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Predictors of job engagement with extraversion as the moderating variable

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PREDICTORS OF JOB ENGAGEMENT WITH EXTRAVERSION AS THE
MODERATING VARIABLE

A Thesis

Presented to

The Faculty of the Department of Psychology

San Jose State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

by

Thanh-Thao Phan

August 2007

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ABSTRACT

PREDICTORS OF JOB ENGAGEMENT WITH EXTRAVERSION AS THE MODERATING VARIABLE

by Thanh-Thao Phan

Primarily, this study was interested in investigating whether or not there was a relationship between job control and job engagement with extraversion as the moderator. Secondly, this study investigated the relationship between supervisory support and job engagement with extraversion as the moderating variable. A total of 114 (51% female and 48% male) currently employed college students attending San Jose State University participated in the study. Students' data were collected during university class sessions using four instruments intended to measure participants' job engagement, job control, supervisory support, and extraversion. Moderated hierarchical regression analyses indicated that the more control employees have over their jobs, the more support they receive from their supervisors, and the more extraverted the employees are, the higher the level of vigor they experience at their jobs. Results also showed that having supportive relationships with supervisors can help employees become more engaged in their jobs.

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Introduction

The latter half of the 1990s centered on the war for talent, where employers encountered difficult times (or challenges) in retaining and engaging talent within their companies (Jamrog, 2004). However, the war for talent continues even until today as the percentage of labor shortage and skill deficit continues to be on the rise (Jamrog, 2004). Thus, one of the key ways to retaining talent is through employee engagement (Jamrog, 2004). In fact, employee engagement is crucial for the survival of today's organizations because it is related to organizational outcomes (e.g., profit) (Harley, Lee, & Robinson, 2005); however, not much research has been done on this construct.

Purpose and Contributions of Present Study

The purpose of the present study is to examine two main relationships. First of all, this study is interested in investigating whether or not there is a relationship between job control and job engagement with extraversion as the moderator. Secondly, this study is interested in exploring the relationship between supervisory support and job engagement with extraversion as the moderating variable. This study will contribute to the pool of existing research by examining individual differences in relation to job engagement as Kahn (1990) had suggested. In addition, the current study examines the effects of resources on engagement as May, Gilson, and Harter (2004) had advised for future research. Previous research has not examined job control and supervisory support in relation to job engagement with extraversion as the moderator, therefore the present study will contribute to the body of literature on job engagement.

Burnout and its Relationship to Job Engagement

Since the 1970s, much research has been conducted on burnout, the result of chronic occupational stress marked by emotional exhaustion, feelings of cynicism, and lack of work efficacy (Gonzalez-Roma, Schaufeli, Bakker, & Lloret, 2005). Research on burnout has been focusing on the negative experiences people have with their work because traditionally, psychology has emphasized the negative states of human beings more than their positive states (Maslach, Schaufeli, & Leiter, 2001). However, the direction of psychology has shifted in the recent years to pay more attention to the study of human strengths (Maslach et al., 2001). Hence, the concept of burnout is being extended with the study of employees' positive psychological state called job engagement (Maslach et al.).

Much research has found that burnout and job engagement are indeed opposite constructs. Gonzalez-Roma et al. (2005) found in their study that the burnout and engagement scales are opposites of each other along two distinct bipolar scales. Similarly, Schaufeli and Bakker (2004) showed that the burnout and engagement scales loaded on two different dimensions with moderate negative correlations. Their study indicated that engagement is the positive antipode of burnout.

It is important to note that Schaufeli and Bakker (2004) found that engagement and burnout are independent constructs, where each construct involves different predictors and outcomes. In their study, Schaufeli and Bakker found that the predictors for burnout were job demands and lack of job resources, whereas engagement was predicted only by available job resources. The same study found that the consequences

of burnout were health problems and turnover intention, whereas the outcome for engagement was only turnover intention.

Unlike Schaufeli and Bakker (2004), Maslach et al. (2001) suggested that burnout and engagement are at the opposite ends of the continuum. They found that burnout is associated with low levels of activation and pleasure, whereas engagement is marked by high levels of activation and pleasure (Maslach et al.). However, the current study supports Schaufeli and Bakker's viewpoints in that engagement and burnout are independent constructs because we also feel that the predictors and outcomes of engagement are different from the predictors and outcomes of burnout.

Roberts and Davenport (2002) defined job engagement as an individual's eagerness and connection to his or her job. People who are engaged in their jobs are motivated by the work they perform and have personal identifications with their jobs. Kahn (1990) defined personal engagement as the representation of a person's "preferred self" in behaviors that enhance their relationship with work and to others. However, much research has cited the definition of engagement from the work of Schaufeli and his colleagues as "a persistent, positive affective-motivational state of fulfillment in employees that is characterized by vigor, dedication, and absorption" (Maslach et al., 2001, p. 417). Vigor refers to the elevated levels of energy and spirit in one's work with perseverance when facing obstacles. Dedication is the involvement in one's work with a passion in believing the significance of the work. Finally, absorption is the complete concentration in one's work with strong attachment of oneself to the job (Maslach et al., 2001).

The importance of job engagement in organizations should not be overlooked. Roberts and Davenport (2002) stated that engaged employees tend to perform finest at their jobs and are more committed to their organizations compared to disengaged employees. Benefits of job engagement derive mostly from linkage analysis studies, where job engagement is studied in relation to business outcomes. In other words, job engagement is related to the visible results of companies as the end products of employee being engaged, such as an increase in companies' profits. For example, in 2004, O2, a leading company providing mobile services to customers and businesses in the United Kingdom and Ireland, revised its employee satisfaction survey to focus more on job engagement. The company created a new questionnaire and surveyed 400 employees across its United Kingdom retail division. The results demonstrated that the best performing retail stores (high customer satisfaction and high profits) had the highest levels of reported employee engagement. This business linkage research has made a powerful case for work engagement at O2 and has increased the support of upper management in investing more effort into employee engagement practices and programs (Harley, Lee, & Robinson, 2005).

Similarly, Harter, Schmidt, and Hayes (2002) conducted a meta-analysis examining the link between employee satisfaction and engagement to business outcomes (e.g., turnover rates) in 7,939 business units in 36 companies. In this study, they found a positive correlation between employee satisfaction and engagement with business outcomes. On the contrary, there was a negative relationship between engagement and turnover rate in that employees who scored high on engagement were less likely to quit

the company. From this study, Harter et al. concluded that their findings would be an important contribution to many organizations and could be generalized across companies.

By linking job engagement to business results, companies can determine the potential return on investment if they were to focus on improving their employees' job engagement levels. Thus, job engagement is a crucial contributor to organizational functions which is most evident through the economic benefits that job engagement produces.

It is important that management provides opportunities for their employees to be engaged because it is far more complicated and costly to fix the problem when employees are unmotivated and disengaged (Salanova, Agut, & Peiro, 2005). Thus, organizations need to build a culture that engages most employees and rely less on the traditional pay and benefits because a pay increase, for instance, can always be matched by other competitors. Most importantly, organizational leaders need to create a work environment that provides employees with opportunities for growth and development (Jamrog, 2004). Most of the existing research on job engagement and business outcomes focus on the organizational level while research at the individual level is limited. This study will address the limitations of existing research by focusing on job engagement at the individual level.

Job Resources and Job Engagement

Indeed, job resources can serve as the means of allowing employees to develop and grow in their jobs and as the result, employees will become more engaged (Salanova, Agut, & Peiro, 2005). A possible reason for this is due to the fact that resources have a

motivational capability as proposed in the job characteristics theory (Hackman & Oldham, 1980). Job resources are the physical, psychological, social and organizational components of the job that have the functions of relieving job demands, being helpful in getting tasks completed, and enhancing personal growth, learning and development (Hakanen, Bakker, & Schaufeli, 2006).

Salanova et al. (2005) and May, Gilson, and Harter (2004) found that organizational resources are the antecedent of work engagement in that employees who perceived the accessibility of organizational resources felt more engaged in their jobs. Likewise, Maslach et al. (2001), and Schaufeli and Bakker (2004) stated that engagement is particularly associated with job resources whereas burnout is associated with job demands. Job resources in the current study, as similar to Hakanen et al., consist of job control and supervisory support. Hakanen et al. found in their study that teachers with the availability of job resources like job control and supervisory support were more engaged in their work and experienced higher organizational commitment. However, the relationship between job resources and job engagement might depend on individual differences as discussed later.

Job control and job engagement. Job control, which is often referred to as autonomy, is one of the five core job characteristics derived from the job characteristics theory (Hackman & Oldham, 1980). Job control and autonomy are synonymous as shown in the studies of Demerouti, Bakker, Jonge, Janssen, and Schaufeli (2001), and Berg and Feij (2003). Although Demerouti et al. used the Dutch version of the Job Content Questionnaire to measure job control while Berg and Feij (2003) used Hackman

and Oldham's Job Descriptive Survey to measure autonomy, both studies have similar items for measuring job control and autonomy, such as "Do you participate in decisions regarding your work?" in the Job Content Questionnaire and "One can take independent decisions with respect to own work" in the Job Descriptive Survey. With this, we argue that job control is the synonym of autonomy.

The job characteristics theory is a behavioral approach geared toward the perceived characteristics of employees' jobs. The theory was rooted in the work of Turner and Lawrence (1965); however, Hackman and Oldham (1980) modified the theory with the focus on ways the theory could be utilized to redesign jobs that would create positive motivational inducement for the employees. The type of motivation referred to here is internal motivation, where employees with high internal work motivation usually feel good about themselves and their performance (Hackman & Oldham, 1980).

According to Hackman and Oldham (1980), in order for jobs to result in high internal work motivation, the employees need to experience the meaningfulness of the job (skill variety, task identity, and task significance), the responsibility for the consequences of the job (autonomy), and the knowledge of the results the job produces (feedback from job). According to Spector (1997), skill variety is defined as the various skills essential to perform a job, task identity describes how much of the job an employee does on his or her own, task significance is the effect the job has on other people, autonomy describes how much independence employees have to do their jobs, and job feedback is the degree in which employees know that they are performing their jobs

accordingly. Thus, in my opinion, internal work motivation shares similar concepts with job engagement in that when people are internally highly motivated to do their tasks, they are more likely to be engaged in the tasks they perform. McMurran, Theodosi, and Sellen (2006) studied the relationship between adult prisoners' motivation to change themselves into better individuals during pre- and post- treatment using the Treatment Motivation Questionnaire and their engagement in the treatment process. Results from their study showed that prisoners who were motivated to change were more likely to be rated by staff members as engaged in the treatment process.

As mentioned earlier, before the concept of job engagement was explored in studies, much research has been done on burnout in relation to other constructs, including job control. Taris, Stoffelsen, Bakker, Schaufeli, and Dierendonck (2005) sought to find the connection between job control and burnout across occupations, where they discovered that there was a significant negative correlation between job control across occupations and the percentage of these employees with high risk of burnout. In other words, they found that employees with higher levels of job control were at a lower risk of experiencing burnout. In fact, high levels of autonomy can reduce employees' stress levels to prevent burnout (Berg & Feij, 2003). Thus, we argue that since job control shares a negative relationship with burnout, it could have a positive correlation with job engagement.

As the direction in research shifts, current literature has supported the evidence that job control is related to how engaged employees can be (Demerouti, et al., 2001). Demerouti et al. studied the roles of demands and control in relation to burnout and

engagement. In their study, they found that job demands were highly associated with health complications, whereas job control was strongly correlated with motivational outcomes, such as job engagement. More specifically, they discovered that all three of the dimensions of job engagement (vigor, dedication, and absorption) were important in discriminating the low job control group from the high job control group. In fact, when employees perform autonomous work, they are more likely to experience meaning in the work, and this level of psychological meaningfulness is related to employee personal engagement (Kahn, 1990).

Extraversion moderating job control and job engagement. Individual differences are important to explain why certain people are more apt to behaving in a particular manner under certain situations when others are not (Kahn, 1990). Kahn (1990) specifically suggested future research to investigate the link between individual differences and job engagement because he believed that individual differences influence people's tendency toward engaging or disengaging in role performances at work. In the past, much research has discovered the link between personality variables and burnout (Mills & Huebner, 1998). However, recent research has sought to investigate the link between personality traits, specifically extraversion, and engagement.

When referring to personality, existing research also discusses the concept of affect. Costa and McCrae (1980) studied the relationship between personality and affect. Affect is the state of which people feel good or bad about what is happening to them. Costa and McCrae (1980) found that neuroticism was closely related to negative affect (feelings of stress and misery), whereas extraversion was related more to positive affect

(feelings of energy and happiness). To extend this finding, Schaufeli and Bakker's study (as cited in Langelaan, Bakker, Doornen, & Schaufeli, 2006) revealed that engaged employees are portrayed as people high in positive affect.

Consistent with these studies, Langelaan et al. found that when compared with the disengaged group of employees in their study, the engaged group was distinguished by low scores on neuroticism and high scores on extraversion. In a slightly different approach, Mills and Huebner (1998) studied the link between extraversion and burnout and found that school psychologists who reported high emotional exhaustion and reduced personal accomplishment (core dimensions of burnout) often exhibit introverted behaviors. Not surprisingly, research has supported that neurotics are more prone to experiencing negative life events while extraverts are predisposed to experience positive life events (Mills & Huebner, 1998). On the same note, Cano-Garcia, Padilla-Munoz, and Carrasco-Ortiz (2005) found in their study that high scores in burnout came from teachers with high levels of neuroticism and introversion, whereas Berg and Feij (2003) found that there was a significant relationship between extraversion and work self-efficacy in that extraverts generally have positive life experiences, constituting to their positive viewpoint on their own capabilities.

Previous literature has also shown personality as a moderator in many relationships. One of which is a study conducted by Kochanska, Aksan, Penney, and Boldt (2007), where they examined how personality traits of parents moderate the adverse impact of demographic risks (i.e., education level, age, family income, and family size) on parenting. Results of this study showed that parents low in optimism and

social trust moderated the relationship between higher risk (e.g., low education level, young age, low family income, and large family size) and less affectively positive parenting, such that the relationship between higher risk and less affectively positive parenting is stronger for parents who lacked optimism and social trust. In addition, Kochanska et al. also discovered that higher risk was related to more power assertion among mothers low in extraversion.

Furthermore, Bauer, Erdogan, Liden, and Wayne (2006) conducted a longitudinal study examining extraversion as a moderator of the relationships between leader-member exchange (LMX) and performance, the relationship between LMX and turnover intentions, and the relationship between LMX and actual turnover for a sample of executives. Here, Bauer et al. found that LMX was not related to performance, turnover intentions, and actual turnover for those high in extraversion; yet for individuals low in extraversion, there was a link between LMX, performance, and turnover intentions such that introverted executives who were unable to establish a high LMX relationship had lower ratings of performance and higher turnover intentions. With extensive evidence from previous literature on the connection between extraversion and engagement and the role personality plays as a moderator in many relationships, we predict that extraversion will play an important role in the relationship between job control and job engagement. As introduced by Schaufeli and his colleagues, engagement as used in this study is divided into three dimensions: vigor, dedication, and absorption. In general, we predict that extraversion will moderate the relationships between job control and all three dimensions of engagement. Specifically, we hypothesize that the relationships between

job control and the three dimensions of engagement will depend on the extraversion level of the individuals. With the support of previous research on the correlation between job control and engagement as well as the link between extraversion and engagement, we believe that the relationships between job control and the three dimensions of job engagement will be positive for those high on extraversion such that the relationships between job control and the three dimensions of job engagement will be stronger for extraverts than for introverts. We believe that extraverted individuals are more likely to have positive outlooks about their work and therefore are more likely to perceive that they have more job control and as the result, they become more energetic, involved, and absorbed in their work.

Hypothesis 1: Extraversion will moderate the relationship between job control and vigor such that the relationship between job control and vigor will be stronger for people high on extraversion than individuals low on extraversion.

Hypothesis 2: Extraversion will moderate the relationship between job control and dedication such that the relationship between job control and dedication will be stronger for people high on extraversion than individuals low on extraversion.

Hypothesis 3: Extraversion will moderate the relationship between job control and absorption such that the relationship between job control and absorption will be stronger for people high on extraversion than individuals low on extraversion.

Supervisory support and job engagement. Social support has played a crucial role in reducing work and non-work related stress in the past decades (Chay, 1993). There are two main types of social support in the workplace: coworkers and supervisors. Evidently, the nature of the relationship between these two types of social support is very distinct, such that the relationship between a supervisor and an employee may involve guidance, while the relationship between an employee with a coworker may involve friendship (Leiter & Maslach, 1988). This study focuses specifically on supervisory support because like Jamrog (2004), we believe that guidance and support of supervisors will contribute significantly to how engaged employees will become. Indeed, supervisors are the key to engaging employees in organizations; trustworthy and supportive supervisors who focus on coaching employees will help employees become engaged in their work (Jamrog, 2004). Thus, this positive relationship with supervisors permits employees to try new tasks and challenge themselves without the fear of facing consequences for their failure (Kahn, 1990).

As mentioned earlier, many studies in the past had focused on the concept of burnout in relation to other constructs. In a study of social support and occupational stress, Fenlason and Beehr (1994) found that supervisors are the best source of providing support for employees, especially in reducing stress at work. Leiter and Maslach (1988) discovered that emotional exhaustion and depersonalization (two dimensions of burnout) both had significant positive correlations with unpleasant supervisor contact. In other words, employees with negative relationships with their supervisors are more likely to experience burnout. With this, we could reason that employees with positive or

supportive relationships with their supervisors are more likely to be engaged in their jobs and vice versa.

This claim is also supported by a study conducted by May et al. (2004) of the relationship between the psychological conditions (the conditions in which individuals identify with their jobs) and engagement. In their study, May et al. found that psychological safety, which included supervisory support, was positively related to work engagement. What this means is that the supportive relationship with supervisors can have a powerful influence on how employees perceive workplace safety (psychological safety) and as the result, employees become more engaged in their work. In line with Jamrog (2004) and previous studies, we believe that the power of employee engagement may lie in the hands of the supervisors.

Extraversion moderating supervisory support and job engagement. Not only has previous research supported the link between extraversion and job engagement, studies have also shown support for the relationship between extraversion and social support. As mentioned previously, social support includes supervisory support and coworker support (Leiter & Maslach, 1988). Chay (1993) conducted a study on extraversion and social support in general, where he did not make a distinction between the two types of social support. Results of Chay's (1993) study showed a positive correlation between extraversion and social support and his explanation for this finding is that people are drawn to extraverts and help them more because of their enthusiastic and outgoing social attitudes toward others. In addition, extraverts may be more likely to reach out to others

for assistance and interpersonal interactions than introverts possibly because of their higher needs for belonging and nurturing (Chay, 1993).

Unlike Chay's study, Bowling, Beehr, and Swader (2005) conducted a study on giving and receiving coworker support in relation to personality traits. In this study, Bowling et al. found that extraversion was positively related to employees receiving support from their coworkers. This means that extraverted employees are more likely to receive support from their co-workers. A possible reason for this may be due to the fact that extraverts have higher levels of positive affectivity, which means that they may perceive more events at work as satisfactory than introverts.

Although previous research has focused more on social support in general and not specifically on supervisory support in relation to extraversion, the current study predicts that extraversion will play an important role in the relationship between supervisory support and job engagement. We predict that supervisory support will have positive relationships with vigor, dedication, and absorption among extraverted individuals such that the relationships between supervisory and the three dimensions of job engagement will be stronger for extraverts than introverts. In accordance with previous research, we feel that extraverts engage in more positive interactions with others in the workplace (including supervisors) consequently are more likely to receive support and are therefore more likely to be filled with energy, devotion, and immersion for their work in comparison to introverts.

Hypothesis 4: Extraversion will moderate the relationship between supervisory support and vigor such that the relationship between supervisory support and vigor will be stronger for people high on extraversion than individuals low on extraversion.

Hypothesis 5: Extraversion will moderate the relationship between supervisory support and dedication such that the relationship between supervisory support and dedication will be stronger for people high on extraversion than individuals low on extraversion.

Hypothesis 6: Extraversion will moderate the relationship between supervisory support and absorption such that the relationship between supervisory support and absorption will be stronger for people high on extraversion than individuals low on extraversion.

Method

Participants

Participants were 114 college students in two classrooms attending San Jose State University who are working part time or full time in a wide range of organizations. Upon the agreement of the professor of one class, students in this class received extra credit for participating in the study. Participants received no monetary compensation for their participation.

Out of the 150 students who completed the survey, 125 participants indicated they were currently employed at the time of data collection. All participants who reported as unemployed were dropped from the analyses. An additional eleven participants were deleted from future analyses due to conflicting information regarding their employment status, resulting in a workable sample of 114 participants.

The sample consisted of 51% female and 48% male with 67% worked part time. The average age of participants was 24 years old. Participants were predominately White (33%) and Asian (33%). Black/African American, American Indian/Alaskan Native, Native Hawaiian/Other Pacific Islander, and other race made up the remaining percentage (34%). Participants' responses indicated that 39% had worked in their particular organization for 1-2 years, 25% worked in their organizations for 2-3 years, and 27% for more than three years. Job tenure resembled results found for organizational tenure, with the typical 1-2 years (47%), 2-3 years (28%), and over three years (26%). In terms of career level, 45% worked in entry level positions, 33% in mid level, 11% in senior level, and 11% in managerial level.

Measures

Work engagement. Work engagement is defined in this study as “a positive, fulfilling, work related state of mind that is characterized by vigor, dedication, and absorption” (Schaufeli et al., 2002, p. 74). Work engagement was measured with the Utrecht Work Engagement Scale, consisting of three sub scales: Vigor, dedication, and absorption. (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002). Vigor was measured using six items (e.g., “When I get up in the morning, I feel like going to work”), dedication was measured using five items (e.g., “My job inspires me”), and absorption was measured using six items (e.g., “Time flies when I am working”). Items were scored on a 5-point Likert type scale ranging from 1 “never” to 5 “always”. In the present study, vigor yielded a Cronbach’s alpha of .76, dedication had a Cronbach’s alpha of .90, and absorption yielded a Cronbach’s alpha of .78.

Job control. Job control is defined as the degree of employees’ independence in making work related decisions (Demerouti et al., 2001) and was measured using six items from the Job Characteristics Inventory (Sims, Szilagyi, & Keller, 1976). The items were scored on a 5-point Likert type scale ranging from 1 “very little” to 5 “very much.” A sample item was “How much are you left on your own to do your work?” The present study yielded a Cronbach’s alpha of .74.

Supervisory support. Supervisory support as defined in this study is similar to the concept of job resources described in Hakanen et al. (2006) as the positive social relationship between supervisors and employees, which serves as the functions of relieving job demands, helpful in getting tasks completed, and enhance personal growth,

learning and development. To measure supervisory support, this study used eight items derived from the work of Oldham and Cummings (1996). The items were scored on a 5-point Likert type scale ranging from 1 “strongly disagree” to 5 “strongly agree.” A sample item was “My supervisor helps me solve work-related problems.” The present study yielded a Cronbach’s alpha of .88.

Extraversion. Extraversion was measured using six items from the NEO-PI-3 Personality Inventory developed by McCrae and Costa (2005). The items were scored on a 5-point Likert type scale ranging from 1 “strongly disagree” to 5 “strongly agree.” This measurement was appropriate for college samples with Cronbach’s alpha of .89 (McCrae & Costa, 2005). A sample item was “I have felt overpowering joy.” The present study measured the scale to have a Cronbach’s alpha of .45. The researchers in this study decided to keep all items of the extraversion scale as is because the original study of McCrae and Costa (2005) yielded a Cronbach’s alpha of .89 for the extraversion items.

Control variables. The following control variables were included in the analyses: gender, work status, and career level. Gender was coded as 0 = male and 1 = female, work status was coded as 0 = part-time and 1 = full time, and career level was coded as 1 = entry level, 2 = mid level, 3 = senior level, and 4 = managerial level.

Procedure

Data were collected using the survey method from classes at San Jose State University by contacting individual professors and asking if they were willing to have their students surveyed for research purposes. The survey was administered using a questionnaire with the paper and pencil method. At the start of every data collection

session, participants were given instructions to participate in the study. A cover letter attached with the survey informed respondents that participation is voluntary but would be appreciated. The cover letter also ensured participants that the data collected would be confidential and anonymous. All interested participants were encouraged to participate in the study even if they were not currently employed because some professors gave extra credits to all students who participated in the study. The survey included a question to identify those currently employed and those who were not currently employed. This way, the researcher only utilized the surveys of the currently employed participants for data analyses, while participants who were not currently employed still received extra credits like participants who were currently employed. After participants have completed the surveys, the researcher collected them and thanked them for their participation.

Results

Descriptive Statistics

Means, standard deviations, internal consistency reliabilities, and correlations among the predictor and outcome variables are displayed in Table 1. As can be seen from the table, participants in general reported a relatively high degree of job control ($M = 3.73$, $SD = .72$), supervisory support ($M = 3.46$, $SD = .85$), and extraversion ($M = 3.51$, $SD = .55$). When looking at the outcome variables, participants generally exhibited relatively high level of vigor ($M = 3.45$, $SD = .65$), dedication ($M = 3.31$, $SD = .99$), and absorption ($M = 2.96$, $SD = .71$) in their jobs.

Table 1

Means, Standard Deviations, and Bivariate Correlations

Variable	Mean	SD	1	2	3	4	5	6
1. Job Control	3.73	.72	.74					
2. Supervisory Support	3.46	.85	.22*	.88				
3. Extraversion	3.51	.55	.17	.19*	.45			
4. Vigor	3.45	.65	.41**	.36**	.38**	.76		
5. Dedication	3.31	.99	.17	.60**	.24**	.52**	.90	
6. Absorption	2.96	.71	.27*	.38**	.23*	.60**	.63**	.78

* $p < .05$, ** $p < .01$.

Note: Reliability coefficients are in bold on the diagonal.

Factor Analyses

A forced three factor analysis was used to confirm the hypothesized dimensions of the job engagement scale. Direct oblimin method of rotation was used because the researchers assumed that the components were correlated with one another. The first factor accounted for 41 % of the variance, an additional 11% was explained by the second factor, and an additional 8% was explained by the third factor. Only loadings of .30 or higher were kept (Tabachnick & Fidell, 2001). There were three items that loaded on two factors (“At my job I feel strong and vigorous”, “To me, my job is challenging”, and “I feel happy when I am working intensely”). One item, which read “When I am working, I forget everything else around me,” did not load on any factor. Despite these loading problems, the researchers in this study decided to keep all the items as they are and stay consistent with Schaufeli’s study on the three dimensions of job engagement. Table 2 displays the loadings of the job engagement items.

Table 2

Results of Forced Three Factor Analysis with Oblimin Rotation for the Job Engagement Items (N = 114)

Item	Factor 1	Factor 2	Factor 3
When I get up in the morning, I feel like going to work.	.60		
At my work, I feel bursting with energy.	.50		
At my work I always persevere, even when things do not go well.		.77	
I can continue working for very long periods at a time.		.77	
At my job, I am very resilient, mentally.		.76	
At my job I feel strong and vigorous.	.57	.34	
To me, my job is challenging.	.51		.33
My job inspires me.	.88		
I am enthusiastic about my job.	.84		
I am proud on the work that I do.	.89		
I find the work that I do full of meaning and purpose.	.94		
When I am working, I forget everything else around me.			
Time flies when I am working.	.35		
I get carried away when I am working.			.79
It is difficult to detach myself from my job.			.87
I am immersed in my work.			.60
I feel happy when I am working intensely	.31	.35	
% of variance accounted for	40.70	10.85	7.50

A forced one factor analysis was used for the measure of job control. Results for the job control items are presented in Table 3. Job control had one factor accounted for 45% of the variance. All loadings of the job control items were above .30.

Table 3

Results of Forced Three Factor Analysis with Oblimin Rotation for the Job Control Items (N = 114)

Item	Factor 1
How much are you left on your own to do your work?	.44
To what extent are you able to act independently of your supervisor in performing your job function?	.70
To what extent are you able to do your job independently of others?	.58
The freedom to do pretty much what I want on my job.	.81
The opportunity for independent thought and action.	.72
The control I have over the pace of my work.	.69
% of variance accounted for	44.69

Principal components analysis with oblimin rotation forced to a one-factor solution was conducted for the measure of supervisory support. Similar to job control, supervisory support also had one factor, explaining 55% of the variance. All loadings of the supervisory support items were above .30. Refer to Table 4 for the loadings of the supervisory support items.

Table 4

Results of Forced Three Factor Analysis with Oblimin Rotation for the Supervisory Support Items (N = 114)

Item	Factor 1
My supervisor helps me solve work-related problems.	.54
My supervisor encourages me to develop new skills.	.81
My supervisor keeps informed about how employees think and feel about things.	.83
My supervisor encourages employees to participate in important decisions.	.84
My supervisor praises good work.	.81
My supervisor encourages employees to speak up when they disagree with a decision.	.76
My supervisor refuses to explain his or her actions.	.46
My supervisor rewards me for good performance.	.79
% of variance accounted for	55.02

Principal components analysis with oblimin rotation forced to a one-factor solution was conducted for the measure of extraversion. Unlike job control and supervisory support, extraversion had one item ("I have a laid back style in work and play") that loaded below .30. However, the researchers decided to keep the item with low loading to be consistent with McCrae and Costa (2005). The first factor in the extraversion scale accounted for 30% of variance. Table 5 displayed the loadings of the extraversion items.

Table 5

Results of Forced Three Factor Analysis with Oblimin Rotation for the Extraversion Items (N = 114)

Item	Factor 1
Sometimes I don't stand up for my rights like I should.	.36
I have a laid back style in work and play.	.00
I act forcefully and energetically.	.58
I like loud music.	.62
I have felt overpowering joy.	.79
I'm not happy-go-lucky.	.59
% of variance accounted for	30.23

Correlations Among Measures

Inter-correlations among the measured variables are display in Table 1. With regards to the predictors, there was a significant relationship between job control and supervisory support ($r = .22, p < .05$) and between supervisory support and extraversion ($r = .19, p < .05$). However, job control and extraversion did not have a significant relationship with one another.

As for the criterion variables, all three dimensions of job engagement shared significant correlations with one another. Vigor had a significant relationship with both dedication ($r = .52, p < .01$) and absorption ($r = .60, p < .01$). Absorption and dedication were significantly related ($r = .63, p < .01$).

In terms of the correlations between the predictor and criterion variables, bivariate correlations revealed that job control was significantly correlated only with vigor

($r = .41, p < .01$) and absorption ($r = .27, p < .01$). This means that people who reported high level of job control were more likely to be energetic at work and get absorbed in their work. Supervisory support was also found to have significant correlations with vigor ($r = .36, p < .01$), dedication ($r = .60, p < .01$), and absorption ($r = .38, p < .01$). Like supervisory support, extraversion had significant correlations with all three of the job engagement dimensions: vigor ($r = .38, p < .01$), dedication ($r = .24, p < .01$), and absorption ($r = .23, p < .05$). These correlations indicate that the more employees receive support from their supervisors, the more engaged they will become in their jobs, and the more extraverted the employees, the more likely they are to be engaged in their jobs.

Hierarchical Moderated Multiple Regression Analyses

Three separate hierarchical moderated regressions were performed to test the hypotheses. The first analysis was conducted to determine if the relationship between job control and vigor would be stronger for people high on extraversion than for individuals low on extraversion as well as to examine if the relationship between supervisory support and vigor would be stronger for people high on extraversion than individuals low on extraversion (Hypotheses 1 and 4 respectively). In the first step, gender, work status, and career level were entered as control variables. In the second step, job control, supervisory support, and extraversion were entered into the equation. In the third step, the cross products were entered, that is job control x extraversion and supervisory support x extraversion. Results of this analysis showed that the control variables in the first step explained a significant amount of variance in vigor ($\Delta R^2 = .11, p < .01$). Career level was the significant predictor in the set of control variables ($\beta = .21, p < .05$),

suggesting that participants higher up in the career ladder experience higher levels of vigor. Regarding step two, the results showed that the main effects explained a significant amount of variance in vigor above and beyond the control variables ($\Delta R^2 = .24, p < .01$). All main effects were significant in predicting vigor: job control ($\beta = .22, p < .05$), supervisory support ($\beta = .27, p < .01$), and extraversion ($\beta = .26, p < .01$). However, the cross products entered in step 3 were not significant in explaining the variance in the criterion above and beyond the control variables and the main effects ($\Delta R^2 = .01, p > .05$). Thus, Hypotheses 1 and 4 were not supported.

Table 6

Summary of Moderated Hierarchical Regression Analysis for Variables Predicting Vigor (N = 114)

Variable		β	ΔR^2
Step 1	Gender	.07	.11**
	Work Status	.04	
	Career Level	.21*	
Step 2	Job Control	.22*	.24 **
	Supervisory Support	.27**	
	Extraversion	.26**	
Step 3	Job Control x Extraversion	.18	.01
	Supervisory Support x Extraversion	-.55	

* $p < .05$, ** $p < .01$.

Note: β values are reported after all variables have been entered.

A second hierarchical moderated regression was performed to determine if the relationship between job control and dedication would be stronger for people high on extraversion than for individuals low on extraversion as well as to examine if the relationship between supervisory support and dedication would be stronger for people high on extraversion than individuals low on extraversion (Hypotheses 2 and 5 respectively). In the first step, gender, work status, and career level were entered as control variables. In the second step, job control, supervisory support, and extraversion were entered into the equation. In the third step, the cross products were entered, that is job control x extraversion and supervisory support x extraversion. Results of this analysis revealed that the control variables in the first step did not explain a significant amount of variance in dedication ($\Delta R^2 = .05, p > .05$). In step two, the main effects explained a significant amount of variance in dedication ($\Delta R^2 = .33, p < .01$) with supervisory support being the only significant predictor ($\beta = .54, p < .01$). In step 3, the cross products were not significant in explaining the variance in the criterion above and beyond the control variables and the main effects ($\Delta R^2 = .01, p > .05$). Thus, Hypotheses 2 and 5 were not supported.

Table 7

Summary of Moderated Hierarchical Regression Analysis for Variables Predicting Dedication (N = 114)

Variable		β	ΔR^2
Step 1	Gender	.12	.05
	Work Status	.03	
	Career Level	.22*	
Step 2	Job Control	-.09	.33 **
	Supervisory Support	.54**	
	Extraversion	.16	
Step 3	Job Control x Extraversion	-.03	.01
	Supervisory Support x Extraversion	.83	

* $p < .05$, ** $p < .01$.

Note: β values are reported after all variables have been entered.

Finally, the third hierarchical moderated regression was conducted to examine if the relationship between job control and absorption would be stronger for people high on extraversion than for individuals low on extraversion as well as to determine if the relationship between supervisory support and absorption would be stronger for people high on extraversion than individuals low on extraversion (Hypotheses 3 and 6 respectively). Like the previous analyses, in the first step, gender, work status, and career level were entered as control variables. In the second step, job control, supervisory

support, and extraversion were entered into the equation. In the third step, the cross products were entered, that is job control x extraversion and supervisory support x extraversion. Results revealed that the control variables in the first step explained a significant amount of variance in absorption ($\Delta R^2 = .12, p < .01$). Similar to findings regarding vigor, career level was the significant control variable ($\beta = .36, p < .01$). Regarding step two, results showed that the main effects explained a significant amount of variance in absorption ($\Delta R^2 = .15, p < .01$) with supervisory support being the only significant predictor ($\beta = .35, p < .01$). However, the interaction effects in step 3 were not significant in explaining the variance in the criterion above and beyond the main effects ($\Delta R^2 = .01, p > .05$). Therefore, Hypotheses 3 and 6 were not supported.

Table 8

Summary of Moderated Hierarchical Regression Analysis for Variables Predicting Absorption (N = 114)

Variable		β	ΔR^2
Step 1	Gender	.05	.12**
	Work Status	.00	
	Career Level	.36**	
Step 2	Job Control	-.01	.15**
	Supervisory Support	.35**	
	Extraversion	.13	
Step 3	Job Control x Extraversion	1.00	.01
	Supervisory Support x Extraversion	-.62	

* $p < .05$, ** $p < .01$.

Note: β values are reported after all variables have been entered.

Discussion

The present study was designed to assess whether or not extraversion would act as the moderator in the relationship between job control and job engagement and between supervisory support and job engagement. Unfortunately, there was no support for the hypotheses.

Statistical reasons could explain why there was no support for the interaction effects in this study. First of all, the extraversion scale did not yield adequate reliability, which meant that the items in the scale were not internally consistent with one another. There were also negative inter-item correlations, signifying that the items in the scale were not measuring the same construct of extraversion. In addition to the low scale reliability, sample size was another problem. It is known that power is affected by the overall size of the sample, which means that a small sample does not have enough statistical power to detect interaction effects. Another statistical reason could be due to the variability of the scores. Particularly in this study, most people scored relatively high on the extraversion scale, yielding little variability.

An explanation for the results of the present study could be due to the participants and the timing of the administration of the survey. The first classroom of participants took the survey right before their professor administered the midterm and perhaps the participants were thinking about their midterm and were not completely focused on the questionnaire. Another reason could be that the participants did not pay much attention to the extraversion items because these items were close to the end of the survey.

Although the hypotheses were not supported we did find several interesting findings. First, career level was a significant control variable in predicting job engagement suggesting that participants higher up in the career ladder are more likely to be engaged in their jobs. This is probably because as one moves up the career ladder, one increases control (autonomy), which is related to job engagement. Second, we found several main effects. Job control, supervisory support, and extraversion all predicted vigor, suggesting that the more control employees have over their jobs, the more support they receive from their supervisors, and the more extraverted the employees are, the higher the level of vigor they experience at their jobs. We also found that supervisory support predicts job engagement, which is consistent with previous studies of Jamrog (2004), and May, Gilson, and Harter (2004). Indeed, having supportive relationship with supervisors can help employees become more engaged in their jobs. Supervisory support may be more important than job control in predicting all dimensions of job engagement. There is not a great deal of research examining supervisory support and job engagement; however, our findings suggest this to be a potential avenue for future research.

Limitations and Future Research

There were several shortcomings of the present study. First, this study's survey was subjectively based, meaning individuals reported their perceptions on the different constructs used in this study. For example, participants were asked about their perceptions regarding how much control they had at their jobs.

Another weakness of the present study was the sample used. The sample was consisted of only 114 San Jose State college students, where 78 % of participants held entry and mid level jobs while 67 % of them reported working part time. Results may have been different if the participants represent a more generalizable population of working people. Future research may consider using a larger and more representative sample, such as collecting data from working professionals in various organizations and from working college students.

Another shortcoming is the items of the extraversion scale in this study. The scale is consisted of six items, two of which are reverse coded. One item in which participants seemed to have problem with the most was “I have a laid back style in work and play.” This item could potentially pose confusion for people who may be laid back in play but not in work and vice versa. A different scale with more items coded in the same direction may yield better results.

Future research should also investigate other moderating variables in predicting job engagement. Perhaps studying all the Big Five personality traits would produce more significant and interesting findings instead of focusing on extraversion alone. For instance, future research could explore whether conscientiousness could act as the moderator in the relationship between various predictors and job engagement. In addition, future studies could investigate other variables that may predict job engagement, such as the existence of in-groups and out-groups within the organization; perhaps employees who belong in the in-group may be more engaged in their jobs than employees who are in the out-group.

Practical Implications

For college students currently working, results indicated that employees with high support from their supervisors were generally more engaged at work than those with low support. These results suggest that it would be worthwhile for organizations to train their supervisors on effective management skills, targeting supervisory support, so that employees could gain as much support as they need from supervisors in the workplace. Once employees feel that their supervisors are supportive of their work, employees are more likely to be more energetic, committed, and absorbed in their work. Thus, having engaged employees could potentially result in positive outcomes, affecting the bottom line of the organization. Using this study, researchers can reassess the current literature on job engagement and study other moderating variables so that different variables relating to job engagement will be discovered to have a better understanding of employees' engagement at work.

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Appendix A

Survey Instrument

Please read the following instructions carefully.

- We would like to know how you think and feel about some of the different aspects of your job, your organization, and yourself.
- We ask that you respond to all of the statements to the best of your ability, being as honest and as accurate as you can.
- There are no right or wrong answers.
- Your answers will be kept completely confidential.
- Do not write your name on this survey; we would like to keep your responses anonymous.
- Please respond to each of the statements base on experiences in your current job or your most recent job if you are currently not working.
- You can choose to skip answering a question; however, we encourage you to answer all the questions so we can gain a clear picture of your perceptions.

Section A. About Your Job

Please circle the number that corresponds with how you feel about your job in each statement below. Please use the following response options when answering the statements.

Very little	Somewhat little	Moderate amount	Quite a bit	Very much		
1	2	3	4	5		
1.	How much are you left on your own to do your work?	1	2	3	4	5
2.	To what extent are you able to act independently of your supervisor in performing your job function?	1	2	3	4	5
3.	To what extent are you able to do your job independently of others?	1	2	3	4	5
4.	The freedom to do pretty much what I want on my job.	1	2	3	4	5
5.	The opportunity for independent thought and action.	1	2	3	4	5
6.	The control I have over the pace of my work.	1	2	3	4	5

Section B. More About Your Job

Please circle the number that corresponds with how you feel about your job in each statement below. Please use the following response options when answering the statements.

Never 1	Rarely 2	Sometimes 3	Most of the time 4	Always 5	
1. When I get up in the morning, I feel like going to work.	1	2	3	4	5
2. At my work, I feel bursting with energy.	1	2	3	4	5
3. At my work I always persevere, even when things do not go well.	1	2	3	4	5
4. I can continue working for very long periods at a time.	1	2	3	4	5
5. At my job, I am very resilient, mentally.	1	2	3	4	5
6. At my job I feel strong and vigorous.	1	2	3	4	5
7. To me, my job is challenging.	1	2	3	4	5
8. My job inspires me.	1	2	3	4	5
9. I am enthusiastic about my job.	1	2	3	4	5
10. I am proud on the work that I do.	1	2	3	4	5
11. I find the work that I do full of meaning and purpose.	1	2	3	4	5
12. When I am working, I forget everything else around me.	1	2	3	4	5
13. Time flies when I am working.	1	2	3	4	5
14. I get carried away when I am working.	1	2	3	4	5
15. It is difficult to detach myself from my job.	1	2	3	4	5
16. I am immersed in my work.	1	2	3	4	5
17. I feel happy when I am working intensely.	1	2	3	4	5

Section C. About Your Supervisor

Please circle the number that indicates the extent to which you agree or disagree with the following statements about your supervisor. Your supervisor is the person who is responsible for your performance appraisals. Please use the following response options when answering the statements.

strongly disagree	disagree	neither agree or disagree	agree	strongly agree	
1	2	3	4	5	
1. My supervisor helps me solve work-related problems.	1	2	3	4	5
2. My supervisor encourages me to develop new skills.	1	2	3	4	5
3. My supervisor keeps informed about how employee think and feel about things.	1	2	3	4	5
4. My supervisor encourages employees to participate in important decisions.	1	2	3	4	5
5. My supervisor praises good work.	1	2	3	4	5
6. My supervisor encourages employees to speak up when they disagree with a decision.	1	2	3	4	5
7. My supervisor refuses to explain his or her actions.	1	2	3	4	5
8. My supervisor rewards me for good performance.	1	2	3	4	5

Section D. About You

Please circle the number that indicates the extent to which you agree or disagree with the following statements about yourself. Please use the following response options when answering the statements.

strongly disagree	disagree	neither agree or disagree	agree	strongly agree
1	2	3	4	5

1. Sometimes I don't stand up for my rights like I should.	1	2	3	4	5
2. I have a laid back style in work and play.	1	2	3	4	5
3. I act forcefully and energetically.	1	2	3	4	5
4. I like loud music.	1	2	3	4	5
5. I have felt overpowering joy.	1	2	3	4	5
6. I'm not happy-go-lucky.	1	2	3	4	5

Section E. More About You

1. Are you.... ☐ Male ☐ Female
2. Are you.... ☐ White ☐ Black or African American
 ☐ American Indian or Alaska Native ☐ Asian
 ☐ Native Hawaiian or Other Pacific Islander ☐ Other Race
3. Are you currently working? ☐ Yes ☐ No
4. Do you work part-time (less than 40 hours) or full time (40 hours or more)?
 ☐ Part-time ☐ Full-time
5. Approximately, how long have you been working in your current job? _____
 year/s
6. Approximately, how long have you been working in your current organization?
 _____ year/s
7. What is your career level in the organization?
 ☐ Entry level ☐ Mid level ☐ Senior level ☐ Managerial level
8. How old are you? _____ years old.

Thank You For Your Participation!