

**LINKING WORK DESIGN AND CORPORATE SOCIAL RESPONSIBILITY
THROUGH AN EXPLORATORY MODEL FOR THE INTERDEPENDENCY
OF WORK CHARACTERISTICS AND CORPORATE SOCIAL
RESPONSIBILITY ORIENTATION**

A Dissertation

by

PRIYA DARSHINI KURUP

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of
DOCTOR OF PHILOSOPHY

December 2011

Major Subject: Educational Human Resource Development

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ABSTRACT

Linking Work Design and Corporate Social Responsibility Through an Exploratory Model for the Interdependency of Work Characteristics and Corporate Social Responsibility Orientation. (December 2011)

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Driven by the demands of drastic changes in today's nature of work due to globalization and technological advances, researchers have continually revisited, redesigned, and restructured work design processes in a quest to identify the key characteristics that can result in desired organizational outcomes. Specifically, in current times, organizations are looking to develop socially responsible outcomes, otherwise referred as corporate social responsibility (CSR). A possible link between work design and CSR has been postulated by researchers, but few studies have emerged where the associations between work design and CSR factors are examined.

The purpose of this study was to explore the link between work design and CSR using a work design-CSR conceptual model that was developed based on previous literature. The model depicted relationships between work design factors and CSR factors. Work design factors included work characteristics and worker characteristics. Work characteristics were measured using task, knowledge, social, and contextual

characteristics; while worker characteristics were measured using personality traits. CSR Orientation (CSRO) was used as a reflective indicator of CSR at the individual level. The study sample consisted of 941 job incumbents of a public education institution in Texas. The data were collected using an online survey that included the work design questionnaire, the short Big Five Inventory, and the CSRO questionnaire.

The model was tested using Structural Equation Modeling. Based on the results, a significant association between work characteristics and CSRO factors were obtained. As hypothesized, associations were found between task characteristics and profit CSRO, and between social characteristics and legal CSRO and philanthropic CSRO. The knowledge characteristics were found to have negative association to philanthropic CSRO. The findings also suggest that jobs that are high on problem solving and job autonomy had a negative association to philanthropic CSRO. Similarly, as the job complexity increased, individuals' orientation towards profit making decreased, and information processing was found to be linked to legal compliance. Research and practice implications of these results are discussed.

DEDICATION

This dissertation is dedicated to Late Dr. Charles Farnsworth, who was a committed teacher, mentor, colleague, friend, and one of the most compassionate people I have known.

And

To my father, Late Mr. T. P. C. Kurup.

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NOMENCLATURE

AU	Autonomy
CC	Contextual Characteristics
CSR	Corporate Social Responsibility
CSRO	Corporate Social Responsibility Orientation
Er	Ergonomics
EU	Equipment Use
FJ	Feedback From Job
FO	Feedback From Others
ID	Interdependence
IO	Interaction Outside the Organization
IP	Information Processing
JC	Job Complexity
KC	Knowledge Characteristics
PD	Physical Demand
SC	Social Characteristics
Sp	Specialization
SS	Social Support
SV	Skill Variety
TC	Task Characteristics
TI	Task Identity
TS	Task Significance
TV	Task Variety
WC	Work Conditions

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CHAPTER I

INTRODUCTION TO THE STUDY

The overarching goal of this study was to bring together two distinct but pertinent concepts: Work Design and Corporate Social Responsibility (CSR) and to explore the link between the two concepts. A possible link between these two distinct concepts was prompted by empirical evidence that job structures and processes can drive socially desirable actions and behaviors (Chiu & Chen, H., 2005; Grant, 2007, 2008b; Podsakoff, MacKenzie, Paine, & Bachrach, 2000).

Work design refers to the management of the organizational processes involving jobs, tasks, behaviors, social interactions and work context, all of which are tightly woven into the structure and function of the organization (Morgeson & Humphrey, 2008; Smither, 2004; Torraco, 2005a). Work design is a theoretical concept that represents the complex work structures and processes and is constituted by *work characteristics* (e.g., job autonomy) and *worker characteristics* (e.g., personality traits; Morgeson & Humphrey, 2008; Parker & Wall, 1998, Parker, Wall, & Cordery, 2001).

CSR, defined as actions and decisions made by organizations that go beyond financial gains, legal requirements, and ethical commitments to doing the right thing and considering the welfare of society (Carroll, 1999; Davis, 1960; McWilliams & Seigel, 2001) is also a theoretical concept, *CSR Orientation* (CSRO) is often used as a reflective indicator of CSR at the individual level (Agle, Mitchell, & Sonnenfeld, 1999; Aupperle,

This dissertation follows the style of the *Human Resource Development Quarterly*.

Carroll, & Hatfield, 1985; Burton & Goldsby, 2009). Because of the immensity of plausible combinations in work design, this study was delimited to exploring the links among *work characteristics* (Morgeson & Humphrey, 2006), *personality traits* (Costa & McCrae, 1992), and *CSRO* (Aupperle, 1982; Carroll, 1979). To that end, the purpose of this research was to explore the relationships among work characteristics, personality traits, and CSRO.

Study Rationale

Work design research is currently undergoing a revival after experiencing what appeared to be saturation after over two decades of rigorous scholarship on work/job design and redesign (Hackman & Oldham, 1975, 1976, 1980; Herzberg, 1966, 1976). This revival has prompted HRD scholars to acknowledge the need to identify process structures and skills required to foster citizenship behaviors in organizations (Garavan, Heraty, Rock, & Dalton, 2010; Stolz & McLean, 2009). Researchers have found relationships between work characteristics (component of work design) and a range of organizational outcomes (Humphrey, Nahrgang, & Morgeson, 2007) and have also noted the effects of worker characteristics on work design (Morgeson & Humphrey, 2008).

CSR scholarship and practices, in contrast to work design research, have proliferated in recent years (Carroll, 1999) and CSR literature from diverse disciplines is replete with theories and theoretical arguments. However, in the human resource development (HRD) discipline, CSR scholarship is still at an infancy stage, with the exception of some work in ethics (Ardichvili & Jondle, 2009; Hatcher, 2002; Hatcher & Aragon, 2000). Some HRD researchers have called for more attention to be given to

CSR (Fenwick & Bierema, 2008; Garavan, Heraty, Rock, & Dalton, 2010; Garavan & McGuire, 2010; Kuchinke, 2010; Stolz & McLean, 2009). For instance, Garavan et al. (2010) noted that “HRD is responsible for many key systems and processes” (p. 599), and HRD professionals have a critical role in helping to overcome barriers in developing and enhancing the social responsibility of organizations. Effective implementation of CSR requires not only employee involvement in CSR activities (de Gilder, Schuyt, & Breedijk, 2005; Nord & Fuller, 2009; Rupp, Ganapathi, Aguilera, & Williams, 2006) but also an understanding of employee attitudes and perceptions toward CSR. A considerable number of arguments have been made on the association between work design factors and executives’ responsible behavior and practices (Munyon, Summers, Buckley, Ranft, & Ferris, 2010; Piccolo, Greenbaum, Hartog, & Folger, 2010) and micro-level associations (Grant & Parker, 2009; Oldham & Hackman, 2010). In spite of these arguments, published empirical research on the direct link between work design and CSR is yet to emerge.

Statement of the Problem

Work design is known to influence a range of “attitudinal, behavioral, cognitive, well-being, and organization outcomes” (Morgeson & Humphrey, 2008, p. 40). Given the impact of work design on outcomes and driven by the demands of organizational development, researchers have continually revisited, redesigned, and restructured work (Campion, 1988; Champion & Thayer, 1985; Edwards, Scully, & Brtek, 1999; Edwards, Scully, & Brtek, 2000). For example, how work is structured and enacted has been shown to predict organizational commitment (i.e., attitudinal outcomes; Meyer, Stanley,

Herscovitch, & Topolnytsky, 2002), organizational citizenship, that is, behavioral outcomes (Grant, 2008a, 2008b; Grant & Mayer, 2009), job performance and job satisfaction, that is, motivational outcomes (Hackman & Oldham, 1976), learning and development, that is, cognitive outcomes (Berings, Poell, & Simons, 2005), and job stress, well-being outcomes (Sprigg, Stride, Wall, Holman, & Smith, 2007; Valcour, 2007). These traditional outcomes, although critical to an organization, are not sufficient as they do not meet the demands of the current work environment. As Oldham and Hackman (2010) noted, “The often-fluid relationships among people and their various work activities that are most in need of empirical research and conceptual attention” (p. 476).

Furthermore, today’s workplace has changed fundamentally; technological advancements, novice organizational structures, and abundance of information flow have added new challenges and meaning to work (Grant & Parker, 2009; Oldham & Hackman, 2010; Torraco, 2005a). Some researchers have remarked that work design research has remained focused on a narrow set of organizational outcomes and has failed to meet the demands of the changing workplace (Parker & Wall, 1998; Parker et al., 2001). The outcome that is of interest for this study, CSR, is relevant to current times. There is a plethora of studies in which work characteristics and social actions and behaviors (Gardberg & Fombrun, 2006; Grant, 2007, 2008a; Grant & Parker, 2009; Organ & Ryan, 1995; Podsakoff et al., 2000; Stolz & McLean, 2009) have been explored, but reported studies that focused specifically on facets of social responsibility of an organization, including profit making, legal compliance, ethical obligations, and

philanthropic activities in an organization are yet to be reported. For instance, some researchers have argued that organizations should consider work designs that promote and foster desirable behaviors in executives (Piccolo et al., 2010; Summers, Munyon, Perryman & Ferris, 2010) and increase prosocial motives among public employees (Moynihan & Pandey, 2007a; Perry, 1997, 2000). Thus, an in-depth understanding of the relationships of work design on a contemporary outcome such as CSR requires further exploration.

Until the beginning of this century, work design researchers have focused on a narrow set of outcomes that was partially propelled by emphasis on the outcomes determined by the disciplines of interest, such as industrial/organizational psychology, supply chain, biomechanics, and ergonomics (Campion, 1988; Campion, Mumford, Morgeson, & Nahrgang, 2005; Edwards et al., 1999, 2000; Morgeson & Campion, 2003; Parker et al., 2001). Moreover, redesigning work for specific outcomes has drawbacks. An important work design predicament is that work designed for one outcome can have counter effects on another outcome (Campion et al., 2005). For instance, the work characteristics that produce high job performance can have a negative correlation on learning, creativity, or helping behavior (Chua & Iyengar, 2008; Grant & Berry, 2011; Johns, 2010). Sometimes, the same variables have been shown to produce conflicting and/or negative results. For example, the work characteristic *job autonomy* is consistently reported to be positively correlated to prosocial behaviors (Anderson & Williams, 1996; Gagnè, 2003; Grant, 2008c) but no effect on organizational citizenship

behavior (Chiu, & Chen, 2005), even though prosocial behavior and organizational citizenship behavior are both behaviors similar to CSRO.

Such conflicting results have been a setback to explaining how *individual-social-contextual* work characteristics come together and its associations to certain attitudes and behavioral outcomes relevant to current times (Oldham & Hackman, 2010; Parker et al., 2001). Suggestions to overcome the challenge include multilevel analysis (Torraco, 2005a), and incorporating a full range of variables that are affected by job design may add more value to work design research (Johns, 2010). Therefore, the researcher included a gamut of work design variables (i.e., *task, knowledge, social, contextual characteristics, and individual differences*) in an attempt to investigate variables from multiple domains (refer theoretical framework presented Table 1) that may be related to individual attitudes toward corporate social responsibility.

Similarly, individual differences such as personality traits, of extraversion, agreeableness, openness to experience, emotional stability (also known as neuroticism), and conscientiousness have also been observed to be linked to a variety of organizational outcomes (Barrick & Mount, 2005; Taylor, Kluemper, & Massholder, 2010). However, the moderating role of worker characteristics on the relationship between work design and socially responsibility is not known (Humphrey, Nahrgang, & Morgeson, 2007). For instance, agreeableness and conscientiousness are found to correlate with some task characteristics and can sometimes predict helping behaviors (Borman, Penner, Allen, & Motowidlo, 2001; Grant & Parker, 2009; Hertz & Donovan, 2000), suggesting that

personality traits may strengthen or weaken the relationship between work characteristics and corporate social responsibility orientation.

In addition to the above issues, substantial gaps have also been identified in the CSR scholarship. CSR research has predominantly focused in exploring the link between corporate financial performance and CSR (Orlitzky, Schmidh, & Rynes, 2003). There is general consensus regarding the need to expand CSR beyond the publicly traded enterprises to organizations with “different ownership structures” (Lee, 2008, p. 68). Lee (2008) had noted that although there has been a significant increase in the theoretical and experimental contributions in CSR research, it is limited in terms of measurement of CSR and expansion of CSR beyond publicly traded corporations (Lee, 2008). For example, very few CSR studies have been conducted in the public sector setting despite the demand and its importance to public employee perceptions and performance.

CSR research limited to profit-driven organizations has been a concern to many researchers (Acar, Aupperle, & Lowy, 2001; Houston, 2000, 2005; Kelman, 2005; Lee, 2008), because the current economic realities are such that the public and/or nonprofit organizations also balance their spreadsheets and perform within the societal expectations. Although educational institutions are considered not-for-profit under Section 501 of the U.S. Internal Revenue Code, they generate some or most of their own revenues (Marginson, 2007). For example, the revenue appropriation for the 38 four-year public universities in Texas was \$5.2 billion for the 2010-2011 biennium (Texas Higher Education Coordinating Board, 2010).

Functionally, the public education institutions are already contributing to the social responsibility practices. For instance, the three main functions of public education institutions are teaching, research, and service (Geiger, 2004), and although prominence is given to research and teaching, the current higher education model emphasizes use of knowledge and resources to provide service to local and national communities (Duderstadt & Womack, 2004; Mohrman, Ma, & Baker, 2008). Therefore, in the absence of original research pertaining to application of CSR in higher education research, research in this area is critical.

In the public administration literature, the closest reference to CSR is found in studies in which prosocial motives and behavior (concepts similar to CSRO) in public employees were investigated (Grant 2008a; Houston 2000, 2005; Kelman, 2005; Perry, 2000; Perry, Mesch, & Paarlberg, 2006). Public administration researchers investigating prosocial attitudes and behavior have also noted that more work is needed on the connection between work characteristics, work context and prosocial behavior (Grant, 2008a; Kelman, 2007; Moynihan & Pandey, 2007a; Perry et al., 2006).

In summary, the three key issues related to work design and CSR that prompted this investigation were (a) a lack of work design research outside of traditional outcomes, (b) conflicting results on the relationship between work characteristics and work outcomes, and (c) a void of information regarding CSR among employees in public work settings such as institutions of higher learning.

Purpose of the Research

The purpose of this study was threefold. First, the study was designed to determine the relationships between work characteristics and CSRO as perceived by employees of an educational institution in Texas. Work characteristics were assessed using four latent constructs: task, knowledge, social, and contextual characteristics (Humphrey et al., 2007; Morgeson & Humphrey, 2006, 2008) and CSRO was assessed using profit, legal, ethical, and philanthropic CSRO factors (Carroll, 1979).

Second, it was also the purpose of this study to examine the moderating effects of personality traits on the relationship between work characteristics and CSRO. Personality traits were assessed using the Big Five traits: openness, extraversion, agreeableness, conscientiousness, and emotional stability (Costa & McCrae, 1992; McCrae & John, 1992).

Third, it was also the purpose of this study to take CSR research beyond the framework of publically traded firms to determine the CSR orientation of public employees. Other than studies on public service motivation (Moynihan & Pandey, 2007b; Perry et al., 2006), there is limited empirical research on work design and helping behavior among public service employees (Houston, 2005). The context of this research was grounded in the work design of a public institution that has complex work structures. Some public universities in Texas are the largest employers in their local areas, offering a wide range of career options ranging from unskilled to executive-level positions. Given the immensity and complexity of work structures in public educational institutions, this study was designed to determine the relationships among (a) work

characteristics (such as task, knowledge, social, and contextual characteristics), (b) worker characteristics (such as personality), and (c) CSRO in that context.

Research Question

This investigation was guided by the research question: *What are the relationships among task, knowledge, social, contextual work characteristics, personality traits, and corporate social responsibility orientation among public education institution employees?*

Conceptual Model of the Study

The goal of this research was to establish a good-fitting model of work design and CSR to explain the relationships among work characteristics, personality traits and CSRO. According to Blunch (2008), a model can be verified only if the concepts are defined conceptually and operationally. Similarly, Torraco (2005b) argued, that conceptualizing is guided by a theory or a set of competing models. Conceptually, in this study, the researcher drew from multiple bodies of knowledge to understand the relationships among various work characteristics, personality, and CSRO.

This investigation was grounded in four domains – individual, process, organizational and societal. These domains are based on Hatcher's (2000) social responsibility outcome model, where Hatcher expanded the classic performance improvement model (i.e., the needs [individual, process, and organizational]-interventions-feedback model) to include needs not only from individual, process, and organizational levels but also from community and societal levels. The process and organizational domains were merged as one, because of operational similarities and

overlapping constructs. The variables that operate in each level or domain were identified using multiple theories. A comprehensive listing of the theories operating within each of the four domains (i.e., individual, process, organizational, and community/societal) and corresponding constructs are provided in Table 1.

At the individual domain, personality theory is used to explain the interactive effect of individual differences on the relationship between work characteristics and CSRO. Psychologists have long assumed that enduring behavioral patterns or stable dispositions are manifestations of underlying personality traits that can be measured (Ajzen, 2005; McCrae et al., 2000). As Brody (1994) noted, personality traits are causal and how individuals respond to the social world can be determined through their inherent characteristics. Therefore, personal characteristics, may provide an understanding of individual factors that connect work attitudes, behaviors, and outcomes.

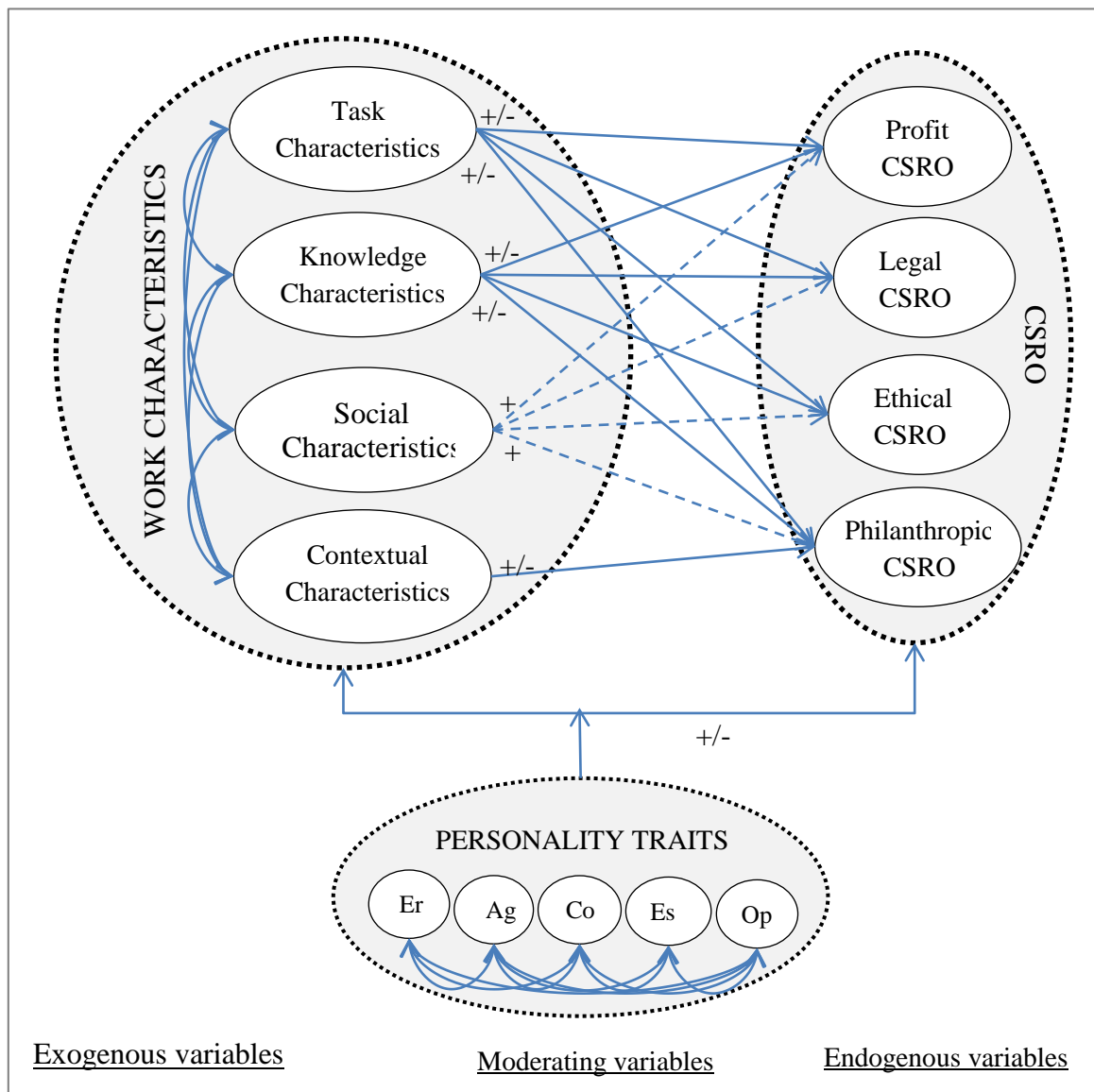
At the process/organizational level, the classic job characteristics theory is used to identify and explain the task characteristics (TC) (i.e., autonomy, skill variety, task identity, task significance and feedback from job) that can be related to organizational outcomes. Using the extended work design theory (Humphrey et al., 2007; Morgeson & Humphrey, 2006, 2008), the importance of knowledge characteristics (KC) (Humphrey et al., 2007), social characteristics (SC) (Parker & Wall, 2001), and contextual characteristics (CC) (Dierdorff & Morgeson, 2007) on work attitudes and behaviors were explored.

Table 1. Summary of Theoretical Frame and Corresponding Constructs

<i>Domain of investigation^a</i>	<i>Theoretical frame</i>	<i>Constructs/variables</i>
Individual	Personality theory ^b	The Big Five Extraversion, Agreeableness, Conscientiousness, Emotional stability Openness
Process/ organization	Job characteristics theory ^c Work design theory ^d	1. Task characteristics (TC) Autonomy, Task variety, Significance, Task identity, Feedback from the job 2. Knowledge characteristics (KC) Skill variety, Information processing, Job complexity, Specialization, Problem solving 3. Social characteristics (SC) Interdependence, Feedback from others, Social support, Interaction outside the organization 4. Contextual characteristics (CC) Physical demand, Work conditions, Ergonomics
Society/ community	Corporate social responsi- bility (CSR) theory ^e	CSR orientation (CSRO) Profit CSRO, Legal CSRO, Ethical CSRO, Philanthropic CSRO

Note. ^aBased on “The Social Responsibility Performance Outcomes Model: Building Socially Responsible Companies Through Performance Improvement Outcomes,” by T. Hatcher, 2000, *Performance Improvement*, 39(7), 18–22. ^b“Measuring Personality in One Minute or Less: A 10-Item Short Version of the Big Five Inventory in English and German,” by B. Rammstedt & O. P. John, 2007, *Journal of Research in Personality*, 41, 121–125. ^c“Development of the Job Diagnostic Survey,” by J. R. Hackman & G. Oldham, 1975, *Journal of Applied Psychology*, 60, 159–170, and “Motivation Through the Design of Work: Test of a Theory,” by J. R. Hackman & G. Oldham, 1976, *Organizational Behavior and Human Performance*, 16, 250–279. ^d“Integrating Motivational, Social, and Contextual Work Design Features: A Meta-Analytic Summary and Theoretical Extension of the Work Design Literature,” by S. E. Humphrey, J. D. Nahrgang, & F. P. Morgeson, 2007, *Journal of Applied Psychology*, 92, 1332–1356. ^e“A Three-Dimensional Conceptual Model of Corporate Social Performance,” by A. B. Carroll, 1979, *Academy of Management Review*, 4, 497–503.

Figure 1. The Work Design/Corporate Social Responsibility (WD-CSR) Research Model



Source: Developed by researcher based on reviewed literature.

Note. Dotted lines indicate already established relationship in literature. Er = extra-version-inversion, Ag = agreeableness, Co = conscientiousness, Es = emotional stability, Op = openness, CSRO = corporate social responsibility orientation.

At the societal/community domain, CSR theory is used. CSR theorists expound the importance of understanding the extent to which an organization is committed to meet its economic, legal, ethical, and discretionary (philanthropic in nature and thus labeled *philanthropic CSRO*) responsibilities toward society (Carroll, 1979).

A work design CSR research model was developed based on the above mentioned theoretical frame. A pictorial representation of the model that depicts the relationships among work characteristics, personality, and CSRO is shown as Figure 1.

Study Inclusions

Work design has several components (Parker et al., 2001), of which two principle ones are *work characteristics* and *worker characteristics* (Morgeson & Humphrey, 2008). Although there is lack of a direct link between work characteristics and CSRO, association between these two concepts can be found across the organizational studies literature (Grant, 2007, 2008a; Grant & Mayer, 2009; Organ, 1988; Organ & Ryan, 1995; Stolz & McLean, 2009). For example, researchers have argued that work characteristics and organizational citizenship behavior (Organ & Ryan, 1995; Podsakoff et al., 2000), corporate citizenship (Stolz & McLean, 2009), corporate volunteering (Grant, in press), prosocial motives (Grant, 2007, 2008a; Grant & Parker, 2009), and prosocial behavior (Brief & Motowidlo, 1986; Penner, Dovidio, Piliavin, & Schroeder, 2005) are associated. Although these concepts are studied separately from CSR, they share components that are similar to CSRO.

The common denominator in these concepts is that they are proactive actions and behaviors with helping, sharing, and volunteering tendencies that go beyond

requirements in the job description or formal policies of the organization (Brief & Motowidlo, 1986; Du, Bhattacharya, & Sen, 2010; Grant, 2008a, 2008b; Grant & Mayer, 2009). Therefore, research on concepts that are similar to CSRO is included in the literature review essentially for two reasons: (a) Expanding the area of research provides an opportunity to draw on the larger breadth of secondary studies from which the direct link between work characteristics variables and CSRO can be inferred; and (b) omitting research on similar concepts may result in *jungle fallacy*: misconception by which two similar concepts are considered different based solely on how the concepts are differently named (Block, 1995; Kelley, 1927; Marsh, Craven, & Hinkley, & Debus, 2003; Newman, Joseph, Sparkman, & Carpenter, 2011). Thus, concepts that are similar to CSRO were included to test the hypotheses. The concepts and their corresponding definitions are shown in Table 2. The relationships among these concepts similar to CSR and work characteristics are reviewed in depth in Chapter II.

The *worker characteristics* component includes a wide range of variables (e.g., personality traits, team experience, cognitive ability, skill and knowledge; see Campion et al., 2005; Parker et al., 2001), however, inclusion of all of these variables were beyond the scope of this study. Hence, only personality traits were introduced as moderating variables because they are considered to be an important (but controversial) predictor of workplace behavior and performance (Berr, Church, & Waclawski, 2000; Carlo, Okun, Knight, & Guzman, 2005; Matthews, Deary, & Whiteman, 2009; Tett & Burnett, 2003). The choice to include only personality traits does not negate the importance of other worker characteristics. Rather, it was an informed choice based on previous research in

which personality traits were linked to both work characteristics (Mount, Barrick, & Stewart, 1998; Tett & Burnett, 2003), and CSRO (Lee, Ho, Wu, & Kao, 2008; Nga & Shamuganathan, 2010).

Table 2. Concepts Related to Corporate Social Responsibility Orientation (CSRO) and Corresponding Definitions

<i>Concept</i>	<i>Author(s)</i>	<i>Definitions</i>
Corporate citizenship	Maignan & Ferrell, 2000	The extent to which organizations “meet the economic, legal, ethical, discretionary responsibilities imposed on them by their stakeholders” (p. 284)
Corporate volunteerism	Bussell & Forbes, 2008; de Gilder, Schuyt, & Breeduik, 2005	Involves giving employee time, knowledge, or skills without direct compensation or remuneration
Organizational citizenship behavior	Organ & Ryan, 1995	“Individual contributions in the workplace that go beyond role requirements and contractually rewarded job achievements” (p. 775).
Prosocial motive	Grant & Mayer, 2009	The reasons that guide decisions to engage in citizenship behaviors
Prosocial organizational behavior	Brief & Motowidlo, 1986	Acts that are “(a) performed by a member of an organization, (b) directed toward an individual, group, or organization with whom he or she interacts while carrying out his or her organizational role, and (c) performed with the intention of promoting the welfare of the individual, group, or organization toward which it is directed” (p. 711)

It is important to recognize the overlapping nature of the terms *work* and *job* in the organizational studies literature. Morgeson and Humphrey (2008) defined jobs as

units that focus on “creation and transformation of work products” (p. 46). During the heyday of work design research, the focus was on jobs, and the terms *job characteristic* and *job design* were prevalent in the literature (Parker & Wall, 2001). However, in recent organizational studies literature, the terms *work*, *work design*, and *work characteristics* are more frequently used, because *work* encompasses a more comprehensive set of characteristics, including social and work contextual characteristics (Morgeson & Campion, 2003; Morgeson & Humphrey, 2006, 2008; Parker et al., 2001). Although job and work are distinct concepts, studies published under both terms are included in this dissertation because the terms carry similar if not equal importance. The various job design and work design models are discussed in Chapter II.

Operational Definitions

Listed below are the definitions for work characteristics dimensions and other terms used in the study.

Autonomy: The degree of freedom the employee has to control work scheduling, how tasks are accomplished, and decision making (Morgeson & Humphrey, 2006).

Corporate social responsibility orientation (CSRO): An indication of how an individual engages in moral management and how such management affects interaction with stakeholders (Carroll, 1991).

Feedback from others: The degree to which the employee receives performance information from other members of the organization. The emphasis is on interpersonal exchange (Morgeson & Humphrey, 2006).

Feedback from the job: The degree to which a job provides direct and clear information about the employee's performance (Oldham & Hackman, 2010).

Information processing: The level of reduced information and data processing required in the job that demands high cognitive ability (Campion, 1989).

Interaction outside the organization: The job requires communicating and interacting with individuals outside of the organizational boundaries, such as customers, suppliers, and clients (Morgeson & Humphrey, 2006).

Interdependence: The degree to which one's job is connected to jobs of others such that one must rely on others; can originate from the employee, or the employee's work flow may be dependent on others (Kiggundu, 1983; Wageman, 2001).

Job complexity: The degree to which jobs demand higher-order thinking and problem solving.

Job interdependence: The degree to which the job is interconnected such that other jobs are dependent on it or it is contingent on others' work (Humphrey et al., 2007).

Problem solving: The process in which a job requires trouble shooting, innovation, creativity, and critical inquiry.

Significance: "The impact of a job on others, both inside and outside the organization" (Smither, 2004, p. 450).

Skill variety and task variety: Skill variety refers to the various abilities that the worker uses to complete a task (Smither, 2004); task variety is the degree to which an

employee is expected to perform multiple tasks, possibly making the task interesting (Sims, Szilagy, & Keller, 1976).

Social support: The extent to which employees have opportunities to get assistance, help, advice, from other organization members (Grant & Parker, 2009).

Specialization: The depth of knowledge and skills required to perform a task (Edwards et al., 1999).

Task identity: The whole and identifiable piece of work that is expected in the job (Oldham & Hackman, 2010).

Work design: Management of the process and content of jobs, tasks, behaviors, social interactions, and work context that is tightly woven into the structure and function of the organization (Smither, 2004; Torraco, 2005a).

Assumptions

A self-report survey tool was used to collect data; four assumptions were made.

1. The sample studied was representative of the total population of the organization.
2. The participants understood the scope of the study and responded honestly, objectively, and competently.
3. The interpretation of the data accurately reflected the participants' intent.
4. The validity and reliability of the instrument were assumed and then examined during the study.

Limitations and Delimitations

This study was limited in terms of generalizability to all job incumbents. A workplace can be extremely diverse and the work setting can vary from organization to organization. Although the results obtained at this work site may be applied to a generic job-incumbent population, it is important to be aware of the diversity of the world of work. Two delimitations were established: (a) only job incumbents who had access to emails and computers were included in the study, and (b) statistical analysis was delimited to the capacity of the statistical software used for the study.

Significance of the Study

This study is important from both theoretical and practical standpoints. It provides insights into factors that affect CSR and provides a testable model that can be used to develop, refine, and implement CSR in organizations

Theoretically, this study deepens knowledge on work design factors that may affect an organization's corporate socially responsible performance. It also adds new knowledge to work design research. As Morgeson and Humphrey (2008, p. 73) noted, "future research should begin to explore more configurations . . . [that] spans task, social and contextual domains" of work. This study is a step toward filling this gap by testing a conceptualized model for work characteristics and CSRO. The final model, presented in Chapter V, provides a multilevel understanding of work design factors that related to employee perceptions of the role of organization in a society. It opens new avenues for developing theories and models that may advance understanding the nature of work.

From a practice standpoint, similar to Hatcher's (2000) socially responsible performance improvement model, a rigorously tested model that can assist HRD professionals to play a leadership role in development and implementation of CSR in organizations is provided in this study. It improves Hatcher's model by identifying the exact work characteristics that can enhance socially responsible behaviors in an organization. The synthesis from core work design and CSR literature provides much-needed insight for HRD scholars and professionals as drastic changes in the world of work and societal demands give rise to new sets of challenges (Fenwick & Bierema, 2008; Garavan & McGuire, 2010; Garavan et al., 2010; Hatcher, 2000; Kuchinke, 2010; Packer & Sharrar, 2003; Stolz & McLean, 2009; Torraco, 2005a).

Individual attitudes, organizational structures, and team processes have been identified by Garavan et al. (2010) as barriers to developing and implementing CSR at the individual, organizational, and institutional levels. Results of this study provide essential information that can help HRD professionals to overcome some of these barriers at the individual level. Further analysis using the demographic variables could provide insight into organizational-level barriers and to assist in implementation of effective CSR interventions. From the CSR perspective, organizations are looking for new knowledge and ways to improve their public perceptions. An understanding of the factors that impact perceptions can help organizations to formulate new operational strategies to improve their public image.

Methodology

An overview of the methodology is presented in this section and discussed in detail in Chapter III. A self-reported web-based survey was used to collect data. Researchers have noted that the most valid and useful data source for individual perceptions and attitudes is the self-reported survey (Fraenkel & Wallen, 2000; Glick, Jenkins, & Gupta, 1986). As a single-attempt online survey was administered, no variables were manipulated. Data were collected on task work characteristic, knowledge work characteristics, social work characteristics, contextual work characteristics, personality traits, and CSRO.

Target Population

The target population for the study consisted of job incumbents at a major public educational institution in Texas. The criteria for participation were (a) direct employee of the institution, and (b) not a faculty member. Based on these criteria, 6,201 employees were eligible to participate in the study. Approximately 370 responses were required to accurately represent this population (Krejcie & Morgan, 1970); 1,050 responses were collected.

Data Collection Procedures

The participants were contacted after receiving approval from the Institutional Review Board (IRB) to proceed with the study (Appendix A). An email describing the study and requesting participation, with a hyperlink to the web-based survey, was sent to the employees via the organization's bulk mail system. The email indicated that participation was confidential and voluntary and that they could withdraw from the study

at any time without penalty or any effect on their relationship with the institution (Appendix A). The instrument was divided into sections, with an option of returning to previous sections, if needed. The first email was sent on February 24, 2011, and a reminder was sent March 2, 2011. There was no identification to link responses to respondent and no incentives were given for responding to the survey.

Instrumentation

The Work Design Questionnaire (WDQ) developed by Morgeson and Humphrey (2006) was utilized to collect data on work characteristics. A reduced version of the CSRO questionnaire originally developed by Aupperle (1982) that was validated by earlier research and by a pilot study conducted by the researcher was used to reduce the length of the overall survey. To collect data on personality traits, a shortened version of the Big Five Inventory (BFI-10; Rammstedt & John, 2007) with 10 items was used to limit the overall length of the survey. The WDQ, CSRO questionnaire, and BFI-10 instruments were entered into the online survey software Qualtrics™. These instruments were chosen on the basis that their face validity matched the purpose for this study. Instrument reliability was not expected to be a threat because the instruments have appeared in published literature and the researchers who have used these instruments have reported reliability scores higher than .60. For this study, reliability measures in the form of Cronbach's alpha coefficients were reported. Detail information about each of the instruments and psychometric characteristics is presented in Chapter III. Also addressed in Chapter III is common method bias arising out of obtaining both dependent and independent variables from the same questionnaire at the same time. As suggested

by Podsakoff, MacKenzie, Lee, and Podsakoff (2003), the issue of common method bias, implying “variance that is attributable to the measurement method rather than to the constructs the measures represent” (p. 879), was statistically remedied using Harman’s single-factor test.

Data Analysis Procedures

Statistical programs SPSS and AMOS™ were used for data analyses. Descriptive analysis, construct validity, reliability estimates, and structural equation modeling were performed.

Organization of the Dissertation

This dissertation is presented in five chapters. Presented above, in Chapter I is an introduction to the study, including the problem statement, the purpose of the study, the theoretical overview and overarching conceptual model, and a summary of the research design. In Chapter II, a review of the pertinent literature on work design, personality, and CSR is presented. The hypothesized model is explained in greater detail here. In Chapter III, the methodology of the study, including the research design, sampling, measurements, data collection procedures, and the data analytical techniques used are presented. The results of data collection and analysis are presented in Chapter IV. A modified model for work design/CSRO is presented in Chapter V, along with a summary of the study, discussion, conclusions, and recommendations for further research.

CHAPTER II

REVIEW OF THE LITERATURE

The primary objective of this study was to explore the relationships between work characteristics and CSRO and to determine the moderating effects of personality traits on CSRO. To that end, a review of each construct in relation to CSRO is presented in this chapter. The literature review addresses theories, models, and empirical research.

This chapter is divided into five sections. In the first section, an outline of the *Literature Review Strategy* is provided. In the second section, the *Theoretical Framework* is presented. Presented in the third section is the *Formulation of Hypotheses*. An overview of *Work Design and CSR in Public Institutions* is discussed in the fourth section. The fifth and final section concludes with a *Summary*.

Literature Review Strategy

The review of the literature was conducted in multiple steps. The first search was limited to articles in the researcher's area of study. The focus was on articles published by the *Academy of Human Resource Development* (i.e., *Advances in Developing Human Resources*, *Human Resource Development Quarterly*, *Human Resource Development International*, and *Human Resource Development Review*) and other HRD journals. The keywords used were *corporate social responsibility*, *corporate governance*, *corporate citizenship*, *corporate philanthropy*, *corporate giving work design*, *work characteristics*, *job characteristics*, *personality*, *knowledge characteristics*, *task characteristics*, *social characteristics*, and *contextual characteristics*. These terms were used individually

and/or conjointly. This search yielded a limited number of studies related to CSR.

Human Resource Development Quarterly had numerous studies on job characteristics but very few on CSR.

Given the dearth of research in the researcher's field of study, the search was broadened to include industrial/organization (I/O) psychology and management, using ABI/INFORMS (ProQuest), EBSCO, and highly rated articles from Social Science Citation Index (Web of Science). The keyword list was expanded to include *organizational citizenship behavior* and *proactive behavior and motive*. This yielded greater results from I/O psychology and from management fields. Journals included in this search were *Academy of Management Annals*, *Academy of management Journal*, *Academy of Management Review*, *Business & Society*, *Business Horizons*, *California Management Review*, *Human Relations*, *Human Resource Management*, *International Journal of Selection and Assessment*, *International Journal of Training and Development*, *Journal of Applied Psychology*, *Journal of Business Ethics*, *Journal of Organizational Behavior*, *Personnel Psychology*, *Psychological Bulletin*, *Human Performance*, *Journal of Management*, *Journal of Occupational, and Organizational Psychology*.

As the context of this research is grounded in an academic setting, publications from public administration journals were also included (e.g., *Administrative Science Quarterly*, *Higher Education Policy*, *Journal of Public Administration Research and Theory*, and *Public Administration Review*). Certain international publications were also included (e.g., *European Journal of Personality*, *Journal of Research in Personality*).

Finally, books and other online resources were used as supporting resources. Although the publication duration was not limited, as both work design and CSR research have been revived and have evolved over the years, the main focus was on empirical research published since 2000.

Organization of the Literature Review

The literature review is organized and synthesized in three categories. The first category includes a review of key theories and models presented in evolutionary form to identify, define, and explore key constructs in work characteristics, personality traits, and CSRO. The second category includes a review of research on the relationships among the studied constructs, organized generally in chronological order, starting with the newest. The hypotheses were formulated from the synthesis of past research. Perspectives on the work design-CSR link with respect to public institutions are discussed thematically.

Theoretical Framework

Prior publications on work design (Campion & Thayer, 1985; Edwards et al., 2000; Hackman & Oldham, 1975; Morgeson & Humphrey, 2006; Parker et al., 2001), personality (Barrick & Mount, 1991; Costa & McCrae, 1992) and CSR (Aupperle et al., 1985; Carroll, 1979) provided the foundation for defining and developing the theoretical framework for this study.

A *framework*, as defined by Anderson (1983) “is a general pool of constructs for understanding a domain, but it is not tightly enough organized to constitute a predictive theory” (p. 12). Essentially, in this study, three domains were used to identify the pool of

constructs that affect work attitudes and behaviors. The domains were adapted from Hatcher's (2000) social responsibility performance outcome model. Hatcher argued that, if an organization desires to improve *socially responsible performance*, the classic input-output-outcome performance improvement model should be expanded to include community, societal, and environmental needs, thereby focusing on needs assessments of skills and knowledge not only at the individual, process/organizational level but also at the community/societal level.

Consequently, the individual domain is comprised of constructs identified and defined from *personality traits theory*; the process/organizational domain is comprised of work characteristics constructs identified using *work design theory*; and the community/society domain is comprised of CSRO constructs developed from *CSR theory*. CSRO is the reflective measure of perceptions of business role in the society.

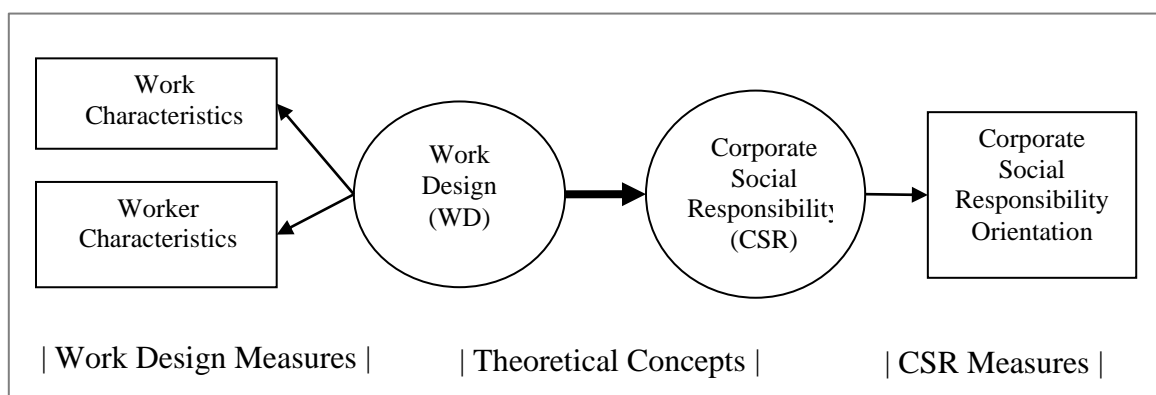
The components presented in Figure 2 are explored in detail in the following two subsections: work design and CSR. In the work design subsection, the work characteristics and worker characteristics are explained, using the extended work design theory and personality theory, respectively.

Work Design

Work design refers to the management of the organizational processes involving jobs, tasks, behaviors, social interactions, and work context, all of which are tightly woven into the structure and function of the organization (Smither, 2004; Torraco, 2005a). Work design "considers matching the job functions and tasks to worker abilities" (Smither, 2004, p. 451). Others have noted that the premise of work design

theory is to create the psychological state that induces favorable work attitudes and behaviors (Fried, Grant, Levi, Hadani, & Slowik, 2007). In other words, designing work primarily involves leveraging the associations of *work characteristics* and *worker characteristics* on work attitudes, behaviors, and outcomes.

Figure 2. An Evolutionary Framework for WD–CSR Research Model



Over the years, several competing and complementary perspectives and models have been developed to explain the impact of work design on organizational attitudes, behaviors, and outcomes. As Torraco (2005a) pointed out, the wide scope and complexity of work have resulted in multiple work design theories that are based on the context, structure, and function of work. Some of the widely cited and researched work design theories and models are the Job Characteristics Model (JCM) (Hackman & Oldham, 1980), the Job Demand-Resource model (JD-R) (Bakker, Demerouti, de Boer, & Schaufeli, 2003), Sociotechnical Systems Theory (STS) (Trist, 1981; Trist & Bamforth, 1951), and expanded work design theory (Morgeson & Humphrey, 2006). In

a review of work design research in the field of HRD, Torraco (2005a) identified five work design theories in addition to those mentioned above that are widely used or are relevant to HRD: process improvement (Davenport, 1993), techno-structural change model (Galbraith, 1977), activity theory (Leont'ev, 1978), and adaptive structuration theory (DeSanctis & Poole, 1994). Such an array of theories and models indicates how this topic has progressed since its induction during the Industrial Revolution (Grant & Parker, 2009).

The beginning of work design research dates back to Frederick Taylor's (Taylor, 1911) scientific management principles, which are popularly associated with assembly line management. Taylor's goal was to increase efficiency and productivity. He designed techniques and processes that simplified the job and minimized individual differences or skills needed to perform the job (Campion et al., 2005; Smither, 2004). According to Parker and Wall (1998), although Taylor's approaches were more pertinent to the manufacturing era, some of his management principles are still foundational to many work design studies.

In the 1950s, the Tavistock Institute of Human Relations in London conceptualized the STS theory (Trist & Bamforth, 1951). The main proposition of this theory was to enhance productivity through joint and parallel development of technology, people, and work environments (Cherns, 1987; Emery & Trist, 1960). The greatest advantage of this theory was recognition of autonomous work groups and coexistence of people, technology, and environment. The premise of this theory is that performance improves when the autonomous groups are responsible for their actions and

problem solving (Pasmore, 1988). The theory has had high impact in practice, and considerable research has been carried out that focused on autonomous work groups (Cohen & Ledford, 1994; Cordery & Sevastos, 1993; Guzzo, Jette, & Katzell, 1985; Manz, 1992). This theory has made a significant contribution to work design research by establishing a set of principles for developing sociotechnical systems (Trist, 1981). However, it has been criticized for macro-level thinking and lacking specific guidelines that promote outcomes (Parker & Wall, 1998).

In the 1960s, Herzberg (1966, 1976), another pioneer in work design research, moved away from the job simplification principles popularized by Taylor to focus on job enrichment. Herzberg and colleagues conceptualized work designs that can motivate employees to do good work (Herzberg, Mausner, & Snyderman, 1967). The main premise of their two-factor theory was that job simplification alone is not the answer to motivation; rather, jobs must be enriched through growth, recognition, and opportunities for advancement. They identified two factors: (a) motivators (i.e., intrinsic, such as interest in the task), and (b) hygiene factors (i.e., extrinsic, such as working conditions). The former affected job satisfaction (satisfiers) and the latter caused dissatisfaction (dissatisfiers). This theory, although considered too complex for empirical testing, set the foundation for assessing the motivational aspect of job design.

Inspired by the two-factor theory, Hackman and Oldham (1975, 1976, 1980) developed the job characteristics model or, as they later called it, job characteristics theory. Rooted in the expectancy theory of motivation (Porter, & Lawler, 1968), the theory posited that individuals are internally motivated to perform their job well. They

identified five core job characteristics (skill variety, task identity, task significance, autonomy, and feedback from the job) that resulted in (a) experienced meaningfulness, (b) a sense of responsibility, and (c) increased knowledge of results of their performance. They called these experiences *critical psychological states* and stated that these states are required to achieve organizational outcomes such as job satisfaction, job effectiveness, and job performance. In other words, job *autonomy* (AU) would foster a sense of responsibility, the *job feedback* (FB) mechanism would provide knowledge about performance, and *skill variety* (SV), *task identity* (TI), and *task significance* (TS) together make work meaningful (cf. Oldham & Hackman, 2010). They noted that these experiences, as a result of job design, had the potential to motivate workers. Hackman and Oldham (1980) later added growth-need strength, knowledge and skill, and context satisfaction as moderators between job characteristics and the psychological states. They claimed that the core job characteristics collectively promoted job motivation and developed a motivating potential score (MPS), measured by the Job Diagnostic Survey (Hackman & Oldham, 1975), using the formula:

$$\text{MPS} = [(SV+TI+TS)/3] \times \text{AU} \times \text{FB}$$

The job characteristics model has been empirically validated (Fried & Ferris, 1987; Loher, Neo, Moeller, & Fitzgerald, 1985; Renn & Vandenberg, 1995) and remains the most cited and most used theory to date to explore work design.

However, the original job characteristics model had many limitations and has been considered to be inadequate for current times (Oldham & Hackman, 2010; Parker & Wall, 1998). The drawbacks include (a) lack of distinctness of the five job

characteristics (Cordery & Sevastos, 1993); (b) the fact that critical psychological states were redundant mediators, as direct relationship between the job characteristics and outcomes already exists (Wall, Clegg, & Jackson, 1978); (c) the inconsistency of the moderating effects of knowledge and skills, growth-need, and context satisfaction (cf. Fried & Ferris, 1987); and (d) limited evidence of a relationship between job satisfaction and job performance outcomes (Podsakoff & William, 1986). The absence of social and contextual aspects of the job in job design measurements has been observed by many researchers (Altonji & Spletzer, 1991; Champion, 1989; Grant & Parker, 2009; Parker et al., 2001; Spreitzer, 1996).

In spite of these drawbacks, a few researchers have argued that there is insufficient evidence to invalidate the job design research and, therefore, the JCM is still accepted as a reliable and valid measure of job characteristics (Parker & Wall, 1998). Contemporary use of core job characteristics is mostly as a subset and in conjunction with other factors (Grant & Parker, 2009)

Following the success of JCM, a string of work design research emerged that focused on individual, group, and organizational outcomes determined by the *disciplines* under which the work design research was based (cf. Champion, 1988; Champion et al., 2005; Edwards et al., 1999, 2000; Morgeson & Champion, 2003; Morgeson & Humphrey, 2008; Parker et al., 2001). These researchers noted that work design research is found mostly in disciplines such as I/O psychology, industrial engineering, biomechanics, ergonomics, and medical sciences and cautioned that the corresponding disciplines have dictated the research agenda (Champion, 1988, 1989; Champion & Thayer, 1985; Edwards

et al., 2000). For example, outcomes that are of interest for I/O psychology are job performance, job enrichment, job enlargement, turnover intentions, and absenteeism (Fried & Ferris, 1987; Hackman & Oldham, 1975, 1976, 1980). Hence, job design originating from I/O psychology discipline has focused on how to motivate to improve performance and other outcomes of interest, as evidenced in the two-factor theory (Herzberg et al., 1967) and the job characteristic model (Hackman & Oldham, 1976).

Tensions resulting from discipline-specific job design approaches were eased by the development of an interdisciplinary framework that accommodated outcomes from multiple disciplines (Campion, 1988, 1989; Campion & McClelland, 1991; Campion & Thayer, 1985). Four main approaches to job design were identified: *motivation*, *mechanistic*, *biological*, and *perceptual-motor*. The motivation approach originated from job characteristics theory (Hackman & Oldham, 1975), the mechanistic approach is rooted in industrial engineering, the biological approach emerged from the biomechanics field, and the perceptual/motor approach originated from human factor engineering. This interdisciplinary framework was validated using the Multimethod Job Design Questionnaire (MJDQ), for which measures were developed based on the four approaches (Campion, 1988; Campion & Thayer, 1985). Campion (1988) found that focusing on one of the four cited approaches provided the desired results but also had trade-offs. Campion and Thayer (1985) observed that (a) jobs that focused on the motivational aspect were geared toward job satisfaction that demanded higher training, (b) mechanistic jobs that did not require training were physically demanding and caused stress, and (c) biological job design had seemingly fewer drawbacks; however, they

noted that lack of physical activity can result in lethargy. They noted that the perceptual/motor job design (predominantly desk jobs) resulted in favorable work attitudes but caused boredom and lethargy.

This model was revisited by Edwards et al. (1999), who noted that a 10-factor structure was a better fit for assessing the impact of work design on work outcomes than was the initially proposed four-factor model: feedback on job, skill variety, rewards, task simplicity, specialization, physical ease, work conditions, work scheduling, ergonomics, and cognitive simplicity. In spite of this interdisciplinary framework, work design research continued to combat obstacles, as it still failed to capture the ever-changing sociocontextual aspect of work (Campion et al., 2005; Grant & Parker, 2009).

In an era in which the workforce is flooded with “knowledge workers” rather than mechanized work, job redesign was necessary. Parker et al. (2001) expanded the traditional job characteristics to include antecedents to job characteristics that reflected the present nature of work. They identified five variable categories: antecedents, work characteristics, outcomes, mechanisms and contingencies to outcomes. The antecedents were factors internal and external to the organization that included, for example, management style and environmental uncertainty, respectively. The work characteristics variables were an extension of job characteristics from JCM. The mechanism categories, which they called intermediary outcomes, were motivation, interaction, and learning and development. The contingencies variables were moderators at the organizational (e.g., interdependence), group (e.g., support), and individual (e.g., proactive personality) levels. The range of work outcomes of work design were also expanded in this model

from job satisfaction to safety, innovation, creativity, and turnover intentions. Parker et al. (2001) acknowledged that in their model the list of variables is exhaustive but recognizes the complexity of work design that requires analysis at the individual, group, and organizational levels. They cautioned that the choice of work design variables should be guided by the research context.

Grant and Parker (2009) distinguished work design research based on two perspectives: relational and proactive. They noted that the relational perspective work design research focuses on the interactions and interdependence of jobs, while the proactive work design emphasizes the importance of employee initiatives and empowerment. Grant (2007) argued that relational job design can motivate individuals to make a prosocial difference.

The JD-R is also a recent development in job design that focuses on well-being (Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Precursors to this model are the job demand control model of strain (Karasek, 1979) and the job demand-control support model (Karasek & Theorell, 1990). The former is based on the premise that the interaction between decision latitude (includes autonomy and skill discretion) and psychological demand of work (work pace, time pressure, and high information processing requirements) can cause strain, while the latter model added social support as a moderator between job demand and decision making control (Karasek & Theorell, 1990). These two models were conceptualized based on activation theory and made significant contributions to the learning and development aspect of work, where individuals are seen as active contributors to change and work output (Frese

& Zapf, 1994). The work association on the individual's personality development was particularly emphasized in these models.

In the JD-R model, job demand (e.g., time, pressure, ability requirements) and job resources (e.g., autonomy, social support) are two key dimensions that are functional in achieving work outcomes (Bakker & Demerouti, 2007; Bakker et al., 2003; Demerouti et al., 2001). These researchers proposed that job demand, such as high-pressure work or intellectually and physically demanding work, can have a negative effect on work outcomes if job resources, such as autonomy, performance feedback, supportive leadership, and colleagues, are not present. They also noted that the interaction between job demand and job resources can predict job strain or other work outcomes.

As it is apparent in the theories reviewed above, the term *job characteristics* were prevalent in the work design literature. Recently, scholars (Grant & Parker, 2009; Morgeson & Humphrey, 2006; Parker et al., 2001) have rephrased the term to *work characteristics* because the term *work* captures the sociocontextual aspect and contains attributes of jobs, while *jobs* are organizing units that create and transform work products (Morgeson & Humphrey, 2008).

Work Characteristics. Morgeson and Humphrey (2006) defined *work characteristics* as “the attributes of the task, job, and social and organizational environment” (p. 1322). This emphasis on the sociocontextual aspect of work led to the emergence of extended work design theory.

Extended work design theory. Until the 21st century, work design theories were mostly extensions or modifications of the widely cited JCM (Hackman & Oldham, 1976). Acknowledging the need for a more comprehensive theory, Morgeson and Humphrey (2006) developed and tested an extended work design model that encompassed work characteristics drawn from multiple theories and models, including the JCM (Hackman & Oldham, 1976), the MJDQ (Campion, 1988; Campion & Thayer, 1985; Edwards et al., 1999), and the Occupational Information Network (O*NET) database (Peterson, et al., 2001). The extended model was validated by Humphrey et al. (2007), using a meta-analytic review. The uniqueness of this extended model was the emphasis on the association between social and contextual work characteristics and organizational outcomes, an aspect that had been largely ignored in previous theories. The model is based on the theoretical principle that work design encompasses a wide range of work and worker characteristics that together are related to attitudinal and behavioral work outcomes.

The work characteristics were categorized into three main components: motivational (Fried & Ferris, 1987; Hackman & Oldham, 1975, 1976), social, and contextual (Bakker et al., 2003; Morgeson & Humphrey, 2006). The “motivational characteristics focus on individual job components, social characteristics focus on the interactional components, and work context characteristics focus on contextual components” (Humphrey et al., 2007, p. 1337).

The goal of most job design research in organizational studies has been to understand the influence of motivational work characteristics on work outcomes

(Campion, 1988; Campion et al., 2005; Edwards et al., 1999, 2000; Morgeson & Campion, 2003). According to Parker and Wall (1998), motivational approaches continue as the dominant paradigm in job design research. The main principle of motivational work characteristics is the presence of certain characteristics that can elevate motivational levels in workers. The motivation characteristics were divided into two subsets. The first subset, which Morgeson and Humphrey called *task characteristics* (TC) originated from the JCM (Hackman & Oldham, 1975 1976) including (a) autonomy, (b) task variety, (c) task identity, (d) task significance, and (e) feedback from the job, all originating from the JCM. The second set of variables, referred to as *knowledge characteristics* (KC) included (a) skill variety (Sims et al., 1976), (b) information processing, (c) job complexity (Hatcher, Ross, & Collins, 1989; Oldham & Cummings, 1996), (d) specialization, and (e) problem solving and have also been shown to have motivational effects on work outcomes. These KCs were the additions to the model resulting from the demands of knowledge economy and were found to have relationships with organizational outcomes similar to those of the job characteristics in the job characteristics model. They were distinct because they represented the knowledge aspect of work (i.e., skills, competencies, and knowledge required to perform the job). Some researchers have observed that KCs have received very little attention in work design research (Humphrey et al., 2007).

A third set of work characteristics that was added to the extended work design model was *social characteristics* (SC), which included the interpersonal and interdependencies (between and among) work and individuals in the workplace (Kilduff

& Brass, 2010). Although there are traces of recognition of the social aspects of job in earlier work design literature (Hackman & Lawler, 1971; Sims et al., 1976; Trist & Bamforth, 1951; Turner & Lawrence, 1965), SCs have received greater attention only in recent years because of the increased prominence of social interactions in organizations (Grant, 2007; Grant & Parker, 2009; Kilduff & Brass, 2010; Oldham & Hackman, 2010; Parker & Wall, 1998, 2001). Some of the earlier theories on job and work, such as the two-factor theory (Herzberg, 1966; Herzberg et al., 1967), the JCM (Hackman & Oldham, 1975, 1976) and the social-technical systems approach (Cherns, 1976, 1987), all largely ignored or downplayed the diversity of social environment and its effects on work behavior and attitudes. Evidence that supports the critical role of the social context of work, such as the interpersonal interactions and social relationships on organizational outcomes, has been reported (Grant & Parker, 2009). Social support, feedback from others, work interdependence, and interaction outside the organization have been identified as SCs of work that affect attitudes and behavior of workers (Morgeson & Humphrey, 2006).

The fourth set of work characteristics in the model included *contextual characteristics* (CC), which have received the least attention among all work characteristics until recently (Morgeson, Johnson, Campion, Medsker, & Mumford, 2006; Dierdorff & Morgeson, 2007; Johns, 2006; Morgeson & Campion, 2003; Morgeson, Dierdorff, & Hmurovic, 2010). These characteristics have gained prominence because of the ubiquitous presence of and increased dependence on technology in the workplace that adds demands for cognitive ability (Morgeson et al., 2010). Nicholson

(2010) asserted the importance of job design in context. Work context is thought to have broad structural influence, as well as an impact on functional relationships between variables (Johns, 2006). Accordingly, Morgeson and Humphrey (2006) identified physical demands, work conditions, ergonomics, and equipment use as the core work context characteristics that influence work outcomes. They also identified boundary spanning and organizational support, virtuality of work, consequence of failure (error criticality) as potentially important contextual factors that should be explored further. Physical aspects and organizational context are considered as predictors of organizational outcomes (Edwards et al., 1999, 2000; Grant, 2008c; Parker et al., 2001). Factors such as organizational climate, technical systems, and organizational structure are also considered to impact work design (Morgeson et al., 2010) but their relationships have yet to be empirically established.

Although this expanded model is all-encompassing, some researchers have noted that a high correlation among the TCs and KCs constructs indicates discriminant validity issues (Chen, & Kao, 2011). Although this was clarified by Humphrey et al. (2007) using meta-analysis, both condensed and expanded work design models were used in this study. That is, the condensed model with TCs, KCs, SCs, and CCs construct was tested first. Then the expanded model that included the variables from each of the above four constructs were also investigated in relation to CSRO.

Humphrey et al. (2007), in their meta-analytical review, combined the task and knowledge variables as motivational characteristics and reported that, although the task and knowledge variables were interrelated, there was evidence of distinct factors. The

notable breakthrough in this meta-analysis was the discovery of the relationships between work characteristics and attitudinal outcomes, such as job commitment, involvement, and role conflict. This suggested that work characteristics can predict other salient outcomes beyond the traditional job satisfaction, job performance, and job enrichment outcomes.

In recent times, the theoretical development in work design that is receiving considerable attention is the empowerment perspective, which focuses on design that develop a state of psychological, role, and organizational empowerment (Conger & Kanungo, 1988; Wall, Wood, & Leach, 2004). This is similar to JCM's first critical psychological state, which is identified as experienced meaningfulness. This perspective recognizes the importance of supportive work environments that foster helping behaviors (Corsun & Enz, 1999; Wall et al., 2004).

Worker Characteristics. Throughout work design theories, there is subtle but consistent emphasis on the impact of individual differences on work design. In a study of the relationship between work characteristics and work outcomes, Humphrey et al. (2007) noted that there are not only mediation affects but that work design may also generate moderating effects because of individual difference, group dynamics, and/or other organizational factors. Parker et al. (2001), in their work design model, identified proactive personality as one of the contingencies that moderate the effects of work characteristics. In this study, personality traits theory was used to understand assumptions regarding the role of individual differences.

Personality traits theory: The five-factor model. The word *personality* is fluidly used in everyday conversations to imply personal qualities, traits, or behavior. Matthews et al. (2009) asserted that everyday conceptions of personality traits are based on two key assumptions: (a) dispositions are stable over time, and (b) traits can directly influence behavior. The underlying assumption in personality trait studies is that enduring behavioral patterns or stable dispositions are manifestations of underlying personality characteristics that can be measured (Ajzen, 2005; McCrae et al., 2000).

Although trait theory is widely used in organizational research, discourses on personality follow two distinct world views, according to Matthews et al. (2009). In one approach, personality is regarded as idiosyncratic and cannot be generalized or inferred from an individual's behavior (Kelley, 1973; Lamiell, 1981). The other approach assumes personality to be a hypothetical construct that can be used to arrive at relatively stable dispositional differences between individuals (Ajzen, 2005).

Ajzen (2005) defined personality trait "as a characteristic of an individual that exerts pervasive influence on a broad range of trait-relevant responses" (p. 2). Traits manifest through behaviors as either overt (i.e., directly observable) or covert (i.e., not directly observable but assessable via appropriate instruments). Brody (1994) noted that personality traits are causal and noted that how individuals respond to the social world can be determined through their inherent characteristics.

Discussions on personality include ways to identify, measure, and assess personality dimensions (Matthews et al., 2009). Personality inventories use adjectives to collect information about personality traits. The five-factor model of personality

distinguishes individuals based on five traits: extraversion-inversion, agreeableness, conscientiousness, emotional stability, and openness (Costa & McCrae, 1992; McCrae & Costa, 1999; McCrae & John, 1992). These traits are sometimes referred to as “The Big Five” (De Raad, 2000) or “Norman’s Big Five” (Norman, 1963), as the factors were first labeled by Norman (Barrick & Mount, 1991). Emotional stability and extraversion were first identified by Eysenck (1970).

The traits facets associated with each factor provide an indication of what they imply (Matthews et al., 2009). The extraversion-introversion factor is associated with sociability, warmth, assertiveness, and positive emotions. Agreeableness or the need to be likeable is associated with courteousness, trusting, tolerant, altruistic, compliant, and modesty. Conscientiousness is related to dependability, competence, striving, deliberation, and dutiful. Emotional stability, also known as neuroticism, is associated with anxiety, hostility, self-consciousness, and emotional, impulsiveness. According to Barrick and Mount (1991), openness was the most difficult factor to identify and has been associated with intellect. The adjectives associated with openness were imaginative, aesthetic, value driven, originality, and broadmindedness (cf. Costa & McCrae, 1992; Hogan, 1983).

The Big Five traits concept has received considerable attention in organizational studies (Barrick & Mount, 2005), although multiple personality scales are available to measure this concept, including the 16-Personality Factor Questionnaire (16PF; Cattell, Eber, & Tatsuoka, 1970), Neuroticism-Extroversion-Openness and NEO-Personality Inventory-Revised (NEO & NEO-PI-R; Costa & McCrae, 1992; McCrae & Costa,

1999), Eysenck Personality Questionnaire-Revised (EPQ-R; Eysenck, 1970, 1991; Eysenck & Eysenck, 1985, 1991), and recently the NEO-PI-3 (McCrae & Costa, 2007). The EPQ has also been revised to extract distinct factors (Furnham, Eysenck, & Saklofske, 2008).

The five-factor model has undergone further reduction. Even before the five-factor model, Eysenck had reported a three-factor model that included extraversion, emotional stability, and psychoticism (Eysenck, 1991; Eysenck & Eysenck, 1991). Eysenck's work on personality traits is noted for its link to biological basis.

The most recent development in personality research includes evidence of higher-order factors such as the two-factor model (DeYoung, 2006; Digman, 1997; Musek, 2007) and a general factor of personality (GFP; Rushton, Bons, & Hur, 2008; Rushton & Irwing, 2008, 2009). The two factors have been referred to as *alpha* and *beta* factors (Digman, 1997) or *stability* (agreeableness, conscientiousness, emotional stability) and *plasticity* (extraversion and openness; DeYoung, 2006). Evidence of a single personality factor has also been reported (Musek, 2007). The intent of a single-factor model was to generate an optimum blend of prosocial personality dimensions (cf. Musek, 2007). These reports of higher-order personality factors have been challenged by other researchers in terms of psychometric validity and self-presentation bias (Ashton, Lee, Goldberg, & de Vries, 2009). Weiss, Adams, and Johnson (2011) took the criticism a step further and negated the presence of the "Big One" personality trait in primates, who they claim have previously shown personality structure and life-history patterns similar to humans.

Critics of trait theory lament the ineffectiveness of personality traits to predict behavior and attitudes (Block, 1995; Davis-Blake & Pfeffer, 1989; Gerhart, 2005). Despite controversies and disagreement regarding use of personality traits, the general consensus among organizational researchers is that five personality dimensions are sufficient to describe a person's disposition (John, Donahue, & Kentle, 1991; McCrae & John, 1992) and remain useful to establish significant links between traits and workplace behaviors, attitudes, and outcomes (Barrick & Mount, 1991, 2005; Barrick, Mount, & Judge, 2001; Berr et al., 2000; Egan, 2005; Tett & Burnett, 2003).

Corporate Social Responsibility

CSR, according to Crane and Matten (2007), can be explored from a “variety of perspectives, lenses and ideological positions” (p. xxi). The depth and breadth of this subject is evident in the multiple reviews of theories on the subject (e.g., Garriga & Mele, 2004; Windsor, 2006). For example, Garriga and Mele (2004) categorized CSR theories that range from those concerned with profit making to those concerned with corporate governance, social issues management, and ethical theories. On the other hand, Windsor (2006) identified three key approaches in CSR research as theories that advocate ethical responsibility, economic responsibility, or corporate citizenship.

As evident from these theoretical reviews, lack of convergence in CSR ideas and concepts has resulted in definitional ambiguity. Definition of CSR has undergone transformations over the years (Carroll, 1999); recently, the term has been more broadly referred to as *organizational responsibility* (Aguinis, 2011). Some scholars have noted

that definition of CSR can vary depending on geography and culture (Matten & Moon, 2004; Williams & Aguilera, 2008).

In spite of the diverse understanding of CSR, the underlying principles have remained essentially the same (Clarkson, 1995; Wartick & Cochran, 1985; Wood, 1991). That is, *CSR is an organization's commitment to meet its economic, legal, ethical, and discretionary responsibilities toward its society* (Carroll, 1979). This definition and the related CSR model (or corporate social performance model) developed by Carroll are foundational to many CSR studies and to the current study.

Carroll's four-domain model (1979, 1991), referred to as the *corporate social performance model* and represented as a pyramid, depicting economic responsibility as the foundation of all CSR activities, followed by legal, ethical, and discretionary responsibility, is considered to integrate principles, process, and policies of social responsibility. Each component has been defined as follows: (a) economic responsibility is the belief that businesses have an obligation to be financially profitable; (b) it is the legal responsibility of businesses to abide by the law and legal requirements; (c) ethical responsibility requires businesses to do right by people and society, going "beyond mere legal frameworks and can be both strenuously undertaken and nebulously and ambiguously stated" (as cited in Aupperle et al., 1985, p. 455); and (d) discretionary responsibilities are actions that are philanthropic.

Carroll (1991) revisited the four-part definition and renamed *discretionary responsibility* to *philanthropic responsibility*, stating that firms should not only be profitable, legally binding, and ethical but should also strive to be good corporate

citizens. Further, Schwartz and Carroll (2003) noted that discretionary or philanthropic activities and ethical responsibility are not distinct but are nested within the ethical category. Some researchers have grouped the three components—legal, ethical, and philanthropic responsibility—to measure social responsibility versus economic responsibility (Acar et al., 2001; Smith, Wokutch, Harrington, & Dennis, 2001). These four responsibilities, according to Wood (1990, 1991), also represent domains within which individuals can enact CSR activities.

However, critics have noted that Carroll's model, although comprehensive and validated, is limited in its applicability (Swanson, 1995; Wartick & Cochran, 1985) because it measures an individual's orientation but provides no understanding of the larger impact of corporate social performance. Addressing this drawback, Wartick and Cochran (1985) expanded Carroll's model into an integrated three-dimensional model that linked the competing perspectives—economic responsibility, public responsibility, and social responsiveness—by elaborating on (a) principles of social responsibility, (b) processes of social responsiveness, and (c) policies to address social issues.

Wood (1991) and Clarkson (1995) noted that, although Wartick and Cochran's framework provided superior theoretical contributions to corporate social performance, it lacked clarity on processes and outcomes. Wood (1991) expanded the Wartick and Cochran (1985) model to include structural principles at individual, organizational, and institutional levels. Wood thereon reformulated the corporate social performance model by (a) redefining the principles of social responsibility at the institutional, organizational, and individual levels; (b) identified channels to act out their involvement (i.e.,

environment assessment, stakeholder management, and issues management); (c) added policies and programs as collective outcomes of company's actions; and (d) linked the three facets of CSP (Wood 1991). While these models provide broader understanding of CSR, the focus of this study was on individuals. At the individual level, the CSRO is used as a reflected indicator of CSR.

Corporate Social Responsibility Orientation. The concept of CSRO emerged from the conceptual CSR model developed by Carroll (1979, 1999). The premise is that, in order for organizations to respond to societal needs, they must develop economic, legal, ethical, and philanthropically responsible attitudes and behaviors in their employees. According to Carroll (1979), the four domains of responsibility are neither mutually exclusive nor linear in development.

To measure the orientation toward economic, legal, ethical, and philanthropic responsibilities, Aupperle (1982) developed an instrument that can be used to measure CSRO. Based on the above framework, CSRO can be defined as an individual's orientation toward performing in an economically, legally, ethically, and discretionary responsible way. Other researchers have validated this model for investigating individual social orientation (Acar et al., 2001; Agle, Mitchell, & Sonnenfeld, 1999; Albinger & Freeman, 2000; Angelidis & Ibrahim, 2004; Smith et al., 2001). These measures have generally been used as predictors of organizational outcome, and rarely as an outcome.

Many other definitions, frameworks, measures, and indicators of CSR have emerged since Carroll's model (Campbell, 2007; Orlitzky, Schmidt, & Rynes, 2003; Turker, 2009; Windsor, 2006). Examples include corporate citizenship principles

(Waddock, 2004), stakeholder management (Clarkson, 1999), and theory of global business citizenship (Logsdon & Wood, 2005). In spite of criticism (Clarkson, 1999) and availability of other models, Carroll's framework was used for the purpose of the current study for two main reasons. First, the framework is foundational in many CSR studies and has withstood the test of time (Acar et al., 2001; Angelidis & Ibrahim, 2004; Hemingway & Maclagan, 2004; Smith et al., 2001). Second, in this study CSR was measured at the individual level and therefore the traditional drawback of Carroll's model as being narrowly focused on individual level analysis was an advantage in this study.

Measuring CSR. Similar to a lack of convergence on a CSR definition, there is no consensus on how to measure CSR (Maignan & Ferrell, 2000; Waddock & Graves, 1997; Wolfe & Aupperle, 1991). Much of the initial CSR knowledge was built around research using databases such as the Kinder, Lydenberg, Domini, and Company (KLD) database, reputation indices (e.g., Fortune Index, Canadian Social Investment Database), or case studies focusing on specific organizations or programs. The KLD Social Index is particularly popular among academicians who explore the relationships between corporate social performance and financial performance because it employs a relative weighting approach in rating a firm's social performance (Agle et al., 1999; Hillman & Keim, 2001; McWilliams & Siegel, 2001; Turban & Greening, 1997). In the KLD Social Index, firms are rated on several dimensions: community, corporate governance, diversity, employee relations, environment, human rights, and product. Some researchers have reported that this relative weighting approach leads to non-significant results

(McWilliams & Siegel, 2001) or ambiguous results (Graves & Waddock, 1994; Hillman & Keim, 2001). A few scholars have noted that data from indices such as the KLD and the Fortune Index are not favorable for academic research because their items are not based on theoretical arguments (Maignan & Ferrell, 2000; Turker, 2009). In summary, CSR has been measured at the individual level (using CSRO variables; Aupperle, 1982), the organizational level (CSR scale; Turker, 2009), and the institutional level using indices such as KLD (Graves & Waddock, 1994).

In this research study, since CSR was considered only at the individual level, Carroll's (1979) framework and Aupperle's (1982) CSRO measurement were deemed the appropriate instrument for the study. The assumptions of the framework are elucidated below.

Framework Assumptions and Summary

The framework for this study was based on several assumptions. First, it was assumed that the work characteristics construct identified by Morgeson and Humphrey (2006) is a comprehensive, if not sufficient, measure of work design, and that work design can impact attitudinal and behavioral work outcomes, as they have been accepted by scholars (Chen, & Kao, 2011; Grant & Parker, 2009; Humphrey et al., 2007; Kilduff & Brass, 2010). Second, it was assumed that CSRO is applicable to all types of organizations, both public and private, as used by some researchers (Acar et al., 2001; Lee, M. P., 2008). Third, personality traits are a relevant measure of individual differences and can affect organizational outcomes (Barrick & Mount, 2005).

In summary, the work design constructs identified here as TCs, KCs, SCs, and CCs, broadly termed *work characteristics*, may be related to social responsibility attitudes in the workplace. Each of these work characteristics constructs contains multiple variables (e.g., autonomy, task variety, social support) that may also be directly related to work outcomes; therefore, direct relationships between the variables and CSRO were also explored. For clarity and identification, the model with the constructs is referred to as the *reduced model* and the model with the variables is referred to as the *expanded model*. *Worker characteristics*, specifically, personality traits, are also assumed to affect organizational outcome. The outcome of interest in this study was CRSO. Based on the discussed theories, a model encompassing all and the constructs in the reduced model is depicted in Figure 3; the expanded model with the variables appears later in the chapter.

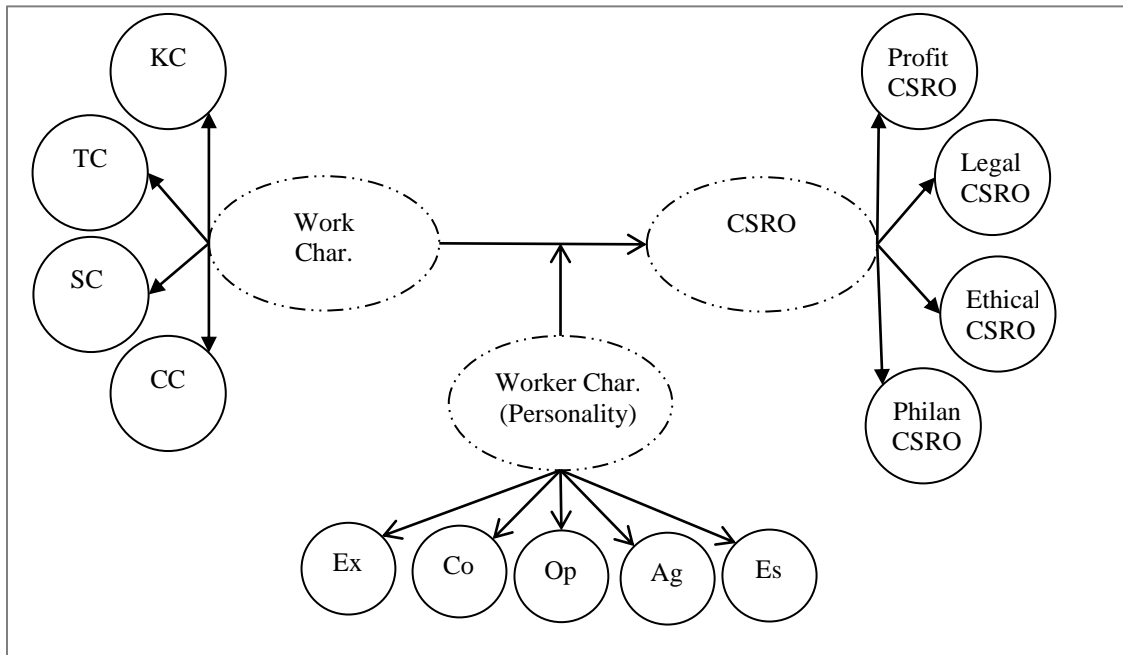
Formulation of Hypotheses

In this section, studies in which the relationships between TCs, KCs, SCs, CCs, personality traits, and CSRO were explored are reviewed. The research questions were used as a guide to explore available research and to devise a set of hypotheses that could address the research questions.

Due to the lack of studies in which researchers have explored the direct link between work characteristics and CSRO as an organizational outcome, studies in which concepts similar to CSRO were explored were included in this literature review. This includes corporate citizenship (Maignan & Ferrell, 2000), corporate volunteerism

(Grant, in press), organizational citizenship behavior (OCB; Podsakoff et al., 2000), and prosocial motives and behaviors (Grant & Mayer, 2009). The dimensions in OCB, in

Figure 3. Toward an All-Encompassing Research Model.



Note. Dotted circles are implied concepts and *not* studied variables or constructs. KC = knowledge characteristics, TC = task characteristics, SC = social characteristics, CC = contextual characteristics, Ex = extraversion, Co = conscientiousness, Op = openness, Ag = agreeableness, Es = emotional stability.

particular, are conceptually similar to all four dimensions of CSRO. For instance, OCB dimensions consist of “helping behavior, organizational loyalty, sportsmanship, initiative, civic virtue, self-development and organizational compliance” (Podsakoff et al., 2000, p. 516). It may be argued that helping/altruism behavior may be equated to philanthropic CSRO, compliance to legal CSRO, civic virtue to ethical CSRO, and sportsmanship and loyalty to profit CSRO, as those qualities are considered to entail

positive attitudes, putting organizational interest before self-interest, promoting the organization to outsiders, protecting and defending the organization, and staying committed to the organization, respectively (George & Jones, 1997; Moorman & Blakely, 1995; Organ, 1988, 1997; Podsakoff et al., 2000).

The constructs that have emerged from the theories discussed earlier include TCs, KCs, SC, CCs, and personality traits. Hypothesized relationships between these constructs and CSRO that were developed based on the previous studies are reviewed below.

Task, Knowledge, Social, and Contextual Characteristics, and CSRO

TCs are among the most researched topics in work design research history, as established meta-analytically (Fried & Ferris, 1987; Humphrey et al., 2007). The significant stream of research related to this construct is due to the popularity of the JCM from which the TC variables are extracted (i.e., task significance, autonomy, feedback on job, task variety, task identity). Associations between TCs and CSRO can be inferred from studies where links between work characteristics variables and CSR-related attitudes and behaviors (Chen, C., & Chiu, 2009; Chiu & Chen, H., 2005; Grant 2008a, 2008b, 2008c; Todd & Kent, 2006) were found.

Among the TC variables, *job autonomy* is not the most researched, but all forms of autonomy (decision, method, and work scheduling autonomy) have consistently been shown to be related to a wide range of work outcomes (Barrick & Mount, 1993; Bizzi & Soda, 2010; Bond, Flazman, & Bunce, 2008; Gagne, 2003; Joo, Jeung, & Yoon, 2010).

Grant (2008c) conducted multiple longitudinal studies using experimental design to test his hypotheses on the relationship between task significance and prosocial behavior. The participants were paid callers raising funds for a nonprofit organization. Grant reported that, when employees perceived their jobs as providing opportunities to improve the welfare of others, otherwise known as *task significance*, it increased prosocial behavior, and the relationships between task significance and job performance were greater for participants with stronger prosocial values. In a different study, Grant (2008a) noted that, among public sector employees, job motivation increased for jobs with high *autonomy*, high *task significance*, and frequent *feedback* about the impact of the job. *Task variety* on the other hand, has been linked to achievement motivation and organization-based self-esteem (Hui, Lee, & Niu, 2010). Self-esteem components (Pierce & Gardner, 2004) resemble the emotional stability personality characteristics.

There has been evidence of an association between TC and OCB but results have been conflicting. Chiu and Chen, (2005) reported that, although task variety and task significance had significant positive relationships with OCB, autonomy, feedback from job, and interdependence (which is a SC) were not related to OCB. Their study population included 270 employees from 24 organizations. However, Chen and Chiu (2009) found that autonomy, task identity, and task significance were related to OCB when job involvement was introduced as a mediator; skill variety had a negative effect on OCB. On the other hand, Todd and Kent (2006) reported that task variables, specifically task significance, predicted helping behavior. A possible explanation for

these conflicting results may be the narrow focus on selective job design variables (Dierdorff, Rubin, & Morgeson, 2009).

TC variables as mediating or moderating variables have also been studied. For example, Barrick and Mount (1993) found that conscientiousness (i.e., personality trait) predicted performance more strongly when autonomy was introduced as a moderating variable. Similarly, Piccolo et al. (2010) examined the relationship between ethical leadership and JCM characteristics and postulated that leaders with strong ethical orientation can impact TC, such as autonomy and task significance. They reported that TCs mediated the relationships between ethical components and performance, indicating a relationship between ethical orientation and TC variables. Based on the above TC studies, Hypothesis 1 was developed:

HYPOTHESIS 1: TC will be significantly related to (a) profit CSRO, (b) legal CSRO, (c) ethical CSRO, and (d) philanthropic CSRO.

In addition, Autonomy (H1a1, b1, c1, d1) and Task Significance (H1a4, b4, c4, d4) will be significantly associated with CSRO dimensions, Task Variety (H1b2) and Task Identity (H1b3) will be significantly associated with legal CSRO, and feedback from others (H1d5) will be significantly associated with philanthropic CSRO.

The KCs include job complexity, information processing, problem solving, skill variety, and specialization (see operational definitions in Chapter I, p. 17). Humphrey et al. (2007) pointed to the lack of studies on KCs. They tested the predictive validity of KCs using meta-analysis but were cautious about making any conclusion as there were insufficient studies in the literature on using KC variables. However, based on their

review of a sample of 256 studies encompassing over 200,000 participants, they established that, along with TC, significant associations were found between KC and organizational outcomes. Information processing skills are foundational to creativity (Grant & Berry, 2011) and links between creativity and prosocial behavior have been found. Problem-solving ability and skill variety have been shown to cause significant variance in performance when people work in semi-autonomous team structures (Morgeson et al., 2006).

Chen and Kao (2011) added valuable insight regarding the correlation between KCs and citizenship behavior. They performed a multilevel study of police officers in Taiwan and reported that KCs had an indirect correlation to OCB. Self-efficacy mediated this relationship. Nahrgang, Morgeson, and Hofmann (2010) found that knowledge, autonomy, and social support (i.e., SC) were positively related to engagement, which included participation, compliance, and satisfaction. The links to organizational compliance in both of the above studies indicate a strong link between KCs and legal CSRO.

Frese, Garst, and Fay (2007) conducted a longitudinal study to determine the effects of work characteristics on personal initiative, among other variables. They confirmed that work characteristics, comprised of work complexity and control (i.e., job complexity and autonomy) affected personal initiative, mediated by control orientation, implying a possible link between job complexity and CSRO dimensions. Based on the above KC studies, Hypothesis 2 was developed:

HYPOTHESIS 2: KC will be significantly related to (a) profit CSRO, (b) legal CSRO, (c) ethical CSRO, and (d) philanthropic CSRO. In addition, Information processing will have a significant association with philanthropic CSRO (H2d2).

The SCs delineated in the work design proposed by Humphrey et al. (2007) were (a) interdependence, (b) feedback from others, (c) social support, and (d) interaction outside the organization. There is sufficient evidence that organizational support or social support affects work attitudes and behavior (Chen, Aryee, & Lee, 2005; Nahrgang et al., 2010). Social support has been shown to reliably predict performance (Bhantumnavin, 2003). Chen and colleagues reported that perceived organizational support significantly predicted citizenship behavior (Chen, et al., 2005).

The rest of the SC dimensions have yet to be rigorously researched and investigated (Oldham & Hackman, 2010), but some researchers have argued that SCs such as interaction, social support, and interdependence are salient in shaping prosocial or socially responsible work behaviors (Grant & Campell, 2007; Grant & Parker, 2009). Some researchers have found no relationship between interdependence and OCBs. For instance, Chiu and Chen (2005) reported that interdependence was not significantly related to OCB.

Social support has been studied as a subset with other work variables. For instance, Noblet and colleagues found evidence of a positive relationship between social support and helping behavior of OCB (Noblet, McWilliams, Teo, & Rodwell, 2006). Rhoades and Eisenberger (2002), in a meta-analytical review, found that organizational

support was related to favorable organizational outcomes. Based on the above SC studies, Hypothesis 3 was developed:

HYPOTHESIS 3: SC will be significantly positively related to (a) profit CSRO, (b) legal CSRO, (c) ethical CSRO, and (d) philanthropic CSRO. In addition, all four SC variables will be significantly related to all four CSRO dimensions (H3a1, Ha2, Ha3, Ha4; H3b1, Hb2, Hb3, Hb4; H3c1, Hc2, Hc3, Hc4; H3d1, Hd2, Hd3, Hd4).

Although researchers have reported an indirect link between work context and altruism (Morgeson et al., 2010), a direct link between work context characteristics and CSR has not yet been established. Morgeson and colleagues noted that, in jobs that demand high cognitive ability such as information processing and problem solving, the work context is likely to have influential effects. This argument is in line with findings that, when CCs were poor, KCs improved. That is, when there were poor working conditions and more strain on ability, problem-solving skills and skill usage improved (Morgeson et al., 2006). Similarly, Brief and Motowidlo (1986) argued that “several aspect of the organization context and work environment likely determine or, at least, covary with expressions of prosocial organizational behavior” (p. 718).

In spite of the above argument, a link between work context and CSR or similar concepts has not been empirically reported. However, based on hypothetical arguments in the literature, Hypothesis 4 was developed:

HYPOTHESIS 4: CC will be significantly related to philanthropic CSRO.

In addition to the above direct relationships between work characteristics and CSRO, individual differences such as personality traits may have interactive effects on CSRO, as evidenced from the studies reviewed below.

The Moderating Effect of Personality Traits on CSRO

The moderating effects of personality traits on work attitudes and behaviors have been established in many studies (Fried, Hollenbeck, Slowik, Tiegs, & Ben-David, 1999; Grant, 2008c; Judge, Heller, & Mount, 2002; Nga & Shamuganathan, 2010). By the same token, researchers have also noted the unpredictability of personality traits (Organ & Ryan, 1995). In contrast, meta-analytical reviews have shown a clear significant relationship between certain personality traits and citizenship behavior (Hurtz & Donovan, 2000).

A moderator variable is a factor that affects the strength or directionality of the relationship between the predictor and criterion variables (Baron & Kenny, 1986). Certain traits (conscientiousness, agreeableness, and openness) have been studied as moderating variables for work characteristics variables (Grant, 2008c; Nga & Shamuganathan, 2010; Taylor, S. G., et al., 2010). Conscientiousness and agreeableness have especially been shown to predict citizenship behaviors (Illies, Fulmer, Spitzmuller, & Johnson, 2009; Meyer, Dalal, & Bonaccio, 2009) and organizational compliance (Organ & Ryan, 1995). This suggested that conscientiousness and agreeableness would have significant association with legal and philanthropic CSRO.

Raja and Johns (2010) examined relationships between personality traits and creative and citizenship behavior. All five personality traits showed some form of

association with Organizational Citizenship Behavior. Their hypothesis that neuroticism (otherwise known as emotional stability) would have a negative relationship with creativity and citizenship behavior was supported. Therefore, neuroticism or emotional stability interacting with KCs is likely to exhibit a negative relationship with philanthropic CSRO.

Nga and Shamuganathan (2010) studied the correlation between personality traits and social entrepreneurship dimensions (including social vision, sustainability, social networks, among others) among 181 college students in Malaysia. They found that the personality traits of openness, agreeableness, and conscientiousness significantly associated with social vision and sustainability (concepts that create social value similar to philanthropic CSRO), while neuroticism had a negative relationship to behaviors that foster social networking.

The personality trait of extraversion was found to moderate the relationship between altruistic behavior and positive mood (Glomb, Bhawe, Miner, & Wall, 2011). Using a cross-sectional study and a longitudinal study with 3,663 and 61 participants respectively, Fried et al. (1999) observed that the personality trait of openness to experience, along with interpersonal satisfaction, had moderating effects on job decision latitude (also known as job autonomy).

Taylor et al. (2010) noted that when empathy was introduced as a moderating variable, the relationship between the Big Five personality traits and interpersonal citizenship behavior was stronger. Similarly, Illies et al. (2009) conducted a meta-analytic path analysis and found direct relationships between agreeableness and

citizenship behavior, and between conscientiousness and citizenship behavior. This indicated a possible strong association between these two personality traits and all four CSRO dimensions.

In a study of 34 paid callers, Grant (2008c) explored whether conscientiousness moderated the effects of task significance on job performance. He used a 10-item personality inventory (Gosling, Rentfrow, & Swann, 2003) to measure conscientiousness, and a task significance condition was induced by informing the study participants how the funds raised would benefit students. Researchers have provided evidence that task significance had a higher effect on performance when conscientiousness was low. Significant correlations were also reported between the personality trait agreeableness and prosocial actions (Graziano & Eisenberg, 1997).

Mount et al. (1998) performed a meta-analytical review to explore the extent to which personality dimensions were related to performance in jobs that are high on interpersonal interactions (i.e., SC). They also explored whether the nature of interaction moderated the relationship. They reported that conscientiousness, agreeableness, and emotional stability were positively related to performance for jobs high on SC; for jobs with direct interaction outside the organization, the relationship between agreeableness and conscientiousness and performance was weaker than for jobs high on interdependence.

Critics of personality traits lament that the *factorially pure* Big Five personality dimensions are not the best predictors of Organizational Citizenship Behavior (Organ, 1994). Organ and Ryan (1995) reported that personality traits, with the exception of

conscientiousness, did not correlate well with organizational citizenship behavior.

Nevertheless, many researchers consider personality traits as a stable predictor of work behavior and actions. Based on the cited studies on personality traits, Hypothesis 5 was developed as follows:

HYPOTHESIS 5_i: *Extraversion and (1) TC, (2) KC, (3) SS, and (4) CC will have an interactive effect on CSRO.*

HYPOTHESIS 5_{ii}: *Agreeableness and (1) TC, (2) KC, (3) SS, and (4) CC will have an interactive effect on CSRO.*

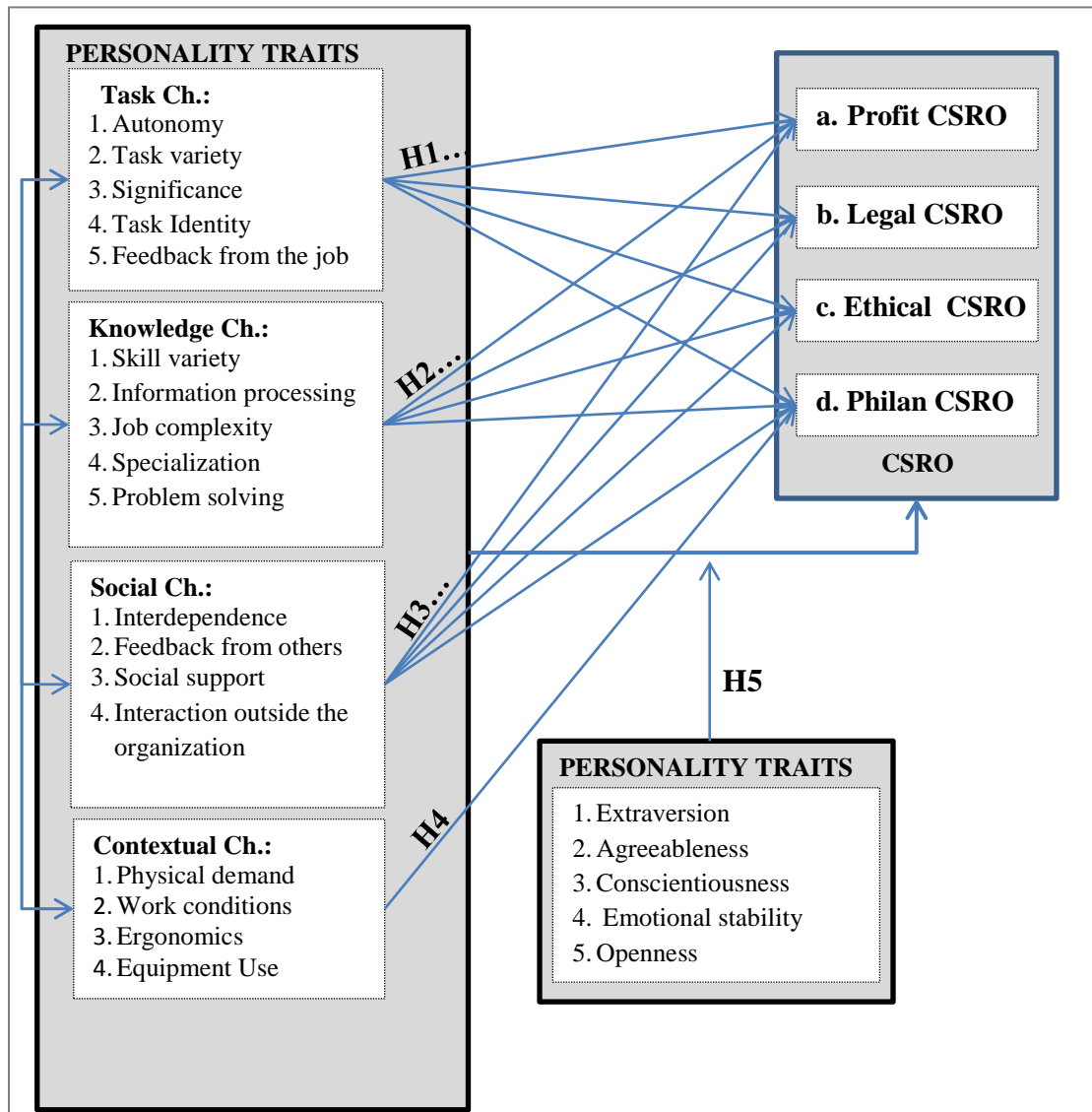
HYPOTHESIS 5_{iii}: *Conscientiousness and (1) TC, (2) KC, (3) SS, and (4) CC will have an interactive effect on CSRO.*

HYPOTHESIS 5_{iv}: *Emotional stability and (1) TC, (2) KC, (3) SS, and (4) CC will have a negative interactive effect on CSRO.*

HYPOTHESIS 5_v: *Openness and (1) TC, (2) KC, (3) SS, and (4) CC will have an interactive effect on CSRO.*

The final work design/corporate social responsibility (WD-CSR) research model is expanded in Figure 4 to show the expanded variables associated with each construct.

Figure 4. The Expanded Hypothesized Work Design/Corporate Social Responsibility (WD-CSR) Model



Note. The path between work characteristics and corporate social responsibility orientation (CSRO) is a representation of all paths between each exogenous and endogenous construct. It is depicted as such to avoid cluster of multiple paths. In a structural equation model, the constructs or latent variables are typically represented by a circle and the observed variables are typically presented in rectangles; however, for ease of presentation, all variables are shown here in boxes. The hypotheses are numbered in the order of appearance.

Work Design and CSR in Public Institutions

Mohrman et al. (2008) wrote, “In a knowledge intensive society, the research university is a key institution for social and economic development” (p. 5). They emphasized the importance of building a work structure within the research institution that reaches out and collaborates globally, building new relationships with governments, business, and society. Similarly, researchers in the public institution arena have lamented the lack of studies with regard to work design and prosocial motives of public sector employees (Perry, 2000; Perry et al., 2006).

Although studies on work design in public institutions have been sporadic, there is sufficient information on work structures and their association with work attitudes. Perry and colleagues proposed that job design can be related to public service motivation and performance among public employees (Perry et al., 2006).

There is evidence of all four CSRO dimensions among public sector employees. For example, according to Acar et al. (2001), the social and strategic orientations of organizations are changing across all organizational types: private, public, for-profit, and nonprofit. They compared the CSRO of individuals at the top management level from for-profit and not-for-profit organizations. As expected, they found no significant difference between the two groups, indicating that the attitudes toward social responsibility were similar among managers independent of organizational type.

However, researchers have shown that for-profit style governance is not an effective motivational strategy in the public service environment (Grant, 2008b; Houston, 2000; Perry, 2000; Perry et al., 2006), implying that work designs that focus on

profit may not be an effective strategy. Moynihan and Pandey (2007a) explored public service motivation among public employees. Public service motivation is behavior or motive to service public interest and it has been argued that institutions can shape such behaviors (Perry, 1997). Moynihan and Pandey found strong evidence for significant relationships between organizational variables (e.g., autonomy) and public service motives.

Researchers have noted the presence of ethical components among public employees (Moynihan & Pandey, 2007a; Perry, 1997). Such presence in this study population may reveal a strong association between work characteristics and ethical CSRO.

Chapter Summary

Presented in this chapter is a review of theoretical and empirical research on work characteristics, personality traits, and CSRO. Also presented was the strategy used for the literature review process. Through this review, the studied constructs were identified and defined and the relationships among them were discussed. The hypotheses were formulated based on previous research. The hypothesized WD -CSR research model was presented. In the following chapter, the study methodology is discussed in greater detail.

CHAPTER III

METHODOLOGY

In this chapter, the research design, measurements, data analytical techniques, and initial data analysis results are presented in four sections. In the first section, Research Design, the survey design, sampling, and data collection procedures are discussed. In the second section, Measurement, the instruments used to measure the exogenous latent variables, moderators, and endogenous latent variable are presented. In the third section, Data Analysis, information on the data screening techniques, descriptive analysis, reliability estimates, construct validity, common method variance, and structural equation modeling are discussed. In the fourth section, the initial results for the data screening, reliability of the instruments, exploratory factor analysis results, and common method variance are discussed.

The purpose of this study was to test the relationships between work characteristics, personality, and CSRO. Explicitly explored was the interconnectedness between each of task characteristics (TCs), knowledge characteristics (KCs), social characteristics (SCs), contextual characteristics (CCs), extraversion, agreeableness, conscientiousness, emotional stability, openness, and CSRO dimensions.

The model testing was conducted based on certain assumptions. First, it was hypothesized that there would be a significant association among work characteristics: TCs (H1), KCs (H2), SCs (H3), CCs (H4), and (a) profit CSRO, (b) legal CSRO, (c) ethical CSRO, and (d) philanthropic CSRO. Second, it was hypothesized that the

relationship between work characteristics and CSRO would be moderated by personality traits (H5). Baron and Kenny (1986) defined a *moderator variable* as one that “affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable” (p. 1174). In this study, personality traits were posited to act as factors that are related work design and CSRO.

Research Design

This study used an ex post facto research design, based on the inference that “relationships among variables are made from any determined variations between the studied variables” (Kerlinger, 1973, p. 344). According to Black (1999), the term *ex post facto* “literally means ‘after the fact’” (p. 47), and an ex post facto design is used when there is little control of independent variables. In such designs, it may or may not be possible to establish causality, but the results may support associations or relationships between constructs (Alreck & Settle, 1995; Black, 1999).

Survey Design

Given that attitudes, perceptions, and behavioral intent are measured in this study, a survey design was chosen as an appropriate methodology because surveys are deemed to be the most popular and powerful means of collecting information on attitudes, values, behaviors, and perceptions (Dillman, 2007; Rasinski, 2005). The need to guarantee respondent anonymity and low execution cost prompted use of a self-reported web-based survey. The self-reported survey is considered to be an effective tool to collect facts or opinions or to identify characteristics (Dane, 1990; Fraenkel & Wallen, 2000). The design of the study included compiling and developing a user-friendly

questionnaire and generating a recruitment letter to inform potential participants about the study (Appendix A). The survey instrument was used to collect information about work characteristics (i.e., task, knowledge, social, and work context), personality traits, and CSRO from job incumbents at a public higher education institution. Since a single-attempt online survey was administered, no variables were manipulated.

The survey was constructed under the supervision of two academic advisors who are experts in survey development and content and who served as co-advisors for the study. Their suggestions included wording, questionnaire layout, and type of scale. After modifications based on their feedback, two pilot tests were conducted at different stages in the study. The first pilot test was conducted using 50 participants to determine the validity and reliability of the reduced CSRO instrument. This pilot test and the results are explained in detail in the instrumentation section in this chapter. The second pilot test was conducted using 9 participants to check the face validity of the instruments, survey response time, question clarity, survey flow, and accessibility, and to gain knowledge related to survey administration. The final survey instrument included 100 items, excluding demographic items. Various measures were taken to improve response quality and quantity (Dillman, 2007).

Survey design researchers have reported that visual elements and transitions are important for the quantity and quality of responses (Dillman, 2000; Dillman & Smyth, 2007; Mahon-Haft & Dillman, 2010). Survey progress indicators and promised task duration are known to influence “survey break-offs.” For example, Yan, Conrad, Tourangeau, and Couper (2010) found that use of a progress indicator was effective

when the expected length was indeed short. Accordingly, measures were taken to ensure that the design was user friendly, and a survey progress indicator was included in the web interface (Appendix A). Words of encouragements and an indication of task duration were added at the end of each section of the survey. No incentives were provided to complete the survey because researchers have recently reported that in web/Internet-based survey research, incentives were not related to response rate or response quality (Baruch & Holtom, 2008; Cook, Heath, & Thompson, 2000; Göritz, 2004).

Dillman (2007) identified four survey errors that result from poor design:

(a) sampling error, caused by surveying only some units of the survey population; (b) coverage error, which can occur when “all elements of the population are not given equal or known chance of being included in the sample survey” (p. 9); (c) measurement error, which can occur when the instrument is worded poorly; and (d) nonresponse error, which “occurs when a significant number of people in the survey sample do not respond to the questionnaire and have different characteristics from those who do respond” (p. 10). The sampling error and coverage error were not problems in this design, since the total population was surveyed. Actions taken to address the measurement and nonresponse issues are discussed in the data screening segment of this chapter.

Sampling

The population for this study was all staff members of a public higher education institution in Texas. According to institutional data available on the institution’s web site, at the end of the year 2010, there were 8,864 staff members. This number included

the faculty, but faculty members were omitted from this study because they function independently and were not the target of this research. After excluding faculty members, 6,201 employees were potentially eligible for this study.

The survey was intended to be sent to 6,201 staff members of the target institution. However, when the computer was coded to include only staff employed at the institution's main location, the computer indicated that the email was distributed to an additional two thousand participants. This difference in number was attributed to the employees working for the institutional system's office located in the same area. As the employees of the system office located in the same area have the same access to the institution's resources and work characteristics similar to those of the staff working on the main campus, their responses were included in the study. In some cases, staffs from both the institution's system office and the main campus offices share office space. Therefore, all responses were included in the survey.

The participants in this study were job incumbents associated with the educational institution's main operational campus and from the systems office located in the same geographical area. According to the institution's fact sheet, the staff (excluding faculty) composition of the main campus in spring 2010 was as follows: 49% female; 71% Whites and 27.6% minorities. There were seven job categorizes in the institution: (a) Executive/Administration/Managerial, (b) Faculty, (c) Professional/Non-Faculty, (e) Secretarial/Clerical, (e) Technical and Paraprofessional, (f) Skilled Crafts, and (8) Service and Maintenance. Although the associations between job categories on dependent variables was not specifically studied here, this information is included to

determine whether the distribution of the sample was a fair indication of population distribution. Shown in Table 3 is the study sample distribution based on job categories. Ten respondents identified their job category as faculty. They may have received the survey because they held dual responsibilities: administrative and faculty, therefore their responses were included in the study. The importance of this distribution information is discussed in Chapter V.

Table 3. Population and Sample Distribution Based on Job Categorization

<i>Job Categorization</i>	<i>N</i>	<i>% of N</i>	<i>% of eligible sample</i>	<i>Study n</i>	<i>% of n</i>
Executive/Administration/Managerial	642	7.2	10.4	243	23.1
Professional/Non-Faculty	2880	32.4	46.4	405	38.5
Secretarial/Clerical	893	10.0	14.4	145	13.8
Technical and Paraprofessional	381	4.2	6.1	118	11.2
Skilled Crafts	463	5.2	7.5	10	1.0
Service and maintenance	942	10.6	15.2	22	2.1
Faculty (Not eligible/Not surveyed)	2663	30.0	-	-	-
Job information not volunteered	-	-	-	108	10.3
Total population	8864	100	-	-	-
Total accessible (after removing faculty)	6201	69.3	100	1050	100

Note. N = population, n = sample.

Data Collection Procedures

Survey Administration. Upon receiving Institutional Review Board approval (Appendix A), the public institution's HR Manager was contacted by telephone and

email, requesting approval to conduct the study. The HR Manager directed the request to the computing and information services bulk mail system. Information is usually disseminated using a bulk email system, as the institution is large (more than 8,000 employees and more than 40,000 students). A bulk email request was submitted online via the institution's website.

Using a bulk email system for surveys can be beneficial in reaching a larger sample but can present issues associated with mass mailing, as the mail could be considered by potential receivers as junk mail. Porter and Whitcomb (2003) cautioned that survey researchers using Internet-based surveys must find creative ways to distinguish themselves from spammers. They suggested adding personalized greetings and messages, although, as they noted, even email personalization can be easily emulated by spammers and is fast losing its value among survey respondents.

To avoid being considered as junk mail, the body of the email was created in a plain text format and had minimal information about the study. A link to the question-answer information sheet was provided, with additional information about the study. The link was placed on the institutional website, thus confirming the legitimacy of the research and the researcher. A personalized effect was added by informing potential participants that they had been "selected as a possible participant because you are part of an institution with a defined work structure." Participants seemed to have taken note of this personal-sounding note; a few replied stating that they were happy to have been selected to participate and had completed the survey as requested. Few participants contacted the researcher requesting additional information about the study, which was

provided via telephone and email. The question-answer information sheet (Appendix A) assured the respondents of confidentiality. The respondents were also informed that they could end participation in the study at any time without negative consequences.

The first invitation to participate in the study was mailed February 24, 2011 (see Appendix A for invitation letter and information sheet) to all eligible participants. The bulk email was set up to exclude retirees, faculty, graduate assistants, and contractual employees, since they were not eligible for the study, as indicated in the above description of the target population. The invitation email provided information about the study and requested that interested participants click on a hyperlink to the web-based survey. Not all potential participants received the email; 164 emails were returned indicating that the incumbent was out of office, and two people indicated that the potential participants no longer worked for the institution. At about 10:00 a.m. on the following day, the link to the survey stopped working due to system problems. However, by then a total of 645 responses had been collected.

After the system problem was corrected, a second email was sent on March 2, 2011, informing the sample population of the glitch and requesting those who had already taken the survey to ignore the request and requesting those who had not completed the survey to continue by clicking on the link. The survey was kept open for 2 weeks and 405 additional responses were received.

Final Sample. The response rate of 17.5% was not a major concern because, according to Krejcie and Morgan's (1970) sampling chart for a population size (N) of 6,000, a sample (n) size of 361 (when $N = 7,000$, adequate $n = 364$; when $N = 8,000$,

adequate $n = 367$) was adequate to represent the population. With a total of 1,050 responses collected, this study sample exceeded the suggested sample size to represent the population. Shown in Table 4 is the breakdown of number of responses and final analytical sample.

Table 4. Cases Excluded, Response Rate and Final Analytic Sample

<i>Status</i>	<i>f</i>	<i>%</i>
Total eligible for study	6201	100.0
Excluded from the sample because of	(207)	(3.3)
Bounced emails in February - 164		
Bounced emails in March -38		
No longer employed with the institution- 2		
Not interested to participate -3		
Sample	5994	100.0
Total response	1050	17.5
February response - 645		-
March response - 405		-
Removed due to missing data or repeat	(108)	(10.3)
Outliers - deleted	(1)	(0.09)
Final analytic sample for SEM	941	16.2

Note: Numbers in parenthesis indicate cases excluded from the study

Item-Respondent Ratio. In some earlier psychology studies, researchers noted the importance of a 1:10 item-respondent ratio as a critical requirement for factor analysis (Gorsuch, 1983), or 5 to 10 responses per latent variable for SEM (Bentler & Chou, 1987). However, in more recent publications on tests and measurements, researchers have argued that even 3 responses for every 1 item was sufficient for

stability of results (Gorsuch, 1997; Guadagnoli & Velicer, 1988). Regardless, with 10 responses for every item, this study met the recommended ratio. In addition, the sample was deemed suitable for factoring because, as discussed later, the KMO measure of sampling adequacy was over the .60 cutoff point.

Measurements

The study utilized (a) the WDQ (Morgeson & Humphrey, 2006), (b) a short version of the BFI-10 (Rammstedt & John, 2007), and (c) a reduced and amended version of a CSRO questionnaire originally developed by Aupperle (1982). These instruments (complete questionnaire appears in Appendix B) were chosen on the basis of two key criteria: (a) The face validity of each instrument matched the agenda for this study, (b) the instrument had sound reported psychometric properties. As the WDQ had 71 items, an ultra-short measure of the Big Five constructs was chosen because it had only 11 items. The instrument was divided into sections based on the constructs measured, and respondents were allowed to return to previous sections by clicking on a back button if needed. All questionnaires used Likert's (1932) attitude scaling method: 5 = *Strongly Agree*, 4 = *Agree*, 3 = *Undecided*, 2 = *Disagree*, 1 = *Strongly Disagree*.

A basic concept related to model testing (as explained by Byrne, 2010) is that of exogenous versus endogenous latent variables. Exogenous latent variables are similar to independent variables in that their causes are not clear but they are known to predict other variables. Thus, they are also known as predictor variables. Endogenous latent variables are similar to dependent variables in that they are the result of or can be predicted by exogenous variables. Latent variables are not directly observed but rather

inferred from a group of observed variables. Observed variables, known as indicators or manifest variables, are the items in the questionnaire that are thought to be manifestations of the underlying latent variables.

In this study, task, knowledge, social, and contextual characteristics were the exogenous latent variables and profit, legal, ethical, and philanthropic CSRO were the endogenous latent variables. Personality as a moderator variable was planned to be used as an exogenous variable. The instruments, number of items per latent variable and reported scale reliabilities are indicated in Table 5.

Table 5. Reported Reliability Measures for the Instruments Used in the Study

<i>Instruments</i>	<i>Source</i>	<i>No. of Items</i>	<i>Internal consistency^a</i>	<i>Test- retest</i>
Task characteristics	Morgeson			
Work schedule autonomy	and	3	.85	
Decision-making autonomy	Humphrey ^a	3	.85	
Work method autonomy	(2006)	3	.88	
Task variety		4	.95	
Significance		4	.87	
Task identity		4	.88	
Feedback from job		3	.86	
Knowledge characteristics				
Job complexity		4	.87	
Information processing		4	.87	
Problem solving		4	.84	
Skill variety		4	.86	
Specialization		4	.84	

Table 5. (Continued)

<i>Instruments</i>	<i>Source</i>	<i>No. of Items</i>	<i>Internal consistency^a</i>	<i>Test- retest</i>
Social characteristics	Morgeson & Humphrey ^a			
Social support	(2006)	6	.82	
Initiated interdependence		3	.80	
Received interdependence		3	.84	
Interaction outside organization		4	.91	
Feedback from others		3	.64	
Contextual characteristics				
Ergonomics		3	.95	
Physical demands		3	.87	
Work condition		5	.82	
<i>Personality</i>				
Extraversion	Rammstedt and John ^c	11		.79
Agreeableness	(2007)	2		.69
Conscientiousness		3		.70
Neuroticism		2		.76
Openness		2		.65
<i>CSR Orientation</i>	Aupperle ^b			
Economic	(1982)	20	.90	
Legal		20	.86	
Ethical		20	.87	
Philanthropic (discretionary)		20	.84	

Note. ^a“The Work Design Questionnaire (WDQ): Developing and Validating a Comprehensive Measure for Assessing Job Design and the Nature of Work,” by F. P. Morgeson & S. E. Humphrey, 2006, *Journal of Applied Psychology*, 91, 1321-1339. ^b*An Empirical Inquiry Into the Social Responsibilities as Defined by Corporations: An Examination of Various Models and Relationships* (Doctoral dissertation), by K. E. Aupperle, 1982. ^c“Measuring Personality in One Minute or Less: A 10-Item Short Version of the Big Five Inventory in English and German,” by B. Rammstedt & O. P. John, 2007, *Journal of Research in Personality*, 41, 203-212 (for U.S. sample).

Exogenous Latent Variables – Work Characteristics

The WDQ (Morgeson & Humphrey, 2006) was used in its entirety without modification to measure the work characteristics. According to Morgeson and

Humphrey (2006), the WDQ was created using a mixture of 50% existing and/or adapted items (from Champion & McClelland, 1991; Hackman & Oldham, 1980; Idaszak & Drasgow, 1987; Karasek et al., 1998; Kiggundu, 1983; Sims et al., 1976; Wall, Jackson, & Mullarkey, 1995) and 50% new items. The instrument had 77 items and used a 5-point scale ranging from Strongly Disagree to Strongly Agree. All items were positively worded except for one item in job complexity and one in ergonomics.

Morgeson and Humphrey (2006) tested multiple models of work design: (a) a 4-factor model in which the characteristics were based on four board work characteristics constructs: task, knowledge, social, and contextual; (b) an 18-factor model in which each of the above board constructs was comprised of three to four work characteristics dimensions; (c) a 19-factor model in which the interdependence dimension was separated into initiated and received interdependence subdimensions; (d) a 20-factor model in which autonomy was separated into three subdimensions; and (e) a 21-factor model in which both autonomy and interdependence were separated into subdimensions. The constructs, dimensions and subdimensions are explained below:

TCs consist of six expanded constructs: autonomy (AU), task variety (TV), task significance (TS), task identity (TI), and feedback from job (FJ). The autonomy construct has three subdimensions: work scheduling autonomy (AUS), decision-making autonomy (AUD), and work methods autonomy (AUM). Thus, $TC = AU (AUS + AUD + AUM) + TV + TS + TI + FJ$. There were 9 items for autonomy, 4 items for task variety, 4 items for task significance, 4 items for task identity, and 3 items for feedback from job, for a total of 24 items.

KCs consists of five expanded constructs: job complexity (JC), information processing (IP), problem solving (PS), skill variety (SV), and specialization (Sp). Thus, $KC = JC + IP + PS + SV + Sp$. There were 4 items for each construct, for a total of 20 items.

SCs consist of five expanded constructs: social support (SS) interdependence (ID), interaction outside organization (IO), and feedback from others (FO). The independence construct has two subdimensions: initiated interdependence and received interdependence. Thus, $SC = SS + Dp (DpI + DpR) + IO + FO$. There were 6 items for SS, 3 items each for initiated and received interdependence, 4 items for interaction outside organization, and 3 items for feedback from others, for a total of 19 items.

CCs consists of four expanded constructs: ergonomics (Er), physical demands (PD), work conditions (WC), and equipment use (EU). Thus, $CC = Er + PD + WC + EU$. There were 3 items for ergonomic, 3 items for physical demands of the job, 5 items for work conditions, and 3 items for equipment use, for a total of 14 items.

Morgeson and Humphrey (2006) performed a confirmatory factor analysis (CFA) on all five models described above; the best fit for their data was the 21-factor model, which included two subdimensions for interdependence and three subdimensions for autonomy. The 18-factor model (without splitting autonomy and interdependence) produced a comparative fit index (CFI) = .89 and the root-mean-square error of approximation (RMSEA) = .05. When autonomy and interdependence were split into three and two dimensions, respectively, CFI was .91 and RMSE was .04, indicating that

the 21-factor model was the best fit overall. After the factors were identified, the researchers averaged the items into scales for analysis.

In this study, the hypothesized model was based on the 4-factor model; however, because the 21-factor model was considered more stable by Morgeson and Humphrey, it was also tested. For clarity, hereon the 4-factor model is referred to as the *reduced model* and the 21-factor model is referred to as the *expanded model*.

Morgeson and Humphrey (2006) reported that the coefficient alpha for the 21-expanded factor model was uniformly high across items, with an average of .87 except for ergonomics. The following reliability scores were reported: .85 (work scheduling autonomy), .85 (decision-making autonomy), .88 (work methods autonomy), .95 (task variety), .87 (significance), .84 (task identity), .86 (feedback from job), .87 (job complexity), .87 (information processing), .84 (problem solving), .86 (skill variety), .84 (specialization), .82 (social support), .80 (initiated interdependence), .84 (received interdependence), .91 (interaction outside organization), .88 (feedback from others), .64 (ergonomics), .95 (physical demands), .87 (work conditions), and .87 (equipment use). The authors argued that, although the ergonomics scale was below .70, it was still considered good enough to use because of its content coverage. The authors did not report the alpha score for the reduced model.

Evidence of needed construct validity was established by assessing “the extent to which they converge with existing published job or occupational databases” (Morgeson & Humphrey, 2006, p. 1327). Although the WDQ included 77 items, this scale was used in its entirety because past studies of work characteristics and help behavior have

produced conflicting results (Chen & Chiu, 2009; Grant, 2008a), and some researchers have suggested studying full ranges of job design variables (Johns, 2010; Oldham & Hackman, 2010).

Moderators – Personality Traits

The BFI-10 (Rammstedt & John, 2007) was used in this study to measure personality dimensions. The original Big Five Inventory (John et al., 1991) had 44 items, and all five constructs had high reliability ranging from .78 to .89 (Giluk, 2009). Rammstedt and John (2007) reduced the original BFI to 10 items with two items per dimension, one positive and one negative, representing each personality dimension. Although using two- or single-item measures is generally discouraged, it is not unprecedented (see Denissen, Geenen, Sekfhout, & Van Aken, 2007) and such scales are used if good psychometric properties are present. The BFI-10 scales had substantial test-retest reliability: .83 (extraversion), .68 (agreeableness), .77 (conscientiousness), .74 (neuroticism), and .72 (openness). Rammstedt and John suggested using an additional agreeableness item if that construct was crucial to the study. As agreeableness was an important factor in this study, the additional item was included and the instrument therefore had 11 items. Thus, although the ultra-short Big Five Inventory is abbreviated as BFI-10, it has 11 items. The absolute intercorrelation was .11 for the BFI-10 scale, indicating substantial discriminant validity. Although Rammstedt and John did not report a coefficient alpha, other researchers have reported that, even though BFI-10 is a very short scale, it has an acceptable overall alpha coefficient of $\geq .65$ (Geisler, Wiedig-Allison, & Weber, 2009; Rammstedt & Kemper, 2011). Rammstedt and John (2007)

reported that the pattern of correlations for the BFI-10 was similar to that of the original 44-item BFI scale, with a distinct five-factor structure. Thus, the shortened version was considered to be a valid measurement for personality assessment. However, John (n.d.) cautioned that the abbreviated 11-items version should be used only when time is limited. As the long version would increase the time taken to complete the survey as it had 77 work characteristics items, the shortened version was used in this study.

Endogenous Latent Variables – CSRO

The CSRO was assessed using a reduced version of Aupperle's (1982) survey instrument. In the original instrument, Aupperle used a forced-choice scale to reduce the response bias of socially desirable items commonly seen in ethics research (see Randall & Fernandes, 1991). The original scale contained four sets of 20 statements. In this study, a reduced version of this instrument that has been previously validated with 10 core items was used (Smith & Blackburn, 1988; Smith et al., 2001). The instrument is based on Carroll's construct of CSR defined within four components: economical (as referred to as profit), legal, ethical, and philanthropic. In this construct, individuals who have a profit, legal, ethical, or philanthropic orientation will place a greater value on profit, legal issues, business ethics, and concern for societal issues, respectively. This model has been validated by numerous researchers (e.g., Acar et al., 2001; Ibrahim & Angelidis, 1995; Ibrahim, Howard, & Angelidis, 2003), and factor analysis has been used to demonstrate the construct validity. In the original 20-item instrument, respondents were asked to distribute a total of 10 points among the four statements (A, B, C, D) based on their assessment of comparative importance. For example,

It is important that a successful organization be defined as one which:

- A. is consistently profitable [economic]
- B. fulfills its legal obligations [legal]
- C. fulfills its ethical and moral responsibilities [ethical]
- D. fulfills its philanthropic and charitable responsibilities [philanthropic].

(Smith et al., 2001, p. 289).

This form of forced-choice method is helpful in reducing or eliminating “response bias from socially desirable items” (Kerlinger, 1973, as cited in Aupperle, 1982, p. 91). Aupperle reported Cronbach’s alphas for the components as follows: economic, .901; legal, .858; ethical, .865; and discretionary (termed here philanthropic), .835. Other researchers who have used the same instrument have reported similarly high Cronbach’s alphas (cf. Agle et al., 1999; Aupperle et al., 1985; Smith et al., 2001).

However, forced choice has limitations, especially when employees consider their organization as being highly responsible in all four CSR domains (Peterson, 2004; Turker, 2009). Therefore, the instrument was converted to use a Likert-type scale. The original instrument had 4 sets of 20 items, for a total of 80 items. Use of 80 items would have expanded the length of the survey in this study to more than 100 items, which was not desirable because of the risk of break-offs due to fatigue. Therefore, as used by Agle et al. (1999), the instrument was shortened to a set of three items per factor (Appendix B). Reliability of the instrument was obtained using 50 participants and the obtained alpha was .78.

Data Analysis Procedures

SPSS™ software was used for initial analyses and AMOS™ was used for SEM.

The data were downloaded from Qualtrics as an SPSS (.sav) file and uploaded onto SPSS 18. SPSS subroutines were used to determine the analyzability of the data. A tabular representation of the research question, the corresponding hypotheses, constructs/variables, levels of measurement, and statistical techniques used is shown in Table 6.

Table 6. Structure of the Research

<i>Research questions</i>	<i>Hypotheses</i>	<i>Measurement scale</i>	<i>Statistical techniques</i>
What are the relationship among task, knowledge, social, contextual characteristics, personality traits and CSRO dimensions?	H1: There will be a significant association between TCs and CSRO dimensions	Interval	Structural Equation Modeling (SEM)
	H2: There will be a significant association between KCs and CSRO dimensions		
	H3: There will be a significant positive relationship between SCs and CSRO dimensions		
	H4: There will be a significant association between CCs and philanthropic CSRO dimensions		
	H5: Personality traits will moderate the relationship between work characteristics and CSRO dimensions		

Data Screening Techniques

Preparing the data for analysis (Mertler & Vannatta, 2010) included deleting incomplete survey submissions (except in case of data missing only in demographic

information); tests of homogeneity, outliers, linearity, and multicollinearity were conducted. Necessary steps were taken for any violations.

Descriptive Analysis

Frequencies, means, and standard deviations were calculated for all variables and demographics. To aid in visualization of the sample, information on the demographic variables is provided, even though these variables were not included in the model testing.

Reliability Estimates

Blunch (2008) stated that “the reliability of an instrument is its ability to give nearly identical results in repeated measurements under identical conditions” (p. 27). There are multiple tests of reliability: internal consistency, test-retest, and interexaminer reliability (Cicchetti, 1994). As a measure of internal consistency, a commonly used reliability measure for internal consistency is Cronbach’s alpha, also referred to as the alpha coefficient. Alpha coefficients denote how a set of items relates as a group. According to Blunch (2008), a minimum alpha of .40 is generally required for two items. An alpha of $\geq .70$ is considered to be an acceptable level of internal consistency in the social sciences (Cicchetti, 1994).

Construct/Convergent Validity

Although the validity of scales used in the present study has been established in previous studies, for this study sample the constructs were also cross-validated using factor analysis. Factor analysis is a statistical data reduction technique used to determine whether a shared variance exists between observed variables. It is “a process by which

the number of variables is reduced by determining which variables cluster together and factors are the groupings of variables that are measuring some common entity or construct” (Mertler & Vannatta, 2010, p. 233). Factor analysis has long been used for validity testing, in addition to its use for developing constructs (Thompson & Daniel, 1996). There are primarily two ways of conducting factor analysis: exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). CFA is used when the constructs are confirmed in the literature, while EFA is an exploratory analysis. According to Thompson and Daniel (1996), “EFA isolates factor structures without consideration of the theoretical expectations of the researcher, even when such expectations are available” (p. 198); they recommended that a hybrid of the two methods be considered. Therefore, in this study, both CFA and EFA were performed. That is, the construct validity of the instruments was obtained via EFA first, then to ensure that the factors loaded according to theoretical expectations, CFA was conducted on both WD-CSR models (i.e., reduced model and expanded model) using AMOS.

The work characteristics variables present in the expanded model were factor analyzed in order to determine if the factors loaded as indicated in the literature. The results of factor analysis are presented as factor loadings; items that “correlate” have high loadings on one factor. As Mertler and Vannatta (2010) noted, in a factor analysis “only shared variability is analyzed-both unique and error variable are ignored” (p. 234), while in Principle Component Analysis (PCA) the unique variance is also analyzed. PCA is the most commonly used exploratory method, with the goal of identifying underlying structures (Tabachnick & Fidell, 2004). Therefore, for initial exploration of

the underlying structures, PCA with varimax rotation were the chosen method for extraction and rotation in this study. Varimax is an orthogonal rotation procedure that “maximizes variance of loadings on each factor” while simplifying factors (Tabachnick & Fidell, 2004, p. 615). Kaiser’s rule was followed by retaining only those factors with eigenvalues greater than 1 (Mertler & Vannatta, 2010) and factor loadings below .40 were suppressed when generating SPSS output. However, before PCA was run, two tests were conducted to determine whether the minimum requirement for factor analysis was met: (a) Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, and (2) Bartlett’s test of sphericity. A KMO value close to 1 is considered good because it indicates a pattern of correlation, thus increasing the possibility of generating a factor. The null hypothesis in Bartlett’s test is that the correlation matrix is an identity matrix; therefore for factor analysis, the desired outcome is a null that is rejected at $p < .001$.

It is to be noted that, in addition to PCA, researchers also use Principle Axis Factoring for factor analysis. For example, Mertler and Vannatta (2010) noted that when there is a prior belief that the underlying factors correlate, principle axis factoring with oblique rotation is performed. Oblique rotations include “direct oblimin, direct quartimin, orthoblique, and promax” (Mertler & Vannatta, 2010, p. 238). However, researchers have also noted that factor results from principle axis factoring are usually similar to PCA, especially, when the sample size is large (Snook & Gorsuch, 1989; Tabashnick & Fidell, 2004) as in this study. The PCA results are presented in Chapter IV. The results of expanded model are presented under initial results section of this chapter and the results of reduced model are presented in Chapter IV.

Common Method Variance

Common method variance refers to inflation or deflation of variance between the measured constructs when both independent and dependent variables are measured using the same method across the same time frame (Podsakoff et al., 2003; Spector, 2006). It is also referred to as common method bias or mono-method bias (Spector, 2006). Some researchers have noted that the issue of common method variance is substantial because it is the source of measurement errors: Type I and Type II (Podsakoff et al., 2003); others have argued that common method variance has received undeserved attention and some have even called it an “urban legend” (Spector, 2006, p. 223). Regardless, procedural and statistical remedies suggested by Podsakoff et al. (2003) were used for this study sample. Procedural remedies for common method variance include “protecting respondent anonymity” (Podsakoff et al., p. 888) and improving the quality of the items, as indicated in the measurement section. The statistical remedy performed was Harman’s single-factor test, in which all items together were subject to principle component analysis without rotation.

Structural Equation Modeling (SEM) Approach

The crucial question was, what is the best fit for the model that indicates the relationships between work characteristics and CSRO for these data? SEM was used to test the model fit between the theoretically developed model and the study data (Kline, 2010). SEM was conducted using the Analysis of Moment Structures Program (AMOS; Arbuckle, 2010).

SEM is considered an extension of the general linear model because it is an amalgamation of multivariate techniques, including multiple regression, factor analysis, and path analysis (Kline, 2010). The history of SEM dates to Spearman's work on factor analysis and Wright's development of path analysis in the early 20th century (Blunch, 2008). Also known as path analysis with latent variables, SEM has been used in recent years mostly to reach conclusions on relationships or, controversially, on causal relationships (Blunch, 2008; McDonald & Ho, 2002). The method is controversial for causal relationships because of its ability to generate best fit models based on statistical criteria alone, thus confirming the same model fit to be used for different or even contradicting models.

The initial steps in model testing using SEM are considered to be a CFA that "explicitly test[s] a priori hypotheses about relationship between variables (e.g., test scores or ratings) and latent variables or factors" (Jackson, Gillaspay, & Purc-Stephenson, 2009, p. 6). CFA tests a theoretically developed model and thus requires the relationships between the manifest variables and latent constructs to be hypothesized based on literature prior to analysis. Latent constructs are hypothesized concepts that are not directly observed but inferred from variables that are directly observed. Latent constructs are measured using reflective indicators (Diamantopoulos & Sigauw, 2006). For example, in this study profit, legal, ethical, and philanthropic perceptions of CSR are reflective indicators of the CSRO of an individual.

SEM was the desired data analytical technique for establishing the relationships between the studied constructs because it allowed use of multiple indicators per latent

variable, thus reducing measurement error while using CFA. In the initial conceptual model, personality was hypothesized as both an independent variable and a dependent variable, and each latent construct included five observed variables. For a multitude of observed variables and for a large sample size, as in this study, SEM is considered to be a powerful tool capable for examining multiple correlations simultaneously. SEM is a single and comprehensive analysis of hypothesis testing. Other advantages of SEM include that it allows both global and individual assessment of relationships between specific variables and it is capable of suggesting specific modifications for the data (Kline, 2010).

Assumptions. In SEM, the parameters are estimated using maximum likelihood (ML) estimation; therefore, statistical assumptions include interval data, multivariate normality, linearity, large sample size, multivariate normal distribution, free of outliers, and multiple observed variables per latent variable (Kline, 2010). Some researchers have noted that data in social sciences often fail to meet the critical multivariate normality assumption (Micceri, 1989); some have argued that, even under nonnormality, conditional parameter estimates remain valid (as cited in McDonald & Ho, 2002). Of these assumptions, the major concern is multivariate normality, as violation of this assumption can cause (a) inflated chi-square (χ^2) values that can wrongly indicate that the model needs modification and can inflate Type I error (wrongly rejecting the model), and (b) deflated standard errors and incorrect parameter estimates (Blunch, 2008; Kline, 2010). Corrective subroutines included reviewing Mardia's coefficient of multivariate kurtosis and Malanobis d-squared distance (cf. data screening section). Other techniques

to deal with nonnormal data include “bootstrapping,” a type of resampling method usually used in small sample sizes (Blunch, 2008). Results of the verification of assumptions are detailed in Chapter IV.

According to Blunch (2008), a model consists of two parts: a structural model and a measurement model. The former describes the connections among the latent variables and the latter describes connections (paths) between latent variables and their manifest indicators. The main purpose of SEM is mapping connections to examine the model fit for the data. The measurement model is evaluated before the structural model is assessed (Jackson et al., 2009). The modeling process occurs in two stages: (a) validating the measurement model using confirmatory factor analysis, and (b) fitting the structural model using path analysis (Blunch, 2008).

SEM Steps. The steps involved in SEM analysis include model specification, estimation, model fit evaluation, and respecification. These steps were implemented in the following order with frequent numerical algorithmic iterations (i.e., based on the values generated in AMOS, with the steps going back and forth until a solution was reached):

1. Using the graphical path diagram interface in AMOS (Arbuckle, 2010), the researcher created the hypothesized model that expressed the relationships among the variables. The latent constructs were presented in circular/oval shape and the observed variables were entered as rectangles.

2. The model is recursive; that is, it does not include loops. For the model to be identified, the following two conditions were met (Blunch, 2008): (a) The *t*-rule had to

be satisfied for model identification; that is, “A model is identified if there are at least as many non-redundant elements in the covariance matrix as there are parameters to be estimated” (p. 77), (b) because it is a recursive model, it also satisfied the zero B-rule, which is that no one variable had both in and out arrows, and (c) all latent variables and error terms were assigned a scale.

3. After the model was specified, multivariate normality was checked.

4. The model parameters were estimated using ML, which is a default in AMOS (Blunch, 2008). ML is the most common and preferred estimation method (Jackson et al., 2009). According to Blunch (2008), ML estimations have various qualities: “ML-estimation is consistent...asymptotically unbiased, asymptotically sufficient, and asymptotically normally distributed” (p. 81).

5. Model fit was evaluated using fit functions, which are indices use to check for discrepancies between data and model. The model fit was assessed using multiple fit indices. A minimum of two fit indices from each classifications below were used (Blunch, 2008; fit measure classification differs slightly in the literature; for example, Blunch, classified CFI under relative measures, while Hancock and Mueller [2007] classified it as parsimonious fit):

A. Global fit.

- Chi-square goodness of fit, χ^2 /degrees of freedom ratio (CMIN), and Goodness of Fit Index (GFI) were used to check for global fit. The Chi-square test is a test of a null hypothesis that is sensitive to degrees of freedom, in that for large sample sizes it consistently rejects the model based

on small deviations from the mean and for very small samples it accepts any model (Blunch, 2008). However, χ^2 with degrees of freedom is reported in Chapter IV because it provides one assessment of global fit (Hoyle & Panter, 1995). The GFI measure has not been used lately (Sharma, Mukherjee, Kumar, & Dillon, 2005). Absolute fit measures simply evaluate the discrepancies between data and model *without* reference to any other models (Blunch, 2008).

- CFI and Tucker-Lewis Index (TLI) were used to check against explicit basis model. Although the process is unrealistic, checking against the baseline model helps “to make it possible to judge the fit of different modes on a common basis” (Blunch, 2008; p. 110). The recommended cutoffs are .95 for CFI and .90 for TLI (Hu & Bentler, 1999).

B. Residual.

- Standardized root mean square residual (SRMR), which is the average discrepancy between the covariance matrix and the data and a value of 0, indicates perfect fit (Hu & Bentler, 1999).
- RMSEA was used to adjust the model and results are reported with confidence intervals in Chapter IV. Hu and Bentler’s (1999) recommended cutoff for RMSEA is .06; however, $\leq .05$ is considered a good value for closeness of fit.

C. Other fit Indices.

- In order to address the issue of selection bias in reporting fit measures, other fit indices are discussed. Also, researchers have noted that χ^2 , CFI, RMSEA, and TLI have enough information to judge the average model fit (Blunch, 2008; Jackson et al., 2009)
- Following the fit evaluation, specific variables that fit poorly were re-specified based on the literature and theoretical frame and using the Modification Indices generated by AMOS. Modification Indices indicate which parameter constraint, if dropped, will decrease the χ^2 value. Following the Bayesian information criteria (BIC), the model with smallest BIC value was selected.

6. After achieving the best fit model, the standardized and unstandardized path coefficients were determined. Hoyle and Panter (1995) suggested reporting the statistical power of a structural equation model to make the model more robust and to avoid Type I error. Thus, effect sizes and squared multiple correlations were also reported. Presented in Table 7 are the cutoff values used for various measures used in this study.

Table 7. Cutoff Values Used for Sampling Adequacy, Reliability, Validity, and Model Fit

<i>Tests</i>	<i>Cutoff value</i>
Sampling adequacy	
KMO	$\geq .60$
Barlett's test	Significant at $p < .001$
Reliability	
Cronbach's alpha	$\geq .70$
Convergent validity	
Eigenvalue	≥ 1
Factor loadings	$\geq .40$
Model Fit	
Relative Chi-square	≤ 5
RMSEA	$\leq .05$
SRMR	$\leq .089$
CFI	$\geq .95$
TFI	$\geq .90$

Initial Results

Data Screening

Before performing the analyses, the data were screened for missing data, outliers, and a test of homogeneity. The process and steps taken for any violations are discussed below.

Missing Data. Listwise deletion was performed for any missing data. Data for participants missing only demographic information were retained. Multiple entries from the same IP addresses were also deleted (refer Table 4). From 1,050 responses, there remained 942 usable data: 521 from the group that responded in February and 421 from the March group.

Outliers. Multivariate outliers were identified using Mahalanobis distance, which is used to identify the distance of any type of a case from the central point of the means of all variables (Stevens, 2001; Tabachnick & Fidell, 2004). The Mahalanobis distance is evaluated by using the χ^2 critical value at $p < .001$ (Mertler & Vannatta, 2010). Based on this criterion, cases that are significant beyond the χ^2 critical value are considered to be outliers and are usually dropped from the dataset, or the data are logarithmically transformed. In the present study, with a sample size of 942 and with 100 items, outliers were likely; thus, dropping several cases with one or two unusual values was not deemed to be legitimate because the process would eliminate many other important responses. A box plot was separately generated for both groups. Based on visual inspection, the cases that appeared between 1.5 and 3.0 box length from the median of the distribution were retained and those outside the range were deleted (refer Appendix D). There was only one case from the first group that was beyond the 75th percentile, and it was removed. Therefore, the final sample size was 941.

Test of Homogeneity. Due to the time lapse between responses gained in February and those gained in March, a test of homogeneity was required. That is, a test of significant differences between the two groups for all variables was conducted. The assumption of homogeneity of the variance/covariance across the two groups was determined using Box's M (Tabachnick & Fidell, 2004). At $p < .001$, Box's M was significant, $F = 1.196$, $p = .000$. This was not a surprise because Box's M is a very powerful test. Therefore, Pillai's Trace was utilized as a global test to judge the differences in the two groups because, given the unequal sample sizes, Pillai's Trace is

recommended instead of Wilks's Λ (Tabachnick & Fidell, 2004). As shown in Table 8, at $p = .093$, the test was not significant, indicating that the vector of means from the February and March groups did not differ significantly and that it was safe to pool the groups for further analysis.

Table 8. Summary of Multivariate Tests to Compare February and March Groups

<i>Effect</i>	<i>Value</i>	<i>F</i>	<i>Hypotheses df</i>	<i>Error df</i>	<i>p</i>
Pillai's Trace	.125	1.206	100	841	.093

Results of Exploratory Factor Analysis

Work Characteristics Factors. As explained in the construct validity segment in the data analysis section, EFA using PCA was performed first to identify the work characteristics factors mentioned in the expanded model. The KMO test of sampling adequacy and Bartlett's test of sphericity were conducted first. The KMO result was .906 and Bartlett's test was significant, indicating that the sample met the requirements for factor analysis. An Eigenvalue of 1 or greater was used for number of factors to retain and rotate.

The total variances based on initial eigenvalues and the redistributed variances after rotation for the expanded exogenous factors are presented in Table 9. For this study sample, the first factor, identified as *autonomy*, accounted for 18.59% of the total variance. The first three components (identified as *autonomy*, *specialization*, and *task*

variety) accounted for 35.24% of the variances before rotation. The remaining variances were distributed among the 14 remaining components. After rotation, the same three factors accounted for 19.7% of the variance. After rotation, 34.09% of the variance was associated with the first six factors (identified as *autonomy, job specialization, task variety, physical demand, interdependence, and interaction outside the organization*), with less than 10% of the variance associated with the *autonomy* factor. In the study in which the WDQ was first reported, the researchers did not perform an EFA; rather, they conducted a CFA and total variance was not reported.

After rotation, 17 factors were retained as identified in the original study (Morgeson & Humphrey, 2006): autonomy (AU), task variety (TV), task significance (TS), task identity (TI), feedback from job (FJ), job complexity (JC), information processing (IP), problem solving (PS), skill variety (SV), specialization (Sp), social support (SS), interdependence (ID), interaction outside (IO), feedback from others (FO), physical demand (PD), work conditions (WC), and equipment use (EU). The results are presented in Table 10. As shown in Table 10, the two ergonomics variables loaded along with the work conditions variables with relatively high loadings (.675 and .705). The skill variety (SV3) and social support (SS4) displayed weak loadings and thus were omitted from further analysis. One item in work conditions (WC3) loaded with both work conditions (.526) and physical demand (-.495) of job. Therefore, WC3 was also omitted from further analysis.

Table 9. Results of PCA Total Variance Explained for Work Characteristics

<i>Factors</i>	<i>Initial Eigenvalues</i>			<i>Rotation Sums of Squared Loadings</i>		
	<i>Total</i>	<i>% of Variance</i>	<i>Cumulative %</i>	<i>Total</i>	<i>% of Variance</i>	<i>Cumulative %</i>
Autonomy	14.32	18.59	18.59	7.14	9.27	9.27
Specialization	7.77	10.07	28.68	4.10	5.32	14.60
Task Variety	5.05	6.56	35.24	3.93	5.11	19.70
Physical Demand	4.23	5.49	40.73	3.88	5.04	24.74
Interdependence	3.54	4.60	45.33	3.80	4.93	29.67
Interaction Outside	3.02	3.92	49.24	3.41	4.42	34.09
Work Conditions	2.73	3.55	52.79	3.37	4.37	38.46
Social Support	2.60	3.38	56.17	3.31	4.31	42.77
Task Identity	2.02	2.62	58.79	3.11	4.04	46.81
Job Complexity	1.95	2.53	61.32	3.02	3.92	50.73
Feedback Fm Others	1.78	2.32	63.63	2.99	3.89	54.62
Problem Solving	1.52	1.97	65.61	2.99	3.89	58.51
Task Significance	1.49	1.94	67.55	2.89	3.75	62.26
Info Processing	1.25	1.62	69.17	2.36	3.06	65.32
Feedback From Job	1.20	1.55	70.72	2.29	2.97	68.30
Equipment Use	1.10	1.43	72.15	2.03	2.64	70.94
Skill Variety	1.03	1.34	73.49	1.97	2.55	73.49

Each set of variables was checked to determine whether the set could be reduced further, as indicated by Morgeson and Humphrey (2006). In the original study *autonomy* had three sub-dimensions (scheduled autonomy, decision autonomy, and method autonomy) and *interdependence* had two sub-dimensions (initiated interdependence and received interdependence; Morgeson & Humphrey, 2006).

Table 10. Varimax Rotated Matrix for Work Characteristics Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
AUM3-T	.879																
AUM2-T	.869																
AUS3-T	.853																
AUM1-T	.836																
AUD2-T	.831																
AUS2-T	.827																
AUD1-T	.822																
AUD3-T	.803																
AUS1-T	.746																
TV4-T		.886															
TV3-T		.885															
TV2-T		.877															
TV1-T		.834															
IDI3-S			.822														
IDR1-S			.820														
IDI2-S			.771														
IDR2-S			.751														
IDR3-S			.738														
IDI1-S			.700														
Sp3-K				.797													
Sp2-K				.778													
Sp1-K				.776													
Sp4-K				.681													

Note. Extraction - principle component. XXX-T = Variables that belong to Task Characteristics construct, XXX-K = Variables in Knowledge Characteristics construct, XXX-S = variables in Social Characteristics construct, XXX-C = Variables in Contextual Characteristics construct. AUM = Method Autonomy, AUD = Decision Autonomy, AUS=Schedule Autonomy, TI=Task Identity, IDI = Initiated Interdependence, IDR=Received Interdependence, Sp = Specialization.

Table 10. (Continued)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
IO4-S					.903												
IO3-S					.900												
IO2-S					.857												
IO1-S					.773												
WC5-C						.704											
Er2-C						.704											
WC2-C						.681											
Er1-C						.674											
WC4-C						.653											
WC1-C						.649											
WC3-C						.526											
SS2-S							.841										
SS1-S							.820										
SS3-S							.794										
SS5-S							.691										
SS6-S							.619										
PD2-C								.942									
PD1-C								.934									
PD3-C								.919									
TI3-T									.896								
TI2-T									.842								
TI4-T									.841								
TI1-T									.781								
JC3-K										.833							
JC4-K										.831							
JC2-K										.809							
JC1-K										.492							

Note. IO= Interaction outside organization, WC = Work conditions, Er = Ergonomics, SS= Social support, PD=Physical distance, TI=Task identity, JC=Job complexity.

Table 10. (Continued)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
PS3-K											.767						
PS4-K											.727						
PS1-K											.710						
PS2-K											.653						
TS3-T												.858					
TS4-T												.853					
TS1-T												.735					
TS2-T												.702					
FO3-S													.859				
FO2-S													.843				
FO1-S													.833				
IP1-K														.770			
IP3-K														.677			
IP4-K														.675			
IP2-K														.537			
FJ2-T															.847		
FJ3-T															.839		
FJ1-T															.735		
EU2-C																.751	
EU3-C																.730	
EU1-C																.626	
SV2-K																	.635
SV1-K																	.627
SV4-K																	.598

Note. SS=Social Support, PD = Physical demand, TI=Task Identity, JC = Job Complexity, PS = Problem Solving, TS = Significance, FO = Feedback from Others, IP – Information Processing, FJ = Feedback on the job, EU= Equipment Use, SV = Skill Variety.

In contrast to the original Morgeson and Humphrey's study, all nine autonomy variables loaded as a single factor, while items related to interdependence loaded as two factors, with loadings ranging from .781 to .885. The KMO was .823 and Bartlett's test of sphericity was significant. The first component, recognized as Initiated Interdependence, had an eigenvalue of 3.68 and accounted for 61% of total variance before rotation. After rotation both components shared 79.09% variance equally. Both Initiated Interdependence and Received Interdependence had high alpha coefficients of .862 and .860. The results of factor analysis of the interdependence are presented in Table 11 below.

Table 11. Varimax Rotated Matrix for Interdependence

	Components	
	1	2
Initiated Interdependence1	.849	
Initiated Interdependence2	.849	
Initiated Interdependence3	.842	
Received Interdependence		.781
Received Interdependence		.885
Received Interdependence		.865

The items that loaded under one factor were summated and saved as observed variables. Therefore, there were 18 work characteristics dimensions (i.e., observed variables), as opposed to 21 dimensions identified by Morgeson and Humphrey (2006) in their study. Further analyses in this study were based on these 18 observed variables.

Personality Traits Factors. The data collected using 11 items from the BFI-10 were factor analyzed using PCA. The KMO result was .596, which was below the cutoff, but Bartlett's test was significant and therefore the factor loadings were generated. The initial Eigenvalues showed that the first factor accounted for 19.67% variance. After rotation the first two factors accounted for 14.33% and 14.01% variance as shown in Table 12.

Table 12: Results of PCA Total Variance Explained for Personality Traits

<i>Factors</i>	<i>Initial Eigenvalues</i>			<i>Rotation Sums of Squared Loadings</i>		
	<i>Total</i>	<i>% of Variance</i>	<i>Cumulative %</i>	<i>Total</i>	<i>% of Variance</i>	<i>Cumulative %</i>
Extraversion	2.163	19.67	19.67	1.576	14.33	14.33
Emotional Stability	1.35	12.28	31.95	1.54	14.01	28.34
Agreeableness	1.26	11.42	43.38	1.40	12.68	41.02
Conscientiousness	1.15	10.48	53.86	1.27	11.53	52.54
Openness	1.09	9.87	63.72	1.23	11.19	63.73

After rotation five factors were retained. The factors were identified as extraversion, emotional stability, agreeableness, conscientiousness, and openness. The factor loading were all above .70 with an exception of one agreeableness. The agreeableness was measured using three items, of which, one time loaded negatively (-.634) along with emotional stability. The factor loadings for personality traits are depicted in Table 13.

Table 13. Varimax Rotated Matrix for Personality Traits

	<i>Components</i>				
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
Extraversion1	.871				
Agreeableness1		-.634			
Conscientiousness1				.702	
Emotional Stability1		.740			
Openness1					.744
Agreeableness2			.741		
Extraversion2	.775				
Conscientiousness2				.831	
Emotional Stability2		.719			
Openness2					.780
Agreeableness3			.762		

Reliability of the Instruments

Reliability estimates of each instrument were generated. The estimates are presented in Table 14. As shown, all scales had alpha levels over the acceptable cutoff, except for the BFI-10, $\alpha = .26$.

The original BFI-10 personality scales with two items per scale was developed by Rammstedt and John (2007), had obtained acceptable alphas of over .80 in other studies (see Geisler et al., 2009). A few researchers have noted the importance of reported reliability (Vacha-Haase, Kogan, & Thompson, 2000), while others have argued that reliability estimates from previous studies should be used for comparative purposes only (Pedhazur & Schmelkin, 1991) and that what is more important is the reliability coefficient for the data in hand (Vacha-Haase, Henson, & Caruso, 2002).

Table 14. Reliability of the Instruments

<i>Instruments</i>	<i>No of Items</i>	<i>Alpha Coefficients</i>	<i>95% Confidence Interval</i>	
			<i>Lower</i>	<i>Upper</i>
Whole Questionnaire	109	.889	.902	.918
WDQ ^a	77	.925	.918	.932
BFI-10 ^b	11	.260	.187	.328
CSR Orientation ^c	12	.758	.733	.779

Note. ^aWDQ = Work Design Questionnaire, by Morgeson and Humphrey (2006). ^bBFI-10 = Big Five Inventory, by Rammstedt and John (2007). ^cCorporate social responsibility orientation questionnaire adapted from Aupperle (1982) .

In this study, the decision to use the shortened version of Big Five scale was based on the scale length and its psychometric properties. For this study sample, the reliability coefficient for the personality scale was at an unacceptable level ($\alpha = .26$), possibly because the composition and variability of this study sample differed greatly from the original instrument development study sample. In the Rammstedt and John (2007) study, the participants were students at public and private universities. The participants in the present study were staff employees at a public higher educational institution, and their characteristics may have differed considerably from those of college students. The low personality scale reliability for this sample prompted omission of the personality construct from the study. Some researchers have noted psychometric weakness of personality traits (see Organ & Ryan, 1995). The hypothesized model was accordingly revised to exclude personality traits.

Common Method Variance

The CMV was first tested using Harman's single-factor test. All 100 observed variables were entered into exploratory factor analysis without rotation and constraining to one factor. The first factor accounted for only 14.55% variance, indicating sufficient variance among variables and the absence of a common method bias (Podsakoff et al., 2003). The results of the single factor test are presented in Appendix C.

Chapter Summary

Presented in this chapter were the research design, population, sampling, measurements, data collection procedure, and techniques used for data analyses. The initial validity and reliability results were also presented. The results of the analysis are presented in detail in Chapter IV.

CHAPTER IV

RESULTS

Documented in this chapter are the results of the study. In the first section, the descriptive findings (demographics, frequencies, means, and standard deviations) are presented. In the second section the results of principal component analysis and reliability estimates are reported. The final section includes results from structural equation modeling (measurement model, structural model). As explained in Chapter III, two models (i.e., reduced model and expanded model) were studied. The models were compared and the fit indices and the standardized regression coefficients are reported under the structural equation modeling section. All analyses, except for SEM were conducted using SPSS 18.0. For SEM, AMOS 19.0 was used.

Descriptive Findings

In this section, the demographic makeup of the participants (n=941) is presented. As depicted in Table 15, the majority of respondents were females (n=637, 67.7%) and white (n=761, 80.9%). The second highest ethnicity was Hispanics. Less than five percent identified themselves as multiethnic or chose not to answer the ethnicity question. Over half of the respondents were in the age range of 35 to 54 (n=488, 51.9%), and nearly one fourth were in the 55 to 64 age group (n=213, 22.6%). A majority of respondents were degree holders - associate, bachelor, master, doctorate or professional degree (n=709, 75.3%).

Table 15. Demographic Makeup of the Sample

	<i>f</i>	%
Gender		
Male	290	30.8
Female	637	67.7
Missing	14	1.5
Age		
18-25	35	3.7
26-34	170	18.1
35-54	488	51.9
55-64	213	22.6
65 and over	31	3.3
Missing	4	0.4
Ethnicity		
Black/African American	23	2.4
Asian	12	1.3
Hispanic	62	6.6
White/Caucasian	761	80.9
Native American	9	0.9
Foreign nationals/Non-US citizens	29	3.1
No Answer or Multiethnic	45	4.8
Education		
High School	63	6.7
Some College	158	16.8
Associate Degree	54	5.7
Bachelor Degree	316	33.6
Master Degree	212	22.5
Doctoral Degree	111	11.8
Professional Degree	16	1.7
Missing	11	1.2

The respondents' years of service and their unit of affiliation is shown in Table 16. Among those who volunteered the information on years of service at the institution, over forty percent of the respondents indicated having over 10 years of service with the institution (n=452, 48.0). Although the respondents were mainly associated with the

colleges within the university (28.7%), a noticeable number of them reported having responsibilities with more than one unit (n=129, 13.7%).

Table 16. Type of Affiliation of Sample

	<i>f</i>	%
Years of Service at the institution		
Less than 6 months	20	2.1
6 months to a year	60	6.4
2-5 years	237	25.2
6-10 years	171	18.2
More than 10 years	452	48.0
Missing	1	0.1
Unit type		
University Colleges	270	28.7
Academic Affairs	168	17.9
Division of Operations, Facilities, Safety	89	9.5
Division of Finance	65	6.9
Student Affairs	68	7.2
Marketing government relations	24	2.6
Athletics	9	0.9
Multiple responsibilities	129	13.7
Agencies and Extensions	110	11.7
Missing	9	0.9

The mean and standard deviation for the observed work characteristics latent constructs are provided in Table 17. The observed scores from WDQ that loaded under a factor were summated and saved as a scale. For example, the scores of all autonomy items were summated and saved as a single scale [AU1+AU2+...AU9 = AU]. The item-wise mean, standard deviation, and alpha if item deleted for each of the 77 work design

questionnaire items, and 12 corporate social responsibility orientation items appears in Appendix D.

Table 17. Means and Standard Deviations for Exogenous and Endogenous Constructs.

	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>
Task characteristics				
Autonomy (AU)	1.00	5.00	4.04	.856
Task variety (TV)	1.00	5.00	4.21	.788
Task significance (TS)	1.00	5.00	3.77	.859
Task identity (TI)	1.00	5.00	3.61	.934
Feedback from job (FJ)	1.00	5.00	3.53	.921
Knowledge characteristics				
Job complexity (JC)	1.00	5.00	4.10	.788
Information processing (IP)	1.00	5.00	4.39	.602
Problem solving (PS)	1.00	5.00	3.84	.807
Skill variety (SV)	1.00	5.00	4.26	.679
Specialization (Sp)	1.00	5.00	3.93	.816
Social characteristics				
Social support (SS)	1.00	5.00	3.97	.658
Interdependence (ID)	1.00	5.00	3.61	.797
Interaction outside (IO)	1.00	5.00	3.40	1.038
Feedback from others (FO)	1.00	5.00	3.16	.989
Contextual characteristics				
Ergonomics (Er)	1.00	5.00	3.29	.621
Physical demand (PD)	1.00	5.00	1.96	.968
Work conditions (WC)	1.00	5.00	3.65	.781
Equipment use (EU)	1.00	5.00	3.15	.966
CSR Orientation				
CSRO Profit (CSRP)	1.00	5.00	3.65	.778
CSRO Legal (CSRL)	2.00	5.00	4.77	.460
CSRO Ethical (CSRE)	1.67	5.00	4.45	.588
CSRO Philanthropic (CSRDP)	1.00	5.00	3.41	.967

As indicated in Table 17, the majority of the respondents agreed that their job allowed for autonomy (mean = 4.04) and had variety (mean = 4.21). In other words, respondents indicated that their jobs had flexible schedules and/or decision making freedom. The majority of the respondents identified their job as complex (mean = 4.09) and requiring information processing skills (mean = 4.39).

Table 17 also provides the mean and standard deviation for the CSRO constructs and as depicted, a majority of the respondents assigned high importance to responsibility towards legal compliance (mean = 4.77), closely followed by ethical activities. The employees of the studied educational institution appear to assign equal importance to profit and philanthropic activities. Since the personality constructs were no longer part of the model, the means and standard deviation of personality variables were not reported.

Results of Principle Component Analysis

As reported in Chapter III under the initial results section, the work design instrument with 77 items was factor analyzed and 18 factors were extracted and retained (the Interdependence factor was split into Initiated and Received Interdependence). These factors were summated and saved as work characteristics variables. The variables were factor analyzed to uncover the latent constructs (i.e., higher order factors) using PCA. The KMO was .814 and Bartlett's test of sphericity was significant indicating that the data was factor analyzable. The commonality coefficients were greater than .40 (Falk & Miller, 1992). The PCA generated five factors. The total variance explained is presented in Table 18. The first factor identified as KC accounted for 25.14 percent of the variance, and along with the second factor identified as TC accounted for 37.35

percent of the variances. After rotation, the first two factors accounted for 32.93 percent of the variances. In the original instrument, Morgeson and Humphrey (2006) performed confirmatory factor analysis using multiple models: 4-factor, 18-factor, 19-factor (interdependence split), 20-factor (autonomy split) and 21-factor model (both autonomy & interdependence split). As they performed CFA, total variance and factor structure was not reported.

Table 18. Results of PCA Total Variance Explained for Exogenous Constructs

<i>Factors</i>	<i>Initial Eigenvalues</i>			<i>Rotation Sums of Squared Loadings</i>		
	<i>Total</i>	<i>% of Variance</i>	<i>Cumulative %</i>	<i>Total</i>	<i>% of Variance</i>	<i>Cumulative %</i>
KC	4.527	25.148	25.148	3.642	20.233	20.233
TC	2.197	12.208	37.352	2.286	12.702	32.936
SS	1.471	8.170	45.526	1.662	9.233	42.168
CC	1.427	7.930	53.456	1.618	8.987	51.155
ID	1.157	6.425	59.881	1.571	8.726	59.881

Note. KC=Knowledge characteristics, TC=Task characteristics, SS = social characteristics, CC= contextual characteristics, ID=interdependence.

The results of the rotated factor loadings matrix using varimax for exogenous constructs are reported in Table 19. The factor loadings were slightly different from the Morgeson and Humphrey's study, but all 18 variables loaded over .40 (Tabachnick & Fidell, 2007). Task variety, was hypothesized as a TC dimension, but for this data, it loaded along with the knowledge characteristics variables. *Feedback from Others* which was categorized as SC in the original study, loaded along with autonomy, task identity,

and feedback from job which are TC variables. The SC variables behaved erratically compared to results of Morgeson & Humphrey (2006). For instance, social support and interaction outside the organization loaded together, along with task significance (which was originally a TC dimension).

Table 19. Varimax Rotated Matrix of Factor Loadings for Exogenous Constructs

	<i>Components</i>				
	<i>1. KC</i>	<i>2. TC</i>	<i>3. SC</i>	<i>4. CC</i>	<i>5. ID</i>
Autonomy		.580			
Task variety	.544				
Significance			.625		
Task identity		.662			
Feedback from job		.759			
Job Complexity	.755				
Info Processing	.772				
Problem Solving	.723				
Skill Variety	.795				
Specialization	.794				
Social Support			.496		
Received Interdependence					.855
Initiated Interdependence					.846
Interaction outside Org			.799		
Feedback from Others		.679			
Work Conditions		.418		-.592	
Equipment Use				.678	
Physical Demand				.776	

Note. Extraction: Principal component analysis. KC = Knowledge characteristics, TC = Task characteristics, SC = Social characteristics, CC = contextual characteristics, ID = Interdependence.

The two interdependence variables (Initiated and Received Interdependence) loaded as a separate fifth factor. Work conditions had double loadings – it loaded along with the TC variables with a low loading of .418 and it had negative loading of -.592 with its counterparts under contextual characteristics. Work condition is theoretically a dimension of contextual work characteristics and therefore was retained under contextual characteristics. Only the first four factors were retained, that is KC, TC, SC, and CC.

As for the endogenous variables, the KMO was 0.768 and Bartlett's test was significant. The first factor identified as CSR legal orientation accounted for 30.75% of variance before rotation and 19.94% after rotation. The four factors were identified as legal, philanthropic, profit, and ethical CSRO. The results of PCA total variance explained and varimax rotated matrix are reported in Tables 20 and 21.

Table 20. Results of PCA Total Variance Explained for Endogenous Constructs

<i>Factors</i>	<i>Initial Eigenvalues</i>			<i>Rotation Sums of Squared Loadings</i>		
	<i>Total</i>	<i>% of Variance</i>	<i>Cumulative %</i>	<i>Total</i>	<i>% of Variance</i>	<i>Cumulative %</i>
CSRO Legal	3.691	30.757	30.757	2.394	19.949	19.949
CSRO Philo	1.957	16.310	47.067	2.262	18.850	38.799
CSRO Profit	1.816	15.131	62.198	1.995	16.622	55.421
CSRO Ethical	1.044	8.697	70.895	1.857	15.473	70.895

Table 21. Varimax Rotated Matrix for CSRO Constructs

	<i>Component</i>			
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
CSR Profit1			.846	
CSR Profit2			.808	
CSR Profit3			.763	
CSR Legal1	.853			
CSR Legal2	.838			
CSR Ethical1				.629
CSR Ethical2				.841
CSR Ethical3				.752
CSR Philanthropic1		.846		
CSR Philanthropic 2		.853		
CSR Philanthropic 3		.833		
CSR Legal3	.897			

Note. Extraction - principle component analysis

Reliability Estimates

The reliability estimates for each for the exogenous and endogenous constructs obtained from the factor analysis results are reported in Table 22. In general, the alpha coefficients for the latent work characteristics constructs ranged from .386 to .833. The KCs had the highest alpha levels ($\alpha=.833$). When internal consistency is above 0.80, the level of clinical significance of the measure is considered good (Cicchetti, 1994). The TC and SC with 4 and 3 items respectively had reliabilities of .64 and .54. The CC construct had unacceptable alpha levels and was eliminated from further analysis.

Table 22. Reliability of the Latent Endogenous and Exogenous Constructs

<i>Instruments</i>	<i>No of Items</i>	<i>α</i>	<i>95% Confidence Interval</i>	
			<i>Lower</i>	<i>Upper</i>
Reduced work characteristics	18*	.774	.752	.794
Task characteristics	4	.642	.603	.678
Knowledge characteristics	6	.833	.816	.849
Social characteristics	3	.540	.486	.588
Contextual characteristics	3	.386	.315	.451
CSR Orientation	12	.757	.733	.779
Profit CSRO	3	.736	.706	.764
Legal CSRO	3	.865	.850	.880
Ethical CSRO	3	.653	.613	.690
Philanthropic CSRO	3	.827	.807	.847

Note. *This included initiated and received interdependence which loaded as a separate factor and was excluded.

Also shown in Table 22 are the reliability estimates for the CSRO constructs.

The profit, legal and philanthropic CSR constructs had above average alpha levels. CSR ethical orientation alpha coefficient was 0.653. Although the cutoff for this study was .70, TC ($\alpha=.64$), SC ($\alpha=.54$), and ethical CSRO ($\alpha=.65$) constructs were retained because Cicchetti noted that with respect to intraclass correlation coefficients, the guideline is that “when the reliability coefficient is below .40, the level of clinical significance is poor; when it is between .40 and .59, the level of clinical significance is fair; when it is between .60 and .74, [and] the level of clinical significance is good...” (p. 286). In addition, Schmitt’s (1996) argued that low reliability coefficients may not be an impediment to using a measure as long as the measure has good properties such as content coverage. Hence, with the exception of contextual characteristics, the rest of the

constructs were used for further analysis as they have good context coverage. Fan and Thompson (2001) suggested that the reliability coefficients be reported along with confidence intervals and interval estimation methods used, in order to reinforce the reader “that all statistical estimates, including those for score reliability, are affected by sampling error variance” (p. 528). Therefore the alpha coefficients reported in Table 22 include number of items per scale, the alpha coefficients and lower and upper bound confidence interval estimates.

The reliability estimates for 18 work characteristics factors (validity is reported in Chapter III under the initial analysis section) were also performed and are reported in Table 23. With the exception of ergonomics ($\alpha=.648$), all variables had alpha levels above the cutoff of 0.70 (entire instrument $\alpha=.889$). Ergonomics had three observed variables and the third ergonomic item was reverse coded. This third item question was to indicate agreement to the statement: ‘the job involves excessive reaching’, and when this item was removed the alpha level elevated to 0.835. Ergonomics items loaded along with the work conditions (refer to Table 11 in Chapter III). The Cronbach’s alpha for combined ergonomics and work condition items based on the factor loadings was .824.

In addition to alpha levels, item wise analysis were conducted to identify the best items from a set of observed variables (refer Appendix D). According to Blunch (2008) good items require: (i) large variance; (ii) an average mean and standard deviation and; (iii) to correlate positively and evenly. Items that have extreme mean and/or standard deviation are considered poor). Based on these norms, one item each in

ergonomics (Er3-C), skill variety (SV3-K), and social support (SS4-S) factors were marked for exclusion if they showed instability during model testing.

Table 23. Reliability of the Work Characteristics in the Expanded Model

<i>Scales</i>	<i>No of Items</i>	<i>α</i>	<i>95% Confidence Interval</i>	
			<i>Lower</i>	<i>Upper</i>
Autonomy	9	.952	.947	.956
Task variety	4	.946	.941	.952
Task significance	4	.856	.840	.870
Task identity	4	.887	.875	.898
Feedback from job	3	.903	.891	.913
Job complexity	4	.856	.841	.871
Information processing	4	.847	.830	.862
Problem solving	4	.817	.797	.835
Skill variety	4	.917	.908	.925
Specialization	4	.889	.876	.900
Social support	6	.829	.811	.845
Initiated Interdependence	3	.862	.846	.876
Received Interdependence	3	.860	.844	.875
Interaction outside	4	.919	.910	.927
Feedback from others	3	.913	.903	.922
Ergonomics	3	.648	.607	.685
Physical demand	3	.970	.967	.973
Work conditions	5	.782	.760	.804
Equipment use	3	.784	.759	.807

As discussed in Chapters II and III, both reduced and expanded models were tested. The reduced model consisted of 3 exogenous latent constructs (task, knowledge and social) and 4 endogenous (profit, legal, ethical, and philanthropic CSRO) constructs. The expanded model consisted of 18 work characteristics constructs and the same set of

endogenous variables. Structural equation modeling analysis was performed on both models to investigate the relationships between exogenous and endogenous variables.

Structural Equation Modeling

In this section, the procedures and results of structural equation modeling (SEM) are presented. SEM was conducted in two stages (Blunch, 2008) and the results are presented here accordingly. First, the measurement models goodness of fit results are presented for both the reduced model and expanded model, followed by fit indices results for the structural models.

Measurement Model

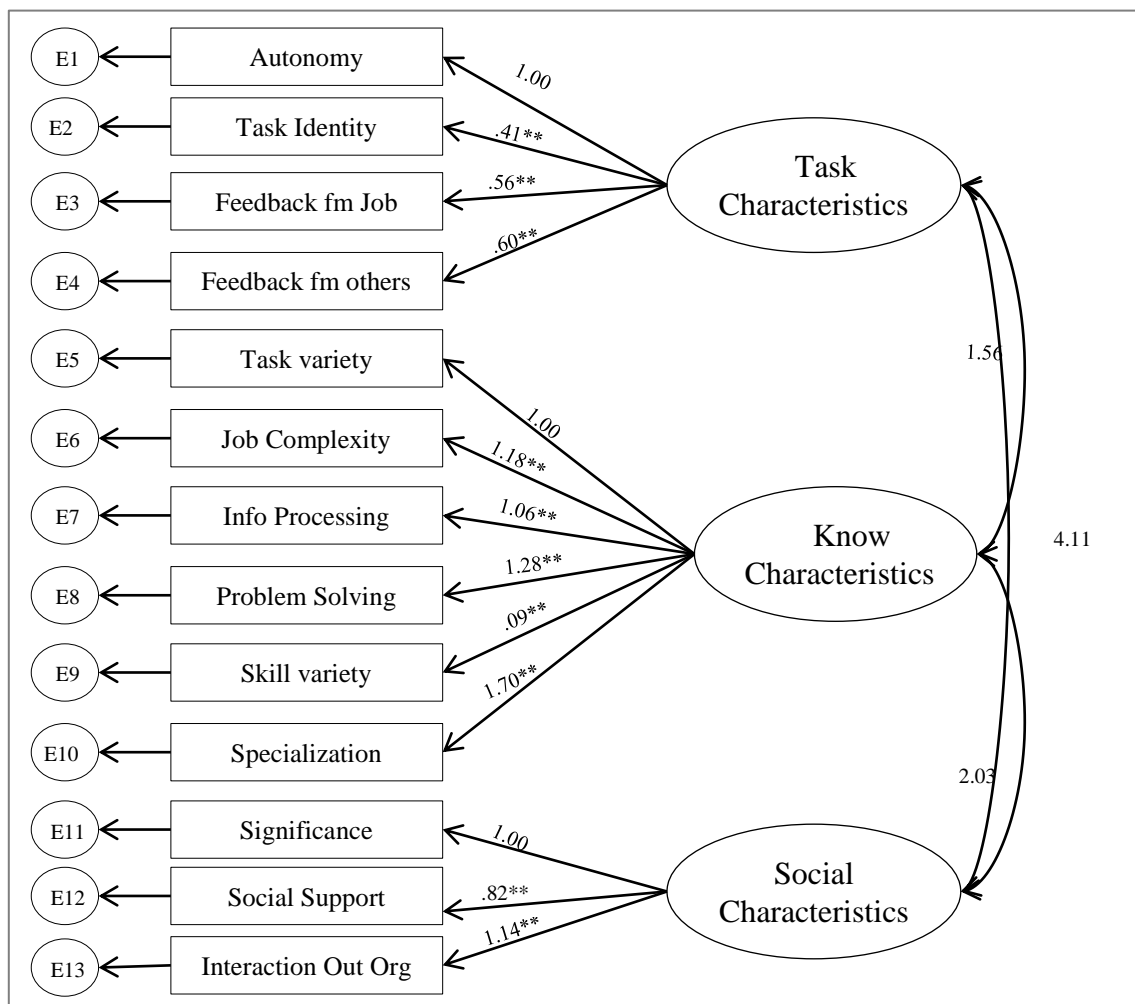
The measurement model describes the connection among the latent constructs and the manifest indicators (Blunch, 2008). The validity of two measurement models were evaluated using AMOS 19.0. The summated scale scores based on the factor analysis results served as measured indicators for the work characteristics reduced constructs (task, knowledge, and social characteristics), and expanded constructs (i.e., autonomy, task variety, job specialization, interaction outside the organization, work condition, social support, physical demand of job, task identity, job complexity, problem solving, task significance, feedback from others, information processing, feedback on the job, information processing, feedback from others, equipment use, skill variety, and job interdependence). The reduced measurement model is depicted in Figure 5. The expanded measurement model is not shown here because of large number of variables.

Model Specification. In the path diagram created using AMOS, the latent constructs were represented in circular form and observed variables in rectangular form. Error terms were added to the observed variables.

Model Identification. The models were identified by the following:

- i. First, the *t-rule* was met (i.e., the number of data points should be larger than the number of parameters to be estimated). The data points or distinct sample moments as noted in AMOS output, was calculated using $p(p+1)/2$, where p is number of observed variable. As in the case of the reduced model, the number of distinct sample moments was 210 and parameters to be estimated 77. For the expanded model, initially the degrees of freedom were 2146.
- ii. The error terms were not correlated during model identification (error terms are not measured, but by default in AMOS the coefficients for error terms are set to 1 and the variances are estimated).
- iii. Each latent construct were assigned a scale a priori by constraining one indicator per construct to 1. The parameter for the constrained indicator is thus not estimated (Blunch, 2008).

Figure 5. Reduced Measurement Model



** $p < .0001$

Estimation and Model Re-Specification. Maximum likelihood estimation was used. As shown in Table 24, the overall chi-square for the unmodified reduced model was 519.224 with 62 degrees of freedom. The model was initially under-identified as the degrees of freedom were large indicating there are many possible solutions. The p value remained at .000. One of the caveats in SEM procedure is the hypothesis testing

principle is reversed in SEM. That is, the null hypothesis in SEM states that the model *fits* the data (Blunch, 2008). Therefore, in a perfect fit model the null hypothesis is accepted. For this data, both of the measurement models had the p values of .000 because of the large sample size (n=941). As it is known, the χ^2 -test is sensitive to large sample sizes and therefore ignored (Blunch, 2008; Kline, 2010). Since the models required re-specification, at this point onward, any modifications to the model based on modifications indices, is considered as an exploratory stage.

The model was pruned based on the AMOS outputs. The ethical CSRO showed high residual variance and was removed from the model. The error terms with the same constructs were allowed to covary freely. There were no theoretically correct modification indices to implement further, and the model was considered fit when the relative chi-square was within the range of 1.00 to 3.00 (Schumacker & Lomax, 1996), $CFI \geq .90$, and root-mean-square approximation was below the cutoff of less than .05 ($\chi^2 = 262.293$, $\chi^2/df = 1.972$, $CFI = .979$, $TLI = .974$, and $RMSEA = .034$). The increase in degrees of freedom from 62 to 133 is due to added covariance between the error terms. Although the standardized root mean square residual (SRMR) was over the general cut-off value of .08 (Browne & Cudeck, 1993), the model was considered fit as at least three other fit indicators had acceptable values. The fit summaries for the reduced measurement model appear in Table 24.

For the expanded model, due to the large number of variables, numerous steps were taken to attain adequate goodness-of-fit. Once again the error terms within the same constructs were allowed to covary. The variables that showed high residual

variance such as social support (SS5), skill variety (SV3), and autonomy (AUS1, AUM3, AUD1) were deleted. The latent constructs work conditions (WC) were also removed as they showed considerable variance with job specialization, and task variety. The pruned model, the distinct sample moments was 1128 and the number of parameters to be estimated were 178. The chi-square however was still above the cut-off (2611.27) because of large number of variables. After the above actions, the fit statistics reached acceptable levels ($\chi^2/df = 2.749$, SRMR = .043, TLI = .945, CFI=.952, RMSEA = .043). Therefore, the expanded model was judged to be a fit model for the data in this study as presented in the Table 24.

Table 24. Measurement Models Fit Results

<i>Models</i>	χ^2	<i>df</i>	<i>p</i>	χ^2/df	<i>SRMR</i>	<i>TLI</i>	<i>CFI</i>	<i>RMSEA</i>
Unmodified Reduced Model	519.224	62	.000	519.22	1.141	.841	.874	.089
Reduced Model	262.293	133	.000	1.972	.132	.974	.979	.034
Unmodified Expanded Model	6181.128	2146	.000	2.880	.048	.910	.917	.045
Expanded Model	2611.27	950	.000	2.749	.043	.945	.952	.043

Note. SRMR = Standardized Root Mean Square Residual; TLI = Tucker-Lewis coefficient; CFI = Comparative Fit Index; RMSEA = root mean square error of approximation.

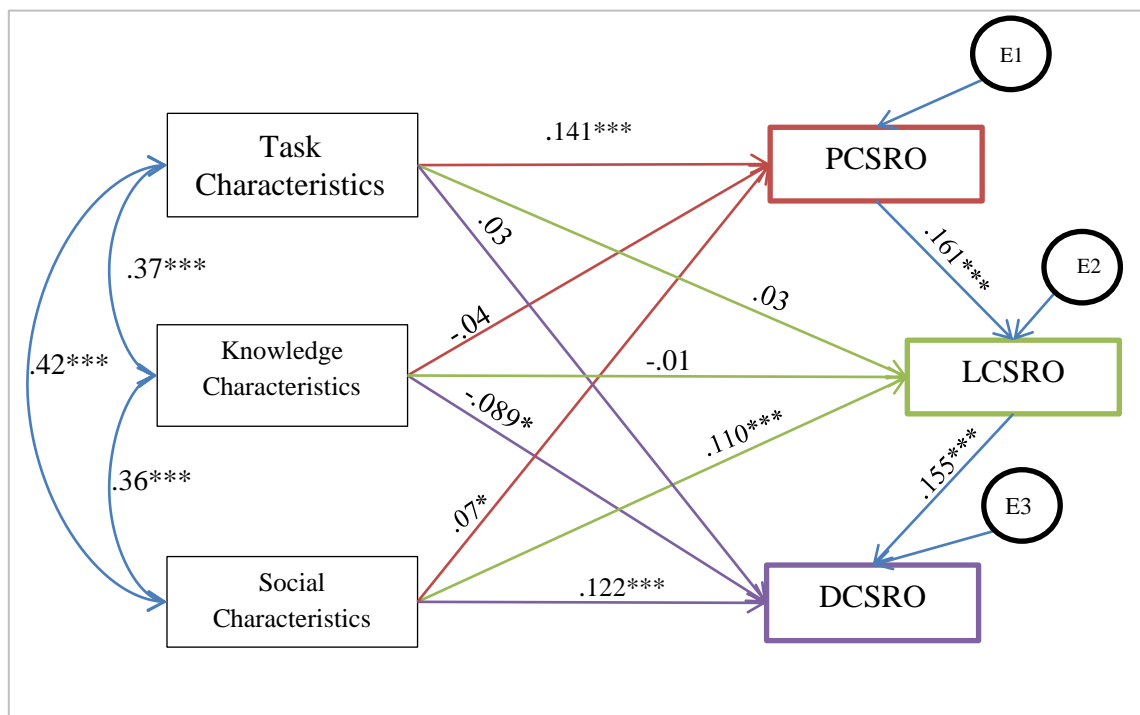
Structural Model

The structural model describes the relationships between the latent variables and in the structural model, the measurement model and hypothesized path model are

combined (Blunch, 2008). The unmodified reduced model included 3 exogenous variables (task, knowledge and social characteristics) and 3 endogenous variables (profit, legal and philanthropic CSRO). There were 21 distinct data points, 18 parameters to be estimated, and thus degrees of freedom were equal to 3. The chi-square value was 52.809 at the probability level of .000. The path coefficients (also called regression weights in AMOS output) were examined first. The standardized coefficients were small between the range of .03 and .14. The insignificant paths were deleted. The path between TC and profit CSR was significant ($\beta = 0.141, p < .000$). Therefore, *Hypothesis 1a was supported*. The remaining paths from TC to legal ($\beta=0.03$) and philanthropic CSRO ($\beta=0.03$) were not significant and thus, *Hypothesis 1b and 1c were not supported*. The path between KC and discretionary CSRO was significant ($\beta = -.089, p < .009$), and thus, *Hypothesis 2d was supported*. The remaining paths from KC and the CSRO dimensions were not significant and thus *Hypothesis 2a and 2b were not supported*. The paths between SC and the two CSRO constructs (i.e., legal and philanthropic CSRO) were significant. Therefore, *Hypothesis 3b and 3d were supported*. The fit summaries for the un reduced model are presented in Tables 25 and 26, and the model with standardized regression coefficients is provided in Figure 6.

After deleting the insignificant paths, the model fit indicators were re-generated. The modification indices suggested new paths from profit CSRO to legal CSRO and further to philanthropic CSRO were added. It is to be noted that these new paths between the endogenous variables are not causal paths, rather it implies the participants' response to these variables were similar.

Figure 6. Structural Reduced Model with Standardized Coefficients.



*** $p < .001$. * $p < .05$ PCSRO = Profit CSRO, LCSRO = Legal CSRO, DCSRO = Philanthropic CSRO.

Since this stage of the study was exploratory, the inclusion of the new paths was deemed appropriate and informed by the literature. The chi-square changed to 6.544 with a significance level of .254. The final reduced model was considered a good fit for this study data ($\chi^2/df = 1.309$, SRMR = .018, GFI = .998, TLI = .986, CFI = .995, RMSEA = .018). The goodness-of-fit indicators for the new modified models are listed in Tables 25 and 26.

Table 25. Model Summaries for Reduced and Expanded Structural Model

<i>Models</i>	<i>Data points</i>	<i>Para-meters</i>	χ^2	<i>df</i>	<i>p</i>	<i>CMIN/df</i>
Unmodified reduced model	21	18	52.809	3	.000	17.603
Final reduced model	21	16	6.544	5	.254	1.309
Unmodified expanded model	231	228	51.908	3	.000	17.303
Final expanded model	120	97	69.850	23	.000	3.037

Note. χ^2 = model chi-square; CMIN = minimum discrepancy; *df*=degrees of freedom

Table 26. Fit Indices for Reduced and Expanded Structural Model

	<i>SRMR</i>	<i>GFI</i>	<i>TLI</i>	<i>CFI</i>	<i>RMSEA</i>	<i>PCLOSE</i>
Unmodified reduced Model	.053	.980	.236	.847	.136	.000
Final reduced Model	.018	.998	.986	.995	.018	.940
Unmodified expanded Model	.007	.994	.308	.990	.132	.000
Final expanded Model	.013	.990	.923	.983	.047	.654

Note. SRMR = Standardized Root Mean Square Residual; GFI=Global fit index; CFI=Comparative Fit Index, TLI= Tucker-Lewis coefficient; RMSEA = root mean square error of approximation; PCLOSE=p value for test of closeness of fit.

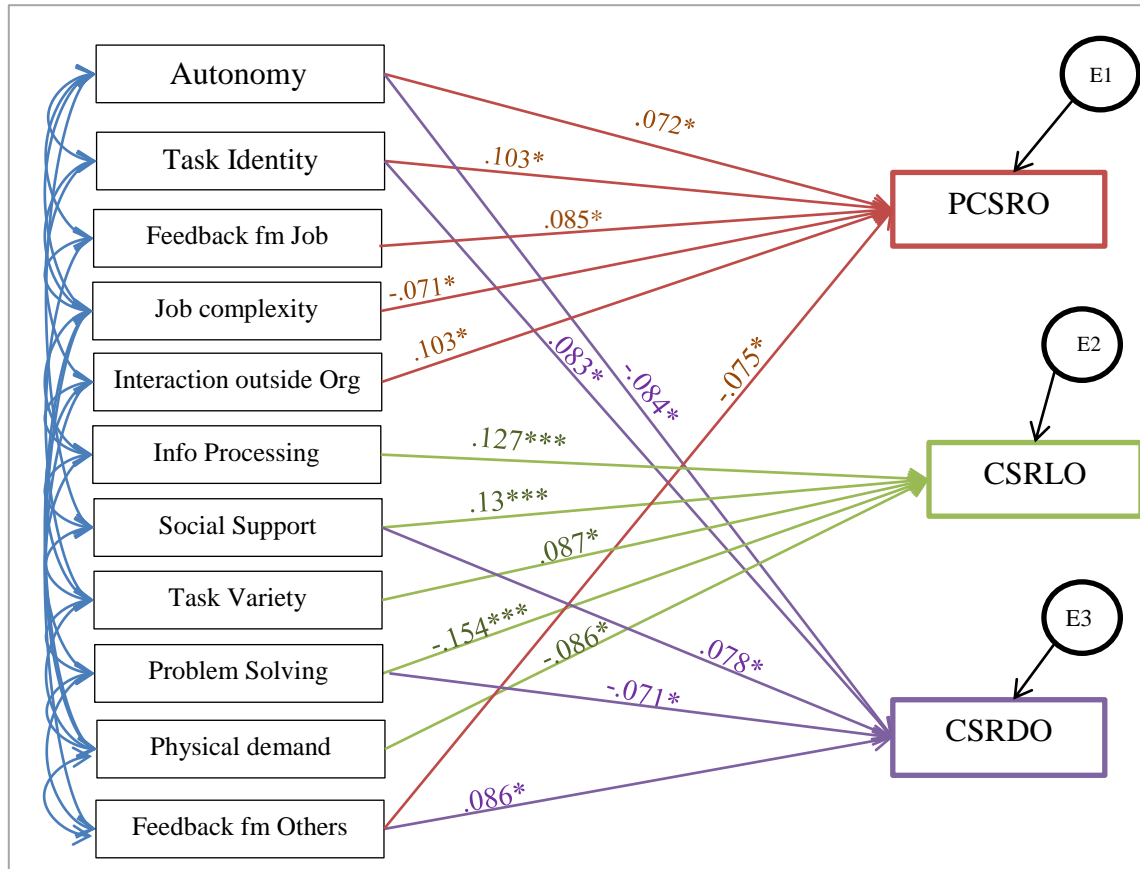
Also reported in Tables 25 and 26 are the fit summaries and indicators for the expanded model. After adjustments during the measurement model fit, the expanded model contained 15 exogenous variables (interaction outside the organization, feedback from other, autonomy, task variety, task significance, task identity, feedback on the job, problem solving, information processing, skill variety, specialization, social support,

interdependence, and physical demand of the job) and 3 endogenous variables (CSRO profit, legal and philanthropic orientation). There were 231 distinct data points, 228 parameters to be estimated, and thus degrees of freedom were equal to 3. The chi-square value was 51.908 at the probability level of .000. Also the CMIN was above the 5.0 cutoff. As shown in the fit summary table, the relative chi-square was high and the fit indices were not good ($\chi^2/df = 17.303$, TLI = .308, CFI=.990, RMSEA = .132) expect for CFI. Once again the insignificant paths were removed. The final path model for the expanded work characteristics variables and CSRO dimensions are presented in Figure 7.

After deletion of insignificant paths, the goodness-of-fit indicators were generated. The holistic fit evaluation of the goodness-of-fit indicators suggested that the final expanded model was a good fit for this study data ($\chi^2=69.85$, $\chi^2/df=3.037$, SRMR=.013, GFI=.990; CFI=.983; RMSEA=.047). The path between profit CSRO and autonomy ($\beta = .072$, $p < .05$), task identity ($\beta = .103$, $p < .05$), feedback from job ($\beta = .085$, $p < .05$), job complexity ($\beta = -.071$, $p < .05$), interaction outside the organization ($\beta = .103$, $p < .05$), and feedback from others ($\beta = -.075$, $p < .05$) were significant. Therefore, *Hypotheses H1a1, H1a4, H1a5, H2a3, and H4a2* were supported.

For legal CSRO the paths from Task Variety ($\beta = .087$, $p < .05$), Information Processing ($\beta = .127$, $p \leq .001$), Problem Solving ($\beta = -.154$, $p < .001$), Social Support ($\beta = .13$, $p < .001$), and Physical Demand ($\beta = -.086$, $p < .05$) were significant. Therefore *hypotheses H1b2, H2b2, H2b5, and H3b3* were supported. The path between physical demand and legal CSRO was not hypothesized.

Figure 7. Final Expanded Model with Standardized Coefficients.



*** $p < .001$. * $p < .05$ PCSRO = Profit CSRO, LCSRO = Legal CSRO, DCSRO = Philanthropic CSRO

For Philanthropic CSRO the path from Autonomy ($\beta = -.084$, $p < .05$), Task Identity ($\beta = .083$, $p < .05$), Problem Solving ($\beta = -.071$, $p < .05$), Feedback from Others ($\beta = .086$, $p < .05$), and Social Support ($\beta = .078$, $p < .05$) were significant. Therefore, *Hypotheses H1d1, H1d4, H2d5, H2d2, and H3d3* were supported.

Regression analysis was used to determine the degree of predictability of exogenous constructs. The correlation between both reduced (TCs, KCs, SCs, CCs) and CSRO dimensions, and between expanded work characteristics variables (autonomy, task variety, specialization, interaction, work condition, social support, physical demand, task significance, job complexity, problem solving, task significance, feedback from other, information processing, feedback from job, equipment use skill variety, interdependence) and CSRO dimensions were investigated. The results of regression analysis appear in Appendix F.

Chapter Summary

Presented in this chapter are the data analyses results. Information concerning description of the sample, validity, reliability measures, and results from structural equation modeling were presented. The study sample included 941 incumbents of a public institution in Texas. The descriptive data indicated that over three fourths of the participants were white and held an educational degree. The majority of the incumbents indicated that their job had variety and allowed for autonomy. The main findings were that TCs were found to have significant positive relationships with profit orientation, and the KCs were found to have significant negative relationships with legal orientation. The discussions, conclusions and recommendations for future research are presented in Chapter V.

CHAPTER V

DISCUSSIONS, CONCLUSIONS, LIMITATIONS, AND RECOMMENDATIONS

This chapter is divided into four main sections. In the first section, labeled as Discussion, the results that were presented in Chapter IV are discussed in comparison with similar studies published in the literature. In the second section, labeled as Conclusions, the study conclusions are presented. The Study Limitations and Strengths are discussed in the third section. In the fourth section, labeled as Study Implications, the implications for HRD and Public Administration research and practices are discussed. The chapter concludes with Recommendations for future research and development.

Discussion

The goals of this research were to (a) determine the relationships between work characteristics factors and Corporate Social Responsibility Orientation (CSRO) dimensions; (b) assess the moderating effects of personality traits on CSRO dimensions as depicted in the conceptual model.

The work design-CSR research model that was originally proposed was modified to exclude personality traits due to a lack of scale stability, however, a second model with expanded work characteristics variables (referred to as the expanded model) was also tested. The results of the final structural path model of the hypothesized relationships among work characteristics and CSRO dimensions are discussed below. The ethical CSRO variable was deleted from the model during confirmatory factor analysis due to large residual variance and therefore the 'c' category hypotheses (e.g.,

H1c1, H2c3, etc.) were not tested. The findings of hypotheses testing were interpreted as follows:

Hypothesis 1: TC will be significantly related to (a) profit CSRO, (b) legal CSRO, (c) ethical, and (d) philanthropic CSRO.

The paths between TC and the three CSRO dimensions were expected to be significant. The path between TC and profit CSRO was significant ($\beta = .141$, $p < .001$) and thus confirming Hypothesis 1a. The remaining paths were not significant. This implies that the task characteristic has a positive link to individual attitudes towards profit making responsibility, but did not have any association to legal or philanthropic orientation.

The TCs are primarily concerned with the ways work is accomplished (Hackman & Oldham, 1975) and hence it is expected to have an a link to profit CSRO. A possible reason for insignificant paths between TC and legal and philanthropic CSRO may be attributed to a difference in the factor structure for the task characteristic construct from the structure found in the literature (Morgeson & Humphrey, 2006). For this study sample, the factor structure for TC included the Autonomy, Task Identity, Feedback on the Job and Feedback from Others. Task Significance and Task Variety did not load with TC as indicated in the literature. Some researchers have noted high covariance among the work characteristics (Chen, & Kao, 2011) and this may help explain the difference in factor structure from the original study. Also, the wording of the questions can be confusing for those who hold fluid jobs that have less defined boundaries. For example, the wording for *feedback from the job* questions and *feedback from others* were similar

sounding and may have resulted in similar response from the participants. That is, FJ1 item, *the job itself provides me with information about my performance*, and FO3 item; *I receive feedback on my performance from other people in my organization*. In other words, a job designed to provide feedback either during performance or through coworkers/supervisors may have evoked similar responses from incumbents with high interdependence jobs. The results however have to be accepted with caution because the TC construct had a reliability estimate of .65. Many of the variables in the construct also showed considerable variance with variables in other constructs. Hence, the direct relationships among the work characteristics (expanded) variables and CSRO were explored.

It was also hypothesized that Autonomy (H1a1, b1, d1) and Task Significance (H1a4, b4, d4) would be significantly associated with CSRO dimensions. H1a1, and H1d1, were supported. That is, Autonomy was positively related to profit CSRO and negatively related to philanthropic CSRO. The positive relationship with profit CSRO is consistent with previous findings on Autonomy, as it is considered the most consistent predictor of range of behavioral and attitudinal outcomes (Humphrey, Nahrgang, & Morgeson, 2007). The negative relationship with philanthropic CSRO was not expected, although some researchers have found that autonomy had no link to citizenship behavior (Chiu & Chen, 2005) and that sometimes providing individuals the freedom can have a negative association to performance (Chua & Iyengar, 2008). A possible explanation is that philanthropic orientation is considered discretionary activity, that is, actions that go beyond the boundaries of what is expected of organizations. The discretionary nature of

the activity can have a negative association to performance because when incumbents have the freedom to enact on the behalf of their organization and shareholders, the incumbent may become overly cautious of their discretionary decisions as they are accountable for their actions.

It was also hypothesized that Task Significance (H1a4, b4, d4) will be significantly associated with CSRO dimension. Contrary to recent findings by Grant (2008c), task significance had no association to CSRO dimensions. That is, these hypotheses related to Task Significance (i.e., H1a4, H1b4, and H1d4) were not supported. Although assumed, based on Grant's work, this result was not a surprise because, prior to Grant's work, researchers have commented on the poor predictability of task significance (Dodd & Ganster, 1996). Task significance is defined as the impact of one's task on others and was expected to be significant predictor because the meaningfulness of one's job was likely to be linked to responsible behavior (Turban & Greening, 1997). Some researchers have observed that task significance had consistently emerged as one of the weakest measures of work outcomes (Dodd & Ganster, 1996; Fried & Ferris, 1987). A weak link between task significance and performance was also noted in meta-analysis studies (Humphrey, Nahrgang, & Morgeson, 2007).

It was also hypothesized that Task Variety (H1b2) and Task Identity (H1b3) will be significantly associated with legal CSRO. H1b2 was supported, while H1b3 was not supported. That is, Task Variety had a significant path to legal CSRO ($\beta=.08$, $p<.05$). Task Variety, defined as the degree to which individuals are expected to accomplish a variety of tasks has in the past been linked to performance (Humphrey, Nahrgang, &

Morgeson, 2007). Legal compliance is a responsibility that is expected of an organization, and thus individuals performing jobs that expect a variety of task accomplishments were also inclined towards legal compliance. Job design that is high in task variety requires multitasking abilities, and therefore, it is no surprise that task variety is related to legal CSR orientation. Task Identity, defined as a characteristic that is related to one's pride in one's work (Sims, Szilagyi, & Keller, 1976), was also expected to be related to legal CSRO. Instead, it showed significant relationships with profit and philanthropic CSRO which was not hypothesized. This result is consistent with studies on task identity characteristics that have shown to cause variance in altruism (a concept similar to philanthropic CSRO) and in compliance (Farh, Podsakoff & Organ, 1990).

Finally, the hypothesis on Feedback from the job (H1d5) to Philanthropic CSRO was not supported. This is consistent with Chiu and Chen's (2005) findings on relationships between feedback from job and citizenship behaviors. A new path from this variable to Profit CSRO emerged. Feedback from job is defined as the degree to which the job provides direct and clear information (Oldham & Hackman, 2010), has been shown to be related to job performance. As Grant and Parker noted, "feedback interventions were more likely to increase job performance" (p. 335) especially for tasks that are well defined as in case of most jobs in public educational institutions. Therefore, this link to profit orientation supports theoretical assumptions.

Hypothesis 2: Knowledge characteristics will be significantly related to (a) profit CSRO, (b) legal CSRO, (c) ethical, and (d) philanthropic CSRO.

The three paths between KC and each of the CSRO dimensions were expected to be significant. Hypothesis 2 was partially supported. That is, the path between KC and philanthropic CSRO was significant, but the standardized coefficients were negative. The negative path indicated that with every increase in KC, philanthropic CSRO dropped by .07. Although this is not a surprise, as Chen and Kao (2011) found no *direct* relationship between KCs and citizenship behavior, the negative association is a new finding. A possible explanation for the negative association between KC and CSRO could be that when the job is cognitively demanding, the discretionary behavior may be viewed as a distraction. Some researchers have noted that high cognitive demands can motivate employees and enrich the work (Campion, 1988; 1989), but for the present study sample, knowledge had no association to attitudes towards profit or legal compliance.

KCs are the competencies (knowledge, skills and abilities) required to perform a job successfully (Morgeson & Humphrey, 2006). These characteristics are particularly important for today's information age, as most jobs are considered knowledge intensive. The KC factor structure for this study data included an additional variable - task variety. Task variety is the extent to which a job has multiple tasks to be accomplished (Humphrey et al., 2007). This is a clear reflection of the study participants' work design. The study participants were incumbents of a public educational institution and the majority of them had indicated that their job had variety and they were expected to process information. This also indicates that the majority of participants were knowledge workers, meaning their jobs are knowledge intensive and therefore it was not a surprise

that KC was not related to profit orientation. Although the knowledge characteristic scale was highly reliable, and other studies using this scale may have achieved similar results, the slight variation in factor structure should be noted.

The Hypothesis H2d2 was that information processing will have a significant association with philanthropic CSRO. Information processing is defined as jobs that require incumbents to manage information (Humphrey et al., 2007). While this hypothesis was not supported, a positive association between information processing and legal CSRO was found to be significant ($\beta = .127, p < .001$). In other words, individuals in jobs that require high handling information are likely to be more legally compliant.

In addition, a few relationships there were not hypothesized have emerged. A significant negative associations was found between job complexity and profit CSRO ($\beta = -.071, p < .05$), and significant negative association between problem solving and legal CSRO ($\beta = -.154, p < .001$). Job complexity is the degree of difficulty to perform a job (Humphrey et al. 2007). Therefore, incumbents in jobs that require high level of skills and mental ability showed a lack of interest in profit making.

Hypothesis 3: SC will be significantly related to (a) profit CSRO, (b) legal CSRO, and (d) philanthropic CSRO.

Three paths between SC and CSRO dimensions were expected to be significant. This hypothesis (H3) was fully supported. That is, social characteristics were determined as a significant predictor of profit, legal and philanthropic orientation.

The SCs emphasize the importance of social environment in the workplace. These characteristics are integral parts of the workplace, where the job is not performed

in isolation; rather it has a degree of interdependence. Humphrey and colleagues (2007) focused on four SCs - interdependence, feedback from others, social support, and interaction outside the organization. In this study, the factor structure of SC did not include interdependence (emerged as a separate factor) and feedback from others (this was added to TC), instead task significance (original Hypothesized as a TC) loaded along with social support and interaction with others outside the organization. Task significance questions had strong social components. For example, questions such as, *the results of my work are likely to significantly affect the lives of other people*, have a social element in them. Therefore, task significance was retained under the social characteristic construct. The SC appeared as a strong predictor of CSRO in spite of the lack of variables (interdependence and feedback from others). This is consistent with previous studies where positive relationships between SCs, and organizational outcomes have been established (Campion, Medsker, & Higgs, 1993; Chen, & Kao, 2011; Grant & Campbell, 2007; Noblet, McWilliam, Teo, & Rodwell, 2006). However, it is recommended that these results would be treated cautiously, as the SC construct reliability estimates were below .70. The direct relationship between the SCs manifest variables and CSRO dimensions were also tested, and the results are discussed below.

The sub-hypotheses within H3 were that the four SC dimensions will be significantly related to all four CSRO dimensions. These hypotheses were mostly supported. That is, there were significant relationships among some of the SC variables and CSRO dimensions. Namely, there was a significant positive association between interaction outside the organization and profit CSRO (i.e., H3a4 was supported), social

support and legal CSRO (i.e., H3b3 supported), and feedback from others and philanthropic CSRO (i.e., H3d2) was supported.

Hypothesis 4: CC will be significantly related to philanthropic CSRO.

One path between CC and philanthropic CSRO was expected to be significant. This path was not tested because of the lack of construct stability, however, direct relationships between the manifest variables of CCs and CSRO dimensions were explored. Contextual characteristics are concerned with the biological effect of work. That is, the working conditions (such as, work space, temperature, etc.), physical demand of work (amount of physical activity required), and ergonomics (designs that adapt to body movements and cognitive ability; Humphrey et al., 2007). The amount of physical activity in the job had a negative correlation with legal CSRO. According to this finding, incumbents with jobs that have relatively less physical ease are less inclined towards legal compliance. This finding reinforces Hypothesis 2b, because jobs that are high on cognitive ability such as information processing showed a negative relationship to legal CSRO. A job can be either physically or cognitively demanding (Morgeson & Campion, 2003; Demerouti, et al., 2001). In general, jobs that are physically demanding may be less demanding cognitively. Morgeson and Campion (2003) had specifically noted the importance of job demand on information processing requirements.

Hypothesis 5: Personality traits will have an interactive effect on CSRO.

Hypothesis 5 was not tested because of scale instability. The scale used in this study was a shortened version of the original Big Five developed by Rammstedt and John (2007). It had one positively worded and one negatively worded item per construct.

Therefore, every alternative item of total 11 items was negatively worded. The effect of negative item bias on summated rating scales has been noted by researchers (Spector, 1996). Especially in a survey design using Likert response, the negative items can cause internal consistency issues (Barnette, 2000) as it can intervene with user survey response habits in online survey. In order to reduce the effect of this bias, the personality scale was the first set of questions in the questionnaire, and thus it was assumed that individuals would pay attention to questions. In spite of the steps, the scale had internal consistency issues.

However, the interaction effect of personality traits on CSRO should not be ruled out. Most of the significant relationships between work characteristics and CSRO established for this study were weak, implying that there may be other variables that could strengthen or weaken the relationships. For instant, Chen, and Kao (2011) had hypothesized positive direct relationships between KC and organizational citizenship behavior, but they found that there was only indirect relationships, which were mediated by self-efficacy. This suggests that there may be other variables that can cause variance in CSR related behaviors and attitudes and further research on the personality traits using alternative scales or the full BFI scale with 44 items is recommended.

Study Conclusions

Work design research in recent years has been re-crafted to include new sets of work characteristics that can result in outcomes that remain relevant to society's progress (Grant & Parker, 2009). That is, it is presumed that jobs and tasks can be structured such that employees may be encouraged to perform in a socially responsible

way. Work design literature is sprawling with studies on its relationship to performance, job satisfaction (Fried & Ferris, 1987; Humphrey et al., 2007), organizational citizenship behavior (Chiu & Chen, 2005; Organ, 1988, Todd & Kent, 2006) and prosocial behavior (Grant 2007). Researchers have made conceptual arguments of a possible link between the work design and socially responsible behaviors (Stolz & McLean, 2009), but empirical support is yet to emerge. At the crux of this theoretical argument of the possible link between work design and social responsibility is the need to understand the key characteristics that can predict or cause behavioral or attitudinal changes in individuals. To that end, the purpose of this research was to investigate the dimensions in work design that are related to perceptions of corporate social responsibility actions or behaviors. A model for the relationships between work design variables and CSR variables was developed and tested. The model consisted of hypothesized main effects of work characteristics on CSRO. In addition, the interaction effects of personality traits on CSRO were also hypothesized but not tested.

This study sought to explore the work design CSRO model fit. A best fitting model that emerged from this study suggested a relationship between TC and profit CSRO, KC and legal CSRO, and between SC and CSRO dimensions. There is evidence that significant relationships between some work characteristics and CSRO dimensions broadly answered the question on the possible link between work characteristics and CSRO. The findings on the relationships between TC, SC and CSRO were consistent with other studies; however the ability of work characteristics to predict CSR orientation was weak. Nevertheless as work characteristics such as autonomy, job complexity,

information processing and others did cause some variance in CSRO dimensions, the work characteristics predictability of CSRO should not be ruled out. Finally, the research question on the moderating effects of personality traits were not tested because of the lack of scale stability. However, this should be pursued further because of the strong theoretical backing of possible relationships between personality, work characteristic and CSRO.

In conclusion, the results indicate that jobs that are task focused are linked to profit orientations in individuals, while job autonomy has a negative association with corporate philanthropy. An important finding in this study is that jobs that are knowledge intensive can have a negative association with orientation towards legal compliance. This finding is particularly important in today's setting where most jobs are high on knowledge characteristics and with the technological advances, the line around legal compliance is often blurred, and thus it is not surprising that we have seen an increase in corporate scandals such as unethical transactions and trading (Palazzo & Scherer, 2006).

Study Limitation and Strengths

This study has limitations that are associated with survey design using self-reported and cross-sectional data. First, use of self-reported data although widely accepted as the most convenient and confidential way to collect data has the risk of over estimation as both independent and dependent variables are obtained from the same instrument (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). Efforts as suggested by

Podsakoff and colleagues (2003) were made to address this issue of common method bias and to minimize the contamination.

Second, socially desirable values such as social responsibility are subjective measures that may be collected only through self-reporting as collecting objective data is not possible in such situations. Aupperle (1982) therefore created a forced choice CSR questionnaire. There are other problems associated with forced choice questionnaires and hence it was altered to the Likert scale in this study. This could result in the inflation in responses. The research may be more robust by including both subjective and objective measurements as suggested by Demerouti and colleagues (2001). In addition, the length of the survey (100 items) and the very nature of online survey design may have contributed to survey fatigue and thus resulting in incomplete responses and response rate issues.

Third, some relationships were not tested because of scale instability. For instance, the moderating effects of personality trait were not tested, but again, personality is considered by many researchers to be reliable predictor of organizational outcomes (Barrick & Mount, 1993; Illies, Fulmer, Spitzmuller, & Johnson, 2009) and therefore the effects of personality should not be ruled out, since there are many significant paths between the variables but overall the effect sizes were small and it is possible that personality traits may have strengthened these relationships. In light of this, further research is needed to identify other variables that may have a direct or indirect impact on CSRO. The ethical CSRO variable was removed because it caused high residual and negative variance in the model.

Other limitations include generalizability, multicollinearity, and unreliability. The sample in this study were mostly white (80%), females (67%), between the age range of 35 to 54 (51%), with high educational levels and employed in a higher education institution located in a semi-rural area. The results may be different for other demographics. The reliability of the task and social latent constructs did not meet the generally accepted levels and may have caused weak correlation results for the reduced model construct. The issues were however addressed by exploring the model from the first order variables which had very high reliability levels.

The study also has numerous strengths. First, the use of structural equation analysis to explore work design-CSRO model has not been reported before and is therefore novel to this research. The SEM method is used to reduce Type I error because it amalgamates multiple analysis into one. SEM includes both factor analysis and path analysis and provides multiple fit indicators and thus reduces the possibility of Type I error.

Second, the multilevel framework that was used in this study captures the complexity of work design in an organization and its association to CSR perceptions at the individual level. Torraco (2005a) had noted that the impact of work design needs multilevel analysis. The strength of this study is that this data may be used to perform multilevel analysis using hierarchal liner modeling. It may add new and much needed knowledge about the factors that link work design and CSR perceptions.

Third, although the sampling frame was limited to employees of a higher education institution, the results do provide information that may be applicable to

employees of any comparable public sector organization. The CSR from the public sector perspective, although frequently discussed (Houston, 2005; Kelman, 2005; Perry 2000), has yet to be empirically tested in this context, and this study addressed this gap in the public administration literature.

Study Implications

Lindgreen and Swaen (2010) have argued that while some of the early literature and research on CSR is focused on building the business case for CSR, but goes on to state that lately, with greater acceptance of CSR there is a notable shift in CSR from being an ideology to a reality. The present study research provides insights into the key variables that can help organizational researchers, and practitioners create a workplace that is conducive to creating, developing, and nurturing skills and processes that can make socially responsible attitudes, behaviors, and actions a reality. In addition, this research has expanded the CSR to public sector. Therefore this study has implications for both human resource development and for public administration.

HRD Theory and Research Implications

Stolz and McClean (2009) have noted that few organizations have the skills and process structures that can nurture corporate citizenship behaviors. They outlined a 10-step approach that can help organizations meet the challenges. Similar arguments on the importance of processes and structures on developing socially responsible organizational cultures have been observed (Ardichvili & Jondle, 2009). This study took these arguments a step further and provides the empirical evidence of skills and processes that can help develop desirable socially responsible behaviors.

Furthermore, on the theoretical front, the work design-CSR model presented here provides additional support for the link between work design and CSR. Based on the final models presented here, future research models may be developed where relationships between variables are not limited to the individual level. Clearly, there is sufficient evidence in the literature (Chen & Chiu, 2009; Chiu & Chen, 2005) that there are an array of variables to consider that may mediate or strengthen the relationships between work design variables and CSR variables. For instance, Avey, Reichard, Luthans, and Mhatre's (2011) model on psychological capital can be incorporated into this work design model, or psychological capital may be introduced into this final model as a possible mediating construct.

The negative relationship between knowledge characteristics and legal CSRO provides clear opportunity for further research. This is particularly important for knowledge economy and current advances in information technology.

This study may also be expanded to explore other organizational outcomes. In the HRD literature, organizational outcomes that have been of interest to HRD professionals have been largely limited to job satisfaction, organizational commitment, job performance, turnover intention, and organizational citizenship (Ensher, Grant-Vallone, & Donaldson, 2001; Graham & Nafukho, 2010). As new links between contextual factors and human resource practices have emerged (Toh, Morgeson & Campion, 2008) and the results of study may prompt more careful exploration into the contextual variables. This study results also provides avenues for new organizational outcomes that are crucial to the current information age.

Practice Implications

This research has implications for organizations seeking to implement CSR focused strategies and become good corporate citizens (Crane & Matten, 2007; Wood & Logsdon, 2008). However, HRD practitioners may face many barriers in implementing CSR (Garavan et al., 2011; Human Resource, 2008). The findings from this research may be used to develop interventions that foster citizenship or socially responsible behavior in organizations and to overcome some of the barriers.

Public Administration Implications

Implications for public administration can also be drawn from the study findings. According to Kelman (2005), organizational research has largely neglected the public sector and laments that, theories on organizational behavior, citizenship, and learning although also applicable to public sector employees, it is rarely researched in the public service context. Both public administration scholars and practitioners may benefit from the study findings on perceptions of employees towards profit, legal, and philanthropic orientation. This study confirms some of the earlier research on job characteristics and organizational outcomes among public service employees (Moynihan & Pandey, 2007b) and the study findings provide opportunity for further research on various permutations and combinations of various antecedents of social responsibility.

Directions for Future Research

First and foremost, the two models that have emerged will have to be validated using a different sample. It is also recommended that worker characteristics such as

either personality traits (individual level) or team behaviors (group level) also be included in the new model.

Second, the study data may be used to perform additional analysis. For example, it can be used for group level analysis using hierarchical linear model as performed by Chen and Kao (2011). The social and contextual characteristics scores can be aggregated to get group scores and its relationships to group corporate social responsibility orientation can be tested.

Third, there are opportunities for comparative studies. A comparison study may be performed, based on job categories (professional versus non-professional jobs) and job type (part time versus full time), differences between part time and full time workers (Slattery, Selvarajan, Anderson, 2006), and gender and ethnicity differences.

Summary

This research provides new understanding of the link between work design and perceptions of corporate social responsibility among public educational institution employees. This goal was achieved by testing the model for work design and corporate social responsibility. In this study, the key work characteristics were identified that are associated with socially responsible attitudes. Although the obtained model has been validated using a different sample, the present results provide support for the interdependence of work characteristics and corporate social responsibility orientation.

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APPENDIX A
IRB APPROVAL

TEXAS A&M UNIVERSITY
DIVISION OF RESEARCH AND GRADUATE STUDIES - OFFICE OF RESEARCH
COMPLIANCE

1186 TAMU, General Services Complex
College Station, TX 77843-1186
750 Agronomy Road, #3500

979.458.1467
FAX 979.862.3176
<http://researchcompliance.tamu.edu>

Human Subjects Protection Program

Institutional Review Board

DATE: 08-Dec-2010

MEMEMORANDUM

TO: KURUP, PRIYA DARSHINI

FROM: Office of Research Compliance
Institutional Review Board

SUBJECT: Amendment

Protocol Number: 2010-0173

Title: An Exploratory Model for the Interdependency of Work Characteristics and Corporate Social Responsibility Orientation

Review Category: Exempt from IRB Review

It has been determined that the referenced protocol application meets the criteria for exemption and no further review is required. However, any amendment or modification to the protocol must be reported to the IRB and reviewed before being implemented to ensure the protocol still meets the criteria for exemption.

This determination was based on the following Code of Federal Regulations:
(<http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm>)

45 CFR 46.101(b)(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior, unless: (a) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (b) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Provisions: Change of study title, descriptors in the survey.

INVITATION LETTER

Thank you in advance for participating in a research study about *work design and corporate social responsibility*. The purpose of this study is to investigate the relationship among work characteristics, corporate social responsibility orientation and personality. You were selected to be a possible participant because you are part of an institution with well-defined work structure. The research project includes questions related to personality, work characteristics and corporate social responsibility.

Please note the following characteristics of this study:

- Your participation is voluntary
- Your identification will remain anonymous
- You can elect to withdraw at any time without your current or future relations with Texas A&M University being affected.
- There are no direct benefits or compensation from participating in this study but your responses will be adding new knowledge to our understanding of corporate social responsibility and work design.
- The results will be saved and kept for three years in a protected file and then destroyed.
- No identifiers linking you to this study will be included in any sort of report that might be published.

If you have questions regarding this study, you may contact Priya Darshini Kurup, [REDACTED] at pdkurup@tamu.edu or Dr. Homer Tolson at htolson@tamu.edu. A copy of the Institutional Review Board – Human Subjects in Research consent form is attached for your review. You are not required to sign or submit a consent form because your participation will be anonymous.

If you agree with the above information, please access the link to complete the survey:

[REDACTED]

Thank you for your help and participation,

Priya Darshini Kurup
PhD Candidate, EAHR
Texas A&M University

INFORMATION SHEET

An exploratory model for the interdependency of work characteristics and corporate social responsibility orientation.

Introduction

The purpose of this form is to provide you (as a prospective research study participant) information that may affect your decision as to whether or not to participate in this research.

The purpose of this study will be to investigate the relationship among work characteristics, corporate social responsibility orientation and personality. You were selected to be a possible participant because you are part of a corporation that has complex and well defined work structure.

What will I be asked to do?

If you agree to participate in this study, you will be asked to complete an online survey related to your work. A link to the survey is provided to you at the end of this document. The questions in the survey are related to personality, work characteristics, respondent perceptions of role of business in a society, and demographic questions. This survey will approximately take 10-15 minutes to complete.

What are the risks involved in this study?

The risks associated with this study are minimal, and are not greater than risks ordinarily encountered in daily life.

What are the possible benefits of this study?

You will receive no direct benefit from participating in this study; however your responses will be adding new knowledge to our understanding of work design. Your responses will also help researchers develop new work design theories and models.

Do I have to participate?

No, your participation is voluntary. You may decide not to participate or to withdraw at any time without your current or future relations with Texas A&M University being affected.

Who will know about my participation in this research study?

This study is anonymous and the identity of the participants is not connected to information gathered. The responses collected for this study will be kept private. No identifiers linking you to this study will be included in any sort of report that might be published. Research records will be stored securely and only Priya Darshini Kurup will have access to the records.

Whom do I contact with questions about the research?

If you have questions regarding this study, you may contact Priya Darshini Kurup, [REDACTED] at pdkurup@tamu.edu

Whom do I contact about my rights as a research participant?

This research study has been reviewed by the Human Subjects' Protection Program and/or the Institutional Review Board at Texas A&M University. For research-related problems or questions regarding your rights as a research participant, you can contact these offices at (979)458-4067 or irb@tamu.edu.

Participation

Please be sure you have read the above information, asked questions and received answers to your satisfaction. You will be given a copy of this consent form for your records. Your signature is not required. Your voluntary access to the survey and your completion of the survey serves as your consent to participation.

To access the study, please click here:

[REDACTED]

APPENDIX B
QUESTIONNAIRE

An Exploratory Model for the Interdependency of Work Characteristics and Corporate Social Responsibility Orientation

How well do the following statements describe your personality?

I see myself as someone who....

	Strongly Disagree	Disagree a little	Neither agree or disagree	Agree a little	Strongly Agree
... is reserved.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... is generally trusting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... tends to be lazy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... is relaxed, handles stress well.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... has few artistic interests.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... is outgoing, sociable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... tends to find fault with others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... does a thorough job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... gets nervous easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... has an active imagination.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... is considerate and kind to almost everyone.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Strongly Disagree Disagree a little Neither agree or disagree Agree a little Strongly Agree

Work Design: Task Characteristics

Indicate the extent to which you agree or disagree with each statement below about your present job:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The job allows me to make my own decisions about how to schedule my work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job allows me to decide on the order in which things are done on the job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job allows me to plan how I do my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job gives me a chance to use my personal initiative or judgment in carrying out the work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job allows me to make a lot of decisions on my own.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job provides me with significant autonomy in making decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job allows me to make decision about what methods I use to complete my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job gives me considerable opportunity for independence and freedom in how I do the work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job allows me to decide on my own how to go about doing my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Indicate the extent to which you agree or disagree with each statement below:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The job involves a great deal of task	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
variety					
The job involves doing a number of different things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job requires the performance of a wide range of tasks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job involves performing a variety of tasks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...					
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The results of my work are likely to significantly affect the lives of other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job itself is very significant and important in the broader scheme of things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job has a large impact on people outside the organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The work performed on the job has a significant impact on people outside the organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...					
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The job involves completing a piece of work that has an obvious beginning and end.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job is arranged so that I can do an entire piece of work from beginning to end.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job provides me the chance to completely finish the pieces of work I begin.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job allows me to complete work I start.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
...					
The work activities themselves provide direct and clear information about the effectiveness (e.g., quality and quantity) of my job performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job itself provides feedback on my performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job itself provides me with information about my performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

A few more questions and then the completion bar will start to move quickly....



Work Design: Knowledge Characteristics

Indicate the extent to which you agree or disagree with each statement below:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The job requires that I only do one task or activity at a time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The tasks on the job are simple and uncomplicated.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job comprises relatively uncomplicated tasks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job involves performing relatively simple tasks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...					

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The job requires me to monitor a great deal of information	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job requires that I engage in a large amount of thinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job requires me to keep track of more than one thing at a time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job requires me to analyze a lot of information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job involves solving problems that have no obvious correct answer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job requires me to be creative.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job often involves dealing with problems that I have not met before.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job requires unique ideas or solutions to problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...					
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The job requires a variety of skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job requires me to utilize a variety of different skills in order to complete the work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job requires me to use a number of complex or high -level skills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job requires the use of a number of skills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job is highly specialized in terms of purpose, tasks, or activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The tools, procedures, materials, and so forth used on this job are highly specialized in terms of purpose.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job requires very specialized knowledge and skills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job requires a depth of knowledge and expertise.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Just two more batches of work related questions... 

Work Design: Social Characteristics

Indicate the extent to which you agree or disagree with each statement below:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I have the opportunity to develop close friendships in my job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have the chance in my job to get to know other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have the opportunity to meet with others in my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My supervisor is concerned about the welfare of the people that work for him/her.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People I work with take a personal interest in me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People I work with are friendly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

...

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The job requires me to accomplish my job before others complete their job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other jobs depend directly on my job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Unless my job gets done, other jobs cannot be completed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job activities are greatly affected by the work of other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job depends on the work of many different people for its completion.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My job cannot be done unless others do their work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

...

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The job requires spending a great deal of time with people outside my organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job involves interaction with people who are not members of my organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
On the job, I frequently communicate with people who do not work for the same organization as I do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job involves a great deal of interaction with people outside my organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I receive a great deal of information from my manager and coworkers about my job performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other people in the organization, such as managers and coworkers, provide information about the effectiveness (e.g., quality and quantity) of my performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I receive feedback on my performance from other people in my organization (such as my manager or coworkers).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



The end is not far away!

Work Design: Work Context

Indicate the extent to which you agree or disagree with each statement below:

	S		N		S	
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	
The seating arrangements on the job are adequate (e.g., ample opportunities to sit, comfortable chairs, good postural support).	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The work place allows for all size difference between people in terms of clearance, reach, eye height, leg room, etc.	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job involves excessive reaching.	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job requires a great deal of muscular endurance.	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job requires a great deal of muscular strength.	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job requires a lot of physical effort.	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...						
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	
The work place is free from excessive noise.	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The climate at the work place is comfortable in terms of temperature and humidity.	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job has a low risk of accident.	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job takes place in an environment free from health hazard (e.g., chemicals, fumes, etc.).	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job occurs in a clean environment.	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The job involves the use of a variety of different equipment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job involves the use of complex equipment or technology.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A lot of time was required to learn the equipment used on the job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Now just a few questions about the role of business in society....



CSR Orientation

Answer *each* statement based on its importance, with 1 = least important and 5 = the most important.

It is important for a business to:

	1 (least Important)	2	3	4 (Most important)	5
Be as profitable as possible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Maximize long-term return on investments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pursue only those opportunities which provide the best rate of return	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

It is important for a business to:

	1 (least Important)	2	3	4 (Most important)	5
Abide by laws and regulations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seriously fulfill legal responsibilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comply with various federal regulations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

It is important for a business to:

	1 (least Important) ²	3	4	5 (Most important)	
Be committed to moral and ethical behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recognize that the ends do not always justify the means	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prevent social norms from being compromised in order to achieve universal goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

It is important for a business to:

	1 (least Important)	2	3	4 (Most important)	5
Fulfill its philanthropic and charitable responsibility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide assistance to private and public educational institutions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have its managers and employees participate in charitable activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

You are almost there...just the demographics...



Organizational Information and demographic information

Years of service at Texas A&M University?

- Less than 6 months
- 6 months - 1 year
- 2-5 years
- 6-10 years
- More than 10 years

Current employing unit (check all that apply):

- University Colleges
- Student Affairs

Academic Affairs

Marketing & Communications /
Governmental Relations

Division of Operations,
Facilities, Safety/Security
Division of Finance

Athletics

Other

Which of the following best describes your present position?

Service & Maintenance

Professional Nonfaculty

Skilled Crafts

Faculty

Technical & Paraprofessional

Executive, Administrative, &
Managerial

Clerical & Secretarial

Other

How long have you worked at the present employing unit?

LESS THAN 6 MONTHS

6 MONTHS - 1 YEAR

2-5 YEARS

MORE THAN 5 YEARS

You are considered as a...

Full Time A&M Staff

Part-time A&M Staff

Highest level of education you have completed:

Less than High School

High School / GED

Some College

Associate's Degree

Bachelor's Degree

Master's Degree

Doctoral Degree

Professional Degree (JD, MD)

Other (Diploma, Certifications, etc)

Your ethnic Identity (check all that apply):

- African American Native American
- Asian American Pacific Islander/Native Hawaiian
- Hispanic American Foreign national/Non-U.S. citizen
- White/Caucasian American Other

Your age category

- 18-25 26-34 35-54 55-64 65 and over

Your Gender:

- Male
- Female

DONE! Click next to submit it!



Survey Powered By [Qualtrics](#)

APPENDIX C

SINGLE FACTOR TEST AND OUTLIERS

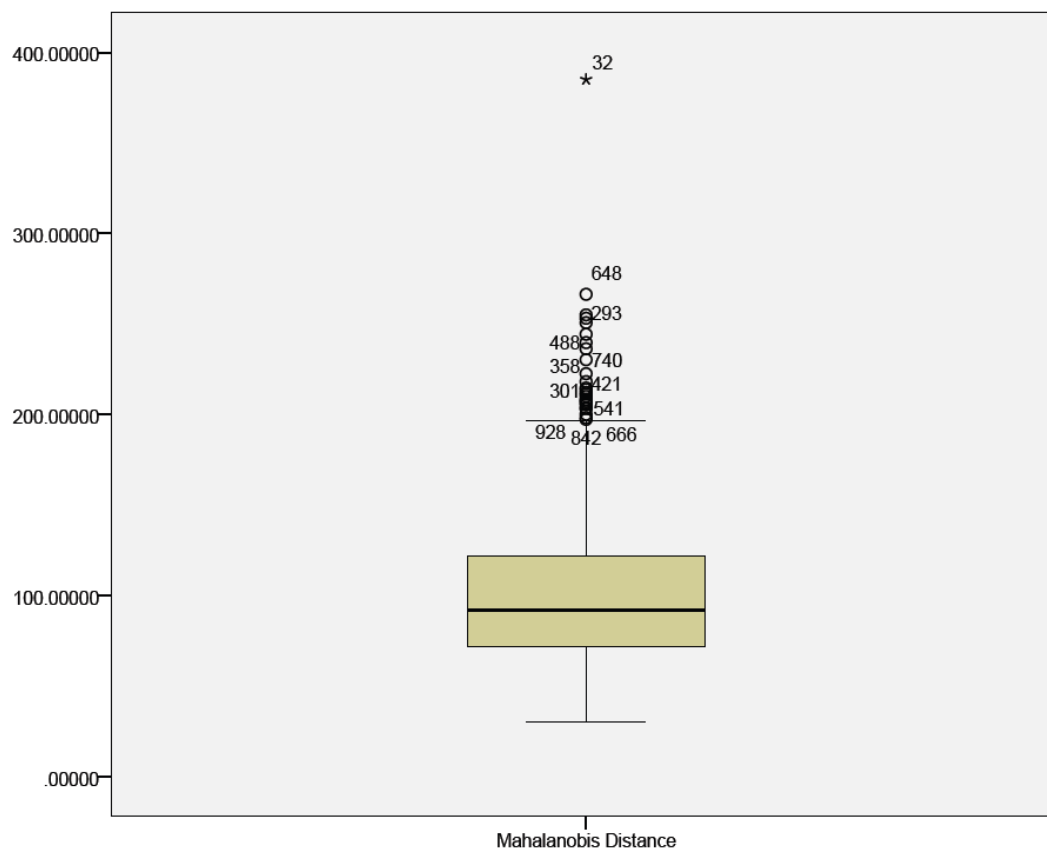
Total Variance Explained For Single Factor Test						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	14.551	14.551	14.551	14.551	14.551	14.551
2	7.906	7.906	22.458	7.906	7.906	22.458
3	5.281	5.281	27.739	5.281	5.281	27.739
4	4.779	4.779	32.518	4.779	4.779	32.518
5	3.660	3.660	36.178	3.660	3.660	36.178
6	3.346	3.346	39.524	3.346	3.346	39.524
7	3.060	3.060	42.584	3.060	3.060	42.584
8	2.669	2.669	45.253	2.669	2.669	45.253
9	2.653	2.653	47.906	2.653	2.653	47.906
10	2.125	2.125	50.031	2.125	2.125	50.031
11	2.014	2.014	52.046	2.014	2.014	52.046
12	1.974	1.974	54.020	1.974	1.974	54.020
13	1.937	1.937	55.957	1.937	1.937	55.957
14	1.886	1.886	57.843	1.886	1.886	57.843
15	1.704	1.704	59.547	1.704	1.704	59.547
16	1.617	1.617	61.164	1.617	1.617	61.164
17	1.560	1.560	62.723	1.560	1.560	62.723
18	1.335	1.335	64.058	1.335	1.335	64.058
19	1.276	1.276	65.335	1.276	1.276	65.335
20	1.222	1.222	66.556	1.222	1.222	66.556
21	1.186	1.186	67.743	1.186	1.186	67.743
22	1.148	1.148	68.891	1.148	1.148	68.891
23	1.108	1.108	69.999	1.108	1.108	69.999
24	1.042	1.042	71.040	1.042	1.042	71.040
25	1.030	1.030	72.070	1.030	1.030	72.070
26	1.008	1.008	73.079	1.008	1.008	73.079
27	.950	.950	74.028			
28	.896	.896	74.924			
29	.864	.864	75.788			

30	.824	.824	76.612
31	.812	.812	77.424
32	.759	.759	78.184
33	.728	.728	78.912
34	.707	.707	79.619
35	.692	.692	80.311
36	.656	.656	80.967
37	.610	.610	81.577
38	.608	.608	82.185
39	.602	.602	82.787
40	.572	.572	83.359
41	.546	.546	83.905
42	.544	.544	84.449
43	.539	.539	84.988
44	.513	.513	85.501
45	.504	.504	86.005
46	.482	.482	86.487
47	.476	.476	86.963
48	.456	.456	87.419
49	.445	.445	87.864
50	.436	.436	88.300
51	.424	.424	88.724
52	.420	.420	89.144
53	.404	.404	89.548
54	.391	.391	89.939
55	.384	.384	90.323
56	.380	.380	90.703
57	.375	.375	91.078
58	.364	.364	91.442
59	.349	.349	91.791
60	.345	.345	92.136
61	.331	.331	92.467
62	.330	.330	92.797
63	.313	.313	93.110
64	.308	.308	93.418
65	.301	.301	93.719
66	.290	.290	94.009
67	.284	.284	94.293

68	.280	.280	94.573
69	.276	.276	94.849
70	.261	.261	95.111
71	.252	.252	95.362
72	.248	.248	95.610
73	.235	.235	95.845
74	.232	.232	96.077
75	.232	.232	96.309
76	.222	.222	96.531
77	.215	.215	96.746
78	.210	.210	96.956
79	.206	.206	97.162
80	.203	.203	97.365
81	.196	.196	97.561
82	.190	.190	97.751
83	.182	.182	97.933
84	.176	.176	98.109
85	.172	.172	98.281
86	.160	.160	98.440
87	.154	.154	98.594
88	.147	.147	98.741
89	.141	.141	98.882
90	.134	.134	99.016
91	.131	.131	99.147
92	.126	.126	99.273
93	.126	.126	99.398
94	.118	.118	99.517
95	.105	.105	99.622
96	.100	.100	99.722
97	.086	.086	99.808
98	.084	.084	99.892
99	.064	.064	99.956
100	.044	.044	100.000

Extraction Method: Principal Component Analysis.

Mahalanobis Distance Box Plot to Identify Outliers.



APPENDIX D

ITEM MEAN AND STANDARD DEVIATION

The means, standard deviations, and alpha coefficients of exogenous variables, n=941

	Min.	Max.	Mean	Std. Error	Std. Dev.
<i>Task characteristics</i>					
<i>Autonomy</i>					
AUS1-T to make my own decisions about how to schedule my work	1	5	3.99	.036	1.094
AUS2-T to decide on the order in which things are done on the job.	1	5	4.09	.030	.935
AUS3-T to plan how I do my work.	1	5	4.20	.029	.883
AUD1-T to use my personal initiative or judgment in carrying out the work.	1	5	4.23	.030	.933
AUD2-T to make a lot of decisions on my own.	1	5	3.98	.035	1.074
AUD3-T provides significant autonomy in making decisions.	1	5	3.70	.037	1.126
AUM1-T to make decision about what methods I use to complete my work.	1	5	4.09	.031	.965
AUM2-T considerable opportunity for independence and freedom in how I do the work.	1	5	3.99	.035	1.062
AUM3-T to decide on my own how to go about doing my work.	1	5	4.10	.032	.982
<i>Task Variety</i>					
TV1-T involves a great deal of task variety.	1	5	4.06	.030	.934
TV2-T involves doing a number of different things.	1	5	4.28	.026	.795
TV3-T requires the performance of a wide range of tasks.	1	5	4.22	.028	.860
TV4-T involves performing a variety of tasks.	1	5	4.27	.026	.801
<i>Task Significance</i>					
TS1-T The results of my work are likely to significantly affect the lives of other people.	1	5	3.94	.032	.971
TS2-T The job itself is very significant and important in the broader scheme of things.	1	5	3.94	.030	.912
TS3-T The job has a large impact on people outside the organization.	1	5	3.61	.036	1.106
TS4-T The work performed on the job has a significant impact on people outside the organization.	1	5	3.59	.036	1.109

	Min.	Max.	Mean	Std. Error	Std. Dev.
<i>Feedback from job</i>					
FJ1-T The work activities themselves provide direct and clear information about the effectiveness.	1	5	3.55	.033	1.010
FJ2-T The job itself provides feedback on my performance.	1	5	3.54	.033	1.001
FJ3-T The job itself provides me with information about my performance.	1	5	3.51	.033	1.009
<i>Knowledge characteristics</i>					
<i>Job Complexity</i>					
JC1-K The job requires that I only do one task or activity at a time.	1	5	4.34	.026	.810
JC2-K The tasks on the job are simple and uncomplicated.	1	5	4.09	.031	.942
JC3-K The job comprises relatively uncomplicated tasks.	1	5	4.00	.033	.999
JC4-K The job involves performing relatively simple tasks.	1	5	3.94	.033	1.004
<i>Information Processing</i>					
IP1-K The job requires me to monitor a great deal of information.	1	5	4.36	.024	.721
IP2-K The job requires that I engage in a large amount of thinking.	1	5	4.28	.026	.785
IP3-K The job requires me to keep track of more than one thing at a time.	1	5	4.62	.019	.573
IP4-K The job requires me to analyze a lot of information.	1	5	4.30	.026	.807
<i>Problem solving</i>					
PS1-K The job involves solving problems that have no obvious correct answer.	1	5	3.76	.035	1.081
PS2-K The job requires me to be creative.	1	5	3.94	.032	.986
PS3-K The job often involves dealing with problems that I have not met before.	1	5	3.79	.033	1.002
PS4-K The job requires unique ideas or solutions to problems.	1	5	3.87	.031	.944
<i>Skill Variety</i>					
SV1-K The job requires a variety of skills.	1	5	4.36	.023	.697
SV2-K The job requires me to utilize a variety of different skills in order to complete the work.	1	5	4.33	.023	.700
SV3-K The job requires me to use a number of complex or high -level skills.	1	5	4.03	.030	.925
SV4-K The job requires the use of a number of skills.	1	5	4.31	.022	.686

	Min.	Max.	Mean	Std. Error	Std. Dev.
<i>Specialization</i>					
Sp1-K The job is highly specialized in terms of purpose, tasks, or activities.	1	5	3.91	.031	.956
Sp2-K The tools, procedures, materials, and so forth used on this job are highly specialized in terms of purpose.	1	5	3.66	.034	1.034
Sp3-K The job requires very specialized knowledge and skills.	1	5	3.97	.031	.939
Sp4-K The job requires a depth of knowledge and expertise.	1	5	4.18	.027	.829
Social characteristics					
<i>Social Support</i>					
SS1-S I have the opportunity to develop close friendships in my job.	1	5	3.80	.031	.944
SS2-S I have the chance in my job to get to know other people.	1	5	4.11	.025	.762
SS3-S I have the opportunity to meet with others in my work.	1	5	4.10	.026	.788
SS4-S My supervisor is concerned about the welfare of the people that work for him/her.	1	5	3.91	.038	1.153
SS5-S People I work with take a personal interest in me.	1	5	3.79	.029	.899
SS6-S People I work with are friendly.	1	5	4.14	.025	.773
<i>Interdependence</i>					
IDI1-S The job requires me to accomplish my job before others complete their job	1	5	3.35	.034	1.028
IDI2-S Other jobs depend directly on my job.	1	5	3.67	.032	.992
IDI3-S Unless my job gets done, other jobs cannot be completed.	1	5	3.54	.034	1.033
IDR1-S The job activities are greatly affected by the work of other people.	1	5	3.75	.031	.966
IDR2-S The job depends on the work of many different people for its completion.	1	5	3.76	.033	1.008
IDR3-S My job cannot be done unless others do their work.	1	5	3.59	.036	1.097
<i>Interaction with others</i>					
IO1-S The job requires spending a great deal of time with people outside my organization.	1	5	2.94	.039	1.201
IO2-S The job involves interaction with people who are not members of my organization	1	5	3.64	.037	1.124
IO3-S On the job, I frequently communicate with people who do not work for the same organization as I do.	1	5	3.63	.037	1.128
IO4-S The job involves a great deal of interaction with people outside my organization.	1	5	3.40	.038	1.176

	Min.	Max.	Mean	Std. Error	Std. Dev.
<i>Feedback from others</i>					
FO1-S I receive a great deal of information from my manager and coworkers about my job performance.	1	5	3.02	.036	1.097
FO2-S Other people in the organization, such as managers and coworkers, provide information about the effectiveness (e.g., quality and quantity) of my performance.	1	5	3.16	.035	1.065
FO3-S I receive feedback on my performance from other people in my organization (such as my manager or coworkers).	1	5	3.31	.034	1.051
<i>Contextual Characteristics</i>					
<i>Ergonomics</i>					
Er1-C The seating arrangements on the job are adequate	1	5	3.87	.033	1.019
Er2-C The work place allows for all size difference between people in terms of clearance, reach, eye height, leg room, etc.	1	5	3.90	.031	.947
Er3-C The job involves excessive reaching.	1	5	2.10	.032	.977
<i>Physical demands</i>					
PD1-C The job requires a great deal of muscular endurance.	1	5	1.95	.032	.986
PD2-C The job requires a great deal of muscular strength	1	5	1.91	.032	.969
PD3-C The job requires a lot of physical effort	1	5	2.01	.034	1.032
<i>Work Condition</i>					
WC1-C The work place is free from excessive noise.	1	5	3.33	.037	1.139
WC2-C The climate at the work place is comfortable in terms of temperature and humidity.	1	5	3.14	.037	1.124
WC3-C The job has a low risk of accident.	1	5	4.01	.031	.963
WC4-C The job takes place in an environment free from health hazard	1	5	3.79	.038	1.163
WC5-C The job occurs in a clean environment.	1	5	3.97	.030	.933
<i>Ergonomics</i>					
EU1-C The job involves the use of a variety of different equipment	1	5	3.35	.037	1.134
EU2-C The job involves the use of complex equipment or technology	1	5	3.30	.038	1.171
EU3-C A lot of time was required to learn the equipment used on the job	1	5	2.81	.038	1.162

Mean, standard deviation, alpha coefficients of endogenous variables, n=941

	Min.	Max.	Mean	Std. Error	Std. Dev.
<i>Profit CSRO</i>					
CSRP1 Be as profitable as possible	1	5	3.75	.031	.962
CSRP2 Maximize long-term return on investments	1	5	4.03	.029	.890
CSRP3 Pursue only those opportunities which provide the best rate of return	1	5	3.18	.033	1.025
<i>Legal CSRO</i>					
CSRL1 Abide by laws and regulations	2	5	4.81	.015	.461
CSRL2 Seriously fulfill legal responsibilities	1	5	4.76	.017	.526
CSRL3 Comply with various federal regulations	1	5	4.73	.018	.564
<i>Ethical CSRO</i>					
CSRE1 Be committed to moral and ethical behavior	1	5	4.80	.016	.484
CSRE2 Recognize that the ends do not always justify the means	1	5	4.50	.024	.721
CSRE3 Prevent social norms from being compromised in order to achieve universal goals	1	5	4.05	.033	1.001
<i>Philanthropic CSRO</i>					
CSRSD1 Fulfill its philanthropic and charitable responsibility	1	5	3.63	.035	1.087
CSRSD2 Provide assistance to private and public educational institutions	1	5	3.56	.036	1.115
CSRSD3 Have its managers and employees participate in charitable activities	1	5	3.04	.038	1.163

APPENDIX E

INTER-ITEM CORRELATION MATRIX

	AUS1-T	AUS2-T	AUS3-T	AUD1-T	AUD2-T	AUD3-T	AUM1-T	AUM2-T	AUM3-T	TV1-T	TV2-T	TV3-T	TV4-T	TS1-T
AUS1-T	1.000													
AUS2-T	.701	1.000												
AUS3-T	.691	.800	1.000											
AUD1-T	.603	.656	.724	1.000										
AUD2-T	.589	.627	.651	.779	1.000									
AUD3-T	.588	.598	.610	.684	.802	1.000								
AUM1-T	.563	.645	.714	.690	.682	.672	1.000							
AUM2-T	.612	.700	.728	.744	.745	.726	.758	1.000						
AUM3-T	.619	.702	.766	.724	.728	.695	.792	.829	1.000					
TV1-T	.181	.174	.203	.267	.313	.242	.234	.272	.237	1.000				
TV2-T	.155	.178	.226	.262	.279	.217	.225	.256	.238	.788	1.000			
TV3-T	.170	.165	.200	.245	.266	.222	.196	.214	.191	.793	.836	1.000		
TV4-T	.160	.181	.226	.258	.278	.221	.223	.227	.201	.781	.844	.891	1.000	
TS1-T	.121	.103	.121	.128	.153	.118	.120	.083	.083	.242	.225	.223	.239	1.000
TS2-T	.140	.108	.127	.182	.199	.179	.126	.156	.132	.308	.256	.264	.255	.577
TS3-T	.111	.042	.072	.107	.133	.138	.092	.102	.086	.246	.214	.205	.207	.510
TS4-T	.101	.031	.071	.094	.125	.120	.084	.102	.082	.218	.195	.191	.178	.517
TI1-T	.106	.067	.118	.121	.063	.046	.063	.080	.098	.029	.007	.040	.030	.073
TI2-T	.141	.158	.185	.168	.154	.131	.172	.194	.203	.017	.006	.004	.013	.006
TI3-T	.161	.187	.229	.208	.174	.177	.206	.220	.240	.043	.053	.031	.060	.025
TI4-T	.237	.278	.323	.296	.244	.250	.282	.299	.319	.074	.098	.063	.096	.031
FJ1-T	.266	.264	.279	.300	.294	.270	.266	.309	.283	.169	.144	.110	.133	.146
FJ2-T	.232	.249	.259	.316	.291	.252	.244	.279	.276	.189	.147	.140	.154	.147

FJ3-T	.248	.269	.256	.326	.319	.297	.262	.305	.284	.200	.131	.139	.146	.160
JC1-K	.124	.129	.159	.145	.184	.165	.174	.133	.161	.234	.261	.286	.285	.104
JC2-K	.083	.043	.070	.110	.139	.150	.095	.080	.060	.277	.246	.305	.289	.166
JC3-K	.089	.082	.083	.124	.163	.155	.071	.073	.061	.264	.222	.275	.257	.161
JC4-K	.093	.086	.094	.111	.170	.180	.112	.092	.075	.242	.228	.271	.257	.136
IP1-K	.078	.087	.119	.124	.114	.118	.111	.089	.089	.246	.258	.302	.299	.273
IP2-K	.146	.134	.151	.213	.233	.252	.167	.188	.148	.288	.256	.298	.284	.243
IP3-K	.082	.109	.150	.149	.157	.144	.122	.104	.117	.265	.322	.362	.340	.206
IP4-K	.087	.106	.127	.160	.183	.195	.129	.147	.133	.260	.245	.293	.283	.245
PS1-K	.094	.050	.075	.102	.130	.138	.098	.099	.061	.151	.171	.167	.167	.124
PS2-K	.259	.238	.241	.296	.325	.298	.285	.307	.261	.324	.306	.315	.310	.151
PS3-K	.155	.088	.082	.150	.148	.140	.082	.124	.086	.247	.237	.250	.227	.136
PS4-K	.164	.164	.182	.237	.263	.252	.205	.242	.189	.320	.325	.335	.315	.173
SV1-K	.174	.206	.211	.246	.232	.224	.199	.229	.183	.494	.499	.525	.538	.210
SV2-K	.188	.226	.236	.257	.254	.236	.238	.247	.222	.481	.491	.513	.518	.217
SV3-K	.181	.205	.220	.252	.265	.273	.201	.226	.175	.379	.384	.420	.407	.193
SV4-K	.148	.174	.197	.229	.219	.216	.187	.204	.175	.446	.474	.490	.480	.177
Sp1-K	.115	.111	.113	.136	.166	.179	.109	.137	.083	.212	.204	.254	.243	.173
Sp2-K	.104	.081	.085	.145	.170	.193	.094	.107	.052	.159	.160	.200	.199	.111
Sp3-K	.140	.127	.126	.138	.167	.196	.083	.128	.066	.195	.226	.243	.242	.142
Sp4-K	.154	.138	.147	.173	.197	.230	.157	.146	.126	.245	.246	.283	.281	.191
SS1-S	.155	.125	.116	.157	.171	.128	.113	.129	.136	.177	.141	.153	.162	.120
SS2-S	.177	.142	.155	.196	.166	.147	.175	.169	.186	.249	.263	.241	.257	.199
SS3-S	.170	.124	.156	.211	.179	.175	.170	.143	.154	.212	.201	.199	.210	.200
SS4-S	.310	.256	.277	.337	.300	.310	.264	.281	.278	.113	.086	.111	.102	.048
SS5-S	.256	.166	.192	.204	.200	.217	.199	.203	.198	.170	.137	.151	.156	.048
SS6-S	.285	.224	.255	.223	.231	.203	.219	.224	.257	.156	.142	.136	.133	.056
IDI1-S	.066	.053	.022	.015	.027	.034	.023	.005	.034	.077	.071	.088	.064	.145

IDI2-S	.078	.052	.071	.077	.078	.075	.036	.043	.043	.162	.142	.138	.127	.213
IDI3-S	.007	.023	.068	.048	.028	.017	.004	.012	.020	.109	.124	.112	.099	.149
IDR1-S	.041	.012	.032	.016	.024	.011	-.030	-.008	-.021	.090	.096	.104	.104	.142
IDR2-S	.014	-.004	.019	.002	.012	-.018	-.008	-.004	-.034	.120	.138	.129	.137	.148
IDR3-S	-.027	-.030	-.004	-.010	-.023	-.047	-.028	-.044	-.034	.069	.080	.068	.084	.086
IO1-S	.111	.049	.063	.108	.158	.165	.098	.092	.067	.205	.150	.200	.191	.230
IO2-S	.118	.066	.089	.104	.151	.172	.099	.085	.094	.223	.196	.217	.224	.195
IO3-S	.096	.024	.055	.093	.133	.143	.073	.059	.060	.186	.180	.208	.184	.147
IO4-S	.086	.018	.038	.080	.128	.138	.064	.046	.045	.214	.191	.239	.216	.193
FO1-S	.210	.136	.143	.182	.176	.191	.144	.167	.151	.127	.078	.094	.098	.074
FO2-S	.216	.155	.143	.209	.190	.205	.170	.187	.166	.131	.092	.108	.092	.077
FO3-S	.215	.132	.164	.211	.189	.202	.163	.177	.180	.117	.067	.087	.094	.078
Er1-C	.281	.277	.267	.239	.236	.221	.272	.249	.279	.150	.122	.137	.138	.051
Er2-C	.256	.237	.279	.228	.205	.199	.228	.245	.246	.136	.099	.118	.101	.051
Er3-C	.117	.129	.139	.078	.034	.070	.107	.098	.115	-.027	-.017	-.042	-.024	-.041
PD1-C	-.101	-.102	-.116	-.068	-.001	-.046	-.083	-.096	-.107	.066	.036	.056	.059	.047
PD2-C	-.109	-.108	-.120	-.070	-.006	-.052	-.072	-.092	-.100	.076	.053	.074	.079	.032
PD3-C	-.102	-.120	-.119	-.089	-.031	-.082	-.091	-.113	-.125	.070	.044	.081	.079	.050
WC1-C	.212	.180	.203	.167	.170	.158	.169	.189	.211	.049	.022	.036	.033	.040
WC2-C	.138	.100	.136	.145	.130	.122	.099	.142	.124	.086	.054	.054	.044	.007
WC3-C	.129	.169	.161	.099	.049	.086	.114	.131	.143	-.056	-.022	-.042	-.027	-.060
WC4-C	.154	.147	.163	.171	.103	.129	.129	.171	.170	.028	.020	.010	-.009	-.044
WC5-C	.172	.181	.209	.217	.114	.167	.147	.165	.171	.024	.024	.022	.021	.002
EU1-C	.066	.041	.046	.049	.062	.055	.016	.028	.016	.196	.183	.224	.206	.082
EU2-C	.023	-.018	.007	.051	.050	.062	.011	-.001	-.023	.101	.102	.154	.137	.028
EU3-C	.000	-.028	-.014	.007	.013	.017	-.046	-.045	-.045	.086	.075	.120	.105	.033

	TS1-T	TS2-T	TS3-T	TS4-T	TI1-T	TI2-T	TI3-T	TI4-T	FJ1-T	FJ2-T	FJ3-T
TS1-T	1.000										
TS2-T	.577	1.000									
TS3-T	.510	.520	1.000								
TS4-T	.517	.512	.922	1.000							
TI1-T	.073	.124	.098	.098	1.000						
TI2-T	.006	.083	.050	.074	.579	1.000					
TI3-T	.025	.074	.067	.083	.619	.747	1.000				
TI4-T	.031	.101	.056	.082	.568	.666	.841	1.000			
FJ1-T	.146	.215	.139	.149	.298	.317	.328	.354	1.000		
FJ2-T	.147	.238	.167	.178	.247	.256	.299	.316	.693	1.000	
FJ3-T	.160	.219	.163	.177	.232	.253	.289	.292	.680	.895	1.000
JC1-K	.104	.084	.077	.072	-.092	-.063	-.027	-.018	-.006	.041	.032
JC2-K	.166	.154	.118	.116	-.051	-.135	-.070	-.038	.012	.007	.036
JC3-K	.161	.144	.124	.128	-.067	-.131	-.072	-.055	.025	.046	.080
JC4-K	.136	.124	.083	.090	-.076	-.106	-.064	-.048	.018	.033	.080
IP1-K	.273	.275	.221	.203	.013	-.033	-.025	-.006	.061	.039	.063
IP2-K	.243	.281	.226	.218	.026	-.037	-.005	.045	.128	.130	.165
IP3-K	.206	.225	.154	.156	.000	-.075	-.023	.014	.076	.088	.094
IP4-K	.245	.273	.241	.220	.042	-.073	-.009	.017	.116	.109	.136
PS1-K	.124	.083	.138	.137	-.178	-.185	-.186	-.133	-.056	-.039	-.018
PS2-K	.151	.175	.168	.196	-.053	.013	.015	.073	.153	.190	.186
PS3-K	.136	.123	.082	.082	-.085	-.054	-.080	-.030	.060	.074	.100
PS4-K	.173	.224	.209	.218	.003	.011	.005	.048	.143	.163	.174
SV1-K	.210	.249	.246	.242	.040	-.005	.053	.102	.152	.167	.181
SV2-K	.217	.245	.240	.235	.016	-.001	.041	.088	.136	.161	.175
SV3-K	.193	.254	.241	.246	-.040	-.043	-.001	.048	.120	.130	.161
SV4-K	.177	.215	.201	.204	-.009	-.031	.021	.075	.112	.122	.141

Sp1-K	.173	.265	.200	.201	.098	.012	.078	.086	.143	.153	.168
Sp2-K	.111	.164	.118	.128	.059	.063	.072	.057	.150	.126	.156
Sp3-K	.142	.232	.179	.180	.038	.006	.053	.064	.131	.118	.138
Sp4-K	.191	.276	.216	.233	.004	-.029	.028	.050	.131	.144	.181
SS1-S	.120	.188	.103	.136	.109	.099	.122	.157	.179	.213	.235
SS2-S	.199	.219	.143	.171	.071	.088	.104	.148	.131	.193	.219
SS3-S	.200	.215	.154	.181	.054	.076	.080	.127	.119	.198	.232
SS4-S	.048	.118	.052	.076	.021	.127	.136	.155	.249	.303	.312
SS5-S	.048	.120	.084	.099	.058	.057	.089	.132	.191	.209	.217
SS6-S	.056	.140	.095	.124	.056	.099	.107	.139	.170	.183	.212
IDI1-S	.145	.083	.019	.030	.022	-.016	-.044	-.041	.055	.052	.054
IDI2-S	.213	.184	.135	.136	.035	-.043	-.013	-.022	.104	.121	.120
IDI3-S	.149	.133	.074	.079	.059	-.006	-.010	-.008	.093	.078	.071
IDR1-S	.142	.136	.113	.131	.015	-.081	-.051	-.064	.066	.077	.056
IDR2-S	.148	.137	.137	.145	.007	-.075	-.054	-.054	.069	.067	.061
IDR3-S	.086	.084	.078	.093	.046	-.073	-.051	-.062	.038	.018	.003
IO1-S	.230	.210	.366	.380	-.029	-.020	-.015	-.027	.091	.108	.140
IO2-S	.195	.206	.333	.347	-.038	-.036	-.003	.021	.098	.109	.128
IO3-S	.147	.160	.300	.312	-.020	-.029	.001	.024	.098	.117	.115
IO4-S	.193	.200	.363	.373	-.017	-.020	-.001	.004	.064	.101	.114
FO1-S	.074	.143	.099	.124	.147	.164	.173	.165	.328	.412	.435
FO2-S	.077	.138	.098	.124	.091	.150	.153	.149	.334	.423	.447
FO3-S	.078	.164	.106	.143	.128	.158	.185	.196	.374	.447	.445
Er1-C	.051	.106	.035	.047	.017	.092	.119	.135	.106	.135	.148
Er2-C	.051	.063	.055	.077	.077	.116	.171	.178	.175	.153	.175
Er3-C	-.041	-.058	-.103	-.084	-.105	-.052	.001	.032	-.044	-.028	-.031
PD1-C	.047	.044	.124	.112	.062	.035	-.028	-.051	.039	.047	.065
PD2-C	.032	.039	.114	.097	.063	.043	-.013	-.042	.043	.053	.055

PD3-C	.050	.038	.137	.133	.057	.021	-.030	-.059	.048	.052	.059
WC1-C	.040	.024	.000	.016	.034	.084	.127	.139	.099	.102	.119
WC2-C	.007	.029	.009	.029	.058	.156	.161	.144	.093	.127	.156
WC3-C	-.060	-.036	-.093	-.097	-.005	.022	.091	.110	.016	.031	.022
WC4-C	-.044	-.008	-.081	-.054	.040	.115	.146	.163	.061	.067	.071
WC5-C	.002	.016	-.030	-.028	.094	.150	.190	.210	.100	.087	.096
EU1-C	.082	.110	.130	.125	.084	.040	.045	.050	.120	.129	.123
EU2-C	.028	.058	.050	.038	-.007	-.028	-.020	-.009	.048	.044	.060
EU3-C	.033	.031	.051	.045	-.028	-.058	-.056	-.055	.047	.029	.058

	JC1-K	JC2-K	JC3-K	JC4-K	IP1-K	IP2-K	IP3-K	IP4-K	PS1-K	PS2-K	PS3-K	PS4-K
JC1-K	1.000											
JC2-K	.379	1.000										
JC3-K	.339	.829	1.000									
JC4-K	.360	.775	.813	1.000								
IP1-K	.259	.395	.359	.333	1.000							
IP2-K	.248	.544	.509	.480	.588	1.000						
IP3-K	.345	.367	.329	.342	.545	.471	1.000					
IP4-K	.220	.501	.500	.449	.632	.708	.550	1.000				
PS1-K	.200	.315	.305	.304	.331	.426	.316	.395	1.000			
PS2-K	.227	.342	.341	.347	.266	.489	.319	.368	.508	1.000		
PS3-K	.169	.299	.274	.273	.235	.394	.262	.327	.498	.443	1.000	
PS4-K	.228	.358	.337	.350	.288	.504	.330	.418	.508	.642	.592	1.000
SV1-K	.295	.400	.375	.368	.396	.494	.452	.478	.346	.491	.360	.511
SV2-K	.312	.409	.376	.374	.389	.500	.433	.466	.347	.484	.379	.521

SV3-K	.271	.541	.554	.507	.405	.630	.410	.573	.448	.521	.435	.559
SV4-K	.303	.437	.412	.391	.395	.502	.441	.464	.362	.476	.371	.476
Sp1-K	.145	.429	.432	.395	.352	.485	.324	.498	.270	.347	.287	.399
Sp2-K	.070	.321	.324	.324	.227	.375	.220	.362	.206	.290	.277	.353
Sp3-K	.147	.417	.422	.407	.312	.519	.293	.466	.289	.396	.290	.411
Sp4-K	.230	.484	.485	.457	.355	.562	.333	.515	.318	.391	.279	.443
SS1-S	.052	.010	.006	.020	.077	.101	.095	.104	-.011	.081	.068	.108
SS2-S	.135	.044	.032	.041	.136	.127	.199	.122	.030	.150	.097	.140
SS3-S	.139	.071	.069	.065	.153	.155	.199	.174	.095	.149	.130	.196
SS4-S	.071	.039	.033	.025	.008	.109	.073	.043	.029	.145	.112	.141
SS5-S	.107	.048	.050	.075	.105	.152	.101	.100	.053	.149	.112	.153
SS6-S	.108	-.010	.011	.043	.099	.109	.106	.073	.080	.162	.112	.161
IDI1-S	.064	.093	.111	.067	.147	.109	.155	.116	.042	.087	.110	.083
IDI2-S	.145	.182	.215	.175	.228	.219	.218	.243	.108	.164	.159	.189
IDI3-S	.127	.142	.156	.113	.208	.162	.215	.203	.076	.097	.087	.118
IDR1-S	.132	.172	.190	.126	.216	.210	.203	.227	.123	.138	.129	.181
IDR2-S	.094	.140	.130	.077	.206	.184	.173	.205	.085	.104	.110	.177
IDR3-S	.099	.124	.149	.095	.173	.163	.187	.205	.103	.106	.100	.130
IO1-S	.162	.160	.168	.171	.173	.237	.213	.227	.249	.272	.184	.289
IO2-S	.168	.128	.132	.128	.211	.187	.261	.199	.225	.251	.145	.195
IO3-S	.164	.090	.088	.077	.187	.155	.232	.159	.177	.193	.141	.199
IO4-S	.169	.094	.094	.093	.204	.188	.246	.193	.183	.221	.164	.232
FO1-S	.060	.048	.058	.080	.027	.125	.081	.108	-.007	.177	.095	.162
FO2-S	.045	.028	.044	.067	.017	.117	.074	.110	.016	.194	.105	.165
FO3-S	.036	.041	.026	.037	.039	.119	.078	.098	.004	.167	.096	.141
Er1-C	.060	.054	.059	.061	.095	.083	.100	.092	.065	.157	.100	.081
Er2-C	.022	-.016	-.006	-.014	.055	.063	.099	.068	.038	.103	.068	.084

Er3-C	.061	.024	.042	.050	.058	.007	.108	.008	.031	-.024	.010	-.026
PD1-C	-.063	-.057	-.051	-.059	-.079	-.027	-.095	-.018	-.008	.076	-.018	.044
PD2-C	-.056	-.073	-.075	-.081	-.091	-.053	-.109	-.043	-.025	.071	-.044	.034
PD3-C	-.068	-.067	-.065	-.074	-.091	-.036	-.090	-.031	-.024	.074	-.047	.038
WC1-C	.000	-.075	-.050	-.052	-.012	-.036	.018	-.043	-.011	.034	.070	.017
WC2-C	-.040	-.027	-.025	-.037	-.014	.009	-.021	-.012	-.024	.065	.041	.074
WC3-C	.004	-.060	-.035	-.023	.023	-.028	.059	-.016	-.018	-.051	-.004	-.031
WC4-C	.009	-.036	-.024	-.015	.020	.023	.057	.010	-.016	.006	.015	-.010
WC5-C	.018	-.021	.002	.001	.040	.048	.074	.013	-.029	.020	.047	.041
EU1-C	.045	.062	.037	.060	.014	.104	.102	.127	.032	.132	.087	.157
EU2-C	.039	.191	.217	.197	.129	.224	.136	.260	.178	.232	.190	.245
EU3-C	.019	.197	.209	.213	.071	.186	.094	.192	.136	.192	.220	.223

	SV1-K	SV2-K	SV3-K	SV4-K	Sp1-K	Sp2-K	Sp3-K	Sp4-K	SS1-S	SS2-S	SS3-S	SS4-S	SS5-S	SS6-S
SV1-K	1.000													
SV2-K	.878	1.000												
SV3-K	.675	.691	1.000											
SV4-K	.812	.814	.698	1.000										
Sp1-K	.424	.434	.567	.444	1.000									
Sp2-K	.341	.331	.469	.360	.684	1.000								
Sp3-K	.450	.441	.624	.450	.728	.698	1.000							
Sp4-K	.493	.508	.648	.523	.644	.536	.734	1.000						
SS1-S	.125	.154	.094	.100	.122	.072	.067	.113	1.000					
SS2-S	.212	.223	.140	.176	.057	-.006	.027	.094	.670	1.000				

SS3-S	.201	.219	.190	.177	.106	.055	.067	.142	.581	.785	1.000			
SS4-S	.096	.103	.111	.080	.035	.055	.027	.069	.278	.235	.256	1.000		
SS5-S	.133	.166	.136	.130	.097	.065	.062	.108	.560	.482	.442	.464	1.000	
SS6-S	.127	.166	.113	.125	.051	-.008	.044	.066	.455	.428	.394	.418	.662	1.000
IDI1-S	.118	.094	.089	.098	.102	.111	.127	.107	.037	.051	.058	.031	.110	.085
IDI2-S	.187	.188	.211	.200	.177	.144	.218	.187	.092	.117	.140	.080	.127	.115
IDI3-S	.145	.141	.151	.175	.146	.097	.167	.151	.026	.064	.089	.037	.079	.101
IDR1-S	.153	.146	.182	.170	.147	.084	.168	.158	.077	.108	.139	.083	.105	.168
IDR2-S	.155	.153	.175	.179	.160	.117	.162	.171	.040	.072	.106	.079	.086	.147
IDR3-S	.121	.129	.133	.144	.128	.063	.118	.141	.028	.031	.072	.033	.061	.089
IO1-S	.220	.209	.262	.207	.165	.158	.178	.214	.180	.229	.251	.099	.190	.165
IO2-S	.240	.229	.223	.240	.119	.109	.140	.185	.159	.217	.229	.114	.179	.188
IO3-S	.195	.197	.177	.186	.102	.102	.110	.164	.156	.174	.193	.093	.184	.169
IO4-S	.212	.213	.201	.200	.118	.103	.108	.165	.177	.211	.236	.106	.183	.182
FO1-S	.098	.088	.125	.058	.150	.172	.121	.125	.259	.213	.204	.423	.365	.277
FO2-S	.127	.118	.147	.093	.117	.106	.090	.097	.235	.218	.217	.402	.358	.298
FO3-S	.088	.091	.113	.069	.122	.090	.083	.099	.213	.203	.213	.442	.373	.319
Er1-C	.111	.124	.084	.104	.080	.038	.045	.092	.179	.189	.197	.253	.264	.282
Er2-C	.076	.098	.050	.072	.071	.026	.016	.068	.213	.199	.223	.282	.259	.273
Er3-C	.028	.030	.023	.036	-.031	-.087	-.027	-.010	-.033	-.023	-.011	.111	.067	.069
PD1-C	.005	.000	.016	-.014	.027	.104	.064	.015	.069	.029	.015	-.052	-.080	-.080
PD2-C	.003	-.003	-.008	-.013	.017	.090	.038	-.004	.067	.028	.012	-.052	-.073	-.085
PD3-C	.016	.004	-.002	-.010	.036	.093	.038	.008	.069	.039	.013	-.064	-.066	-.077
WC1-C	-.012	.013	-.040	-.012	-.031	-.031	-.070	-.079	.068	.078	.067	.181	.172	.191
WC2-C	.048	.056	-.003	.021	.015	.025	.029	.001	.097	.096	.084	.154	.129	.184
WC3-C	-.021	-.016	-.059	-.029	-.044	-.130	-.077	-.051	-.011	-.006	.009	.145	.108	.111

C														
WC4-C	.022	.042	-.008	.020	-.033	-.061	-.059	-.007	.073	.075	.085	.174	.148	.138
WC5-C	.057	.069	.035	.058	.015	-.029	-.009	.039	.064	.067	.083	.197	.199	.191
EU1-C	.235	.231	.201	.207	.205	.249	.201	.206	.093	.077	.079	.079	.017	.040
EU2-C	.206	.191	.340	.221	.341	.358	.373	.340	.014	.029	.040	.052	.033	.006
EU3-C	.167	.153	.263	.194	.301	.364	.349	.297	.006	-.055	-.037	.007	-.036	-.051

	IDI1-S	IDI2-S	IDI3-S	IDR1-S	IDR2-S	IDR3-S	IO1-S	IO2-S	IO3-S	IO4-S	FO1-S	FO2-S	FO3-S
IDI1-S	1.000												
IDI2-S	.613	1.000											
IDI3-S	.646	.767	1.000										
IDR1-S	.426	.564	.568	1.000									
IDR2-S	.343	.419	.438	.705	1.000								
IDR3-S	.311	.392	.474	.635	.687	1.000							
IO1-S	.012	.082	.046	.129	.154	.116	1.000						
IO2-S	.019	.085	.056	.114	.122	.068	.655	1.000					
IO3-S	-.022	.042	.022	.080	.080	.062	.644	.782	1.000				
IO4-S	.004	.039	.022	.087	.116	.072	.746	.777	.841	1.000			
FO1-S	.076	.132	.094	.116	.106	.084	.169	.124	.131	.147	1.000		
FO2-S	.132	.164	.129	.151	.122	.095	.157	.147	.141	.152	.770	1.000	
FO3-S	.067	.125	.088	.145	.124	.112	.123	.133	.101	.109	.760	.805	1.000
Er1-C	.078	.082	.017	.035	.048	.025	.097	.111	.069	.115	.196	.183	.170
Er2-C	.013	.041	-.009	.005	.038	-.004	.098	.115	.093	.121	.199	.189	.196
Er3-C	-.041	-.025	-.032	-.018	.018	.009	-.054	-.009	-.028	-.038	.013	.010	.021
PD1-C	.046	.035	.043	-.016	-.038	-.030	.137	.071	.083	.090	.052	.019	-.007

PD2-C	.042	.023	.035	-.021	-.041	-.047	.119	.056	.057	.073	.047	.013	-.007
PD3-C	.052	.039	.054	-.017	-.033	-.033	.118	.050	.048	.075	.049	.008	-.002
WC1-C	-.031	-.003	-.045	-.020	.010	.010	.054	.082	.049	.070	.107	.106	.152
WC2-C	-.013	.029	.007	.014	.016	-.023	.077	.032	.015	.043	.161	.146	.154
WC3-C	-.027	-.013	-.013	.030	.003	.032	-.097	-.063	-.073	-.083	.052	.036	.079
WC4-C	-.007	.005	.012	.015	.037	.070	.026	.025	.027	.020	.095	.094	.130
WC5-C	.001	.038	.022	.044	.061	.028	.016	.069	.039	.042	.133	.124	.153
EU1-C	.102	.122	.137	.055	.038	.035	.053	.075	.081	.058	.129	.118	.102
EU2-C	.085	.140	.131	.044	.035	.017	.029	.045	.044	.038	.109	.107	.107
EU3-C	.128	.156	.138	.045	.028	.015	.049	.041	.054	.060	.089	.072	.056

	Er1-C	Er2-C	Er3-C	PD1-C	PD2-C	PD3-C	WC1-C	WC2-C	WC3-C	WC4-C	WC5-C	EU1-C	EU2-C
Er1-C	1.000												
Er2-C	.718	1.000											
Er3-C	.209	.214	1.000										
PD1-C	-.220	-.198	-.664	1.000									
PD2-C	-.212	-.201	-.649	.947	1.000								
PD3-C	-.220	-.186	-.648	.893	.913	1.000							
WC1-C	.372	.364	.189	-.203	-.196	-.192	1.000						
WC2-C	.349	.395	.102	-.076	-.075	-.076	.403	1.000					
WC3-C	.312	.304	.390	-.521	-.519	-.492	.348	.201	1.000				
WC4-C	.320	.340	.318	-.363	-.370	-.363	.391	.338	.598	1.000			
WC5-C	.377	.434	.308	-.345	-.340	-.347	.406	.377	.551	.656	1.000		
EU1-C	-.100	-.095	-.260	.328	.325	.340	-.143	-.068	-.262	-.223	-.137	1.000	
EU2-C	-.037	-.032	-.170	.205	.199	.202	-.093	-.019	-.201	-.169	-.084	.500	1.000
EU3-C	-.096	-.080	-.232	.294	.292	.285	-.135	-.032	-.280	-.266	-.185	.449	.692

APPENDIX F

CORRELATION ANALYSIS

For correlation analysis, the raw scores were converted to Z-scores as recommended by Rosenthal (1994). The standardized coefficients (β) may be slightly different from the AMOS results presented above. The correlation coefficients are depicted in Table below and zero-order correlation matrix appears in Appendix E.

For reduced work characteristics model constructs, the correlation between TC and profit CSRO was significant at .001 level. Similarly, the correlation between SC and profit, legal, and philanthropic CSRO were all significant, which is in line with the past studies.

The correlation between autonomy and profit CSRO, task identity and profit CSRO, and between feedback from job and profit CSRO was significant at p value of .001 level. Task variety social support, and information processing were significantly correlated with CSRL ($p < .001$). Feedback from others correlated with philanthropic CSRO at $p = .01$ level, and task significance, problem solving, social support, interaction outside organization correlated with philanthropic CSRO at .04 significance level.

Also provided in the Table below are the standardized beta coefficients for work characteristics and CSRO. The regression coefficients were low overall. Interaction outside the organization and job complexity were the predictors of CSR profit orientation. Task variety, social support, physical demand of work, information processing were significant predictors of CSR legal orientation at $p = .05$ significance level, while problem solving was significant predictor at the .001 level. As for

philanthropic CSR orientation, task identity, problem solving, feedback from others, were significant predictors at $p = .05$ level. None of the remaining work characteristics were found to be significantly correlated or predictor of CSR philanthropic orientation.

Multiple Regression Analysis Predicting CSRO from work characteristics

Predictors	Corporate Social Responsibility Orientation					
	Profit CSRO		Legal CSRO		Philanthropic CSRO	
	<i>r</i>	β	<i>r</i>	β	<i>r</i>	B
Task Ch.	.107***	.093*	.061*	.029	.045	.033
Knowledge Ch.	.012	-.041	.039	-.012	-.032	-.081
Social Ch.	.093*	.080*	.122***	.118***	.090*	.111*
Autonomy	.099***	.067 [†]	.037	-.022	-.036	-.067 [†]
Task variety	.051 [†]	.009	.102***	.106*	.031	.019
Specialization	.032	.031	.027	.026	-.020	-.013
Interaction outside	.096*	.097*	.081*	.048	.057*	.042
Work condition	.050 [†]	.018	.069*	-.011	-.004	-.037
Social support	.058*	.006	.135***	.090*	.092*	.061
Physical demand	.039	.034	-.093*	-.091*	.039	.023
Task identity	.111***	.063 [†]	.067*	.043	.096*	.092*
Job complexity	-.050 [†]	-.087*	.014	-.050	-.044 [†]	-.033
Problem solving	.010	-.062	-.038	-.136***	-.072*	-.109*
Significance	.057*	-.008	.087*	.028	.070*	.043
Feedback fm other	.016	-.067 [†]	.077*	.048	.101***	.103*
Info processing	.017	.014	.104***	.138*	.011	-.004
Feedback fm Job	.110***	.072	.042 [†]	-.031	.034	-.050
Equipment use	.008	-.004 [†]	-.054*	-.043	-.021	-.039
Skill variety	.048 [†]	.042	.040	-.038	.018	.074
Interdependence	.014	.018	.048 [†]	.012	.053	.045

r = Pearson correlation. β = Standardized Beta Coefficients

*** $p < .001$. * $p < .05$. [†] $p < .10$

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