, and Eden (2001). A sample item is "even when things are tough, I can perform quite well" (α = .85). Moreover, a number of sociodemographic variables were used as control variables, including gender, managerial position (i.e., blue-collar or white-collar), education, tenure (Dysvik et al., 2013), and age. On average, women devote more time than men to family and household obligations, depleting their energy (Gorman & Kmec, 2007). This, in turn, may adversely affect how much effort they exert in their jobs. Additionally, compared to more qualified workers, blue-collar workers may highly perceive limited opportunities for changing jobs, and will not minimize their effort at work even if their gain is low as the possible costs of being laid off by far outweigh the costs of accepting inadequate benefits (Siegrist, 1996). According to the ERI model, the lack of reciprocity between costs and gains related to an employee's work effort could lead to a stressful working context, and one way to cope with this is reducing the amount of effort (Siegrist, 1996). Given that tenure and education are employees' valued resources, the effort exerted, all other things held constant, could be inversely affected by the level of these two variables. As physical ability may gradually decrease as employees age, age was included as a control variable. Finally, a dummy variable was used to account for the potential effect of the organization type on employee effort.

Analyses

The data set was screened for outliers and influential cases. Given that regression analysis is the main statistical analysis used in this study, it is appropriate to use identifying techniques such as leverage, Cook's D statistic, and standardized residuals to identify prediction outliers (Aguinis, Gottfredson, & Joo, 2013). Concerning the leverage statistic, based on the conservative recommendation by Stevens (2009), cases with three times the average leverage value (i.e., $3p + 1/n$, where p is number of predictors, and n is number of cases) could be influential cases. Regarding Cook's distance statistic, cases with scores larger than 1 were classified as influential cases. Moreover, the standardized residuals of cases that were larger than the absolute value of 3.29 were considered outliers. Following Edwards (2002) and applying conservative rules, cases that exceeded all cutoffs of selected criteria were removed from study analyses. No cases failed to meet prior criteria and, accordingly, all the cases were used to test study hypotheses. Polynomial regression analysis and response surface methodology (Edwards & Parry, 1993) were used to assess the impact of perceived and preferred work value fit on employee effort. A polynomial regression analysis included the estimation of quadratic regression equations using a measure of employee effort (Z) as the dependent variable and using perceived (or actual) (A) and preferred (or desired) (D) measures for job security, competence and growth, and autonomy as the independent variables in addition to three nonlinear terms constructed from these measures. The general expression used for the quadratic regression is

$$Z = A + D + A^2 + AD + D^2 + e$$

Moreover, the response surface methodology provides an accurate description and evaluation of three-dimensional surfaces corresponding to polynomial regression equations (Edwards & Parry, 1993). To facilitate the interpretation of the results and reduce multicollinearity among predictors, independent variables were scale-centered (Edwards, 1994; Edwards & Parry, 1993). That is, scores of all predictors were subtracted from 4, the midpoint of their shared scale. Centering scores around the midpoint is beneficial because this method is not sample-dependent and provides us with a useful interpretation of the slope of the surface at the center of the plane bounded by X and Y coordinates (Edwards & Parry, 1993). The shape of the surface along the two lines of interest is of importance for this study. The surface along the A = D line (fit line) indicates whether the outcome varies when the two components are congruent. On the other hand, the surface along the D = – A line (misfit line) shows the effects of incongruence on

Table 1. Means, Standard Deviations, Correlations, and Reliability Estimates of the Study Variables

Measures	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Organization	1.35	0.48	—													
2. Gender	0.68	0.47	.01	—												
3. Age	35.50	4.35	–.04	.15*	—											
4. Managerial position	0.62	0.49	.10	.04	.01	—										
5. Education	1.11	1.03	.00	–.02	–.01	.02	—									
6. Tenure	5.26	1.69	–.10	–.06	.05	–.03	.0	—								
7. Self-efficacy	4.20	1.11	.02	-.00	.12*	.03	.03	.10	(.85)							
8. Preferred autonomy	4.38	1.06	.02	–.05	–.07	–.04	.03	–.04	.12*	(.83)						
9. Perceived autonomy	4.32	1.07	–.00	.00	–.06	–.07	–.03	–.06	.16**	.56**	(.81)					
10. Preferred competence and growth	4.82	1.03	–.05	–.08	.06	–.03	.02	–.00	.24**	.18**	.26**	(.81)				
11. Perceived competence and growth	4.77	1.00	–.06	–.06	–.05	–.03	.00	.01	.12*	.32**	.39**	.60**	(.83)			
12. Preferred job security	4.74	0.87	.02	–.09	–.07	–.05	–.00	.03	.11	.04	.09	.33**	.24**	(.78)		
13. Perceived job security	4.49	0.89	–.00	–.10	–.06	.06	.01	.01	.10	.19**	.31**	.27**	.32**	.34**	(.83)	
14. Employee effort	4.78	0.83	–.01	–.07	–.10	–.10	–.05	–.06	.22**	.37**	.51**	.39**	.55**	.12*	.42**	(.82)

Note. $N = 295$. Scale reliabilities are displayed in parentheses along the diagonal. Gender is coded as female = 0 and male =1. Organization as *first* organization = 0 and *second* organization = 1. Marital status as single = 0 and married = 1. Managerial position was coded as blue-collar = 0 and 1 = white-collar. Education ranged from high-school education (0) to postgraduate degree (3).
*$p < .05$, **$p < .01$.

Table 2. Confirmatory Factor Analysis Results for the Hypothesized and Alternative Measurement Models

Models	$\chi^2(df)$	RMSEA	CFI	SRMR
1. Hypothesized seven-factor model	524.46(356)	.040	.955	.049
2. Six-factor model (perceived and preferred autonomy are combined)	680.82(362)	.062	.891	.070
3. Six-factor model (perceived and preferred competence and growth are combined)	687.71(362)	.055	.914	.056
4. Six-factor model (perceived and preferred job security are combined)	828.03(362)	.066	.876	.069
5. Four-factor model (for each work value, perceived and preferred items are combined into one factor)	1166.19(371)	.085	.789	.078
6. Three-factor model (autonomy, competence and growth are combined)	1730.10(374)	.111	.640	.102
7. Three-factor model (autonomy and job security are combined)	1693.40(374)	.109	.650	.108
8. Three-factor model (competence, growth and job security are combined)	1573.99(374)	.104	.681	.094
9. Two-factor model (the three work values are combined)	2137.401(376)	.126	.532	.116
10. One-factor model	2278.47(377)	.131	.495	.118

Note. N = 295. The alternative models were compared with the hypothesized seven-factor model, and all $\Delta\chi^2$s are significant at $p < .001$. CFI refers to the comparative fit index. RMSEA refers to the root-mean-square error of approximation. SRMR refers to the standardized root-mean-square residual. All possible variants of alternative models were also tested and compared with the hypothesized model. However, because of space limitations, their results are not reported here.

the outcome (Edwards, 2002). Slopes and curvatures along these lines were calculated as instructed by (Edwards & Parry, 1993).

Employee effort was regressed simultaneously on work value terms, their nonlinear terms, and the control variables. Given that dependent variable data are hierarchically structured as employees' effort scores are nested within supervisor ratings, SAS Proc Mixed was used to account for the impact of supervisor estimates on employee effort. Moreover, SAS CONTRAST statements were used to test the significance of slopes and curvatures along fit and misfit lines (Jansen & Kristof-Brown, 2005).

Results

Means, standard deviations, and correlations of all variables and reliabilities are presented in Table 1. Psychometric properties of measurement scales were assessed before testing study hypotheses. The hypothesized seven-factor measurement model showed a very good fit to the data: χ^2 (356) = 524.46, $p < .001$; root mean square error of approximation (RMSEA) = .040, p-close = .99; confirmatory fit index (CFI) = .955; and the standardized root mean square residual (SRMR) = .049. All scale indicators showed adequate standardized factor loadings, ranging from .54 to .86, on their respective factors. Moreover, values of the average variance extracted (AVE) for all constructs were higher than the minimum threshold value of .50 recommended by Fornell and Larcker (1981); this value is used to prove the discriminate validity of a construct. Furthermore, a series of confirmatory factor analyses (CFAs) were conducted to evaluate convergent and discriminant validities of study variables, as indicated in Table 2. The proposed model demonstrated significantly better fit than all alternative models. Overall, previous CFA results indicated the distinctiveness of the study variables.

Compared to the linear model of employee effort regressed on linear terms of work values and control variables (R^2 = .48, adjusted R^2 = .46, $p < .001$), the model containing polynomial terms explained a significant amount of the variance in employee effort (R^2 = .53, adjusted R^2 = .49, $p < .001$) with a significant increase in R^2, indicating that a nonlinear relationship exists between the three sets of work values and employee effort (ΔR^2 = .05, Δ adjusted R^2 = .03, $p < .01$). Among all control variables, only the following three variables were significantly related to employee effort: managerial position (b = −0.14, $p < .10$, blue-collar = 0, and white-collar = 1), tenure (b = −0.04, $p < .10$), and self-efficacy (b = 0.10, $p < .01$). An inspection of covariance parameter estimates of Proc Mixed results indicated that the variance in intercepts across supervisors is negligible and insignificant (intercept = .05, p = .24), suggesting that supervisors' assessment of employee effort did not significantly differ in means.

Hypothesis 1a stated that, for autonomy and competence and growth, employee effort increases as perceived work values increase toward preferred work values and continues to increase as perceived values exceed preferred work values. Surfaces depicting these two dimensions (see Figures 1 and 2) show that employee effort gradually increases as perceived work values approach preferred work values. Moreover, employee effort continues to increase as perceived values exceed preferred work values. Statistically, supporting this hypothesis corresponds to a positive slope along the misfit line (D = −A) at the fit point where A = 0, D = 0 and there is no curvature along this line. As Table 3 indicates, for autonomy, the slope is positive along the misfit line (slope = .15, $p < .05$), and the surface shows no curvature (curvature =.07, *ns*). For competence and growth, the slope along the misfit line (i.e., the fit point) is also positive (slope = .26, $p < .01$). Additionally, the surface exhibits no significant curvature (curvature = −.03, *ns*). Altogether, these findings support Hypothesis 1a. Hypothesis 1b predicted that, for job security, employee effort increases as perceived work values increase toward preferred work values and continues to increase as perceived values exceed preferred work values, decreasing only when excess perceived values are substantial. The surface showing the relationship between job security and employee effort shows that employee effort, along the misfit line, increases as perceived job security increases toward preferred job security. However, employee effort starts to level off as

Table 3. Cross-level Polynomial Regression Results of the Work Value-Effort Relationship and Surfaces along Lines of Interest

	Polynomial regression equation coefficients					Surface slopes along A = D (Fit line)		Surface slopes along A= −D (Misfit line)	
Dimension	A	D	A^2	AD	D^2	(A+ D)	(A^2 + AD + D^2)	(A–D)	(A^2 – AD + D^2)
Autonomy	.18**	.03	.01	−.03	.03	.21**	.01	.15*	.07
Competence and growth	.30**	.04	−.01	.01	−.01	.34**	−.01	.26**	−.03
Job security	.29**	.04	−.15**	−.02	−.05	.33**	−.22**	.25**	−.18*

Note. N =295. A, D, A^2, AD, and D^2 are the unstandardized regression coefficients of perceived (A), preferred (D), squared perceived, interaction of perceived and preferred, and squared preferred, respectively, of the relevant value dimension on employee effort. A+ D and A^2 + AD + D^2 represent the coefficients of the slope and curvature, respectively, of the surface along the line of fit. A – D and A^2 – AD + D^2 represent the coefficients of the slope and curvature, respectively, of the surface along the line of misfit.
* $p < .05$ **, $p < .01$.

perceived job security exceeds preferred job security and decreases slightly when employees report substantial perceived job security values. Statistically, supporting this hypothesis entails a positive slope at the fit point along the misfit line and a surface with a small downward curvature along this line. Indeed, there is a positive slope (slope = .25, $p < .01$) and a significant downward curvature (curvature = –.18, $p < .05$) along the misfit line. Thus, these findings support Hypothesis 1b.

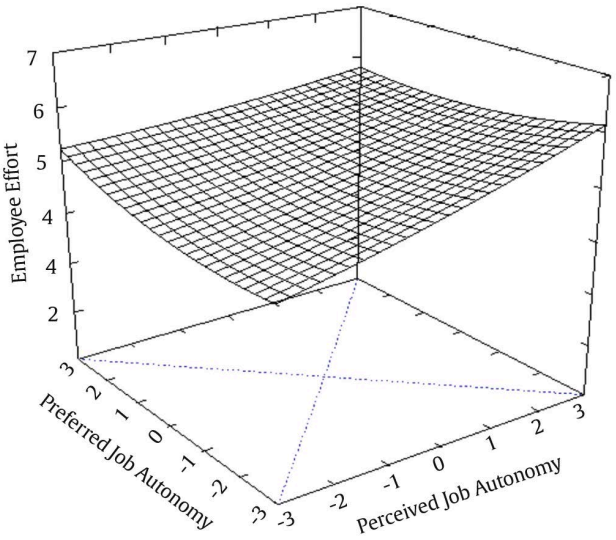

Figure 1. Response Surface of Fit for Perceived and Preferred Autonomy Predicting Employee Effort.

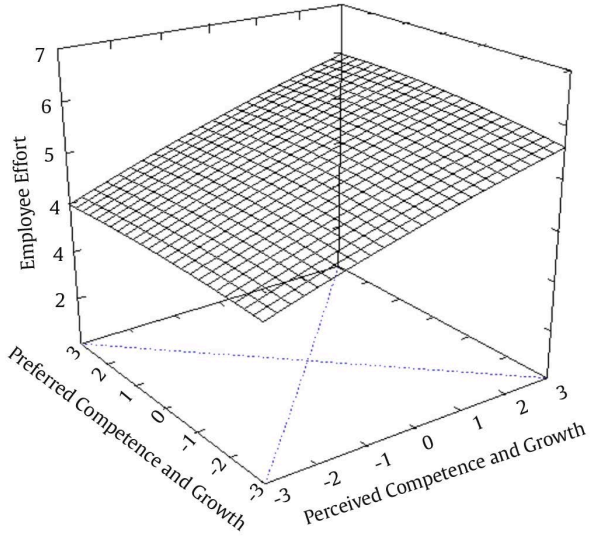

Figure 2. Response Surface of Fit for Perceived and Preferred Competence and Growth Predicting Employee Effort.

The second hypothesis predicted that employee effort is higher when perceived and preferred work values are aligned at a high level rather than when they are aligned at a low level. The three response surfaces clearly show that employee effort increases when moving from lower levels to higher levels across A = D lines of work values. This hypothesis is significant if the slopes along the fit lines have positive values. Moreover, surfaces should not demonstrate any significant curvatures. All the slopes along the fit lines are significantly positive. Surfaces of growth and competence and autonomy have no curvatures, which is also supported by the nonsignificant curvature coefficients (see Table 3). However, the surface of job security indicates that employee effort decreases as employees report higher levels of congruence. This result is further supported by a significant negative curvature along the fit line (curvature = –.22, $p < .01$). These findings indicate that for growth and competence and autonomy, employee effort increases linearly, moving from low perceived and preferred values to high perceived and preferred values, but this does not occur for job security. Taken together, these findings partly support Hypothesis 2 (Figure 3).

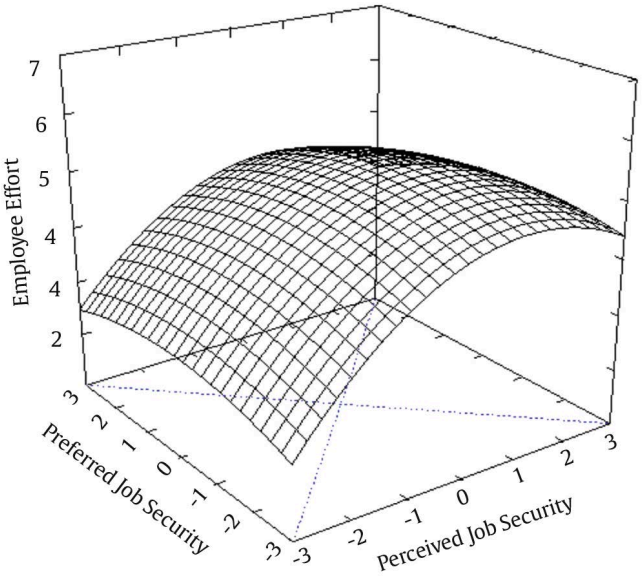

Figure 3. Response Surface of Fit for Perceived and Preferred Job Security Predicting Employee Effort.

Discussion

Based on the PE fit theory, this study addressed the impact of work value fit on employee effort. Specifically, this study investigated how fit/misfit between employees' preferred and perceived values of three selected dimensions of work values (i.e., job security, competence and growth, and autonomy) affected employee effort. The current study revealed that the polynomial effect of value congruence enhanced the variance accounted for in predicting employee effort although not substantially. Given that employee effort is a good predictor of job performance, these findings reflect findings of the meta-analysis reported by Yang, Levine, Smith, Ispas, and Rossi (2008) showing that the polynomial impact of PE fit, including value fit, marginally contributed to the explained variance of job performance. Consistent with developed theoretical underpinnings, the present study demonstrated that, for all three work values examined, employee effort was low as perceived organizational supplies fell short of preferred values of employees' required resources. Employee effort gradually improved as perceived values increased toward preferred values. These outcomes seem to reflect a number of theories that could be employed to determine key factors shaping work effort. Specifically, these findings are congruent with the emotion-center model suggesting that in response to their perception of unfair treatment, employees, depending upon constraints and opportunities, choose from a number of behavioral actions, including withholding effort or doing the absolute minimum effort required by their organizations (Spector & Fox, 2002). One way to cope with a lack of organizational resources relative to their needs is to alter

the level of effort exerted. This behavior reflects a social exchange theory principle: relationships between employees and their organizations rely on the trade of effort and loyalty for benefits such as pay, support, and recognition (van Knippenberg & Sleebos, 2006). This same argument applies to the context in which organizations seek to fulfill their employees' needs related to organizational resources. Because employees feel obligated to reciprocate to create balance in their exchanges with organizations (Shore & Barksdale, 1998), employees may exert extra effort because they perceive that organizations are aware of and concerned with their work values. Moreover, consistent with the notion that employees perceive that they restore social exchange balance when they do something beneficial to their organizations when they receive organizational support (Wayne, Shore, & Liden, 1997), current findings showed that as perceived work values increased toward preferred values, employees commensurately exerted effort.

For autonomy and competence and growth, even when perceived values exceeded preferred values, employee effort continued to increase. However, for job security, employee effort decreased as perceived values substantively exceeded preferred values. By integrating exchange theory and equity theory, in which work effort is considered a key input to the employee-employer exchange (Mohr & Bitner, 1995), this study suggested additional implications regarding employee effort and work value fit by distinguishing between the fit of the intrinsic value of job security and extrinsic values of both competence and growth and autonomy. This distinction could be further justified given that the job demands-resources model suggests that perceived organizational resources that significantly enhance employees' growth, learning, and development should increase the willingness of employees to dedicate their efforts to work tasks (Crawford, LePine, & Rich, 2010) and that one way to define intrinsic motivation is in terms of the persistence of self-initiated behavior. Accordingly, it is argued that individuals pursuing intrinsically motivated goals usually exert sustained effort (Sheldon & Elliot, 1998). Additionally, these findings further support complementary fit and psychological need fulfillment theories by asserting that attitudes and behavior of employees vary as organizational resources of values exceed their needs based on specific value attributes (Edwards, 1996; Edwards & Rothbard, 1999). Furthermore, current findings demonstrated that employees reported relatively higher scores for work effort as perceived values exceeded preferred values than when perceived values fell short of preferred values. These results contradicted one of the traditional assumptions of equity theory: people are sensitive to inequity in the employee-employer exchange such that individuals become distressed when they are either overrewarded or underrewarded and, accordingly, they are expected to alter their work effort level to restore the status of equity (Huseman, Hatfield, & Miles, 1987). Accordingly, these findings revealed that employees are obviously more affected by a deficiency of organizational resources than by surplus resources given that employee effort either did not decrease or slightly declined when there was a surplus of organizational resources. Finally, consistent with assumptions of both equity and social exchange theories, this study found that for autonomy and competence and growth, employee effort was higher when perceived and preferred values were both high than when both were low. This finding is consistent with prior research indicating that desiring and attaining ambitious standards enhances positive feelings such as self-esteem (Lambert et al., 2003), which, in turn, has a positive relation with work effort (Pierce & Gardner, 2004). However, inconsistent with the hypotheses of the current study, a higher level of job security congruence led to a declining level of work effort. One initial explanation of this finding is that employees who prefer higher levels of job security and are supported by their employers may feel so secure and confident that they become less motivated to exert appropriate effort. However, more research is required to address this tentative finding.

The current study has some advantages. First, as the majority of PE fit studies used work attitudes as dependent variables (Verquer, Beehr, & Wagner, 2003), this study addressed this deficiency by focusing on employee effort, a critical behavioral outcome in every organization. Second, data used in this study were obtained from multiple informants (employees and their supervisors), which helps overcome problems related to common method variance inherent in studies that collect data for predictor and criterion variables from the same person (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).Third, in contrast to studies using conventional techniques to assess fit, such as algebraic or squared difference or even the direct assessment of value congruence, this study theorized and predicted a priori the potential effect of misfit between perceived and preferred values of work value dimensions on employee effort in terms of the direction of this incongruence. In other words, this study distinguished between the situation in which perceived value falls short of preferred values and that in which perceived values exceed preferred values. Given that many studies improperly addressed fit issues by adopting the general premise that fit is advantageous to individuals and organizations while misfit is detrimental (Edwards & Rothbard, 1999), this study presented a more accurate explanation of the relationship between work value fit and employee effort. Fourth, this study was applied to two organizations operating in different industries, thus minimizing the concern that the study results are biased due to idiosyncratic characteristics.

Limitations and Directions for Future Research

The results of this study should be considered in light of the following limitations. One limitation of this study is related to its cross-sectional design, restricting the ability to make causal inferences. In this respect, replicating the study using a longitudinal design is recommended because this design can better address causality issues. Additionally, although the current study investigated three value dimensions that pertain to both intrinsic (autonomy and competence and growth) and extrinsic work values (job security), there are a number of other important work values, such as pay, prestige, span of control, and career training, that need to be considered in future research. Furthermore, the scale used to assess effort is a general scale that reflects the extent to which employees exert high energy and display due care and diligence in their work. However, this scale could include specific types of effort measures to address relevant research inquires. Examples of these types of effort include accomplishment striving, exerting effort to complete work assignments, status striving, which means exerting effort to perform better than other colleagues, and communion striving, which means exerting effort to cooperate with coworkers (Barrick, Stewart, & Piotrowski, 2002). It is also recommended that future research consider moderating variables that may further our understanding of work value fit-effort relationship. It could be argued that an employee who experiences NS misfit would be motivated to exert effort if he or she perceived that this effort could yield supplies that would produce NS fit (Edwards & Shipp, 2007). The study of Brockner et al. (1992) revealed that the relationship between job security and employee effort had an inverted U-shape because of the interaction effects of perceived threat and control (i.e., the extent to which employees think that they or their organizations can take action to overcome the negative consequences of job loss). If the perceived threats of job loss and control are both high, employees should work relatively hard because they feel neither complacent nor helpless. Furthermore, the current study could also be extended to encompass other variables that could further increase our understanding. For example, could employees' exchange ideology, i.e., willingness to increase effort to benefit an organization, interact with work values to adjust the

work values-effort relationship given that this variable was found to moderate the relationship between perceived organizational support and employees' effort (Orpen, 1994)? Similarly, the literature showed that task effort depends, in part, on an individual's perception of task characteristics and available external resources and the extent to which one's effort will lead to good performance and desirable consequences (Yates & Kulick, 1977). Accordingly, replicating this study in a different setting that furnishes such variables could sharpen our knowledge of the work value-effort relationship.

Moreover, cultural values are likely to have significant implications for work values. According to Hofstede (1984), Egypt scored higher on the uncertainty avoidance dimension (i.e., having strong uncertainty avoidance and maintaining rigid codes of belief) than western countries. Similarly, safety or job security is expected to prevail over other needs if people report high uncertainty avoidance (Hofstede, Hofstede, & Minkov, 2010). Accordingly, a research question that deserves investigation is whether current study's findings could hold in western countries, given that cultural values may have moderating effects on the relationship between work values and managerial attitudes and behavior, including work effort. Finally, although the literature supports the distinctiveness of employee effort and task performance and indicates that effort is a positive antecedent of performance, it is clear that the largest part of scales used to tap task performance in general and those used in studies related to value congruency and task performance in particular were mixed with items assessing employee effort rather than performance. Therefore, revisiting the relationship between task performance and work value fit is encouraged because the literature generally indicates that the relationship between value fit and task performance is weak (Hamstra, Van Vianen, & Koen, 2018). Such research would help us gain more insights into the value congruence-performance relationship when employee effort operates as a partial or full mediator in this potential relationship. Moreover, given current findings and prior findings in the literature showing that employees' effort is a good predictor of their performance, investigating the extent to which employee effort partially mediates the relationship between value congruence and performance is encouraged.

Practical Implications

Current findings showed that as organizational resources pertain to job security, competence and growth and autonomy fell short of the employees' preferred needs of such values, and employee work effort declined. Thus, attending to employees' feelings that there is a shortage of work values requires the continuous monitoring of organizational resources that are provided and a consideration of employees' needs. Additionally, this study indicated that employers need to precisely manage organizational inducements given that not all organizational supplies lead to positive outcomes. Specifically, when organizations provide employees with considerable autonomy and opportunities for competence and growth that are more than they need, employees will not exert incremental effort. To be economical, rather than providing such extra resources to individuals who do not benefit from them, organizations are encouraged to give them to suitable employees who strive to obtain such resources and who would exert extra effort in return. This study revealed that the greater the alignment between supplies and needs of autonomy and competence and growth, the greater employee effort. Accordingly, using a benchmark to enhance employee effort in terms of supplying these work values will ensure that supplies are commensurate with employees' needs for such work values, which should neither fall short of nor considerably exceed their needs.

The literature showed that extrinsic motivation, such as effort-related promotion or bonus schemes, can induce employees to exert higher effort levels (Green, 2004). The current study may add to our knowledge by showing that job security can be used as a tool to increase employee effort. In particular, providing employees with a sense of job security that meets their needs motivates them to reciprocate by increasing their work effort. This is particularly relevant because job security is likely to prevail in societies where uncertainty avoidance, which refers to the extent to which individuals of a society feel uncomfortable with uncertainty and ambiguity (Hofstede, 1984), is strong, as in the Egyptian environment (Hofstede et al., 2010). However, it is recommended that organizations control the job security offered to employees because employee perceptions of substantial job security could have an adverse impact on their effort as this feeling may encourage them not to do their best due to the belief that they do not need to worry about losing their jobs.

The impact of excess organizational resources that exceed employees' needs (whether positive or negative) is dependent on characteristics of work values. One approach that can be used to control the provision of organizational resources related to work values is to determine whether work values are intrinsic or extrinsic. This position is consistent with prior research indicating that intrinsically motivated employees are more involved in their jobs and exert more effort than extrinsically motivated employees who link their effort behavior to attaining a preferred consequence or avoiding a negative consequence (Dysvik & Kuvaas, 2013).

Conclusion

This study investigated the impact of a set of work values, namely, job security, growth and competence, and autonomy, on a critically underresearched variable, employee effort, from the NS fit perspective. The results revealed that the response of employee effort to organizational inducements is inconsistent and depends on characteristics of work values. For both growth and competence and autonomy, employee effort increased as organizational supplies of these values approached the level employees needed, and employee effort continued to increase when supplies exceeded employees' needs. However, employee effort increased as supplies of job security approached employees' need for this value and decreased as supplies considerably exceeded their needs. Moreover, the results indicated that the greater the congruence between an employee's needs and the supplies of growth and competence and autonomy, the greater the employee effort. However, inconsistent with the proposed hypothesis, employees with considerably higher job security fit reported declining employee effort.

Conflict of Interest

The author of this article declares no conflict of interest.

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