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**WORKPLACE COMMUNITY IN STRATEGIC
HUMAN RESOURCE MANAGEMENT:
THE ROLE OF SOCIAL MEDIATORS
IN THE STRATEGIC HUMAN
RESOURCE MANAGEMNT
BLACK BOX**

by

RICHARD HARVEY JONSEN

A dissertation submitted to the
College of Business and Leadership
in partial fulfillment of the requirements
for the degree Doctor of Philosophy
Saint Davids, Pennsylvania

October 25, 2017

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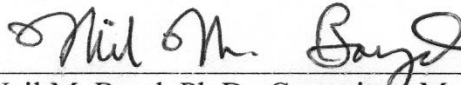
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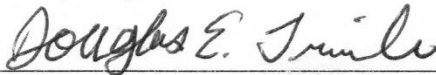
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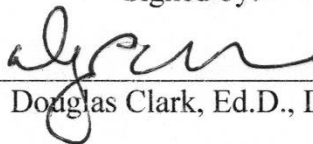


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ABSTRACT

Workplace Community in Strategic Human Resource Management:
The Role of Social Mediators in the Strategic Human Resource Management Black Box

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Ph.D., Organizational Leadership, 2017

Eastern University

Advisor: Franklin Oikelome, Ph.D.

This quantitative, cross-disciplinary, cross sectional study sought to better understand the role of workplace community among the social variables that mediate the relationship between human resource management systems and organizational performance inside the so called strategic human resource management system black box. Seven primary hypotheses and 34 sub-hypotheses were tested regarding the relationship between high-involvement climate, workplace community, and organizational citizenship behavior, as partially mediated by employee basic needs fulfillment and organizational identification. Data were gathered at the individual-level across multiple organizations. Partial least squares structural equation modeling was utilized to conduct the analysis.

Study findings provide important insights into social mediators of organizational performance and the role of workplace community in that mediation. The workplace community constructs of psychological sense of community and sense of community responsibility were identified as significant and important predictors of organizational citizenship behavior, the proximal indicator of organization performance used in this

study. Further, the role of high-involvement climate – this study’s measure of high-involvement work systems – in predicting the three constructs of employee psychological need satisfaction was confirmed, with important insights revealed regarding the differential role of the three factors comprising high-involvement climate have in predicting autonomy, competence, and relatedness need satisfaction. High-involvement climate was further demonstrated to have significant and important direct and indirect effects on employee experience of workplace community, both in term of psychological sense of community and sense of community responsibility. Organizational identification was also found to have an important mediating role in the black box, though results suggest further exploration and specification of OI’s specific role is needed. Finally and importantly, the relationship between the high-involvement climate and organizational citizenship behavior directed toward individuals and the organization was found to be fully mediated by workplace community and its specified antecedent variables. Implications and guidelines for leadership and management practice are discussed.

Dedication

To Patty, with gratitude and love.

Acknowledgements

I am indebted to all who walked with me – beside and in front – along this journey. First to my wife of thirty-six years, Patty. This project would have never come to fruition without her patience, love, encouragement, and support. I am also indebted to my fellow classmates, dissertation committee, and faculty of the Eastern University Ph.D. organizational leadership program. Their insights and friendship throughout this doctoral adventure has been invaluable and comes through in these pages in ways seen and unseen. A huge “thanks” is also due to my Eastern University undergraduate business faculty colleagues who have provided never ending encouragement and scheduled my course load to make room for doctoral studies. This doctoral journey may have never begun without my first officemate and fellow Ph.D. student JoAnn Flett (and those deep theological and philosophical Friday afternoon conversations); my mom and dad, Cece and Bob Jonsen (and their question many years ago in a San Jose, California restaurant, “What ever happened to your interest in teaching?”); our friend Dick Kantzer (and his encouragement during our first years on the east coast, who saw potential in me as an educator); and my uncles Pat and Dick (who cautioned me regarding the rigors of doctoral study – *they were right* – yet encouraged me along the way). Thanks are also due to our neighbor Miles Bowman, members of Trinity Christian Reformed Church in Broomall, Pennsylvania, my siblings Kristin, Mic, Bob, and Dave, for their never ending interest and curiosity about my work (including the question, “Are you done yet?”). And finally, to Three-in-One God who continues to reveal to me, as I am ready and able to understand, the truth about humble leadership and service in his upside-down kingdom.

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CHAPTER 1

INTRODUCTION AND BACKGROUND

The development of alternative forms of sustainable community are increasingly important in what Drucker (1992) has labeled our “society of organizations.” Humanity’s social nature requires institutional structures that promote and allow for membership, connection, and contribution, yet many of our traditional sources and forms of community, particularly geographic community, are in disarray or no longer exist (Bellah, Madsen, Sullivan, Swidler, & Tipton, 1985). It is in this context that forms of community not bound to place, such as relational community (Heller, 1989), become critical to meeting our social needs. Commercial workplaces can be one such relational community. Hamel (2009) and Mintzberg (2009) call for integrating dimensions of community into our commercial organizations as an antidote to the management and leadership excesses that led to the recent global financial collapse. In rebuilding companies as communities, Mintzberg advises, we not only acknowledge the social needs of humanity but build organizations that create a more sustainable economy and society. This study seeks to understand the human resource management practices and mediating social variables that build workplace community, and the relationship of workplace community to organizational performance.

Companies as communities require humble leadership in the Rost (1993) tradition that allows for mutual influence among leaders and followers as they pursue their common purposes. Rost’s conception of a humble transformational leadership recognizes

the dignity and worth of all members of the organization regardless of position, rank, or level. It also emphasizes the collaborative and reciprocal nature of working in community. Members of the workplace community seek to achieve their collective goals/purposes through relationships of mutual, interactive (not one-way or top-down) influence. The results of this study support practitioner leaders who endeavor to create or rebuild companies by designing human resource management systems that simultaneously develop community and support firm performance.

Background

The social problems associated with the fracturing of traditional forms of community in industrial societies have been well documented (e.g., Bellah et al., 1985; Dunkelman, 2014; Putnam, 2000). These same researchers note that persons longing for social connection often seek alternative forms of community, including the workplace. Organizational development researchers and practitioners extend this theme, arguing that the creation of workplace community has existential, intrinsic value (e.g., Block, 2008; Mintzberg, 2009; Nirenberg, 1994; Weisbord, 2012). A stream of thinking is also developing among Christian theologians, scholars, and people of faith in commerce who identify workplace community as an appropriate organizational form for a business (e.g., Dyck & Wiebe, 2012; Franz, 2014; Jonsen, 2017; Naughton, 2006). Together, this literature suggests that the workplace and other alternative community forms will continue to have an important social function in post-industrial society.

Psychological Sense of Community

Pfeffer (2006) observes that while interest in workplace community ebbs and flows in management research, it deserves more attention from practitioners and

academics alike. Developing a more complete understanding of how workplace community is created and maintained, and the impact of workplace community on organizational performance, will be critical to the development and sustainability of an important vehicle for social connection in our “society of organizations” (Drucker, 1992). The psychological sense of community construct from community psychology may be helpful in this regard (Boyd & Nowell, 2014). Psychological sense of community is a conception of community broad enough for use in the context of both geography-based communities and alternative community forms intrinsic to post-industrial society, including organizations (McMillan & Chavis, 1986; Sarason, 1974). Community is experienced in organizational life when people feel as though they are part of an interdependent group, “part of a larger dependable and stable structure that will meet key needs, and a sense of responsibility for the well-being of that community and its members (Boyd & Nowell, 2014, p. 109).

Community psychology research includes some limited exploration of the presence, antecedents, and outcomes of workplace community (Boyd & Angelique, 2007; Boyd, 2014). These studies have found individual-level antecedents of workplace community to include active participation (Pretty & McCarthy, 1991), needs for affiliation (Burroughs & Eby, 1998) and support (Pretty & McCarthy, 1991), employee tenure, (Burroughs & Eby, 1998), and employee individualism/collectivism (Love, 2007). Organizational-level antecedents include workgroup size, number of acquaintances, and company benefits/service (Burroughs & Eby, 1998). Positively correlated outcomes of workplace community include job satisfaction (Burroughs & Eby, 1998; Lampinen, Viitanen, & Konu, 2015; Royal & Rossi, 1996), organizational attachment (Royal &

Rossi, 1996), organizational citizenship behavior (Boyd & Nowell, 2017; Burroughs & Eby, 1998), organizational identification (Chioneso, 2004), and role clarity (Royal & Rossi, 1996). Negatively correlated outcomes of workplace community include turnover intention, role conflict, role overload, and psychological distress (Royal & Rossi, 1996). This research highlights the potential usefulness of workplace community in organization studies. Burroughs and Eby's (1998) work is particularly relevant to researchers working to understand how organizational systems – such as human resource management systems – can be designed to develop and support workplace community.

Strategic Human Resource Management and Social Mediators of Performance

Strategic human resource management (SHRM) research and practice approaches human resource management (HRM) as a responsibility of general management, addressing the responsibilities, accountabilities and activities of leaders and managers throughout the organization, not simply the human resources staff function. SHRM is primarily concerned with aligning organizational HRM practices and outcomes with the organization's strategies and outcomes, particularly in regards to achieving sustainable competitive advantage (Barney & Clark, 2007; Beer, Spector, Lawrence, Mills, & Walton, 1984; Boxall & Purcell, 2011; Tichy, Fombrun, & Devanna, 1984; Wright, McMahan, & McWilliams, 1994). Consistent with this focus, much of SHRM research over the past twenty years has focused on high-performance work systems (HPWS) and their relationship to organizational outcomes, with a bulk of the research focusing on organizational financial and operational performance (see Jackson, Schuler, & Jiang, 2014; and K. Jiang, Lepak, Hu, & Baer, 2012 for reviews).

HPWS are integrated systems of human resources management practices that are complementary to one another and aligned with the commercial strategy of the firm (Huselid, 1995). A key characteristic of HPWS compared to individual HRM practices (e.g., organization and job design, recruiting and selection, performance management, learning and development, compensation and benefits, health and safety) is cross-practice coordination of purpose and design. “HPWS may be viewed as strong systems comprising internally coherent practices that send reinforcing messages and cues to employees” (Messersmith, Patel, Lepak, & Gould-Williams, 2011, p. 1107). They are designed and operate with a view of employees and their human capital as sources of competitive advantage and seek to maximize that advantage for the benefit of all stakeholders (Beer et al., 1984). HRM practices not integrated into coordinated systems are more typically viewed as transactional cost centers with an emphasis on cost control and efficiency (Becker & Huselid, 1998). SHRM researchers note that individual HRM practices have little strategic impact on organizational effectiveness or performance, while complementary practices woven into an integrated system are positively correlated to both (Huselid, 1995; Jackson et al., 2014; Schuler & Jackson, 1987; Ulrich & Brockbank, 2005).

The ability, motivation, opportunity (AMO) model (Appelbaum, Bailey, Berg, & Kalleberg, 2000; Lepak, Liao, Chung, & Harden, 2006) is most commonly referenced theory for explaining the indirect relationship of HPWS to firm performance through the mediator of human capital. HPWS have been found to build human capital by growing worker knowledge, skills and abilities (A), increasing worker motivation (M), and providing worker opportunities for voice and contribution (O) (Jackson et al., 2014; K.

Jiang, Takeuchi, & Lepak, 2013). While ability and motivation operate largely at the individual-level, opportunity operates at the dyadic-, group-, and organizational-levels which are inherently social in nature. This led Evans and Davis (2005) to propose that organizational social structure also mediates the HPWS-organizational performance relationship. Exactly how AMO operates within organizational social structure to build human capital and interact with other potential mediators of organizational performance is often collectively referred as SHRM's "black box" (Becker & Huselid, 2006). Scholars are calling for further inquiry into the relatively underexplored black box to better understand the mechanisms by which HPWS impact organization performance (e.g., K. Jiang et al., 2013). Recent empirical studies of organizational performance mediators inside the black box include employee job satisfaction (Choi & Lee, 2013), organizational climate (Cafferkey & Dundon, 2015), and organizational citizenship behavior (Gong, Chang, & Cheung, 2010; Kehoe & Wright, 2013; Messersmith et al., 2011; Mostafa, Gould-Williams, & Bottomley, 2015).

Burroughs and Eby's (1998) identification of organization-level psychological sense of community (SOC) antecedents suggested early-on that HRM systems may be involved in the development and maintenance of workplace community. More recently, Boyd and Nowell (2014) have suggested that management researchers consider SOC as a potential mediator of organizational performance, or possibly a goal on par with other organization outcomes such as profit and productivity. While not directly examining workplace community's place and function in the black box, SHRM researchers have begun examining the relationship between organizational performance and social concepts similar to workplace community. Collins and Clark (2003), for example, found

a correlation between the social capital of executives and firm performance. Evans and Davis (2005) postulated a set of seven high-performance work systems (HPWS) can build, support, or breakdown a company's internal social structure, and that this internal social structure mediates the positive (or negative) impact of HPWS on company performance. Gittell and colleagues (Gittell, Seidner, & Wimbush, 2010; Gittell, 2016) examined HPWS as an antecedent of "relational coordination," finding correlations between HPWS, relational coordination between workers, and organizational performance. Jiang and Liu (2015) have developed a conceptual model of the mediating role of social capital. And Takeuchi, Lepak, Wang, and Takeuchi (2007) identified social exchange among employees as a mediator of establishment performance.

SHRM researchers have also identified a number of organizational climate types (Schneider, White, & Paul, 1998) as mediators of organizational performance. For example, climate of concern for employees – another social mediator of organizational performance – was identified as a mediating variable between HPWS and employee-level outcomes such as job satisfaction and affective commitment (Takeuchi, Chen, & Lepak, 2009) and employee helping behaviors (Chuang & Liao, 2010). Chuang and Liao further found that these helping behaviors mediated firm market performance. Hong, Liao, Hu and Jiang (2013) confirmed these findings in their meta-analysis of service climate antecedents, moderators, mediators, and outcomes, finding employee attitudes to be an important mediator between service climate and organizational performance.

The commonality of social constructs being explored within the SHRM black box and workplace community research suggests that both management and community psychology researchers would benefit from integrating constructs and models from each,

including the potential role of needs-based theories of behavior (Boyd, 2014; Boyd & Angelique, 2002; 2007; Boyd & Nowell, 2014).

Self-Determination Theory

Satisfaction of psychological and social needs is central to the experience of community (McMillan & Chavis, 1986). Self-determination theory (SDT) is a needs-based theory of human motivation that integrates and identifies three needs as fundamental to human behavior, motivation, and socialization: the needs for autonomy, competence, and relatedness (Deci & Ryan, 2000; Ryan & Deci, 2000). Satisfaction of all three needs is essential for effective human functioning, and the satisfaction of these needs takes place in social contexts. These social contexts can either support or thwart need satisfaction. In general, supportive social contexts result in more positive outcomes for individuals and organizations; thwarted needs result in more negative outcomes (Deci & Ryan, 2014). Specifically, autonomy supportive environments result in motivation in which the actor has understood, accepted and identified with the value of the activity as personally important and meaningful (Deci & Ryan, 2008; Deci & Ryan, 2012; Gagné & Deci, 2005; Gagné et al., 2015; Gillet, Gagné, Sauvagère, & Fouquereau, 2013; Van den Broeck, Ferris, Chang, & Rosen, 2016). Autonomous persons act “with a sense of volition, willingness, and congruence; [they] fully endorse and concur with the behavior they are engaged in” (Deci & Ryan, 2008, p. 15).

Autonomy supportive HRM practices have been hypothesized to support autonomous motivation and knowledge sharing behavior (Gagné, 2009; Sheldon, Turban, Brown, Barrick, & Judge, 2003), and specifically found to support job performance (Elmadag, 2007; Sutton & Brown, 2016). Empirical evidence has also demonstrated

autonomy supporting environments are positively correlated with organizational identification (Gillet, Colombat, Michinov, Pronost, & Fouquereau, 2013), organizational citizenship behavior (Elmadag, 2007), job performance (Baard, Deci, & Ryan, 2004; Elmadag, 2007; Gillet et al., 2013), employee engagement (Deci et al., 2001; Elmadag, 2007) and innovation (Wallace, Butts, Johnson, Stevens, & Smith, 2016), trust in one's organization and supervisor (Deci, Connell, & Ryan, 1989), and negatively correlated with turnover intentions (Gillet et al., 2013).

SDT builds on previous needs-based theories of motivation to incorporate social constructs important to the SHRM and workplace community research streams previously discussed. These areas of overlap suggest that SDT may play an important role in shining a light into SHRM's black box and better understanding how workplace community is developed and maintained.

Organizational Identification

Membership in groups and organizations satisfies humanity's inherent need for relatedness and belongingness (Baumeister & Leary, 1995; Deci & Ryan, 2000) and shapes who we are, or our sense of self (Haslam & Ellemers, 2011). As such, organizational identification (OI) has been argued to be the social psychology construct that makes organizational life possible (Haslam, Postmes, & Ellemers, 2003). OI is both the basis for sharing particular perceptions and interpretations of the external world with other group members, and for the mutual social influence processes that facilitate coordinated, collaborative action among those members (Haslam & Ellemers, 2011).

OI is defined as the perception of oneness with or belonging to a group (Ashforth & Mael, 1989; van Knippenberg, 2000). It occurs when one integrates an organization

into one's self identity. In doing so the organization member adopts the values, goals and beliefs of the organization, and behaves in ways consistent with the same (Ashforth, Harrison, & Corley, 2008). Through this process the self is depersonalized and the individual comes to see her or himself as not only part of the organization, but as an exemplar or prototype of the organization (Haslam, 2004).

OI has been theoretically and empirically identified as an antecedent of organizational citizenship behavior (Callea, Urbini, & Chirumbolo, 2016; Riketta, 2005; Van Dick, Grojean, Christ, & Wieseke, 2006), group/organizational performance (Callea et al., 2016; Van Dick et al., 2006; van Knippenberg & Ellemers, 2003; Yurchisin, 2006), and SOC (Cicognani, Palestini, Albanesi, & Zani, 2012), among other outcomes (Ashforth et al., 2008). Antecedents of OI itself have received less attention in the literature but theory development and research have focused on basic need satisfaction related to the self-concept, specifically the needs (a) for relatedness, and (b) to expand one's "self-concept to include connections with others" (Ashforth et al., 2008, p. 334). The development of one's social identity is theorized to facilitate sensemaking of the external world, provide meaning, reduce uncertainty, and provide a source for defining and developing one's values (Ashforth et al., 2008); social identification has also been identified as an antecedent of SOC (Cicognani et al., 2012). Finally, Kumar and Jauhari (2016) recently found relatedness need satisfaction to be positively correlated with OI.

OI shares conceptual ground with the theories and constructs previously discussed and has been explicitly linked to SOC, group/organizational performance, and organizational citizenship behavior. The OI antecedent of relatedness need satisfaction

also suggests connections to SDT. All of this prompts consideration of OI as potentially helpful in illuminating SHRM's black box.

Organizational Citizenship Behavior and Organizational Performance

Organizational citizenship behavior (OCB), employee behavior that support the organization's social and psychological environment (Organ, 1997), has been a common variable in the preceding discussions. These behaviors are often, but not always, extra-role behaviors beyond the task behaviors specifically called for in an employee's job description. Such voluntary behavior on the part of organization members is deemed to be essential for organizational operation, effectiveness, and performance (Organ, Podsakoff, & MacKenzie, 2006). OCBs have been identified as an important variable in all of the literature domains discussed above. Specifically, community psychology and SHRM researchers have identified OCB as an antecedent positively related to both group/team performance (Ehrhart, Bliese, & Thomas, 2006; Nielsen, Bachrach, Sundstrom, & Halfhill, 2012; P. M. Podsakoff, Ahearne, & MacKenzie, 1997) and organizational performance (Bolino, Turnley, & Bloodgood, 2002; Kolade, Oluseye, & Osibanjo, 2014; Organ et al., 2006; N. P. Podsakoff, Whiting, Podsakoff, & Blume, 2009; Sun, Aryee, & Law, 2007; Van Dick et al., 2006), particularly at the unit-level (see N. P. Podsakoff, Podsakoff, MacKenzie, Maynes, & Spoelma, 2014 for a review).

As discussed above, HPWS have been found to be positively correlated with organizational performance using a variety of financial and operational measures. This body of research increasingly demonstrates the relationship of HRM systems to firm performance as indirect through a number of mediating variables that comprise SHRM's black box. Scholars calling for further inquiry into the SHRM/HPWS black box are

simultaneously encouraging consideration of organizational performance indicators more proximal to the HPWS independent variable (Jackson et al., 2014). OCB is one such proximal indicator. This study will therefore use OCB as a proximal indicator of organizational performance.

Purpose Statement

The purpose of this correlational study is to shine further light into the SHRM black box in order to better understand the mechanisms through which high performance work systems (a) create and sustain workplace community, and (b) impact organizational performance. Specifically, this study examines the relationship between high-performance work systems, workplace community, and organizational citizenship behavior, as partially mediated by needs fulfillment and organizational identification. See chapter three for a proposed path model linking these constructs and a discussion of related hypotheses.

Significance of the Study

This study responds to calls from SHRM researchers for further examination of the mediating factors through which HPWS impact organizational performance (Jackson et al., 2014), particularly under-researched social mediators (K. Jiang et al., 2012; Kang, Morris, & Snell, 2007). It specifically draws upon constructs from organizational and community psychology (SDT, OI, and workplace community) to better understand the role of these social mediators. Integrating these constructs into SHRM research responds to Boyd and Nowell's (2014) call for cross-disciplinary studies adding to both the SHRM and community psychology bodies of knowledge. Study findings contribute to theory addressing the relationship of workplace community to organizational performance, and

provide practitioners with guidance for designing HPWS that contribute to the development and sustainability relational workplace communities so essential in our society of organizations (Drucker, 1992).

CHAPTER 2

REVIEW OF THE LITERATURE

Chapter two presents a review of the literature related to the constructs introduced in chapter one. The review begins with a discussion of workplace community as the defining variable of the study, followed by a review of the strategic human resource management literature. The chapter concludes with discussions of the organizational psychology constructs beginning with need-based motivation theories, followed by organizational identification and organizational citizenship behavior.

Workplace Community

Addressing the social needs of industrial workers has been an important component of management practice and scholarship throughout industrial history. In the late nineteenth century the Cadbury brothers sought to address the social needs of their workforce by building their “factory in a garden” where workers would find “work less irksome by environing them with pleasant and wholesome sights, sounds and conditions” both inside the factory and out (Cadbury, 2010, p. 89). By the early twentieth century Taylor’s scientific management (Taylor, 1911, 1913) was promulgated as a solution to the ongoing disputes and disagreements between workers and management throughout the United States (Taylor, 1911), addressing the industrial reforms being called for by the progressive movement (Taylor, 1913). “All our inventions”, said Taylor, “are meant to contribute to human happiness” (Copley, 1923, p. 150).

Yet scientific management's view of the worker as economic man was problematic, discounting humanity's inherent dignity, worth, and essential social and emotional nature, resulting in continuing worker dissatisfaction and unrest (W. Williams, 1921; 1923). Follett (1918) argued that the global political and labor crises of the early twentieth century were attributable to the growing prevalence of laissez-faire individualism associated with the progress of industrial society, echoing Tonnies' (1887) earlier observations. The resolution to social problems – political and industrial – was in attending to humanity's inherent need for relatedness and belonging; it is in collaboration that human potential is realized, creativity is released, and humanity's differences come together to serve the common good (Follett, 1918; W. Williams, 1921).

Management scholarship by Follett, Williams and others (e.g., Mayo, 1933; Roethlisberger, Dickson, & Wright, 1939) developed into the human relations approach (W. Williams, 1918) to worker-management relationships. This included the welfare work movement that sought to translate the principles of reciprocity, mutuality and obligation (Tone, 1997) into management practice across industry by providing for the “comfort and improvement, intellectual or social, of the employees, over and above wages paid, which is not a necessity of the industry or required by law” (U.S. Department of Labor, Bureau of Labor Statistics, 1919, p. 8). Williams (1921; 1925) and Bernard (1938) were both practitioners whose work provided an important bridge between management scholarship and practice; Williams through his efforts to understand the plight of industrial workers via his own version of industrial ethnography, writing, and consulting (Wren, 1987), and Bernard through his theory of communication and cooperation based on his executive experience at American Telephone and Telegraph and

New Jersey Bell. And while understanding and addressing workers' social needs were at the center of the human relations movement, the construct of a workplace community had yet to be explicitly considered as relevant construct in management practice or research.

Some of the earliest references to commercial organizations as “communities” where workers' social needs can be met come shortly after World War II (e.g., Drucker, 1946; Jaques, 1951) as managements and governments become increasingly interested in applying social science theory and practice in industry (Lewin, 1947; Trist & Murray, 1990). Argyris makes reference to the “work community” (Argyris, 1957, p. 236) as he builds what he hopes to be a foundation for the emerging field of organizational behavior, and Maslow (1965) urges managers to not neglect the role that belongingness and community at work can play in facilitating the social aspects of self-actualization and organizational sustainability. Friedman (1962/2002) provided a counterpoint to this incursion of social psychology into management, rejecting arguments that managements devote their energies to anything else but increasing profits. Friedman's perspective became the dominant approach to business for management practitioners and scholars in the late twentieth century (Ghoshal, 2005) leading to employment relationships largely characterized by transactional, market-like interactions (Cappelli, 1999). And while there have been some notable cases of companies adopting a more community-like model upon which to structure their organizations – e.g., Southwest Airlines (Gittell, 2003), AES under Dennis Bakke (Bakke, 2005), SAS Institute (Florida & Goodnight, 2005), and many companies ranking high on *Fortune's* annual great place to work list (Burchell & Robin, 2011) – general social norms, values, and public policy resulted in these examples being the exception rather than the rule (Pfeffer, 2006). Yet organizational development

scholars, management practitioners, and others continued to explore, experiment with, and advocate for the role of workplace community in industry as essential to organizational and societal sustainability (e.g., Chalofsky, 2008; 2010; de Geus, 1997; Gardner, 1995; Heckscher & Adler, 2006; Kofman & Senge, 1993; Mintzberg, 2009; Nirenberg, 1994; 2011; Pfeffer, 2006; Weisbord, 2004; Wile, 2001)

Contributions from Community Psychology

Community psychology emerged as a sub-discipline of psychology during this same post-World War II era (Wolff, Swift, & Johnson-Hakim, 2015). Early on, Sarason (1974) set out to develop and establish psychological sense of community (SOC) as the defining, foundational construct of the field. SOC is

the perception of similarity to others, an acknowledged interdependence with others, a willingness to maintain this interdependence by giving to or doing for others what one expects from them, the feeling that one is part of a larger dependable and stable structure. (Sarason, 1974, p. 157)

Sarason's theory of SOC was generally well received and embraced as one of the foundational constructs of community psychology (Jason et al., 2016).

McMillian and Chavis (1986) offered one of the first instruments designed to measure SOC. Their Sense of Community Index (SCI) measured four SOC dimensions: (a) membership, (b) influence, (c) integration and fulfillment of needs, and (d) shared emotional connection. Membership is the extent to which a person has invested her/himself to become a part of the community, and thus has a right to belong; members have a feeling of belonging. Influence is bi-directional, referring to the individual's influence in the community and the community's ability to influence the individual. The

community's ability to fulfill member needs will be governed by the extent to which community members have shared values; influence is an important part of developing these shared values. Integration and fulfillment of needs is the extent to which membership is rewarding for community members, meeting physiological and psychological needs. Finally, shared emotional connection refers to the history that community members share. Individual community members may not have participated in the history, but they identify with it.

McMillan and Chavis' (1986) four factor model became the dominant configuration of the SOC construct, precipitating a body of research examining the outcomes of SOC – such as psychological well-being and community involvement – as well as clarifying the model's factor structure (Nowell & Boyd, 2010). The Brief Sense of Community Scale (BSCS) (Peterson, Speer, & McMillan, 2008) updated and shortened the SCI based on recommendations that the instrument be redesigned to improve subscale reliability to more accurately reflect the four dimensions of the model (e.g., Chipuer & Pretty, 1999; Long & Perkins, 2003).

Klein and D'Aunno (1986) offered one of the first conceptual frameworks of organizational or workplace community, adopting the position that SOC in the workplace is different from other forms of community only in terms of place (Heller, 1989; McMillan & Chavis, 1986; Sarason, 1974). Klein and D'Aunno (1986) also drew upon organization design contingency theory (e.g., Burns & Stalker, 1961; Burrell & Morgan, 1979), suggesting that organizations in more dynamic external environments, and thus with more flexible and less hierarchal organization designs, may experience increased SOC among organization members, making exploration of workplace community

particularly relevant in the United States as managements struggled to identify methods and tools for gaining and maintaining sustainable competitive advantage in a dynamic global marketplace (e.g., Ackoff, 1981; Barney, 1986a; Peters & Waterman, 1982; Porter, 1980; 1985).

Klein and D'Aunno's (1986) conceptual framework identified potential workplace SOC antecedents, referents, and mediators. Referents included the different levels of identification that could be experienced by employees within the organization: personal friendship network, work group, and the organization itself. Proposed intra-organizational antecedents were job design and characteristics of employees, leaders, work groups, and the organization. The relationship between these antecedents and the experience of SOC in any of the referent groups was proposed to be mediated by one or more of the following: perception of a community identity, positive appraisal of the group and desire to be become a member, and active group involvement. This broad conceptual model has generally withstood the test of time in the workplace community research to date.

Nowell and Boyd (2010; 2011; 2014) recently added to the dominant Klein and D'Aunno (1986)/McMillan and Chavis (1986) architecture of workplace community studies by introducing a new construct labeled sense of community responsibility (SOCR). SOCR supplements McMillan and Chavis' (1986) four-factor SOC model; whereas SOC is a predominantly needs-based construct, SOCR draws on the organization member's sense of responsibility to the organization beyond what s/he may receive from the organization in terms of need satisfaction. SOCR is the product of the interaction between one's socio-historical background, personal belief system, and the

organizational/community context; it is defined as “a feeling of personal responsibility for the individual and collective well-being of a community of people not directly rooted in an expectation of personal gain” (Nowell & Boyd, 2014, p. 231). The components of SOCR formation, along with the environmental assessment and self-regulatory behavior sequence described in the SOCR process (Nowell & Boyd, 2010; 2014), bear similarity to the constructs and processes involved in the social identity approach to personal identity development (Haslam, Powell, & Turner, 2000; Haslam, 2004) and the organizational identification process (Haslam & Ellemers, 2011) (see organizational identification discussion below). The addition of this construct to the conception of workplace community adds a new dimension workplace community research, creating a framework to understand both the impact of need satisfaction and personal identity in the development and maintenance of workplace community.

Workplace Community Antecedents

Individual employee characteristics are perhaps the most studied antecedents of workplace SOC, with the research indicating that these characteristics can impact one’s experience of SOC. For example, Lambert and Hopkins’ (1995) study of a manufacturing firm found differences in SOC by gender and race, with African-American women’s on-the-job experience negatively correlated to SOC. Pretty and McCarthy (1991) did not examine race, but they did find differences between women and men across job, leader and workgroup characteristics. For example, supervisor support was positively related to SOC for female managers and male non-managers, while peer cohesion in the workgroup was positively related to SOC for male managers and female non-managers. Similarly, Lambert and Hopkins (1995) found input into decision making a significant antecedent of

SOC for women, while workgroup support was significant for men. Tenure (Cicognani et al., 2012) and employment insecurity (Sandstrom, 2014) have also been found to be negatively related to SOC, while need for affiliation (Burroughs & Eby, 1998) and collectivism (Love, 2007) have been found to be positively related to SOC. Finally, public service motivation has been identified as an antecedent of SOCR (Nowell, Izod, Ngaruiya, & Boyd, 2016).

Job characteristics have also been an occasional target of SOC research. Mahan, Garrard, Lewis, and Newbrough (2002) confirmed Klein and D'Aunno's (1986) implication that SOC would be experienced differently by individuals in different job categories, while Lambert and Hopkins (1995) specifically found challenging work and interaction with co-workers to be significantly and positively related to SOC. And while job overload would intuitively be negatively associated with SOC, evidence to date is inconclusive. Pretty and McCarthy (1991) found job overload (or "work pressure") negatively associated with SOC for female managers, while Lambert and Hopkins (1995) found job overload to not be related to SOC.

Specific workgroup characteristics have also been identified as significantly related to SOC. In addition to those workgroup characteristics noted above (i.e., Lambert & Hopkins, 1995; Pretty & McCarthy, 1991), Burroughs and Eby (1998) found workgroup size to be negatively related to SOC (the larger the group, the less likely one is to experience SOC), and Stein (2006) found management selection of communication tools to impact employee SOC. Specifically, face-to-face meetings and email were positively correlated to SOC at the department-level, while effective use of the corporate internet was significant at the organization-level.

Organizational policies, services, and benefits for employees are important antecedent organizational characteristics to the employee SOC experience (Burroughs & Eby, 1998). Opportunity for promotion and family-responsive policies (Lambert & Hopkins, 1995), and perceived covenantal (as opposed to transactional) relations (Burroughs & Eby, 1998) have also been found to be significant to SOC experience, as has employee perception of how effectively the organization acts on its espoused values (Cicognani et al., 2012).

Workplace Community Referents and Outcomes

Klein and D'Aunno (1986) proposed two primary intra-organizational referents for SOC: the workgroup and the organization. Much of the literature examines SOC at the organization-level (e.g., Burroughs & Eby, 1998; Cicognani et al., 2012; Milliman, Czaplewski, & Ferguson, 2003; Royal & Rossi, 1996), however, Mahan et al. (2002) confirmed the dual referents hypothesis, also finding that SOC strength weakens as the referent group becomes larger and more distal. Beyond these referents, many studies have sought to identify the outcomes associated with SOC, the most commonly measured of which has been employee retention (positively correlated) and its reciprocal, employee turnover (negatively correlated) (e.g., McCole, Jacobs, Lindley, & McAvoy, 2012; McCole, 2015; Milliman et al., 2003; Royal & Rossi, 1996). Job satisfaction has also been confirmed in multiple studies as positively related to SOC (e.g., Boyd, Nowell, Yang, & Hano, 2017; Burroughs & Eby, 1998; Royal & Rossi, 1996). Additionally, Royal and Rossi found organizational attachment and role clarity positively related to SOC, while role conflict and psychological distress were negatively correlated. Other outcomes positively related to SOC include job involvement, organization-based self-

esteem, organizational commitment, work satisfaction (Milliman et al., 2003), employee psychological well-being (Boyd & Nowell, 2017) and organizational citizenship behavior (Burroughs & Eby, 1998). Notably, SOCR has been found to be a stronger predictor organizational citizenship behavior than SOC (Boyd & Nowell, 2017; Boyd et al., 2017), while organizational citizenship behaviors mediate the relationship between SOCR and, (a) employee psychological well-being (Boyd & Nowell, 2017), and (b) job satisfaction (Boyd et al., 2017).

Workplace Community Mediators

Few studies have examined mediators between the antecedents and experience of SOC, thus Klein and D'Aunno's (1986) proposed mediators of community identity, positive appraisal of the group, and active involvement have little empirical support to date. What work has been done, however, suggests further research is worth pursuing. For example, Cowman, Ferrari and Liao-Troth (2004) found perceived social support to be a partial mediator of SOC experience among firefighters. And organizational identification has been found to co-occur with SOC, though the relationship between the two constructs was not examined (Cicognani et al., 2012).

Summary

Workplace community has been a concern of management practitioners and researchers since the late nineteenth century. While the interest in studying and building workplace community seems to ebb and flow with shifting economic conditions and societal values (Pfeffer, 2006), the concept has endured and remains relevant and perhaps has increased importance in contemporary commerce (Hamel, 2009; Klein & D'Aunno, 1986; Mintzberg, 2009). Conceptualizations and empirical research regarding workplace

community is a cross-disciplinary affair with insights and advances coming from management and organization studies, as well as community psychology. The SOC and SOCR constructs from community psychology demonstrate promise as a constructs around which this cross-disciplinary research can be conducted (Boyd & Nowell, 2014). Workplace community research to-date demonstrates SOC and SOCR are related to important constructs in organization studies, yet opportunities for additional research regarding antecedents, mediators and outcomes of workplace SOC and SOCR remain. The present study will focus on several constructs for which the relationship to SOC and SOCR are under-explored and have relevance to organizational strategy and systems (Boyd & Nowell, 2014): organizational policies and services, specifically human resource management systems (e.g., Burroughs & Eby, 1998; Lambert & Hopkins, 1995), employee need satisfaction and organizational citizenship behaviors (e.g., Burroughs & Eby, 1998), and organizational identification (e.g., Cicognani et al., 2012).

Strategic Human Resource Management

Strategic human resource management (SHRM) is built upon open systems theory (Boulding, 1956; D. Katz & Kahn, 1978; Scott & Davis, 2007; Thompson, 1967; von Bertalanffy, 1969) applied in an organizational context (Jackson et al., 2014). SHRM is concerned with aligning organizational HRM practices and outcomes to support the organization's strategies and outcomes, particularly in terms of sustainable competitive advantage (Barney & Clark, 2007; Boxall & Purcell, 2011; Tichy et al., 1984; Wright et al., 1994). This alignment includes integrating HRM practices into mutually reinforcing "bundles" of practices – coherent systems that coordinate HRM practices across traditional sub-functions (e.g., recruiting and selection, performance management,

compensation and benefits) (Barney & Clark, 2007; Jackson et al., 2014; Wright & Snell, 1991). Importantly, SHRM sees human resource management (HRM) as a responsibility of general management rather than a staff function. Beer, Spector, Lawrence, Mills and Walton (1984) and Fombrun, Tichy and Devanna (1984) were among the earliest advocates of a transition from HRM as a staff function to SHRM. They argued that the status quo view of HRM as a staff function primarily concerned with cost control and regulatory compliance was contributing to the decreasing global competitiveness of American companies in the 1980's. Shifts in societal sensibilities regarding employee and community interests in commercial organizations further supported their arguments.

The strategic approach to HRM has become an increasingly influential in the intervening decades. Contemporary SHRM is concerned not simply with personnel policies, practices, and labor relations, but how these policies and practices contribute to a company's sustainable competitive advantage including employee and societal well-being (Beer et al., 1984; Jackson et al., 2014). As such, SHRM is an integral component of enterprise-wide strategic planning and execution (Jackson et al., 2014; Tichy et al., 1984) and thus is of critical concern to general managers.

Firm Strategy and the Resource-Based View

Models of business strategy – gaining and sustaining competitive advantage – were being re-examined simultaneous to the development of SHRM. Porter's (1979; 1980; 1985) arguments regarding competitive forces and generic strategies are perhaps the most enduring of the work that focused on a firm's external environment. Barney (1991; Barney & Clark, 2007) observed that these models emphasizing external environment made two assumptions: (a) firms in an industry have identical strategically

relevant resources available to them (Porter, 1981; Rumelt, 1984; Scherer, 1980), and (b) resource mobility in a market (i.e., buying and selling) ensures that any resource heterogeneity between competitors will be short-lived (Barney, 1986b; Hirshliefer, 1980). These assumptions tended to highlight and emphasize the importance of strategic decisions related to a firm's external environment, de-emphasizing decisions related to its internal environment. Barney (1991; Barney & Clark, 2007) argued that two alternative assumptions can allow for resource heterogeneity and immobility as potential sources of competitive advantage (Penrose, 1959; Rumelt, 1984; Wernerfelt, 1984, 1989): (a) heterogeneity can exist across firms in an industry in terms of the resources each controls, and (b) heterogeneity can be long lasting because resources may not be perfectly mobile. These assumptions provided the foundation for a resource-based view (RBV) of the firm. The RBV supplements external environment-focused strategy models by highlighting and emphasizing the importance of internal resources needed to exploit opportunities and guard against threats in the firm's external environment.

The RBV finds its roots primarily in the work of Edith Penrose (1959). Penrose saw the industrial firm as a collection of productive resources woven together in a management framework, with its boundaries determined by the reach of the firm's "administrative coordination" and "authoritative communication" (Penrose, 1995, p. xi). Productive resources included physical resources (plant, equipment, natural resources, raw materials, etc.) and human resources (employees at all levels) available to the organization. The value of these resources to the firm was fundamentally instrumental; resources were valued based on the productive service they could provide toward the end of long-term profit generation. This included retention and development of human

resources which could be a competitive advantage that expanded firms' opportunities for growth, whether through innovation or merger/acquisition (Penrose, 1959).

An underlying assumption in Penrose's (1959) work was managers' motivation to maximize long-term profits derived from investment in the enterprise, including investment in the organization's human resources. She saw effective firm operation and growth as intimately linked to the growth of knowledge (human capital) inside the firm in what might be termed today a "learning organization" (Senge, 1990). Relevant knowledge included firm-specific knowledge that could not be gained outside the organization, as well as internal technical and managerial – or cultural (Schein, 2010) – knowledge. This early conception of the learning organization applied specifically to managerial ranks, though she later embraced work by others that broadened the concept of learning to a social process that occurs throughout an organization at all levels and positions (Penrose, 1995).

Wernerfelt (1984) brought the RBV into the emerging strategy discussion by building on Penrose's work, providing an internal resources perspective on organizational strategy that complemented Porter's (1979; 1980; 1985) external focus. It was Barney's (1991) characterization of the four indicators of resource competitive advantage, however, that built the RBV's following as a viable model for business strategy. Barney's RBV identified three types of firm resources: physical, human, and organizational capital. Physical capital resembled Penrose's definition of physical resources. Barney's human capital included "the training, experience, judgment, intelligence, relationships, and insight of *individual* managers and workers in a firm" (Barney, 1991, p. 101, emphasis in original). Organizational capital includes the company's organization design, formal and

informal systems for planning, controlling and coordinating, and informal relationships within the organization and between the organization and its external environment.

Barney argued that these resources contribute to the organization's sustained competitive advantage in the marketplace to the extent that they are (a) valuable, (b) rare, (c) imperfectly imitable, and (d) not substitutable. Barney (1995) later modified his four-point measure of internal resources, integrating substitutes into imitability, and adding the organization's ability to utilize its resources (or "organization") as the fourth and final measure. These four measures (valuable, rare, inimitable, and organization) form Barney's (2007) VRIO framework for resource-based analysis of an organization's competitive position and strategy.

SHRM Systems

Barney's (1991) triad of resources (physical, human, and organizational capital) linked to a firm's sustainable competitive advantage and his VRIO model fit well with emerging SHRM thought, discussion, and research in the late twentieth century (Barney & Wright, 1998). Discussing SHRM in the context of the HR function, Barney and Wright argued that the VRIO framework provides human resource executives with the tools to transform the HR function from being a cost center or expense into a value creator by "developing employees who are skilled and motivated to deliver high quality products and services, and managing the culture of the organization to encourage teamwork and trust... and developing coherent systems of HR practices that support these aims" (Barney & Wright, 1998, p. 44). Barney's RBV has since become one of the most common models used in SHRM research (Boxall & Purcell, 2011; Wood & Wall, 2007).

The VRIO model requires that organizations have HRM systems and processes in place to leverage resources. In regards to the human and social capital available to the firm, those organizational systems are its HRM systems. These systems must be designed to acquire, develop, retain, and leverage the firm's human resources – the combination of employees' experience, knowledge, and skills (human capital), employee relationships inside and outside the firm (social capital), and their commitment to the organization (Barney & Clark, 2007; Barney & Wright, 1998; Wright et al., 1994) – in pursuit of firm strategy. Such systems are characterized by bundles of HRM practices – management activities intended to organize and direct the firm's human resources toward achievement of organizational objectives (Wright et al., 1994) – that are horizontally integrated to support firm strategy. This approach stands in contrast to individually siloed HRM practices or sub-functions reflecting industry or professional best practices (Barney & Wright, 1998; Jackson et al., 2014; K. Jiang et al., 2012; Wright & McMahan, 1992).

The most common term for these integrated systems in the literature is high performance work systems (HPWS) (Boxall, 2012; Jackson et al., 2014). HPWS seek to increase individual and organizational performance by creating collaborative workplaces where employee discretionary effort is welcomed and necessary to execute organizational strategy and achieve sustainable competitive advantage (Appelbaum et al., 2000; Bailey, Berg, & Sandy, 2001). HPWS research has been built around a causal model whereby integrated HRM practices impact organizational performance through building and organizing organizational human and social capital in support of organizational strategy (Boxall, 2012; K. Jiang et al., 2012). HRM practices are most commonly understood to build human and social capital by building employee ability and capacity to perform

(employee knowledge, skills, abilities, and other attributes, or KSAOs), influencing employee motivation to do the work, providing opportunity for voice, and to contribute discretionary effort. The ability, motivation, opportunity (AMO) model has cross-disciplinary roots in industrial and organizational (IO) psychology, human capital economics, and industrial relations (Gerhart, 2007). Katz, Kochan and Weber (1985) offer one of the earliest conceptualizations of the AMO model. Appelbaum et al. (2000) and Bailey (1993) were among the earliest to apply the AMO model to SHRM research.

Most SHRM/HPWS research has sought to identify a set of universal integrated best practice bundles aligned with the AMO typology (Boxall & Purcell, 2011). K. Jiang et al.'s (2012) recent meta-analysis identified the following HRM practices as ability or skill-enhancing: recruitment, selection, and training. These ability-enhancing HRM practices go beyond identifying and building specific technical skills required for the job; they also seek to build interpersonal communication, collaboration, leadership, decision making, and critical thinking skills at all levels of the organization.

Influencing employee motivation to collaborate and engage in discretionary effort has been viewed and studied in the HPWS literature primarily from a compensation and recognition perspective, continuing a trend started by Appelbaum et al. (2000). HRM practices typically identified as motivation enhancing include compensation (including incentives), benefits, performance appraisal, promotion and career development (K. Jiang et al., 2012). Finally, HRM practices that provide opportunity for employee voice and contribution of discretionary effort include job design, organization design (including work teams), employee involvement, grievance policies/procedures, and information sharing (K. Jiang et al., 2012).

This universal best-practice focus has been the dominant approach in SHRM/HPWS literature (Boxall & Macky, 2009; Jackson et al., 2014), yet conflicts with the open system principle of equifinality (von Bertalanffy, 1969) and of some of the earliest and more contemporary arguments that organizations and HRM systems should be viewed and studied as contextual or contingency-based (e.g., Becker & Huselid, 2006; Boxall, 2012; Delery & Doty, 1996; Gerhart, 2005; D. Katz & Kahn, 1978; Lepak & Snell, 1999; Miles & Snow, 1984; Schuler & Jackson, 1987; Trist, 1981). The search for universal HPWS best-practices has been frustrated by contextual differences such as job type, workforce unionization, company strategy, industry, and regional or national cultures. There is little agreement across studies on the specific best practices that comprise HPWS, resulting in confusion about the precise composition of the independent variable in the organization performance causal equation (e.g., Boxall, 2012; Boxall & Macky, 2009).

Equifinality applied to SHRM suggests that organizations may achieve improved employee performance and sustainable competitive advantage through a variety of paths. These paths can vary based on organizational context (Gerhart, 2007; Posthuma, Campion, Masimova, & Campion, 2013; Trist, 1981; Walton, 1972). Several HPWS taxonomies recognizing the contextual nature of HPWS have recently been developed using different schemes including grouping specific HRM practices into discrete practice areas (Posthuma et al., 2013) and types based on differences between industries and industrial/economic development history (Boxall & Purcell, 2011). Toh, Morgeson and Campion (2008) base their taxonomy of five HRM system types on variations in organizational values (people orientation, innovation, stability), organization design

priorities (hierarchy, standardization, formalization), and unionization. The researchers identified a range of five HRM system types from commitment maximizing organizations that employ a full range of HPWS best practices (consistent with the universal best practice literature discussed above), to cost minimizing organizations that devote the fewest organizational resources to employee AMO. Three intermediate configurations – resource maker, competitive motivator, and contingent motivator – span the spectrum between these two anchors.

Jackson et al.'s (2014) aspirational SHRM framework captures Toh et al.'s (2008) contingent perspective, noting that antecedents such as strategic objectives (e.g., innovation), organizational culture (including values), organization structure, and organization biography may all influence an organization's HRM systems. Jackson et al. (2014) identify four primary HRM system types in their meta-analysis: HPWS, high-commitment systems, high-involvement systems, and strategically targeted systems (e.g., customer service, network-building). The HPWS moniker is frequently used in the literature as a broad term referring to all bundles of SHRM practices. More specifically, however, HPWS are bundles of SHRM practices that seek to increase individual and organizational performance by creating collaborative workplaces where employee discretionary effort is welcomed and necessary to execute organizational strategy and achieve sustainable competitive advantage (Appelbaum et al., 2000; Bailey et al., 2001). These strategic bundles can be differentiated from the high-commitment and high-involvement research identified by Jackson et al. (2014).

High-commitment work systems (HCWS) and high-involvement work systems (HIWS) represent some of the earliest conceptions of SHRM. Their genesis is found in

streams of human motivation and organizational studies research shared with and in parallel to the workplace community origins that emerged between world wars (e.g., Follett, 1942; 1949; Mayo, 1933; Roethlisberger et al., 1939; W. Williams, 1923) and following World War II. Seminal works developing theories of human motivation (e.g., Lawler, 1973; Maslow, 1943; 1954), participative and democratic work design (e.g., Argyris, 1957; McGregor, 1960), job enrichment (e.g., Hackman, 1977; Hackman & Lawler, 1971; Hackman & Oldham, 1980; Herzberg, Mausner, & Snyderman, 1959), socio-technical systems (e.g., Emery, 1977; Jaques, 1951; Trist & Bamforth, 1951), and alternative organization design (e.g., Burns & Stalker, 1961) all fed into the well from which future SHRM researchers would draw. Humanity's social nature was a key theme across these works, as was an emerging industrial organization paradigm with a twin focus on business and human objectives (e.g., Emery, 1977; McGregor, 1960). The "democratization of work" (Emery, 1977, p. 100) and "organic management systems" (Burns & Stalker, 1961) were seen as central to addressing human social needs inside and outside the organization, as well providing the adaptability needed for sustainable competitive advantage in dynamic external environments. This democratization was to take place in an organizational environment that built systems supporting team-based work offering worker discretion and autonomy, variety and challenge, recognition, continuous learning, and meaningful work (Trist, 1981). Organizations choosing to utilize the full potential of their human resources in this manner were choosing the ideals of homonomy (relatedness and belonging), nurturance (other-focused self-actualization), self-expression, and beauty (intentional pursuit of the common good) (Emery, 1977). Both Walton (1981, 1972, 1985) and Lawler (Benson & Lawler, 2016; Lawler, 1986;

1996) drew upon this thinking as they developed initial conceptions of HCWS and HIWS.

HCWS offered an integrated system of HRM and management practices that emphasized worker commitment to the organization as a fundamental objective of the structure of work (Walton, 1981, 1985). The benefits of high-commitment must accrue to both employees and the business in order for HCWS to be effective. Employee gains were primarily in terms of meaningful work and on-the-job well-being, while business gains included improved productivity and sustainable competitive advantage. HCWS sought to address employee needs for autonomy, dignity, involvement in decision-making, challenging work, equity, and job security (Walton, 1981). Defining features of these systems include job enrichment (broadly-defined, flexible job design, and job rotation); team-based work (self-managed work teams, self or peer-based performance evaluation); extensive training and career development; performance- and team-based compensation; and broad delegation of authority, employee participation and information sharing (Beer et al., 1984; Walton, 1981; Walton, 1985; Wood & Wall, 2007). The HCWS literature generally sought to identify specific HRM and management practices characteristic of high-commitment workplaces, though early research recognized that HCWS were likely contingent on idiosyncratic characteristics of specific organizations and their environments.

An HIWS is an integrated system of HRM and “work design practices that are designed to give all employees the skills, information, power, and rewards to make decisions in the workplace” (Benson & Lawler, 2016, p. 13). Similar to HCWS, HIWS focus on employee participation as the key to simultaneous improvement in employee

quality of work life and organizational performance (Lawler, 1986). Organization and job design, internal communication and information sharing, intrinsic and extrinsic reward systems (including compensation), selection systems, training and development, management and leadership styles, collective bargaining/industrial relations, and facility layout, all fall under the purview of HIWS (Lawler, 1986). And while specific practices are often recognized in the literature (e.g., Lawler, 1992; Lawler, 1996), HIWS research and practice takes an explicitly contingent perspective emphasizing that high-involvement practices must be developed at the organization or establishment (work site) level. Thus, rather than examining organizations for the presence of a specific HRM practice, researchers measure HIWS effectiveness by the degree to which (a) decision-making authority and responsibility – or power – have been pushed to the lowest possible levels in the organization; (b) all employees have access to and share the information necessary to make responsible decisions; (c) both intrinsic and extrinsic rewards are utilized in recognizing achievement and performance; and (d) all employees have opportunities to continuously develop their personal knowledge and skills; (Lawler, 1986; Lawler, 1992; Richardson & Vandenberg, 2005; Vandenberg, Richardson, & Eastman, 1999; Wood & Wall, 2007). The literature often refers to this power, information, rewards, and knowledge scheme as the PIRK model.

HCWS and HIWS literature – along with an early version of Huselid's (1995) seminal HPWS research – contributed to a United States Department of Labor report (1993) that began to emphasize the organizational performance aspect of the high-commitment and high-involvement literatures, integrating both HCWS and HIWS under the HPWS umbrella (Wood & Wall, 2007). The introduction of the RBV to SHRM and

HPWS research (e.g., Barney & Wright, 1998) further emphasized the performance aspects of HPWS as it emphasized human capital development through knowledge and skills acquisition. So while the basic frameworks supporting HIWS and HPWS – respectively PIRK (Lawler, 1986) and AMO (Appelbaum et al., 2000; Bailey, 1993) – are similar¹ and contain important social components, contemporary SHRM research has focused primarily on the relationship between HPWS, human capital development, and organizational performance (Jackson et al., 2014; K. Jiang et al., 2012). Social aspects of the relationship have been simultaneously deemphasized (Wood & Wall, 2007), including those related to the workplace community construct.

Mediators of Organizational Performance

The discussion above describes employee AMO (Jackson et al., 2014; K. Jiang et al., 2012) or PIRK (Benson & Lawler, 2016; Lawler, 1986) as an output of SHRM systems (HPWS, HIWS, HCWS) and a mediator between SHRM systems and organization performance. The mediators comprising this relationship between SHRM systems and organizational performance is often colloquially referred to in the SHRM literature as the SHRM “black box” (Becker & Huselid, 2006). The majority of black box studies have utilized the AMO model as their basic framework. K. Jiang et al.’s (2012) meta-analysis of HPWS-firm performance mediators coded mediators as either human capital (ability) or motivation mediators, noting that there was insufficient data for an

¹ HIWS’s power corresponds to AMO’s opportunity, HIWS’s rewards to AMO’s motivation, and HIWS’s information and knowledge to AMO’s ability (Wood & Wall, 2007).

opportunity code. They found human capital and motivation to be significant and substantial mediators of human resource and operational outcomes, which were in-turn significant and important mediators of firm financial performance. This mediation process is reflected in K. Jiang, Lepak, Han, Hong, Kim, and Winkler's (2012) conceptual map of HRM system internal fit and link to employee performance. K. Jiang, Takeuchi, and Lepak (2013) expand this model beyond the individual level of analysis to include the team and organizational levels, again focusing exclusively on AMO as the mediating variables between HRM systems and performance.

This focus on employee ability and motivation mediators reflects the RBV's influence on SHRM research as noted above, yet social mediators consistent with workplace community constructs have also been proposed and examined as providing important insights into the SHRM black box. Evans and Davis (2005) proposed internal social structure as an important HPWS-organization performance mediator. Their social structure included elements of social capital, reciprocity norms, organizational citizenship behavior, shared mental models, and role making. Gittell and colleagues (Gittell, 2016; Gittell et al., 2010) have empirically demonstrated the mediating role of "relational coordination" between HPWS and organization performance outcomes. Their relational coordination construct includes social dimensions such as mutual respect, communication, and shared goals and knowledge. Further, J. Jiang and Liu (2015) have recently proposed integrating Nahapiet and Ghoshal's (1998) social capital framework into SHRM research to further explore the social mediators operating within the black box.

HRM system-organization performance models that integrate both individual and social mediators have been also been proposed (e.g., Boxall & Purcell, 2011; Nishii & Wright, 2008). Nishii and Wright (2008) identify both individual AMO and social variables (i.e., social information processing and team/group process) as moderators, while introducing employee perception of HRM practices and employee reaction to those practices as mediators. Boxall and Purcell (2011) similarly include employee perception and reactions (or “responses”) to HRM systems, but identify these constructs as mediating variables along with other individual and social constructs previously discussed. Both models also identify the important difference between intended management practices and actual management actions in terms of HRM systems; the HRM systems actually experienced by employees impact employee perceptions of those systems. Employee perception of organizational systems is typically referred to as organizational climate, “the shared perceptions of employees concerning the practices, procedures, and kind of behaviors that get rewarded and supported in a particular setting” (Schneider et al., 1998, p. 151). Lepak, Liao, Chung, and Harden (2006) and Boxall and Purcell (2011) proposed climate as a mediator between HRM systems and employee AMO in the SHRM black box.

Organizational climates are most effectively manifested and measured in response to specific organizational strategy and managerial action (Schneider, 1975). As such they can be differentiated based on the type of HRM systems organizations seek to employ. For example, climates for high-commitment, high-involvement, or high-performance can be measured based on the objectives of the system deployed and the alignment or strength of that system with the intended objectives (Bowen & Ostroff, 2004; Lepak et

al., 2006). Takeuchi, Chen and Lepak (2009) found HPWS to be significantly related to climate of concern for employees, which in turn was significantly related to two employee attitude constructs: job satisfaction and affective commitment. Similarly, Chuang and Liao (2010) found HPWS to be significantly related to a climate of concern for employees, which in turn was significantly related to market performance as mediated by employee helping behavior. Regarding HIWS, Riordan, Vandenberg, and Richardson (2005) found an employee involvement climate measured by employee perception of PIRK to be positively correlated with organizational commitment and company financial performance, and negatively related to employee turnover. Climates may also be targeted toward a specific organizational outcome such as customer service (Schneider et al., 1998). Hong, Liao, Hu, and Jiang (2013) and Jiang, Chuang, and Chiao (2015) identify service climate as an outcome of HPWS and specific service-oriented HRM practices (e.g., service training, service-based performance appraisal). Hong et al.'s (2013) meta-analysis also found service climate to be a mediator between HRM systems and employee attitude constructs such as collective organizational commitment, intention to stay, and employee engagement. These studies of organizational climate in the SHRM domain collectively add climate to the mediators found in the SHRM black box. They further place climate as a mediator between HRM systems and employee AMO/PIRK, as well as attitude constructs such as affective commitment, organizational citizenship behaviors, and job satisfaction.

Summary

SHRM research and practice integrates HRM practices across traditional HRM disciplines (e.g., job and organization design, recruiting and selection, performance

management, etcetera) into bundles of HRM practices aligned to support organizational strategies and outcomes including sustainable competitive advantage (Barney & Clark, 2007; Boxall & Purcell, 2011; Tichy et al., 1984). These integrated bundles of practices are most commonly referred to as HPWS in the literature (Jackson et al., 2014), with HCWS and HIWS among the earliest conceptions (Lawler, 1986; Walton, 1981). HCWS and HIWS theory share a common heritage with workplace community, both drawing from emerging social and organizational science scholarship in the early to mid-twentieth century. These discussions envisioned an industrial organization paradigm with a twin focus on human/social and business objectives (e.g., Emery, 1977; McGregor, 1960; Roethlisberger et al., 1939).

The social aspects of SHRM systems have been generally de-emphasized in HPWS research in favor of establishing a clear causal link between SHRM and organizational performance, thus improving competitiveness in the global marketplace (Wood & Wall, 2007). This relationship is now generally acknowledged as empirically supported (Jackson et al., 2014; K. Jiang et al., 2012), though the HPWS-organizational performance relationship is indirect through a series of mediators often referred to as the SHRM black box (Becker & Huselid, 2006). Recent HPWS research and theory focusing on the black box has revealed a variety of mediators including organizational climate (e.g., Bowen & Ostroff, 2004; Lepak et al., 2006), and employee attitude constructs from organizational psychology such as affective commitment, organizational citizenship behavior, and job satisfaction (e.g., Riordan et al., 2005; Takeuchi et al., 2009). Other work has suggested a re-integration of potential social mediators of organizational performance including reciprocity norms, organizational citizenship behavior,

communication, and social capital (e.g., Boxall & Purcell, 2011; Evans & Davis, 2005; Gittell et al., 2010; J. Y. Jiang & Liu, 2015). Many of these SHRM research variables have also been identified as outcomes of SOC in the workplace community research, including job satisfaction, organizational commitment, organizational attachment, and organizational identification (Burroughs & Eby, 1998; Cicognani et al., 2012; Milliman et al., 2003). Burroughs and Eby's (1998) findings regarding employee-related policies and services as antecedents to workplace SOC suggest further commonality with SHRM research.

The present study seeks to integrate workplace community and SHRM research by including SOC and SOCR as potential social mediators in the SHRM black box. Both the SHRM and workplace community literatures include employee motivation and needs fulfillment as important related constructs (K. Jiang et al., 2013; Lawler, 1986; McMillan & Chavis, 1986; Nishii & Wright, 2008; Nowell & Boyd, 2010). The next section of chapter two considers the relationship of employee motivation and needs fulfillment to other variables in the SHRM black box, including workplace community.

Needs-Based Theories of Motivation

Freud's Theory of Instincts

Some of the earliest twentieth century thought regarding the psychology of human motivation dates back to Freud's (1925/1957, 1949) theory of instincts. For Freud, instincts were demands for work made on the mind by the body (thus, all instincts are biologically-based). These demands or instincts have a pressure (or force), an aim, and an object. An instinct's force represents the amount of work being required of the mind. The

aim of this work is satisfaction of the need (or instinct) through an object that is able to provide such satisfaction (Freud, 1925/1957).

Freud's identification of specific needs morphed as his work progressed over the years, eventually settling on two primary human instincts: Eros (or love), and destruction (or death). The Eros instinct includes the human sex drive, but has an overall broader conception as a life force with a desire to create life (Freud, 1959); its aim is to productively establish connections and preserve them (Freud, 1949). The destructive or death instinct has an opposite aim: to undo such connections (Freud, 1949). The concurrent and oppositional action of these two basic instincts is the genesis for multifariousness in human history. The interaction between them is managed by the three-fold human psychical apparatus of the id, ego, and super-ego.

Both the Eros and death instincts are present at birth in the portion of human psychical structure that contains all that is inherited at birth: the id. Interaction between the two instincts come to be managed by the ego as informed by the super-ego. The ego's role is self-preservation, and within this role determines whether to seek or postpone instinct satisfaction based on what it has learned from past interactions with the environment. The super-ego informs this decision by providing information about socially acceptable behavior based on past learning from parents and other role models. The ego acts effectively when it simultaneously satisfies the demands of the id and the super-ego in the context of the current situation (or reality) (Freud, 1949).

While Freud's theory of instincts has not been widely explored or applied in organization studies (Deci, 1992), his work includes early conceptions of ideas and constructs that are common in contemporary workplace motivation research, such as the

importance of human relatedness, expectancy, and valence. The social component of human existence – thus, relatedness – figures prominently in the Eros instinct's broad aim, as well as in the role of exemplars in super-ego development. Similarly, concepts foreshadowing expectancy and valence are seen in the functioning of the ego and super-ego as instincts seek to be satisfied.

Needs-based Theories of Motivation after Freud

Murray (1938/2008) extended Freud's work in his study of personality variables, including his "theory of directional forces" (p. 24). Murray acknowledged the biological basis for primary viserogenic (physical) needs such as food, sex, and lactation. He further theorized that there were twenty-eight secondary – or psychogenic needs – having to do with social emotional satisfaction not embedded in human physiology including achievement, affiliation, autonomy, construction, nurturance, play, and rejection. These social needs, argued Murray, comprised an important group of variables in the development of human personality.

A similar differentiation between physical and social/emotional needs was defined by Maslow (1943, 1954) in his holistic theory of motivation designed to be a framework for future research. Maslow drew upon the work of Freud (1937), Adler (1938), and others as he proposed his more parsimonious hierarchy of five human needs: all human physiological needs, followed in order by safety, belongingness/love, esteem, and self-actualization. Physiological needs are the most fundamental and prepotent. Each level of need in Maslow's hierarchy emerges as the dominant motivating force for the person as the lower-level need is satisfied. Thus, as one's physiological needs are addressed, the need for safety becomes dominant. When safety concerns (which included

both physical and emotional safety) are addressed, needs for relatedness and love become the person's central concern, and so on. Adler's (1930, 1938) focus on the social nature of the human person is evident in Maslow's (1943, 1954) higher-level needs of relatedness, esteem, and self-actualization. In particular, Maslow's self-actualization concerned not only realizing one's full potential, but doing so in the context of what Adler (1938) labeled as *gemeinschaftsgefühl*, or community feeling. Self-actualizing people "have for human beings a general deep feeling of identification, sympathy, and affection [and] a genuine desire to help the human race. It is as if they were all members of a single family" (Maslow, 1954, p. 217).

White (1959), like Maslow (1943; 1954), sought to make sense of the continuing developments in psychoanalysis and research psychology regarding human motivation. He observed that emerging thought and research work such as that by Murray (1938/2008) and others (e.g., Adler, 1938; Maslow, 1943; 1954; Murray, 1938/2008; Piaget, 1952) provided little support for a theory of human motivation based solely on somatic influences (e.g., Freud, 1925/1957, 1949). For example, primary drive theory was not useful for explaining the common behavior associated with interacting and effectively functioning within one's environment such as exploring novel objects and places, and producing change in one's environment (e.g., Piaget, 1952). White (1959) concluded that humanity's effective exploration and interaction with its environment was a universal neural-based (as opposed to somatically-based) human need that he labeled competence. The competence need incorporates the concept of self-expansion – a person's tendency to be self-governing and autonomous in bringing her or his external environment under control (Angyal, 1941) – and is satisfied as one develops a feeling of

efficacy in interacting with and manipulating one's environment. The competence need's effectance motivation is constantly triggered throughout a human lifetime as new environmental experiences are both encountered and autonomously sought.

Needs-based Theories of Workplace Motivation

This migration of motivation theory orthodoxy toward psychological need-based theories provided the foundation for a variety of workplace-specific motivation theories and general management theories following World War II. McClelland and colleagues (McClelland, 1961, 1976; McClelland, Atkinson, Clark, & Lowell, 1953) offered some of the earliest post-war research, finding that human needs could be characterized and measured as needs for achievement, affiliation, and power. These needs were socially/culturally acquired (rather than somatically-based), and described in terms of a recurring concern for a particular outcome: improvement or doing something more efficiently or better than had been done before (achievement); for social connection with other people (affiliation); and having influence over other people (power). McClelland's theory included application at the macro-level studying global economies (e.g., McClelland, 1961) and the mezzo- and micro-levels in industry (e.g., McClelland, 1976; McClelland & Burnham, 1976), yet was not widely utilized as a foundation or basis for further management research due to its focus on differences between individuals as opposed to situational application in an open system (Deci, 1992).

Maslow's (1965) study of Argyis (1957), Drucker (1954), Likert (1961), and McGregor (1960) led him to conclude that industry, as compared to individual psychotherapy or higher education, offered a greater opportunity for moving society

toward his eupsychian² ideal of a culture in which all people are psychologically healthy, self-actualizing, fully functioning persons working for the common good (Maslow, 1961). Maslow (1965) outlined thirty-six assumptions of enlightened management policy that he observed to be intrinsic to the theories proposed by his management and organizational studies contemporaries. These theories advocated a view of the person that acknowledged fundamental human needs (implicitly or explicitly) and sought to integrate satisfaction of those needs in the context of the industrial organization for the benefit of both the individual and the organization. In Maslow's view, implementation and practice of these enlightened or eupsychian management theories would ultimately benefit not only the individuals and organizations involved, but potentially society at-large.

Argyris (1957; 1964), similar to Maslow (1943; 1954) and White (1959), sought to integrate emerging research into a more optimal understanding of how the individual and organization interact; it was in resolving the incongruence between the individual and the organization that the effectiveness of both was to be improved. His goal was explicitly to develop management theory that promoted both vital organizations and fully functioning persons. Argyris (1964) adopted an open systems perspective of the organization (French & Kahn, 1962; von Bertalanffy, 1951), viewing the organization as a complex system of inputs, transformation processes, outputs, and feedback, embedded in its environment. Resolving the incongruence between the individual and organization

² "Eupsychia" is based on the Greek words *eu* (or "good") and *psyche* (mind, soul or spirit of a person or group) (Maslow, 1961).

required specific focus on the input of human energy into the organizational system, specifically psychological energy.

Psychological energy was postulated to exist in the individual's needs, of which the competence (White, 1959) and self-actualization (Maslow, 1943; 1954) needs were central. Argyris (1964) postulated the potential psychological energy available to an individual to be a function self-esteem developed through the individual's competent interaction with her or his environment, i.e., solving problems in such a way that the solutions can be attributed to the individual's ideas, abilities, effort and work. The actual energy available to the individual, and therefore the organization, was a function of the degree to which the individual experiences psychological success (Lewin, Dembo, Festinger, & Sears, 1944) in relation to their aspired level of goal achievement. The individual defines a new level of aspiration as s/he achieves an aspired goal and experiences psychological success, implying no inherent limit on the psychological energy available to the individual or organization.

Argyris (1964) identified two requirements as essential to experiencing psychological success in the organizational context: (a) individuals must possess self-esteem and aspire for self-actualization; and (b) the organization must provide opportunities for challenging work linked to organizational objectives in which individuals experience autonomy in goal setting, work design, and performance assessment. He concludes that organizations based on McGregor's (1960) Theory Y assumptions, that adopt Burn's and Stalker's (1961) organic form, are oriented toward creative problem solving (Bennis, 1959), and employ participative management practices (e.g., Likert, 1961), are the best positioned to simultaneously maximize employee

psychological energy and mental health, and optimize organizational performance. These organizations would be characterized by: decentralized decision-making, responsibility, and accountability; collaborative work design based high levels of trust and technical/professional competence; complex jobs clearly linked to organizational performance and success.

Alderfer (1969, 1972) built on Argyris (1964), Maslow (1943; 1954), and others in his work identifying three primary human needs: existence, relatedness, and growth (ERG). ERG theory offered a still more parsimonious view of human needs than Maslow though the two theories are similar. Alderfer (1969, 1972) equated existence needs to Maslow's (1943; 1954) physiological and material safety needs; relatedness to Maslow's interpersonal safety, belongingness (love), and interpersonal esteem needs; and growth to Maslow's self-confirmed esteem, and self-actualization needs. Alderfer's research, however, suggests that these needs may not be arranged hierarchically. For example, Alderfer found growth needs to be present regardless of the degree to which one's relatedness need was satisfied.

Herzberg and colleagues (Herzberg, 1966; Herzberg et al., 1959) offered a yet more parsimonious characterization of human needs in their motivator/hygiene theory that bore both similarities to and differences with Alderfer (1969, 1972) and Maslow (1943, 1954). Herzberg (1959, 1966) identified hygiene factors as those human needs equated with basic survival, generally equated with Maslow's (1943, 1954) lower-level physiological and safety needs. Fundamental social needs were also included as hygiene needs by Herzberg (1959, 1966) as they were essential to learning how to survive in a

complex world. Herzberg's growth needs, or motivators, included Maslow's (1943, 1954) higher-level needs of esteem and self-actualization.

Though bearing similarity in need definition, Herzberg and colleagues' (Herzberg, 1966; Herzberg et al., 1959) more succinct structure of human needs differed from Maslow's (1943, 1954) regarding need interaction. Hygiene and growth needs did not exist in a hierarchy or on a bi-polar continuum, but rather were two simultaneously present independent sets of needs. Hygiene needs were met on the job by providing good physical working conditions, fair company policies and practices (including pay), and having positive co-worker relationships that included subordinates, peers, and supervisor(s). Meeting these needs resulted in a lack of dissatisfaction with one's job. Growth needs were met on the job by providing opportunities for achievement and advancement, responsibility and autonomy in job design, interesting work, and recognition of work well done. Meeting growth needs resulted in job satisfaction. Herzberg and colleagues (1959, 1966) found that workers could be simultaneously satisfied with their work when motivators were present (satisfying growth needs), yet dissatisfied with the work context when hygiene factors were absent.

Motivator/hygiene theory's prescription for workplace design were in general agreement with Argyris' (1964) conclusions: (a) individual organization members should aspire for growth; and (b) management should design work to be interesting and challenging, allowing for autonomous and accountable decision-making, recognize worker achievement, and provide related opportunities for advancement. Herzberg and colleagues (1959; 1966) further advised that management attention be directed toward

addressing worker hygiene needs in order to maximize worker satisfaction, which later studies equated with worker performance (Herzberg, 1966).

Vroom (1964) and Lawler (1973) offered process models of motivation (Campbell, Dunnette, Lawler, & Weick, 1970) to explain how meeting human needs in the workplace energizes individual and organizational performance. Vroom (1964) argued that motivation was a psychological force (Lewin, 1938) to perform a particular task. The strength of this force was a function of the expectancy that the task would result in a particular outcome, and the valence of that outcome to the individual. Outcome valence – one's affective orientation toward a particular outcome – is driven by needs for achievement (McClelland et al., 1953), equity (Adams, 1963), and ego involvement (including concepts related to self-actualization, autonomous decision making, and competency). Actual task performance was a function of both one's motivation and ability (e.g., intelligence, knowledge, skills) to do the work.

Lawler (1973) built on Vroom (1964), providing evidence that worker expectancies regarding personal performance leading to desired outcomes (or rewards) were largely influenced by their organizational environment. Extrinsic rewards such as pay for performance and positive interpersonal relationships helped to address lower-level and relatedness needs, respectively, while reward valence determined by higher-level needs was more related to factors such as job design and management/leadership style. Hackman and Lawler (1971) found task variety, decision-making autonomy, task identity, and feedback on performance to be important job design factors in meeting higher-level needs and therefore contributing to intrinsic motivation. Lawler (1973) further concluded that democratic and participative approaches to management and

leadership (e.g., Argyris, 1957; Likert, 1961; McGregor, 1960) lead to reduced power differential between managers and their subordinates. This power equalization helps to address individuals' higher-level needs for independence (or autonomy in decision-making), competence (or effective performance), and self-esteem. This in turn benefits the organization by leading to better organizational decisions as employees have relevant information, engage in the decision-making process, and their self-interests become aligned with those of the organization.

In summary, these needs-based theories of workplace motivation share several common themes. First, a common characterization of motivation emerges as a psychological force that initiates behavior in pursuit of need satisfaction. Second, all the needs-based theories of motivation share some similarity to Maslow's (1943, 1954) original hierarchy of needs, though the breadth or specificity of specific need definitions vary. Third, all include some definition of physiological and/or existence needs such as food, shelter, interpersonal safety (often referred to as lower-level needs). Fourth, these theories include a social affiliation or relatedness need as being important to effective workplace motivation. Finally, all include some description of individual worker growth and self-actualization as central to workplace motivation. This growth need includes concepts of personal competence and individual autonomy/accountability in making decisions of significance to the organization. Importantly, self-actualization for Maslow (1954) was not limited to full utilization of one's skills and abilities, but included a social component; self-actualization was in service to others and in support development of the good society (Maslow, 1961, 1965).

Self-Determination Theory

Self-determination theory (SDT) (Deci & Ryan, 2000; Ryan & Deci, 2000) picks up these same themes of relatedness, competence and autonomy in its explanation of human motivation. SDT is a universal or grand theory of motivation (Reeve, 2015) that recognizes humanity to be inherently social. As such, individual socialization (internalization of societal norms and behaviors) is necessary not only for individual survival and flourishing but to simultaneously ensure societal sustainability. Socialization occurs naturally as the individual's basic needs³ for autonomy, competence, and relatedness are satisfied with appropriate environmental support. Just as a plant requires sun, water, and the proper temperature (environmental supports) to ingest and metabolize the minerals necessary for growth (something the plant does naturally), so humans require the proper environmental supports in order to satisfy the basic needs for autonomy, competence, and relatedness in a fashion that is healthy for both the individual and society (Deci & Flaste, 1995). This healthy growth supports internalization of societal values and norms that can then be used for self-regulation of individual behavior, an important attribute for inherently social beings (Gagné & Deci, 2014). Intrinsic motivation – the prototypical form of self-regulated behavior – is evident as one curiously explores and engages in inherently enjoyable and interesting activities in the absence of external rewards or punishments (Van den Broeck et al., 2016).

³ Deci and Ryan (2000) define basic needs as “those critical conditions that enable the expression of our natural inclination toward psychological growth, internalization, and well-being” (p. 229).

Like Argyris (1964), Maslow (1943, 1954), and White (1959), SDT seeks to integrate and refine previous human motivation theory and research in its definitions of the three basic psychological needs. The autonomy construct draws upon de Charms' (1968) concept of personal causation, defining autonomy as "the organismic desire to self-organize experience and behavior and to have activity be concordant with one's integrated sense of self" (Deci & Ryan, 2000, p. 231). This understanding of autonomy emphasizes volition – the power to make decisions consistent with one's understanding of self – rather than internal locus of control or individualism. Deci and Ryan (2000) follow White (1959) in their definition of competence: the need to experience a sense of effectiveness or mastery over one's environment, attain valued outcomes within that environment, and develop new skills (Deci & Ryan, 2000; Van den Broeck et al., 2016). Finally, the SDT definition of relatedness draws upon Baumeister and Leary (1995): the reciprocal desire "to feel connected to others – to love and care, and to be loved and cared for" (Deci & Ryan, 2000, p. 231). Recent studies have found all three basic needs to be universally necessary for psychologically healthy human growth in both individualistic and collectivist cultures (Bao & Lam, 2008; Chirkov, Ryan, Kim, & Kaplan, 2003; Vansteenkiste, Zhou, Lens, & Soenens, 2005; Vansteenkiste, Lens, Soenens, & Luyckx, 2006; Zhou, Ma, & Deci, 2009).

Self-determined or self-regulated behavior occurs when action is a result of autonomous motivation. Autonomously motivated persons act with volition and integrity, endorsing and concurring with their own behavior. Autonomous motivation can be of two types: intrinsic or identified. Intrinsic motivation is the most self-determined as it aligns with the person's personal values and behavioral norms. Intrinsic motivation prompts

behavior that is interesting and rewarding in its own right as the behavior meets the person's basic psychological needs for autonomy, competence, and relatedness. Identified motivation is also autonomous, but slightly less self-determined than intrinsic motivation as it is typically associated with the adoption of values and norms of a new group. The person exercising identified motivation has identified with the value of the behavior and has accepted responsibility for regulating her/his own behavior. Behavior can also be extrinsically motivated based not on socialized values and norms that meet basic human needs, but rather on calculations of rewards or punishment related to self-worth (Deci & Ryan, 2008; 2012; Gagné et al., 2015). Finally, SDT also includes the possibility of amotivation in which there is a complete absence of any self-regulation, be it extrinsic or autonomous (Gagné & Deci, 2005).

Satisfaction of the three basic needs (autonomy, competence, and relatedness) promotes and enables autonomous motivation, which prompts interesting and enjoyable (intrinsically rewarding) individual behaviors that result in positive outcomes for both the individual and her/his environment (e.g., group, organization, and/or society) (Deci & Ryan, 2012; Gagné & Deci, 2014). Autonomy needs may be satisfied through task characteristics (e.g., decision-making), volitionally depending upon others for help, and even when following the requests of others. For example, an employee acting on a supervisor's request based on a meaningful rationale for the action might experience autonomy (Van den Broeck, Vansteenkiste, De Witte, Soenens, & Lens, 2010).

Competence is experienced as a result of task mastery, and relatedness needs satisfied when people "experience a sense of communion and develop close and intimate relationships with others" as a member of a group (Van den Broeck et al., 2010, p. 983).

SDT does not stack needs in a hierarchy, and persons do not need to have a deficit in one or more to prompt behavior. SDT argues that people are attracted to situations in which needs may be satisfied. Indeed, individuals are likely to be energized by need satisfaction and actively engage in further need-satisfying activities. Satisfaction of all three needs are important to psychological growth, well-being, and internalization of social (including organizational) values and norms. Frustration in satisfying any single need disrupts individual growth, well-being, and internalization (Van den Broeck et al., 2016).

SDT and HRM practices. SDT has been proposed as a theory of motivation particularly well-suited studying employee optimal functioning (Van den Broeck, Vansteenkiste, & De Witte, 2008). Basic need satisfaction has been found to mediate the relationship between HRM practices and outcomes such as work engagement, affective organizational commitment, and turnover intention (Marescaux, De Winne, & Sels, 2013). Additional research has further demonstrated a relationship between HRM practices and basic need satisfaction. Van den Broeck, et al.'s (2016) recent meta-analysis found basic need satisfaction to be significantly and positively related to the antecedent of job design, specifically, Hackman and Oldham's (1980) five core job design characteristics (autonomy, task, identity, task significance, skill variety, and feedback) and social support on the job. Additional studies finding a positive relationship between job design and basic need satisfaction include Deci, Connell, and Ryan (1989), Gagné, Senécal, and Koestner (1997), and Richer, Blanchard, and Vallerand (2002). These studies support Gagné and Panaccio's (2014) proposition that SDT is well suited to empirically examining the motivation mechanisms often assumed but rarely empirically examined in much of the job design research.

SDT may also have a role in understanding how recruiting and selection practices impact outcomes such as performance through person-environment fit (Kristof-Brown, Zimmerman, & Johnson, 2005; Schneider, 2001) and attraction-selection-attrition (Schneider, 1987) theories. For example, Greguras and Diefendorff (2009) found basic need satisfaction mediated the relationship between person-environment fit (specifically person-organization, person-group, and person-job fit) and individual job performance and affective commitment. Beyond selection, SDT may also contribute to understanding the supervisor's role in performance. Baard, Deci, and Ryan (2004) found supervisor autonomy support to be positively related to basic need satisfaction, which in turn was related to performance. Gillet, Colombat, Michinov, Pronost, and Fouquereau (2013) confirmed these findings, adding supervisor procedural justice as an antecedent of basic need satisfaction. And Leroy, Anseel, Gardner, and Sels (2015) found that authentic leadership practiced by supervisors predicted follower basic need satisfaction, which in turn was positively related to work role performance.

Research has also examined the relationship between compensation and autonomous motivation. Extrinsic or tangible rewards, such as compensation, are considered in SDT to promote controlled motivation (Deci, Koestner, & Ryan, 1999; Deci & Ryan, 2012), decreasing the experience of autonomy and prompting a shift in one's perceived locus of causality to external (de Charms, 1968). As such, researchers expect that a tangible reward such as compensation would frustrate basic need satisfaction and thwart autonomous motivation, though Ryan, Mims, and Koestner (1983) found the functional significance of the reward to be relevant. If a monetary reward was perceived as a means of control, it contributes to controlled motivation and frustrates

autonomous motivation. When perceived as recognition of competence, compensation can contribute to autonomous motivation (Deci & Ryan, 1985; Deci et al., 1999). More recently Gagné and Forest (2008) have suggested that performance-contingent rewards can support need satisfaction when mediated by an autonomy-supportive climate.

Kuvaas, Buch, Gagné, Dysvik, and Forest (2016) found that base pay contributed to autonomous motivation and performance (work effort), while quarterly variable pay was related to controlled motivation and performance, but also to turnover intention. The relationship of compensation to need satisfaction and performance warrants additional research, but the extant literature supports an understanding of compensation and compensation systems as an important consideration in workplace motivation.

Finally, workforce training and development (TAD) has been identified as an HRM practice area relevant to workplace motivation. Research regarding the relationship of TAD to basic need satisfaction has been light, but propositions extending existing SDT research to the workplace have been offered (Dysvik & Kuvas, 2014; Sheldon et al., 2003). These proposals largely echo the application of SDT to other HRM practices: learners with internalized training-related goals and/or working in autonomy-supportive environments will be more likely to exhibit autonomous motivation related to learning/training activities (Sheldon et al., 2003). Workers participating in formal training should understand the event or program as relevant to their personal development, and such programs should demonstrate employees' importance to the organization (Dysvik & Kuvas, 2014). Dysvik and Kuvaas make an important point relative to TAD and SHRM/HPWS, observing that research demonstrates the strongest relationship between TAD and performance outcomes when TAD is integrated and aligned (internally

consistent) with other HRM programs and practices (Combs, Liu, Hall, & Ketchen, 2006).

A number of researchers have begun to consider the relationship between integrated HPWS noted by Dysvik and Kuvaas (2014) and basic employee need satisfaction, beyond individual HR practice relationships noted above. Sheldon, Turban, Brown, Barrick and Judge (2003), for example, argued that HPWS promote satisfaction of basic employee needs (autonomy, competence, relatedness), and therefore facilitate the internalization of work tasks. This internalization and resulting autonomously motivated behavior ultimately results in improved organizational performance. Van den Broeck, Vansteenkiste, and De Witte (2008) suggest that basic need satisfaction may also be relevant as a tool for aligning HRM practices. And Gagné (2009) theorizes integrated HRM practices to be an antecedent of basic need satisfaction and autonomous motivation in her model of employee knowledge sharing behavior. Results from Marescaux, De Winne, and Sels' (2013) study offers some support to the proposed relationship between HRM practices and basic need satisfaction, finding integrated HRM practices to be significantly and positively related basic need satisfaction, which in turn was positively related to engagement and affective organizational commitment, and negatively related to turnover intention.

Integrated systems of HRM practices, such as HPWS, may support autonomous motivation by creating an autonomy-supportive environment: a social context in which initiation is encouraged, choice is available, and individuals relate to the actor by taking their perspective, supporting choice, and being responsive to the actor's input, questions, and initiatives (Deci & Ryan, 2008). These characteristics of autonomy-supportive

environments contrast with classic scientific management organization design characterized by centralized decision-making and power. Autonomy-supportive environments bear close similarity to the participative organizational environment of HIWS previously discussed, in which the collaboration and decision-making at all levels of the organization is rewarded, and employees at all levels of the organization have the skills, information, and autonomy (power) to initiate problem solving and make decisions (Benson & Lawler, 2016; Boxall & Macky, 2009; Lawler, 1986).

Autonomy-supporting environments result in identified motivation in which the actor has understood, accepted and identified with the value of the activity as personally important and meaningful (Deci & Ryan, 2008; Deci & Ryan, 2012; Gagné et al., 2015; Gillet et al., 2013; Van den Broeck et al., 2016). Autonomy-supportive HRM practices, mediated by basic need satisfaction, have been hypothesized to support autonomous motivation and knowledge sharing behavior (Gagné, 2009; Sheldon et al., 2003), and specifically found to support job performance (Elmadag, 2007; Sutton & Brown, 2016). Empirical evidence has also demonstrated autonomy supporting-environments to be positively correlated with organizational identification (Gillet et al., 2013), organizational citizenship behavior (Elmadag, 2007), job performance (Baard et al., 2004; Elmadag, 2007; Gillet et al., 2013), employee engagement (Deci et al., 2001; Elmadag, 2007), innovation (Wallace et al., 2016), and trust in one's organization and supervisor (Deci et al., 1989), and negatively correlated with turnover intentions (Gillet et al., 2013).

Summary

Freud's theory of somatic instincts (e.g., Freud, 1925/1957, 1949) was among the earliest work on the psychology of human motivation. The kernels of his ideas regarding

human relatedness needs, and the constructs of expectancy and valence found in process theories, are present contemporary workplace motivation theories. Needs-based motivation theory and research following Freud transitioned to consideration of two categories of human needs: physiological, or lower order needs, and psychological, or higher order needs (e.g., Maslow, 1943, 1954). Conceptualizations of higher-order needs continued to include relatedness constructs, plus needs related to psychological growth and interacting effectively in one's environment, e.g., Maslow's self-esteem and self-actualization needs, and White's (1959) competence need. General consensus coalesced around the higher-order needs being innate to all persons (as opposed to acquired, e.g., McClelland, 1961), and the satisfaction of these higher-order needs as essential to healthy human growth and functioning.

Application of needs-based theories of human motivation to industry and the workplace began in earnest following World War II. Argyris (1964) adopted an open systems view of industrial organizations arguing that human psychological energy was an essential input for organizational sustainability. He postulated psychological energy to exist in human needs, particularly self-actualization and competence; satisfaction of these needs in the organizational context was therefore essential to ensuring both a healthy organization and healthy persons. Organizations best suited to support competence and self-actualization need satisfaction are those that take that an organic form (Burns & Stalker, 1961) and a participative approach to management (Likert, 1961) offering complex and interesting work linked to organizational success that includes both responsibility and accountability, and solves problems through collaborative decentralized decision-making. Needs-based motivation research by Alderfer (1969, 1972), Herzberg and colleagues

(Herzberg, 1966; Herzberg et al., 1959), and emerging process theories of motivation (e.g., Lawler, 1973; Vroom, 1964) generally supported Argyris' propositions. Needs for competence and self-actualization continued to be relevant as intrinsic and extrinsic motivation (prompted by a desire for higher-order and lower-order needs satisfaction, respectively) were differentiated, and need satisfaction was identified as important to task outcome valence. Job design research (e.g., Hackman & Lawler, 1971; Hackman & Oldham, 1980) further emphasized the importance of higher-order need satisfaction on-the-job, leading to better organizational decisions and employee interests being aligned with those of the organization.

SDT (Deci & Ryan, 2000; Ryan & Deci, 2000) continued to integrate extant research into a grand theory of motivation in which the needs for autonomy, competence, and relatedness are identified as universal needs. Satisfaction of these needs results in autonomous motivation: acting with volition and integrity, endorsing and concurring with their own behavior, resulting in intrinsic rewards (need satisfaction). The three basic needs in SDT all operate simultaneously and are of equal importance; no one need is prepotent. Persons are attracted to situations in which needs may be satisfied (expectancy and valence), and are likely to be energized by need satisfaction and continue to engage in need satisfying activities. Satisfaction of all three needs is necessary for psychological growth and well-being, and for the internalization of organizational (or social) values and norms. Autonomy supporting environments and HRM systems facilitate basic need satisfaction and autonomous motivation (e.g., Gagné et al., 2015; Gillet et al., 2013). These organizational environments bear similarity to the participative, decentralized organizational environments supported by HIWS (Lawler, 1986), and have been

positively correlated with outcomes such as organizational identification (Gillet et al., 2013), organizational citizenship behavior (Elmadag, 2007), and job performance (Baard et al., 2004; Elmadag, 2007; Gillet et al., 2013).

Needs-based theories of motivation are central to the contemporary understanding of workplace motivation. SDT provides a useful grand theory of human motivation that builds on previous needs-based theories of motivation, incorporating social constructs important to the SHRM and workplace community research streams previously discussed. SDT research regarding basic need satisfaction (autonomy, competence, relatedness) includes extensive application in the workplace setting, with links to HRM systems like HIWS that facilitate autonomy supporting environments. These autonomy supporting environments have been related to outcomes of interest to the present study such as organizational identification, organizational citizenship behavior, and job performance. The next section of chapter two examines the organizational identification literature with a particular eye for relationships to HRM systems and the workplace community construct.

Organizational Identification

Organizational identification (OI) is a perception of oneness with or belonging to a group (Ashforth & Mael, 1989; van Knippenberg, 2000). OI occurs when a person integrates an organization into her or his construction of self. In doing so the individual adopts the values, goals and beliefs of the organization, and behaves in ways consistent with those norms (Ashforth et al., 2008). The self is depersonalized in this process, with the individual coming to see her or himself as not only part of the organization, but as an exemplar or prototype of the organization (Haslam, 2004).

The OI phenomenon makes organizational life possible (Ashforth, 2001; Haslam et al., 2003) as the basis for sharing particular perceptions and interpretations of the external world with other group members, and for the mutual social influence processes that facilitate coordinated, collaborative action among those members (Haslam & Ellemers, 2011). Indeed, well developed OI reduces the need for organizational control systems typical in mechanistic organizations (Burns & Stalker, 1961) or those managed largely from a scientific management perspective, e.g., top-down decision-making and detailed procedure specification. Organization members who have identified with the organization readily align personal interests with those of the organization (Ashforth, 2001).

The Social Identity Approach

OI draws upon social identity theory (SIT) and self-categorization theory (SCT), sometimes collectively referred to as the social identity approach (Haslam et al., 2000; Haslam, 2004). The social identity approach is rooted in a social concept of the self, developed through reflexive action regarding one's interaction with other persons (Baumeister, 1998; Mead, 1934). The self can be considered at once both a memory structure and cognitive capacity. As a memory structure it identifies the person as a knower and actor having existence outside of particular contexts and social structure; a unique individual or "I". As cognitive capacity the self considers itself as an object of reflexive thought, to consider what "me" is comprised of given different contexts and situations (Baumeister, 1998; Mead, 1934; Oyserman, Elmore, & Smith, 2012). The human self is reflexive and interpersonal, and one's understanding of her or himself is used for making decisions about action (self-regulation) (Baumeister, 1998).

The self as object of reflexive thought, or “me”, contains all the learned perspectives and attitudes the person takes toward her or himself. It is comprised of the nested constructs of self-concepts and identities (Owens, Robinson, & Smith-Lovin, 2010; Oyserman et al., 2012). Self-concepts are one’s theory of personality, or what one believes to be true about oneself. They include three broad categories of attributes: physical characteristics, self-referring dispositions, and identities (Rosenberg, 1979). Physical characteristics such as height, skin tone, physical disabilities, etcetera, influence how others respond to the person, thus shaping self-concept development. Self-referring dispositions are the abstract categories the person develops over her or his lifetime that are used for self-regulation, or responding to the environment. These dispositions include cultural structures such as individualism versus collectivism, evaluative judgements of one’s competence and sense of worth (e.g., self-efficacy and self-esteem), and mental concepts about who one was, is, and will become (Oyserman et al., 2012).

Identities enable contextual sense making and can be personal or social (Brewer, 1991; Oyserman et al., 2012; Turner, Oakes, Haslam, & McGarty, 1994). Personal identity individuates the person into a category of one based on her or his biography and experiences (Rosenberg, 1979). For example, a person has a name, has a particular family tree, grew-up in a specific town, went to school at a particular college, may be single or married, count him or herself as a member of a religious or spiritual group, and may pursue a specific career independently or within an organization. These identifiers in a person’s unique personal narrative collectively contribute to her or his personal identity as a unique self. Importantly, persons are who they are in relation to other persons; these personal identifiers are social and institutional in origin, providing the basis for the

person's social identities (Owens et al., 2010; Rosenberg, 1979). Social identities are self-defined categories that characterize the person in terms of similarities with members of certain groups (in groups) and in contrast to members of other groups (outgroups) (Turner & Onorato, 1999/2012).

Social identities involve understanding oneself as a group member, feelings about being a member of that group, and knowledge of the group's comparative status or rank in relation to other groups (Tajfel, 1981). Social identities can be based on roles (the position one holds in a group or organization), socially meaningful categories (e.g., Canadian, African-American), and/or actual membership in a bounded group (e.g., Sierra Club, one's employer) (Owens et al., 2010; Rosenberg, 1979). Just as identities are nested within self-concepts, levels of identity are nested within themselves with each higher-level being more inclusive. Personal identities are at the center, with social identities at the next level (Haslam et al., 2000).

Other persons and groups are integrated into one's self through social identity. SCT argues that perceiving oneself as a collective rather than an individual (i.e., as "we" and "us" as opposed to "I" and "me") is a normal experience of self and identity. At these times the self is depersonalized and experienced as equivalent to or interchangeable with other ingroup members. Which particular identity is salient at a given time, and by extension how the person defines her or himself, is a product of the immediate social context and extent of the person's identification with the group (i.e., membership is valued and ego-involving). Self-categorization provides the foundation for the person's social orientation toward other persons in both in groups and outgroups. Shared social

identity with ingroup members results in depersonalization of the self, prompting collective group behavior (Turner & Onorato, 1999/2012).

Organizational Social Identity

Social identity in the context of an organization can be considered an organizational social identity, or OI (Haslam & Ellemers, 2011). Organization members compare their organization (or sub group, such as department or location) to other relevant organizations (or sub groups). Persons tend to retain their membership in organizations to the extent that the organization is distinctive and is positively viewed, supporting one's positive social identity. Members seek to leave an organization (psychologically or materially) when social identity or OI becomes unsatisfactory. This departure may be associated with attempts to improve the distinctiveness of the existing organization or seeking membership in another organization (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987).

The salience of one's social identity or OI is a function of (a) fit – the degree to which a given social identity proves useful in organizing and making sense of one's current social context – and (b) one's previous experience. Fit includes two components: comparative and normative. Comparative fit occurs when a person understands her or his social identity (or self-category) to be more similar to the social identity of other ingroup members than those of another group. For example, pharmaceutical company employees at an industry conference are more likely to identify with colleagues from their own company to the extent that the differences between their co-workers are smaller than the

differences between companies. Normative⁴ fit occurs when the content of the differences between categories meets one's expectations. Perhaps the employees of one pharmaceutical company perceive their company to be more customer service oriented than other companies in their industry. Employees of the perceived customer-focused company will only define a difference between their company and others companies when employees of the various companies act in expected ways regarding customer-focused behavior. Normative fit is required for a particular self-category or social identity to be activated. Previous positive experience and identification, or negative experience and dissociation, with an organization also contributes to the person's readiness to adopt a particular social identity or OI in a given context (Haslam et al., 2000; Oakes, 1987).

OI Antecedents and Outcomes

The social identity approach assumes that individual needs – or “aspirations for the self” (Haslam et al., 2000, p. 326) – are satisfied either directly or indirectly through interaction with other persons. People therefore tend to associate with others and organize themselves toward mutual satisfaction of shared needs. A psychological group is formed when this collaboration occurs and members adopt group membership into their social identity (Turner et al., 1987). Work integrating needs-based motivation theories (i.e., Alderfer, 1972; Herzberg et al., 1959; Maslow, 1954; McClelland, 1987; McGregor, 1960) with the social identity approach predicts that personal identity salience prompts

⁴ Note that *normative* as used here is referring to standards or expectations established by the perceiver. These standards or norms may or may not have an ethical connotation.

pursuit of self-actualization or growth needs, while social identity salience (i.e., OI) predicts pursuit of affiliation or relatedness needs (Haslam et al., 2000; Haslam, 2004; Haslam & Ellemers, 2011). Said another way, social identity/OI theory suggests that group members with high OI will focus on satisfying relatedness needs, while those low in OI will focus on personal needs and affiliated goals. This suggests that OI may be an antecedent of need satisfaction. Additional research has shown, however, that individual needs may be pursued when OI is salient and that need satisfaction – including need for relatedness – may be an antecedent of OI (e.g., Ashforth et al., 2008; Kreiner & Ashforth, 2004; Kumar & Jauhari, 2016; Wiesenfeld, Raghuram, & Garud, 2001). While these findings seem to conflict with the depersonalization of the self that occurs with social identity or OI, the findings seem reasonable given the nested nature of identities (or self-categories).

Some consideration has also been given to organizational systems as antecedents of OI. For example, Kreiner and Ashforth (2004) found positive organizational reputation to be associated with OI and identify HIWS as one of the choices managements can make to build and sustain an organization's reputation. Ellemers and Rink (2005) and Wegge and Haslam (2003) suggest that work environments that include characteristics similar to autonomy-supportive climates and participative practices will foster OI salience and promote effective group performance.

Theoretical and empirically identified outcomes of OI include organizational citizenship behavior (Callea et al., 2016; Riketta, 2005; Van Dick et al., 2006), individual and group/organizational performance (Callea et al., 2016; Van Dick et al., 2006; van

Knippenberg, 2000; van Knippenberg & Ellemers, 2003; Yurchisin, 2006), and SOC (Cicognani et al., 2012), among other outcomes (Ashforth et al., 2008).

OI and Affective Organizational Commitment

Organizational commitment, or more specifically affective organizational commitment (AOC) (Meyer & Allen, 1997) has been identified as related to all of the major constructs previously identified as relevant to the present study (e.g., Marescaux et al., 2013; Milliman et al., 2003; Riordan et al., 2005). The relationship between AOC and OI is a frequent topic of conversation among researchers, with some contending that the two constructs are unique and others finding no difference between them (Riketta, 2005). While the constructs tend to covary in many studies, they differ in their focus. OI emphasizes self-definition and commitment based on social exchange; the individual incorporates the organization into their identity. Conversely, AOC views the individual and the organization as psychologically separate (Ashforth & Mael, 1989; Daan & Sleebos, 2006). Riketta (2005; 2009) observes that the overlap between AOC and OI may be due to their operationalization in measurement instruments; AOC items contain elements of OI, but also explore elements of commitment not captured in the OI construct. Given that the independent variable in the present study will be high-involvement climate rather than high-commitment climate (see chapter 3), this study will restrict itself to examining the mediating role of OI in the high-involvement climate-workplace community relationship and leave the role to AOC to be examined in future research.

Summary

Membership in groups and organizations satisfies humanity's inherent need for relatedness and belongingness (Baumeister & Leary, 1995; Deci & Ryan, 2000) and shapes who we are, or our sense of self (Haslam & Ellemers, 2011). OI – a perception of oneness with or belonging to a group (Ashforth & Mael, 1989; van Knippenberg, 2000) – occurs when one integrates an organization into her or his self-identities. In doing so the individual adopts the values, goals and beliefs of the organization, and behaves in ways consistent with those norms (Ashforth et al., 2008). The OI phenomenon makes organizational life possible (Ashforth, 2001; Haslam et al., 2003).

Research has identified a relationship between individual need satisfaction and the development of OI among group members (Ashforth et al., 2008; Kreiner & Ashforth, 2004; Kumar & Jauhari, 2016; Wiesenfeld et al., 2001), and organizational systems such as HIWS have been postulated to be antecedents of OI (Ellemers & Rink, 2005; Kreiner & Ashforth, 2004; Wegge & Haslam, 2003). OI outcomes such as organizational citizenship behavior, individual and group performance, and SOC suggest that OI may reduce the need for organizational control systems typical in mechanistic (Burns & Stalker, 1961) organizations. OI's connections to organizational constructs relevant to the present study suggest that the construct will be helpful in sorting the relationship between HIWS and workplace community. The next section examines organizational citizenship behaviors as an outcome of OI and its role in the SHRM black box.

Organizational Citizenship Behavior

As OI is the psychological phenomenon that makes organizational life possible (Ashforth, 2001; Haslam et al., 2003), organizational citizenship behaviors (OCBs) are the voluntary behaviors by organization members that make for effective organizational

operation and performance. OCBs are employee behaviors that support the organization's social and psychological environment. These behaviors are often, but not always, extra-role behaviors beyond the task behaviors specifically called for in an employee's job description, and are typically not recognized by the organization's formal reward system (Bateman & Organ, 1983; Organ, 1997; Organ et al., 2006).

The richness and value of the OCB construct has deep roots in management and organizational studies; ideas about voluntary extra-role behaviors that support organizational social environment, operation, effectiveness, and performance are endemic to much of this literature (Organ et al., 2006). For example, Barnard's (1938) understanding of organizations as cooperative, voluntary systems that depend upon the willingness of members to contribute to their success provides important insight into the nature and relevance of OCBs in contemporary management theory. Both Barnard (1938) and Roethlisberger, Dickson, and Wright (1939) saw organizations as comprised of formal and informal systems. Beyond the codified organizational chart and policies that defined formal relationships and transactions within organizations, existed the informal organization where the social work of the organization was accomplished. The informal is where the cooperative relationships and voluntary interactions beyond the reach of formal systems takes place, and enables the work of the formal. This voluntary extra-role behavior is one of the three key contributions that organizations must draw from their members in order to ensure effectiveness (D. Katz, 1964; D. Katz & Kahn, 1966). These behaviors build relationships inside the organization through the reciprocity of social exchange (Blau, 1964). Of course, these behaviors and relationship must be aligned with the objectives of the organization in order to contribute to organizational effectiveness,

and will be so aligned to the extent that jobs are designed to provide employees voice and self-control in their work (McGregor, 1960). These aligned, integrated voluntary behaviors and interdependent reciprocal exchange relationships, and the willingness to voluntarily continue them, contribute to feelings of homonomy (Emery, 1977; Maslow, 1965) and begin to reflect the qualities found in the experience of community (Sarason, 1974).

OCBs can be classified into a variety of types, with helping and compliance behaviors among the most established in the literature. Helping behaviors involve assisting a coworker (or supervisor or customer) with problem mitigation or problem solving (Smith, Organ, & Near, 1983). Compliance behaviors demonstrate adoption and adherence to group productivity norms (e.g., arriving to work on time, avoiding excessive breaks) (L. J. Williams & Anderson, 1991). Konovsky and Organ (1996) identified two additional types of OCB: sportsmanship (a tendency to make the best of a situation; behaviors one voluntarily choose to not perform), and courtesy (actions that pre-empt or prevent problems from occurring, and avoiding actions that make other people's work more difficult). Other types of OCBs include cheerleading – celebrating coworker accomplishments (Organ, 1990); peacemaking – intervening in a disagreement between two other people before it escalates and becomes destructive (Organ, 1990); and loyalty – positively representing the position of one's company (George & Brief, 1992). Katz (1964) identified two additional extra-role behaviors of self-development and protecting the organization (though he did not refer to them as OCBs). Self-development refers to discretionary steps taken by individuals to build work-related skills and knowledge; protecting the organization involves taking initiative to notice and correct a situation that

could harm the company or its reputation. OCBs have also been categorized into those directed toward individuals (OCBI) and those directed toward the organization (OCBO) (e.g., Lee & Allen, 2002). It is important to note that OCB types can vary by cultures; any list of OCB types is likely incomplete and may not transfer across cultural boundaries (Organ et al., 2006).

Podsakoff, MacKenzie, Paine and Bachrach's (2000) meta-analysis of the OCB literature identified four categories of OCB antecedents: individual employee characteristics, task characteristics, organizational characteristics, and leadership behaviors. Employee characteristics with the strongest relationship to OCBs include job satisfaction, perception of fairness, organizational commitment, and leader trust. Walumbwa, Hartnell, and Oke (2010) also found self-efficacy to be positively related to OCB, and Elmadag (2007) found perception of an autonomy-supportive climate predicted OCB. Interestingly, other individual-level variables such as dispositional traits (e.g., conscientiousness and agreeableness), gender, and individual ability and knowledge seem to have a relatively small or no correlation to OCBs. However, Hu and Liden (2011) did find team members' shared beliefs about their ability to be effective, or team potency (Campion, Medsker, & Higgs, 1993) to predict OCB within a team. OI has also been identified as an OCB antecedent (Ashforth, 2001; Callea et al., 2016; Van Dick et al., 2006; van Knippenberg & Ellemers, 2003). Among task characteristics, intrinsically satisfying tasks have the most predictive power, while task routinization is negatively related to OCB. Organizational characteristics and leadership behaviors such as perceived organizational support, group cohesion, and transformational leadership are also moderately related to OCB (Organ et al., 2006). Finally, servant leadership and

procedural justice climate have been identified as predictive of OCB as well (Ehrhart, 2004; Gurbuz, 2009; Parris & Peachey, 2013; Walumbwa et al., 2010).

Outcomes of OCB have been studied in many of the literature sets discussed above, finding that OCB “in the aggregate promotes the efficient and effective functioning of the organization” (Organ et al., 2006, p. 3). Specifically, community psychology, organizational psychology, and SHRM researchers have identified OCB as positively related to individual performance (D'Amato & Zijlstra, 2008; Eisele & D'Amato, 2011; Ozer, 2011; Rapp, Bachrach, & Rapp, 2013), group/team performance (Ehrhart et al., 2006; Nielsen et al., 2012; P. M. Podsakoff et al., 1997) and organizational performance (Bolino et al., 2002; Kolade et al., 2014; Organ et al., 2006; N. P. Podsakoff et al., 2009; Sun et al., 2007; Van Dick et al., 2006), particularly at the unit-level (N. P. Podsakoff et al., 2014). Becton, Carr, Mossholder, and Walker (2016) also recently found OCB to be positively related to employee retention. Organ et al. (2006) identify a number of potential reasons supporting this positive relationship between OCB and performance at all three levels. For example, OCBs may enhance co-worker performance through helping and sportsmanship behaviors. Managerial productivity may also be enhanced by increasing the organization's ability to attract and retain high-quality employees, decreasing the need for control-related behaviors by managers, and optimizing human resources available for productive purposes. Finally, OCBs may contribute to building social capital and coordinating activities among group members, and building organizational resiliency.

Summary

OCBs are voluntary, extra-role employee behaviors that support the organization's social and psychological environment that are typically not recognized by the organization's formal reward system (Bateman & Organ, 1983; Organ, 1997; Organ et al., 2006). OCBs play an important role in the reciprocal social exchanges that take place among organization members in the informal organization that facilitate organizational life (D. Katz & Kahn, 1966; D. Katz, 1964; Organ et al., 2006), and begin to reflect the qualities one finds in the experience of community (Emery, 1977; Maslow, 1965; Sarason, 1974). Intrinsically satisfying work (Organ et al., 2006) and OI (Ashforth, 2001; Callea et al., 2016; Van Dick et al., 2006; van Knippenberg & Ellemers, 2003) are among the variables identified as OCB antecedents, while a variety of variables related to organizational effectiveness and performance have been identified as outcomes (e.g., N. P. Podsakoff et al., 2014). As such, it is important to consider the role of OCB in the SHRM black box.

Literature Review Summary

Workplace community has been a concern of management practitioners and researchers since the late nineteenth century. While the interest in studying and building workplace community seems to ebb and flow with shifting economic conditions and societal values (Pfeffer, 2006), the concept has endured and remains relevant and perhaps has increased importance in contemporary commerce (Hamel, 2009; Klein & D'Aunno, 1986; Mintzberg, 2009). This study seeks to understand the relationship between HRM systems and mediating variables that build workplace community, and the relationship of workplace community to organizational performance.

Conceptualizations and empirical research regarding workplace community is a cross-disciplinary affair with insights and advances coming from management and organization studies, as well as community psychology. The SOC and SOCR constructs from community psychology demonstrates promise as constructs around which this cross-disciplinary research can be conducted (Boyd & Nowell, 2014). Workplace community research to-date demonstrates SOC and SOCR are related to important constructs that have relevance to organizational strategy and systems (Boyd & Nowell, 2014) such as organizational policies and services like HRM systems and practices (e.g., Burroughs & Eby, 1998; Lambert & Hopkins, 1995), employee need satisfaction and organizational citizenship behaviors (e.g., Burroughs & Eby, 1998), and organizational identification (e.g., Cicognani et al., 2012).

SHRM research and practice integrates HRM practices across traditional HRM disciplines (e.g., job and organization design, recruiting and selection, performance management, etcetera) into bundles of HRM practices aligned to support organizational strategies and outcomes including sustainable competitive advantage (Barney & Clark, 2007; Boxall & Purcell, 2011; Tichy et al., 1984). These integrated bundles of practices are most commonly referred to as HPWS (Jackson et al., 2014), with HCWS and HIWS (Lawler, 1986; Walton, 1981) among the earliest conceptions. HCWS and HIWS theory share a common heritage with workplace community, both drawing from emerging social and organizational science scholarship in the early to mid-twentieth century. These discussions envisioned an industrial organization paradigm with a twin focus on human/social and business objectives (e.g., Emery, 1977; McGregor, 1960; Roethlisberger et al., 1939).

The social aspects of SHRM systems have been generally de-emphasized in HPWS research in favor of establishing a clear causal link between SHRM and organizational performance, thus improving competitiveness in the global marketplace (Wood & Wall, 2007). This relationship is now generally acknowledged as empirically supported (Jackson et al., 2014; K. Jiang et al., 2012), though the HPWS-organizational performance relationship is indirect through a series of mediators often referred to as the SHRM black box (Becker & Huselid, 2006). Recent HPWS research and theory focusing on the black box has revealed a variety of mediators including organizational climate (e.g., Bowen & Ostroff, 2004; Lepak et al., 2006) and employee attitude constructs from organizational psychology such as affective commitment, organizational citizenship behavior, and job satisfaction (e.g., Riordan et al., 2005; Takeuchi et al., 2009). Other work has suggested a re-integration of potential social mediators of organizational performance including reciprocity norms, organizational citizenship behavior, communication, and social capital (e.g., Boxall & Purcell, 2011; Evans & Davis, 2005; Gittell et al., 2010; J. Y. Jiang & Liu, 2015). Many of these SHRM research variables have also been identified as outcomes of SOC and/or SOCR in the workplace community research, including job satisfaction, organizational commitment, organizational attachment, and organizational identification (Boyd et al., 2017; Burroughs & Eby, 1998; Cicognani et al., 2012; Milliman et al., 2003). Burroughs and Eby's (1998) findings regarding employee-related policies and services as antecedents to workplace SOC suggest further commonality with SHRM research.

Both the SHRM and workplace community literatures include employee motivation and needs fulfillment as important related constructs (K. Jiang et al., 2013;

Lawler, 1986; McMillan & Chavis, 1986; Nishii & Wright, 2008; Nowell & Boyd, 2010). Argyris (1964) shaped much of the thinking about employee needs and motivation in the workplace, arguing that human psychological energy was an essential input for organizational sustainability. He postulated psychological energy to exist in human needs, particularly self-actualization and competence; satisfaction of these needs in the organizational context was therefore essential to ensuring both a healthy organization and healthy persons. SDT (Deci & Ryan, 2000; Ryan & Deci, 2000) integrated much of the extant human motivation research into a grand theory of motivation in which the needs for autonomy, competence, and relatedness are identified as universal needs. Satisfaction of these needs results in autonomous motivation in which the person acts with volition and integrity, endorsing and concurring with her or his own behavior, which results in intrinsic rewards (need satisfaction). Satisfaction of all three needs is necessary for psychological growth and well-being, and for the internalization of organizational (or social) values and norms. Autonomy supporting environments and HRM systems facilitate basic need satisfaction and autonomous motivation (e.g., Gagné et al., 2015; Gillet et al., 2013). These organizational environments bear similarity to the participative, decentralized organizational environments supported by HIWS (Lawler, 1986), and have been positively correlated with outcomes such as OCB (Elmadag, 2007), job performance (Baard et al., 2004; Elmadag, 2007; Gillet et al., 2013), and OI (Gillet et al., 2013).

OI – a perception of oneness with or belonging to a group (Ashforth & Mael, 1989; van Knippenberg, 2000) – occurs when one integrates an organization into her or his self-identities. In doing so the individual adopts the values, goals and beliefs of the organization, and behaves in ways consistent with those norms (Ashforth et al., 2008).

The OI phenomenon contributes to the person's inherent need for relatedness and belongingness (Baumeister & Leary, 1995; Deci & Ryan, 2000), shapes the person's sense of self (Haslam & Ellemers, 2011), and makes organizational life possible (Ashforth, 2001; Haslam et al., 2003). Research has identified a relationship between individual need satisfaction and the development of OI among group members (Ashforth et al., 2008; Kreiner & Ashforth, 2004; Kumar & Jauhari, 2016; Wiesenfeld et al., 2001). Organizational systems such as HIWS have been postulated to be antecedents of OI (Ellemers & Rink, 2005; Kreiner & Ashforth, 2004; Wegge & Haslam, 2003). OI outcomes include individual and group performance (Callea et al., 2016; Van Dick et al., 2006; van Knippenberg, 2000; van Knippenberg & Ellemers, 2003; Yurchisin, 2006), SOC (Cicognani et al., 2012), and OCB (Callea et al., 2016; Riketta, 2005; Van Dick et al., 2006).

OCBs are voluntary, extra-role employee behaviors that support the organization's social and psychological environment, and are typically not recognized by the organization's formal reward system (Bateman & Organ, 1983; Organ, 1997; Organ et al., 2006). OCBs play an important role in the reciprocal social exchanges that take place among organization members in the informal organization that facilitate organizational life (D. Katz & Kahn, 1966; D. Katz, 1964; Organ et al., 2006), and begin to reflect the qualities one finds in the experience of community (Emery, 1977; Maslow, 1965; Sarason, 1974). Intrinsically satisfying work (Organ et al., 2006) and OI (Ashforth, 2001; Callea et al., 2016; Van Dick et al., 2006; van Knippenberg & Ellemers, 2003) are among the variables identified as OCB antecedents, while a variety of variables related to

organizational effectiveness and performance have been identified as outcomes (e.g., N. P. Podsakoff et al., 2014).

The research associated with HIWS, SDT, OI, OCB, and workplace community share many common threads. These threads suggest a relationship between variables that may provide some insight into the social mediators of organization performance inside the SHRM black box. This study seeks to understand the nature and strength of these relationships. The hypothesized relationship between these variables and specifics of research methodology and design are discussed in chapter three.

CHAPTER 3

METHODOLOGY

This project's research methodology is described herein. Chapter three begins with identification of research method and discussion of the study's hypotheses, followed by detailed discussion of the population, sampling procedures, and instrumentation. A description of the data collection and analysis methodology conclude the chapter.

Research Design

This quantitative correlational study analyzed multi-responder data gathered at the individual-level across multiple organizations to examine the strategic human resources management (SHRM) "black box" (Becker & Huselid, 2006). This study specifically examined the relationship between high involvement climate (HIC), workplace community (WC), and organizational citizenship behavior (OCB), as partially mediated by employee psychological need satisfaction (PNS) and organizational identification (OI) at the individual level. Structural equation modeling (SEM) tools were utilized to conduct the analysis.

SHRM literature examining social mediators of organizational performance is limited. This project integrates cross-disciplinary research and variables using a quantitative, cross-sectional, single-rater design, to examine the hypothesized relationship between variables. Correlational study design is appropriate in a field research context where predictor variables cannot be manipulated (Stangor, 2011); the single-rater design is appropriate for studies in which data collection relies on self-perception of private

events (Chan, 2009; Conway & Lance, 2010). Both of these factors apply to the present study.

SEM is well suited for cross-sectional, correlational studies that set out to examine direct and indirect (mediating) effects among variables, testing data fit against the hypothesized relationships (Kline, 2010; Weston & Gore, 2006). Employing quantitative methods such as those in SEM are also appropriate in this relationship defining stage of SHRM theory-building (Christensen, 2006) as witnessed by its application in both HPWS (e.g., K. Jiang et al., 2012) and workplace community (e.g., Nowell & Boyd, 2014) research.

Hypotheses

The following hypotheses regarding the relationship between high-involvement climate, psychological sense of community, and organizational citizenship behavior, as partially mediated by employee need satisfaction and organizational identification, were proposed based on the preceding literature review. Note that extension of the original primary hypotheses was required based on measurement model analysis in which HIC and OCB were respecified as three- and two-factor constructs, respectively (see chapter four). Those additional sub-hypotheses are included below and labeled as such (Figure 3.1).

Hypothesis 1

Hypothesis 1 (H1): HIC is positively related to employee PNS.

H1 proposed to measure HIC as an indicator of high-involvement work system (HIWS) based on the contingent view of SHRM/high-performance work system (HPWS)

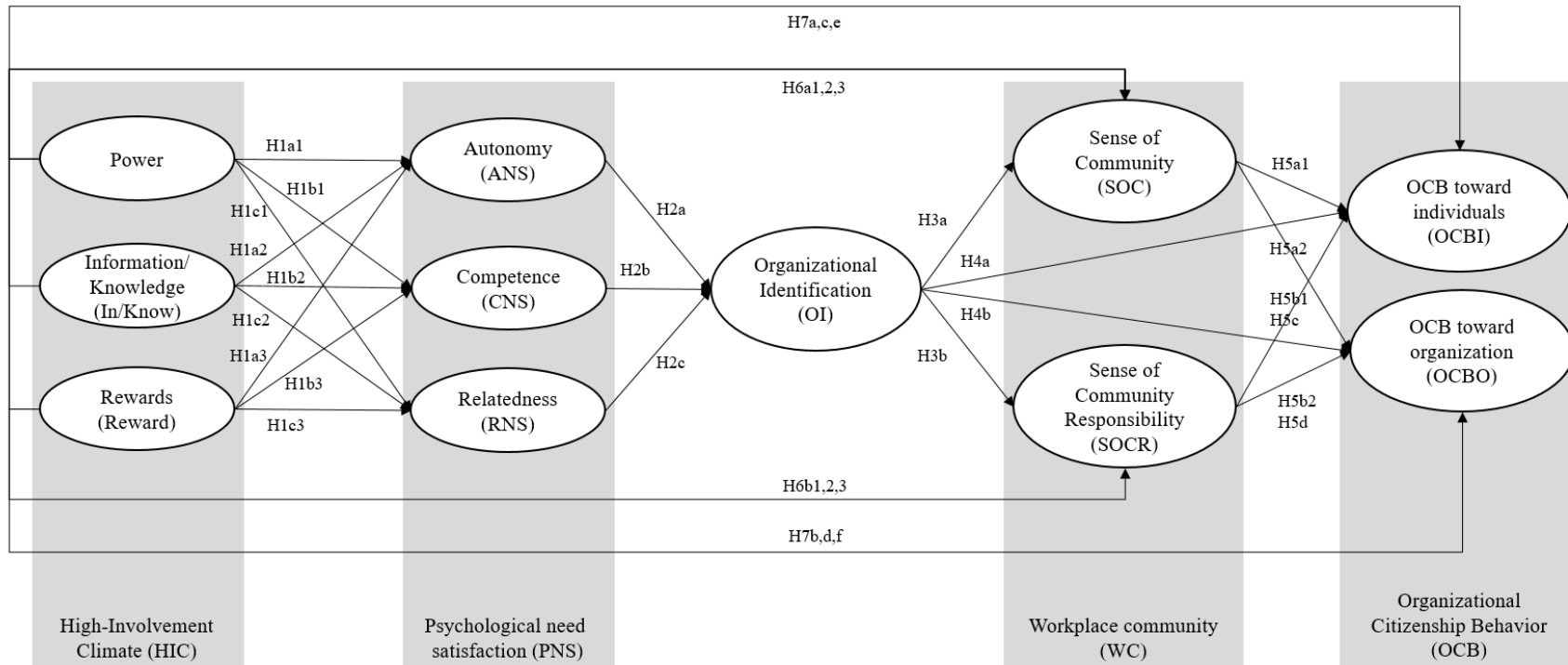


Figure 3.1. Hypothesized relationships between high-involvement climate, workplace community, and organizational citizenship behavior, as partially mediated by employee psychological need satisfactions and organizational identification.

research (e.g., Boxall & Purcell, 2011; Posthuma et al., 2013; Toh et al., 2008). Rather than testing for the presence of a specific human resource management (HRM) practices, the HIWS contingent perspective examines employees' experience of HIWS, thus organizational climate (Schneider, 1975), based on the power, information, rewards, knowledge – or PIRK – model (Lawler, 1986; Lawler, 1992; Richardson & Vandenberg, 2005; Vandenberg et al., 1999; Wood & Wall, 2007). The HIWS construct also contains important social aspects of the HRM systems-organizational performance relationship that has been deemphasized in recent HPWS research (Wood & Wall, 2007). Research has identified and suggested both climate (e.g., Bowen & Ostroff, 2004; Lepak et al., 2006) and employee PNS (e.g., Boxall & Purcell, 2011) as potential social mediators of the HPWS-organizational performance relationship.

Self-determination theory (SDT) (Deci & Ryan, 2000; Ryan & Deci, 2000) is the human needs construct measured in this study (see hypothesis 2 discussion). Van den Broeck, et al.'s (2016) recent meta-analysis recommends that SDT research measure each need (autonomy, competence, relatedness) separately rather than combining results for a composite PNS score. Therefore, H1 has several sub-hypotheses:

- H1a: HIC is positively related to autonomy need satisfaction (ANS).

H1a extensions based on measurement model analysis (see chapter 4):

- H1a1: Power is positively related to ANS.
- H1a2: Information and knowledge (In/Know) is positively related to ANS.
- H1a3: Rewards (Reward) are positively related to ANS.
- H1b: HIC is positively related to competence need satisfaction (CNS).

H1b extensions based on measurement model analysis:

- H1b1: Power is positively related to CNS.
- H1b2: In/Know is positively related to CNS.
- H1b3: Reward is positively related to CNS.
- H1c: HIC is positively related to relatedness need satisfaction (RNS).

H1c extensions based on measurement model analysis:

- H1c1: Power is positively related to RNS.
- H1c2: In/Know is positively related to RNS.
- H1c3: Reward is positively related to RNS.

Hypothesis 2

Hypothesis 2 (H2): PNS is positively related to OI.

SDT (Deci & Ryan, 2000; Ryan & Deci, 2000) was the basic human needs construct measured in this study. SDT (and its basic human needs of autonomy, competence, and relatedness) has been proposed as a theory of motivation particularly well-suited to studying employee optimal functioning (Van den Broeck et al., 2008). HPWS have been argued to promote employee PNS, thus supporting autonomous motivation (Deci & Ryan, 2008) and internalization of work tasks (Sheldon et al., 2003). This results in organizational citizenship behavior, improved job performance, and improved organizational performance (Baard et al., 2004; Elmadag, 2007; Gillet et al., 2013; Sheldon et al., 2003).

Organizational identification (OI) research has identified work environments that include characteristics similar to autonomy-supportive climates and participative practices will foster OI salience and promote effective group performance (Ellemers &

Rink, 2005; Wegge & Haslam, 2003). These practices and HIWS (Kreiner & Ashforth, 2004) have been identified as potential antecedents of OI. H3 therefore proposes OI as another potential mediator in the HIWS-organizational performance relationship, with PNS as its immediate antecedent (Ashforth et al., 2008; Kreiner & Ashforth, 2004; Kumar & Jauhari, 2016; Wiesenfeld et al., 2001).

Van den Broeck, et al.'s (2016) recent meta-analysis recommends that future SDT research measure each dimension (autonomy, competence, relatedness) separately rather than combining results for a composite PNS score. Therefore, H2 has several sub-hypotheses:

- H2a: ANS is positively related to OI.
- H2b: CNS is positively related to OI.
- H2c: RNS is positively related to OI.

Hypothesis 3

Hypothesis 3 (H3): OI is positively related to WC.

Workplace community (WC) as measured by psychological sense of community (SOC) has been theorized and identified to have a number of antecedents relevant to the present study in regards to HRM systems and organizational climate. Organizational policies, employee services, employee benefits, perceived covenantal relations (Burroughs & Eby, 1998), opportunity for promotion, family-responsive policies (Lambert & Hopkins, 1995), perceived social support (Cowman et al., 2004), and acting on espoused values (Cicognani et al., 2012), have all been identified as significant to the SOC experience. OI has also been found to co-occur with SOC, though the relationship

between the two constructs has not been examined (Cicognani et al., 2012). These data and the preceding discussions lead to the first H3 sub-hypothesis:

- H3a: OI is positively related to SOC.

Sense of community responsibility (SOCR) has been identified as an aspect of WC that captures organization members' felt responsibility to serve the WC for the common good without regard to any reciprocal need satisfaction (Nowell & Boyd, 2010; 2011; 2014). Nowell and Boyd describe SOCR as the product of an individual's environmental sense making and self-regulatory behavior process based on the logic of appropriate behavior or appropriateness (March & Olsen, 1989). This process and the constructs involved bear similarity to elements of the social identity approach (Haslam et al., 2000; Haslam, 2004) upon which OI is founded. From the perspective of OI and the social identity approach, identities can be personal or social, and it is identities that enable the individual to make sense of her/his environment (Brewer, 1991; Oyserman et al., 2012; Turner et al., 1994). Personal identity – an understanding of oneself as a unique individual – is developed based on one's personal biography (family circumstances, heritage, etc.) and life experiences (Rosenberg, 1979). SOCR's socio-historical background component (life events, education, institutional socialization) bears similarity to the experiences that contribute constructing one's personal identity as described by Rosenberg. The SOCR model's personal belief systems (norms, beliefs, values, standards of conduct) also fit within the personal identity scheme as the content of one's identity, which is the product of one's personal biography and experiences (Ashforth et al., 2008; Oyserman et al., 2012) or social-historical background (Nowell & Boyd, 2010).

The social identity approach also provides some support for the importance of the interaction between the individual's socio-historical background, personal belief system, and the community context or external environment, as described in the SOCR model (Nowell & Boyd, 2010). The social identity approach is rooted in a social concept of the self, developed through reflexivity related to one's interaction with the environment and other persons (Baumeister, 1998; Mead, 1934). This reflexive and interpersonal self, and one's understanding of the same, is used for self-regulation (making decisions about action) (Baumeister, 1998). Reflexive self-regulation seems to be present in the SOCR model's description of the logic of appropriateness (March & Olsen, 1989): (a) assessment of context, (b) assessment of one's understanding of self, and (c) self-regulation of behavior based on the preceding assessments.

The similarity of constructs and interactions within the SOCR model to the construction of identity and the nature of the reflexive/interpersonal self characterized in the social identity approach suggests that SOCR may be an output of OI, leading to the H3's second sub-hypothesis:

- H3b: OI is positively related to SOCR.

Hypothesis 4

Hypothesis 4 (H4): OI is positively related to OCB.

H4 extensions based on measurement model analysis:

- H4a: OI is positively related to organizational citizenship behavior directed toward individuals (OCBI).
- H4b: OI is positively related to organizational citizenship behavior directed toward the organization (OCBO).

OI has also been identified as an antecedent of organizational citizenship behavior (OCB) (Ashforth, 2001; Callea et al., 2016; Riketta, 2005; Van Dick et al., 2006; van Knippenberg & Ellemers, 2003), and individual and group/organizational performance (Callea et al., 2016; Van Dick et al., 2006; van Knippenberg, 2000; van Knippenberg & Ellemers, 2003; Yurchisin, 2006). Given the relationship between OCB and performance (see hypothesis 5 discussion), this study proposes OI as an antecedent of OCB.

Hypothesis 5

Hypothesis 5 (H5): WC is positively related to OCB.

- H5a: SOC is positively related to OCB.

H5a extensions based on measurement model analysis:

- H5a1: SOC is positively related to OCBI.
- H5a2: SOC is positively related to OCBO.

- H5b: SOCR is positively related to OCB.

H5b extensions based on measurement model analysis:

- H5b1: SOCR is positively related to OCBI.
- H5b2: SOCR is positively related to OCBO.

- H5c: SOCR is more strongly related to OCB than SOC.

H5c extensions based on measurement model analysis:

- H5c1: SOCR is more strongly related to OCBI than SOC.
- H5c2: SOCR is more strongly related to OCBO than SOC.

Early workplace community research identified SOC as an antecedent of OCB (Burroughs & Eby, 1998). More recently, Boyd and colleagues (Boyd & Nowell, 2017; Boyd et al., 2017) have found both SOC and SOCR to be positively related to OCBs, and

that SOCR is more strongly related to OCB than is SOC. This study proposed the same. Boyd and Nowell (2014) further note that OCB positively correlates with important organizational outcomes such as performance at the individual, group, and organizational levels (e.g., Eisele & D'Amato, 2011; Kolade et al., 2014; Nielsen et al., 2012; Ozer, 2011; P. M. Podsakoff et al., 1997; Van Dick et al., 2006). Given the well quantified relationship between OCB and performance, and the SHRM literature's call for measuring indicators of organizational performance more proximal to HRM systems to facilitate further definition of variables in the SHRM black box (e.g., Jackson et al., 2014; K. Jiang et al., 2012), this study utilized OCB as a proximal indicator of organizational performance.

Hypothesis 6

Hypothesis 6 (H6): The relationship between HIC and WC is partially mediated by PNS and OI.

- H6a: The relationship between HIC and SOC is partially mediated by PNS and OI.

H6a extensions based on measurement model analysis:

- H6a1: The relationship between Power and SOC is partially mediated by PNS and OI.
- H6a2: The relationship between In/Know and SOC is partially mediated by PNS and OI.
- H6a3: The relationship between Reward and SOC is partially mediated by PNS and OI.

- H6b: The relationship between HIC and SOCR is partially mediated by PNS and OI.

H6b extensions based on measurement model analysis:

- H6b1: The relationship between Power and SOCR is partially mediated by PNS and OI.
- H6b2: The relationship between In/Know and SOCR is partially mediated by PNS and OI.
- H6b3: The relationship between Reward and SOCR is partially mediated by PNS and OI.

The preceding discussions suggest that the relationship between HIC and WC is only partially mediated by PNS and OI. The literature also suggests a direct relationship between HIC and SOC (see H3 discussion). Given the relationship of SOC and SOCR, a direct relationship between HIC and SOCR was also hypothesized.

Hypothesis 7

Hypothesis 7 (H7): The relationship between HIC and OCB is partially mediated by PNS, OI, and WC.

H7 extensions based on measurement model analysis:

- H7a: the relationship between Power and OCBI is partially mediated by PNS, OI, and WC.
- H7b: the relationship between Power and OCBO is partially mediated by PNS, OI, and WC.
- H7c: the relationship between In/Know and OCBI is partially mediated by PNS, OI, and WC.

- H7d: the relationship between In/Know and OCBO is partially mediated by PNS, OI, and WC.
- H7e: the relationship between Reward and OCBI is partially mediated by PNS, OI, and WC.
- H7f: the relationship between Reward and OCBO is partially mediated by PNS, OI, and WC.

The preceding discussions suggest that the relationship between HIC and OCB is only partially mediated by PNS, OI, and WC. Research on OCB antecedents related to job design and organizational systems (i.e., formalization, rewards) (P. M. Podsakoff et al., 2000) and autonomy-supportive climates (Elmadag, 2007) also suggests a potential direct relationship between HIC and OCB.

Population and Sample

The population for this study was non-management individual contributor full-time employees (working at least 30 hours per week) in for-profit and not-for-profit organizations in the United States. An online non-probability sampling strategy was utilized, thus a precise sample size (number of participants invited to participate in the survey) is not available due to the variety of media used to recruit survey participants from among panel members (see data collection below). An estimated sample size of 60,320 was calculated by dividing the total number of survey entrances (3,016 for this study) by an industry average entrance or response rate (percentage of invited participants who opened the first page) of five percent (S. Thatcher & H. Weirich, personal communication, October 19, 2017; Craig et al., 2013). Survey completion rate (percentage of panelists who opened the first survey page, passed through demographic

and quality screening questions, and did not voluntarily discontinue participation) was 10 percent (315 completed surveys divided by 3,016 survey entrances) (Göriz, 2014; Pedersen & Nielsen, 2016).

Two techniques common to non-probability online panel research (Craig et al., 2013) were applied in the present study: (a) setting a target number of completed surveys and (b) quota sampling for selected demographic characteristics. In this study the completed surveys target was set at 300 to ensure a sufficient sample size for the application of structural equation modeling techniques according to the 10:1 sample size-to-parameters ratio (or $N:q$ rule) (Kline, 2016). Demographic quota sampling in non-probability online samples helps avoid oversampling a specific demographic group, as well as capture important differences across demographic subgroups in the study population (Bryman & Bell, 2015; Craig et al., 2013; Göriz, Reinhold, & Batinic, 2002; Revilla, Saris, Loewe, & Ochoa, 2015). The demographic quota thresholds in the present study were limited to a single criterion due to resource limitations. Gender identification was selected as the single most relevant demographic factor given the literature review (e.g., Lambert & Hopkins, 1995; Pretty & McCarthy, 1991). Women account for 47% of the American workforce with representation as high as 75 percent in education and health services (U. S. Bureau of Labor Statistics, 2017). Maximum thresholds for female and male gender identification were set at 60% to allow for sample variability based on industry type. A 10% maximum threshold was also set for alternative gender identification categories combined: non-binary, other, prefer not to state (Human Rights Campaign, 2017).

Note that the sample size of 315 was later determined to be insufficient given model complexity and the number of parameters to be calculated in confirmatory factor analysis. This precipitated a change of method to partial least squares structural equation modeling (PLS-SEM). See chapter four for a full discussion.

Instrumentation

Instrumentation for this study was drawn from validated, reliable surveys previously employed in the literature. A description of each of these sources follows, including a confirmatory factor analysis marker intended for use in controlling for common method variance, and other controls employed to help ensure data quality. A sample of the aggregate survey is found in Appendix A.

High-Involvement Climate

High involvement climate was measured using Riordan et al.'s (2005) 18-item scale based on the power, information, rewards, knowledge (PIRK) model (Lawler, 1986). Respondents rate their level of agreement with each statement using a four-point disagree-agree Likert-type scale. Sample scale statements include, "I have sufficient authority to fulfill my job responsibilities," "Top management is adequately informed of the important issues in my department," and "Education and training are integral parts of this company's culture." Riordan et al.'s (2005) four-factor model was respecified as a three factor model in the present study to improve validity: Power, In/Know, and Reward (see chapter 4). The power (P) factor indicates the degree to which employees perceive they have autonomy and voice in decisions that affect their work, sometimes referred to as participative decision-making. Information and knowledge (I/K) indicates the degree to which employees perceive that information about organization strategy and operations

are shared with them, and they have opportunities to develop their personal competency for managing information and making decisions of consequence in regards to their work. Reward (R) indicates the degree to which employees perceive that monetary and non-monetary rewards and recognition are performance-based (Riordan et al., 2005). Cronbach's alpha (α) for the three-factors were as follows: Power .80, In/Know .91, Reward .89.

Psychological Need Satisfaction

Basic psychological need satisfaction was measured using the basic psychological needs at work scale (BPNWS) (Brien et al., 2012). The BPNWS measures respondent autonomy, competence, and relatedness need satisfaction according to the self-determination theory (SDT) model. The scale is comprised of 12 statements to which respondents indicate their level of agreement on a six-point scale: strongly disagree to strongly agree. BPNWS statements include, "At work, I feel free to execute my tasks in my own way," "I have the ability to do my work well," and "When I am with people from my work environment, I feel as though I can trust them." Cronbach's α were .77, .81, and .87 for ANS, CNS, and RNS, respectively.

Organizational Identification

Organizational identification (OI) was measured using a five-item scale developed by Mael and colleagues (Mael & Ashforth, 1992; Mael & Tetrick, 1992), adapted for use in a business setting. Mael's OI scale asks respondents to rate their agreement with scale statements using a five-point strongly disagree to strongly agree Likert-type scale. Sample statements include, "When someone criticizes my organization, it feels like a personal insult," "When I talk about my organization, I usually say 'we'

rather than ‘they’,” and “When someone praises the organization, it feels like a personal complement.” Cronbach’s $\alpha = .85$.

Organizational Citizenship Behavior

Organizational citizenship behavior (OCB) was measured using a sixteen item scale (Lee & Allen, 2002) asking the degree to which respondents observe stated behavior among their co-workers using a seven-point scale (never-always). Behaviors identified in the scale include “Help others who have been absent,” “Show genuine concern and courtesy toward coworkers, even under the most trying business or personal situations,” “Attend functions that are not required but that help the organizational image,” and “Offer ideas to improve the functioning of the organization.” Lee and Allen (2002) included items characterizing OCBs directed toward individuals (OCBI) and the organization (OCBO) in their scale, measuring these factors independently. Walumbwa, Hartnell, and Oke (2010) combined the factors to create a single index based on their principle factor analysis results. This study originally intended to follow Walumbwa et al.’s single-factor design, but reverted back to Lee and Allen’s (2002) two-factor model based on measurement model analysis (see chapter four). Cronbach’s α for the two-factor model were OCBI .89, and OCBO .91

Psychological Sense of Community

The eight item Brief Sense of Community Scale (BSCS) (Peterson et al., 2008) was used to measure psychological sense of community (SOC), adapted for use in an organizational environment. Scale items ask respondents to rate their degree of agreement with each statement using a five-point Likert-type scale (strongly disagree to strongly agree). Sample items include “I can get what I need in this organization,” “I feel like a

member of this organization,” “People in this organization are good at influencing each other,” and “I feel connected to this organization.” Cronbach’s $\alpha = .93$.

Sense of Community Responsibility

Sense of community responsibility (SOCR) was measured using a six-item scale developed by Boyd and colleagues (Boyd et al., 2017; Boyd & Nowell, 2017; Nowell & Boyd, 2014). Sample scale items for organizational settings include “One of the best things I can do to improve my organization is to be of service to my co-workers,” “It is easy for me to put aside my own agenda in favor of the greater good of the organization,” and “I feel it is my duty to give to my organization without needing to receive anything I return.” Cronbach’s $\alpha = .89$.

Controlling for Individual Characteristics and Other Factors

A variety of variables have been found to moderate the workplace community experience including individual and job characteristics such as employee race and gender (e.g., Lambert & Hopkins, 1995; Pretty & McCarthy, 1991), employee tenure (e.g., Cicognani et al., 2012), work group size (e.g., Burroughs & Eby, 1998), and job category (e.g., Mahan et al., 2002). Data related to the following self-reported controls were captured in the survey instrument: employee age, race/ethnicity, gender identification, and tenure with the organization; workgroup size (number of people reporting to direct supervisor); and organization characteristics of size (revenue and number of employees), location (region of the United States), industry, and for-profit/not-for-profit status. Job category (i.e., management versus individual contributor) is controlled for in the study design: this project examines workplace community experience at the individual contributor level only.

Controlling for Common Method Variance

This project utilized a single-rater method (see data collection below) thus raising the potential for common method variation or bias (CMV) (P. M. Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Richardson, Simmering, & Sturman, 2009). Procedural controls for CMV (P. M. Podsakoff et al., 2003) were integrated into instrument design. In an effort to reduce evaluation apprehension survey instructions assured respondent confidentiality and that there are no “right” answers to the questions posed. Survey design counterbalanced question order so that they did not reflect the flow of the hypothesized model, theoretically reducing priming effects and item context-induced mood states. And while the source inventories described above all utilize Likert-type scales, all utilize verbal labels and most utilize different endpoints, helping to reduce bias related to survey item characteristics.

The confirmatory factor analysis (CFA) marker technique (Lindell & Whitney, 2001; Richardson et al., 2009; L. J. Williams, Edwards, & Vandenberg, 2003) was employed to test for CMV during data analysis as recommended by Richardson et al. (2009). This required inclusion of a marker variable in the instrument that was not related to the hypothesized model, was similar to model variables in terms of semantic content, included a small number of items, and was narrow in definition (Lindell & Whitney, 2001). Following Strauss, Griffin, and Rafferty (2009), work-family conflict was utilized as the CFA marker in this study, specifically time-based work-family conflict (Carlson, Williams, & Kacmar, 2000). The three items comprising the Carlson, Williams, and Kacmar scale are, “My work keeps me from my family activities more than I would like,” “The time I must devote to my job keeps me from participating equally in

household responsibilities and activities,” and “I have to miss family activities due to the amount of time I must spend on work responsibilities.” Respondents rate their degree of agreement with scale items using a five-point Likert-type scale ranging from strongly disagree to strongly agree.

The method change to PLS-SEM impacted the implementation of CFA marker approach during measurement model analysis. A similar technique suited for use in PLS-SEM, the measured latent marker variable technique (Chin, Thatcher, Wright, & Steel, 2013), requires a scale comprised of at least four items. As the Carlson et al. (2000) scale only included three items, the data collected using the marker variable was not utilized in measurement model analysis. See chapter four for a full discussion.

Controlling for Careless Response

The lack of environmental controls associated with internet surveys can lead to an increase in content nonresponsivity (Nichols, Greene, & Schmolck, 1989) or careless response: responding to a survey item without adequate attention to item content (Meade & Craig, 2012). Such respondent inattention can introduce error into a study’s dataset and its findings (Maniaci & Rogge, 2014; Miura & Kobayashi, 2016). Meade and Craig (2012) identify survey length, online anonymity, and environmental distraction among the factors contributing to careless response in internet-based data collection; they further recommend using multiple data quality indicators to control for careless response. Each of the careless response factors noted were relevant to the present study. Three strategies recommended by Meade and Craig to measure and control for careless response were employed: self-reported indicator, instructed response items, and response time. The self-reported indicator for this project was placed at the beginning of the survey, “We care

about the quality of our data. In order for us to get the most accurate measures of your opinions, it is important that you thoughtfully provide your best answers to each question in the survey. Do you commit to thoughtfully provide your best answers to each question in this survey?" with the following response options: "I will provide my best answers," "I will not provide my best answers," and "I can't promise either way." Only data from respondents selecting the first option were included in survey results.

Two instructed response items were included to check for respondent attention at approximately one-third and two-thirds through the survey. Each was formatted to be consistent with the section of the questionnaire in which it appeared (Oppenheimer, Meyvis, & Davidenko, 2009). Both items included the same statement, "This is an attention check. Please only select ' ____ ' in response to this statement," followed by a scale matching adjacent items. See data collection below for a discussion of survey response time as a post-hoc indicator/control for careless response.

Data Collection

Data for this study was gathered using a single-rater survey administered among non-management individual contributor full-time employees in for-profit and not-for-profit organizations in the United States. The use of a single-rater, self-report design was appropriate to this study as study variables (HIC, PNS, OI, WC) relied on self-perception of private events (Chan, 2009; Conway & Lance, 2010), including the wording of OCB scale items. While OCB is a more observable public event, designing data collection to have another rater (e.g., a peer or supervisor) report on respondent OCB would potentially compromise perceived anonymity, and thus contribute to CMV (P. M. Podsakoff et al., 2003). Yet the study acknowledges the potential for CMV and controls

for it using the procedural remedies (discussed above) and statistical remedies (discussed below).

This study employed the Qualtrics online survey panel aggregation service for survey distribution and data collection, with the survey itself housed in Qualtrics survey software provided by Eastern University. Qualtrics provides an online panel aggregation service that complies with the ESOMAR (formerly the European Society for Opinion and Marketing Research) standards for transparency, quality, and research ethics. Qualtrics panel participants are drawn from a network of over 20 online panel providers. Panel participants are recruited by each online panel partner through their respective websites and social media using non-probability methods. Identities of business-to-business participants – such as those utilized in the present study – are validated via third-party verification measures, LinkedIn profile matching, and phone calls to participants' place of business (Qualtrics, 2014).

Panel participants complete psycho-demographic profiles upon joining their respective panel provider and have continuing access to update their profiles on a real-time basis. Panel partners set expiration dates for participants' psycho-demographic questions to ensure participant profile information is current. Potential survey participants are selected from partner panels based on their likelihood of qualifying for the survey (i.e., they are working full-time and employed as an individual contributor by their organization) (Qualtrics, 2014). Identified potential participants may be sent a simply worded email invitation without mention of the survey topic (in order to reduce self-selection bias). A typical sample invitation subject line reads, "A new survey available." The text of the email may read, "Hi Katy. Someone wants to know what you think. This

survey won't be available for long. Act now if you're interested." The body of the email also includes links to the survey, estimated time to complete the survey (15 to 20 minutes for this study), and incentive information. Other forms of survey participant recruitment from panel members include online portals where panel members see a list of surveys they are qualified to participate in, and in-app messaging (S. Thatcher & H. Weirich, personal communication, October 19, 2017). Participation incentives vary by panel provider and can include virtual currency, points, gift cards, or cash. In all cases the cash value for the incentives related to the present study was less than \$5.00 – the amount paid to Qualtrics per complete qualified response for their aggregation service (T. Raymond, personal communication, May 25, 2017). Duplicate responses are controlled through Qualtrics' application of digital fingerprint technology and IP address tracking, in addition to duplication controls applied by each online panel partner (Qualtrics, 2014).

Participants were further screened for meeting study population parameters through the use of screening questions in the survey itself. Two screening questions followed the consent form asking participants to confirm that they were individual contributor full-time (≥ 30 hours per week) employees at their organizations. Participant responses were screened for careless response by (a) the use of a self-reported indicator and two instructed response items (see controlling for careless response above), and (b) measuring survey response time. Respondents who completed the survey in less than one-third the median survey completion time were identified as low-end outliers (Meade & Craig, 2012); their responses were dropped from the dataset and not counted toward filling the sample size quota of 300 complete responses. The survey opened on April 14, 2017; data collection concluded on April 26, 2017.

Data Analysis Plan

Hypotheses were originally planned to be tested using covariance-based structural equation modeling (CB-SEM) techniques. CB-SEM is well suited for studies such as this that set out to examine direct and indirect (mediating) effects among variables (Kline, 2010), and has gained currency among management researchers for its power to examine relationships among multiple variables (L. J. Williams et al., 2003; L. J. Williams, Vandenberg, & Edwards, 2009). Data analysis was to be conducted using IBM® SPSS® Statistics 24 and IBM® SPSS® Amos 24™ for Windows (Arbuckle, 2016) software. The change of method to PLS-SEM required a change in structural equation modeling software to SmartPLS 3 (Ringle, Wende, & Becker, 2015).

Kline (2016) recommends applying a set of heuristics to one's research model before data collection to help ensure that the model is identified, or whether it will be possible to derive model parameter estimates once the collected data are analyzed. A structural regression (SR) model was developed for this project prior to data collection (see Figure 3.2). SR is appropriate for fully latent models (all variables are latent with multiple indicators) such as the one originally proposed (Kline, 2016). The structural portion of the SR model (see Figure 3.3) is recursive (causal effects are in one direction, i.e., no feedback loops, and disturbances are uncorrelated), and is thus identified. The SR model's related confirmatory factor analysis (CFA) model (see Figure 3.4) was standard (indicators load on only one factor and error items do not covary) and overidentified (more covariance and variance terms than parameters to be estimated). Overidentification is preferred for theory testing such as that in the present study. Given the SR model was identified and the CFA model was overidentified, CB-SEM was determined to be

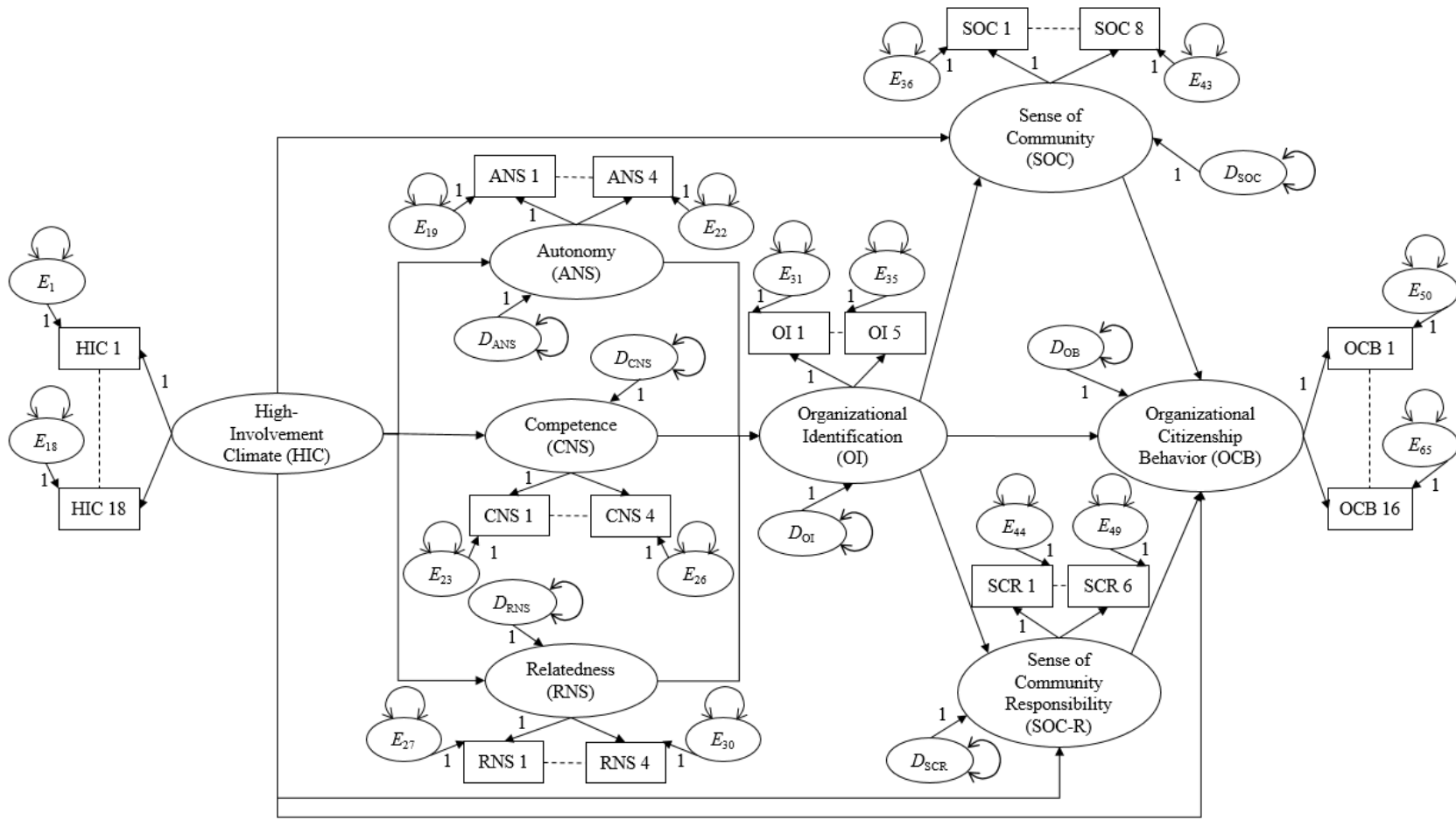


Figure 3.2. Structural regression model of the originally hypothesized relationships (does not include hypothesis extensions).

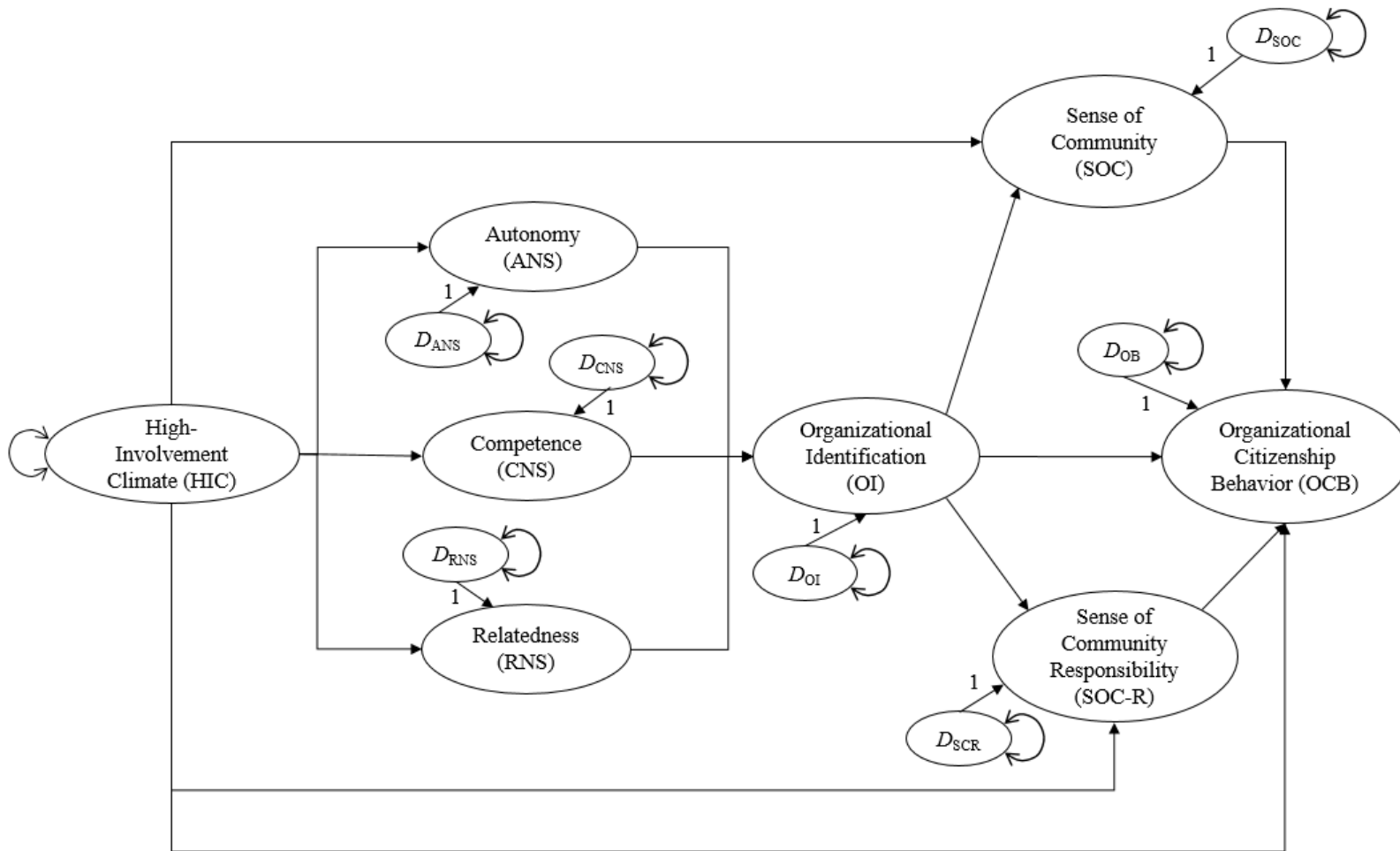


Figure 3.3. Structural model of the originally hypothesized relationships (does not include hypothesis extensions).

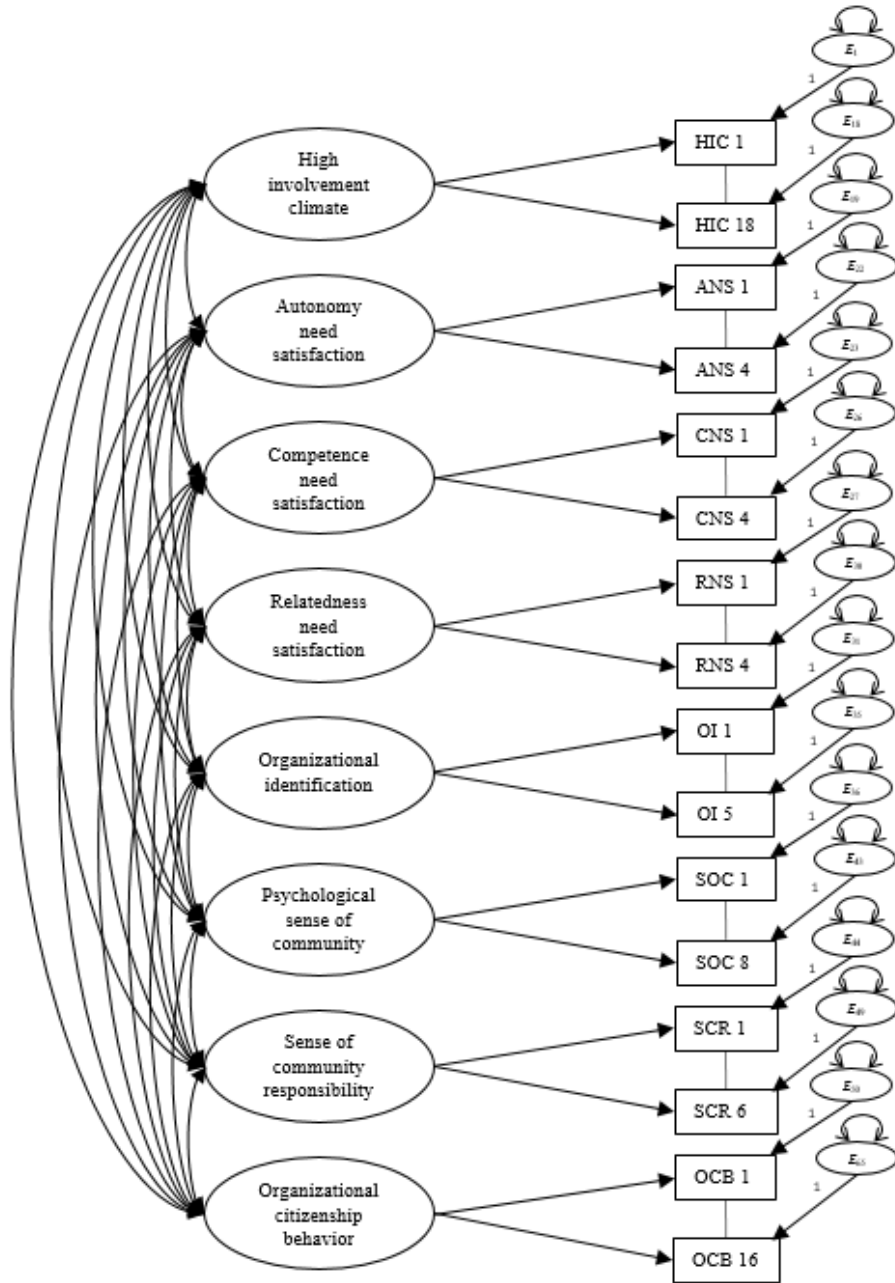


Figure 3.4. Original confirmatory factor analysis model (does not include hypothesis extensions).

appropriate for testing study hypotheses. The number of parameters to be calculated (q) to determine sample size (N), however, was mistakenly based on the number of primary hypotheses ($q = 7$) rather than the total number of parameters in the CFA model ($q = 196$). The final sample size ($N = 312$) was therefore insufficient to conduct CB-SEM according to the $N:q$ rule (Kline, 2016), necessitating the method change to PLS-SEM (see the next section and chapter four).

Partial Least Squares Structural Equation Modeling

Partial least squares structural equation modeling (PLS-SEM) is an alternative path modeling method to CB-SEM. Both methods facilitate examination and testing of relationships among independent and dependent variables, observed and unobserved, within a causal structure (McIntosh, Edwards, & Antonakis, 2014), however the methods differ in their objectives, analytical approach, and the statistical tools used to assess variables and their relationships. In CB-SEM constructs are represented by a common factor (or latent variable) in which a set of observed variables have shared variance or communality. These latent constructs are identified theoretically through exploratory factor analysis, then confirmed in subsequent research using confirmatory factor analysis. In PLS-SEM these theoretical or latent constructs are represented by proxies or weighted composites of the observed variables identified by the researcher, with indicator weighting calculated through an iterative process. CB-SEM identifies measurement error associated with observed variables and dependent latent variables as a special type of unobserved or latent variable (Kline, 2016). PLS-SEM projects can account for a portion of measurement error by forming composites with high communality, a large number of indicators (greater than eight), and large sample sizes, but the effects of measurement

error are never completely eliminated in PLS-SEM modeling (McIntosh et al., 2014; Peng & Lai, 2012).

Relationships between latent variables in CB-SEM are calculated simultaneously using maximum likelihood estimation, comparing the covariance of observed variables and latent variables found in the data with the covariances anticipated in the hypothesized model (Byrne, 2016; Kline, 2016). Model fit can be measured at the global and local level in CB-SEM using relevant statistics (e.g., chi-square and SRMR as global measures; factor covariance, correlation, standard error, and critical ratios at the local level). In PLS-SEM the relationships between composite variables are estimated through an iterative process using ordinary least squares regression with the objective of maximizing the explained variance between latent variables; the objective is to predict out-of-sample data rather than explain the model or maximize model fit as in CB-SEM (Hair, Black, Babin, & Anderson, 2010; Hair, Hult, Ringle, & Sarstedt, 2017; McIntosh et al., 2014; Rigdon, 2013).

Global model fit statistics used in CB-SEM generally do not apply to PLS-SEM because of the differences in objectives and methodology between the two methods. PLS-SEM model fit is currently assessed based on how well the hypothesized model predicts the latent variables according to the path coefficients (β), coefficients of multiple determination (R^2), Cohen's f^2 effect size (provides insight into the size of independent latent variable direct effect on a dependent latent variable), and Stone-Geisser's Q^2 value (indicates a model's out-of-sample predictive relevance). Development of global fit measures for PLS-SEM is ongoing (Hair et al., 2017; McIntosh et al., 2014; Sarstedt, Ringle, Henseler, & Hair, 2014).

On the whole, PLS-SEM is generally considered a less robust method of path model analysis compared to CB-SEM (Peng & Lai, 2012). Despite these limitations, PLS-SEM offers several advantages. The method generally places fewer demands on the data than does CB-SEM. For example, PLS-SEM's use of ordinary least squares regression does not require data normality, and the interactive estimation process is not as complex as the simultaneous estimation process used in CB-SEM. PLS-SEM is also more tolerant of complex models than CB-SEM, rarely encountering issues with model identification and allowing for many indicators. As a result, PLS-SEM is well suited to studies with smaller sample sizes, non-normal datasets, and complex models (Hair et al., 2010; Kline, 2016), as is the case in the present study. PLS-SEM is also recommended in studies where the nomological network is under development (Peng & Lai, 2012), such as SHRM black box and the role of workplace community as a social mediator in that system.

Testing for Common Method Variance

The CFA marker technique was to be utilized testing for common method variance (CMV) during data analysis (Lindell & Whitney, 2001; Richardson et al., 2009; L. J. Williams et al., 2003; L. J. Williams, Hartman, & Cavazotte, 2010). This technique requires inclusion of a marker variable in data collection that is not related to the hypothesized model but is similar to the model variables (Lindell & Whitney, 2001) (see the instrumentation discussion above for details on the marker to be used).

The method change to PLS-SEM required a change from the CFA marker approach to a similar technique appropriate to PLS-SEM. The measured latent marker variable technique (Chin et al., 2013) was considered appropriate given its similarity to

the CFA marker approach, however, Chin et al.'s technique requires a scale comprised of at least four items. As the Carlson et al. (2000) scale measuring the marker scale in the survey instrument only included three items, the measured latent marker variable technique was not employed during the measurement model analysis. As an alternative, Lowry and Gaskin (2014) suggest Harman's single factor test (P. M. Podsakoff & Organ, 1986) and latent variable correlation (Pavlou, Liang, & Xue, 2007) as indicators of potential CMV in PLS-SEM when other methods are not available, both of which were employed in the present study. Chapter four includes a full discussion of issues related to the PLS-SEM method change along with a complete analysis of the hypothesized model.

CHAPTER 4

DATA ANALYSIS

Chapter four presents analysis of the field data. Discussion begins with dataset examination followed by confirmatory factor analysis, the measurement phase of structural equation modeling. The hypothesized model failed to meet goodness-of-fit standards using the planned covariance-based structural equation modeling (CB-SEM) method. This was due to problems with sample size and model complexity. A switch in method was made to partial least squares-based structural equation modeling (PLS-SEM) for which the present study's sample size and complexity was appropriate. Fitting of the hypothesized model during the partial least squares measurement phase resulted in respecifying the high-involvement climate and organizational citizenship behavior latent variables as three- and two-factor constructs, respectively; this prompted an extension of study hypotheses to these additional factors in the structural analysis. Results of both the CB-SEM and PLS-SEM analyses are presented.

Dataset Examination

Testing for Outliers

The dataset was inspected for potential outliers using univariate assessment techniques, beginning with examination of the boxplots of the standard scores (z scores) for each variable. Thirty-five observed variables were identified as having outlier observations across 61 responses, 51 of which had fewer than five potential outlier

values. Responses 240 and 313 had the most potential outlier observations (14 and 16, respectively), with response 171 following at 9 potential outliers.

Standard scores were then examined by variable for values greater than 4.0 standard deviations from the mean, or z scores greater than an absolute value of four (Hair et al., 2010). This test identified eight responses with potential outlier observations: response 134 had four potential outlier observations, and responses 212 and 229 had two outliers each. The remaining five responses (139, 142, 240, 299, and 313) had one potential outlier observation each.

A third inspection for univariate outliers was conducted using Kline's (2016) median absolute deviation test. This test identified 88 responses with potential outlier observations. Response 171 had the greatest number of outliers at 13; response 240 had ten outliers, responses 53 and 313 had nine outliers each, and responses 105, 154, and 228 each yielded eight outliers. All of the responses identified in the Hair et al. (2010) check were identified in the Kline (2016) check as including outlier observations, with the exception of response 134. Tests for bivariate outliers were not conducted given the multivariate nature of the study (Hair et al., 2010). The Mahalanobis distance test for multivariate outliers (Byrne, 2016; Kline, 2016) did not display evidence of any serious multivariate outliers.

Responses 171, 240, and 313 were identified as potential outlier responses in at least two of the three univariate outlier tests, with at least nine potential outlier observations per response according to the more robust Kline (2016) test. A profile was generated for these three responses finding potential outlier observations for these three responses across 31 observed variables. The Kline test indicated potential outlier

observations in the RNS1 and OCB8 variables for all three responses, with two of three responses having potential outlier observations in nine observed variables (RNS2, RNS3, RNS4, SOCR1, OCB3, OCB4, OCB7, OCB10, OCB14). It was determined that the potential outlier observations captured in responses 171, 240, and 313 were not due to procedural/administrative error due to the online nature of the survey, therefore, the responses were classified as outliers due to either extraordinary event or unexplainable extraordinary observation (Hair et al., 2010) and removed from the sample prior to conducting further analysis.

Testing for Normality

Descriptive statistics were run on the 65 observed variables with the reduced sample size ($N = 312$). Histograms, normal q-q plots, and detrended normal q-q plots indicated non-normal distributions across all variables, with most distributions being negatively skewed. The Kolmogorov-Smirnov and Shapiro-Wilk test results support the visual review findings with p values for all variables in both tests significant at less than .001, suggesting the distributions were non-normal.

Skewness statistics for individual observed variables indicated all but five variables were negatively skewed (HIC16, OCB2, OCB6, OCB15, SOC3). Kurtosis statistics show 28 of 65 to be leptokurtic (peaked distribution), concentrated in the organizational identification (OI2-6) and psychological need satisfaction (ANS1-4, CNS1-4, RNS1-4) variables. The remaining 37 variables were platykurtic (flatter distribution). Standardized (z) skewness and kurtosis scores (Hair et al., 2010) were also calculated for each observed variable (Hair et al., 2010). Skewness z scores were significant at the .05 level for 55 of 65 observed variables, with 42 of 65 variables

displaying significant kurtosis z scores. Thirty-two of 65 observed variables displayed both significant skewness and kurtosis, with concentrations in the psychological need satisfaction variables (ANS2-4, CNS1-4, RNS1, 3-4) and sense of community responsibility (SOCR1, 3-6). All variables were significantly non-normal on the skewness z scores, kurtosis z scores, or both.

Several data transformation techniques were applied (with reflection for negative skew) in an attempt to normalize the dataset: square root and log 10 (Howell, 2013), natural log (Osborne, 2008), squared and cubed (Hair et al., 2010), and Box-Cox (Kline, 2016). The square root, natural log, and log 10 transformations each improved overall skewness (fewer skewness z scores exceeded the absolute value 1.96 critical score) but the number of kurtosis z scores exceeding the critical value increased, resulting in no effect on the Kolmogorov-Smirnov and Shapiro-Wilk tests (all variables remained significantly non-normal at the .001 level).

Kline (2016) argues against testing for normality based on standardized skewness and kurtosis statistics (Hair et al., 2010), instead offering guidelines for interpreting the skewness and kurtosis statistics themselves. Absolute skewness values greater than 3.0 suggest severely skewed distributions; absolute kurtosis values greater than 10.0 suggest kurtosis that may be problematic, while a value greater than 20.0 suggests a more serious problem. Skewness and kurtosis statistic values for the present dataset are all less than the Kline (2016) guidelines, suggesting that the shape of these distributions – less the previously identified outlier responses – may not be severely non-normal.

Testing for Extreme Collinearity

Initial data matrix analysis through IBM® SPSS® Amos™ (Arbuckle, 2016) indicated the matrix was non-positive definite, prompting tests for extreme collinearity among variables (Kline, 2016). The variance inflation factor (VIF) was calculated for each variable compared to all other variables. All VIFs were less than 10, indicating low collinearity (Kline, 2016). Further extreme collinearity analysis was conducted utilizing collinearity diagnostics (Belsley, 1991; Belsley, Kuh, & Welsch, 1980; Midi, Sarkar, & Rana, 2010). Eigenvalues were less than .07 and condition indices greater than 30, beginning with dimension 16 of 65, across all the variance-decomposition tables for all variables, suggesting multicollinearity problems. The variance-decomposition tables for dependent variables CNS1 and CNS3, however, were the only tables to reveal high variance proportions for multiple variables on the highest condition index (lowest eigenvalue). Independent variables with high variance proportions related to CNS1 as the dependent variable were ANS3 (.53) and CNS3 (.68); independent variables with high variance proportions related to CNS3 as the dependent variable were CNS1 (.61) and ANS3 (.62). As ANS3 was common to both the CNS1 and CNS3 assessments, ANS3 was removed from the model to address the collinearity issues (Hair et al., 2010; Kline, 2016).

Variance-decomposition tables were re-calculated with CNS1 and CNS3 and the dependent variables, with both returning no pairs of high variance proportions among independent variables (though eigenvalues and condition indices continued to be less than .07 and greater than 30, respectively, with dimension 16 of 65). Revised data matrix analysis in Amos without ANS3 indicated that the model was now positive definite and appropriate for SEM analysis. Importantly, the elimination of ANS3 left three indicators

associated with latent factor ANS, meeting accepted standards for the minimum number of indicators per factor (Kline, 2016).

Sample Characteristics

Sample size following the data examination described above was $N = 312$ (315 complete responses less responses 171, 240, and 313). The sample was predominantly female (60%) and non-Hispanic white (78%), with age range relatively evenly distributed across age categories. Most respondents worked in private for-profit firms (55%) for six years or less (63%). The majority of workplaces were located in the mid-western or southern United States (57%) with 500 or fewer employees (54%) or more than 2000 employees (29%) (Table 4.1).

Confirmatory Factor Analysis

Brown (2015) and Kline (2016) recommend against the application of covariance-based structural equation modeling (CB-SEM) techniques to ordinal-level data such as that gathered using summated rating (i.e. Likert) scales. The debate regarding classification of summated rating scales as ordinal versus interval-level data is a long one among statisticians and scholars. Given the wide application of CB-SEM to data collected using summated rating scales in management scholarship and arguments supporting application of parametric methods to such data (Carifio & Perla, 2007; Carifio & Perla, 2008; Norman, 2010; Wigley, 2013), the confirmatory factor analysis (CFA) was conducted using the dataset edited as described above (less responses 171, 240, and 313; and excluding item ANS3).

Table 4.1

Sample Characteristics

Characteristic	%	Categories or options
Gender Identification	60%	female
	40%	male
Age	27%	18 to 30 years of age
	25%	31 to 40 years of age
	21%	41 to 50 years of age
	27%	> 50 years of age
Race/Ethnicity	5%	Asian or Asian-American
	8%	Black or African-American
	7%	Latino/a
	1%	Native American, Alaska Native, or Pacific Islander
	78%	Non-Hispanic White
Organizational Tenure	3%	Other
	10%	< one year
	29%	one to three years
	24%	four to six years
	9%	seven to nine years
Job Level	27%	≥ ten years
	100%	Individual contributor
Work Location*	20%	West
	23%	Midwest

	34%	South
	20%	East
	4%	Other (US territories or outside US)
Organization Size	30%	≤ 100 people
	24%	101 to 500 people
	11%	501 to 1,000 people
	7%	1,001 to 2,000 people
	29%	> 2,000 people
Organization Type	29%	Public sector
	55%	Private sector (for-profit)
	6%	Private sector (not-for-profit)
	10%	Other or did not know

Note. $N = 312$. *Work locations in the United States. West includes Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming; Midwest includes Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin; South includes Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia; East includes Connecticut, Massachusetts, Maine, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont.

Global Model Fit

A CFA model was specified based on study hypotheses (Figure 4.1). Global model fit statistics suggested model specification could be improved (Table 4.2). Model B (Figure 4.2) was specified based on literature review where HIC was reported as a four-factor construct (Riordan et al., 2005; Vandenberg et al., 1999) and OCB a two-factor construct (Lee & Allen, 2002). Global fit statistics improved in model B over model A, but room for improvement remained. Model B was examined for local fit following Brown (2015), Byrne (2016), and Kline (2016).

Model B standardized residual covariances and modification indices indicated that item SOCR1 may cross-load on to factor RNS. A semantic review comparing SOCR1 with the RNS-related items (RNS1-RNS4) confirmed the potential for cross-loading. Model B was revised specifying SOCR1 cross-loading on RNS producing model C (Figure 4.3); this modification improved global fit statistics, but CFI remained under .90. Allowing for the possibility that SOCR may load exclusively on RNS, model D was specified with no cross-loading and SOCR1 loading exclusively on RNS (Figure 4.4). This model resulted in no global fit improvement and a modest RNS to SOCR1 regression weight of .604, suggesting that SOCR1 may be a candidate for re-wording when the Brien et al. (2012) and Boyd et al. (2017) instruments are employed in the same study. Given the results of models A, B, and C in regards to SOCR1, SOCR1 was allowed to cross-load on both SOCR and RNS in all remaining model respecifications.

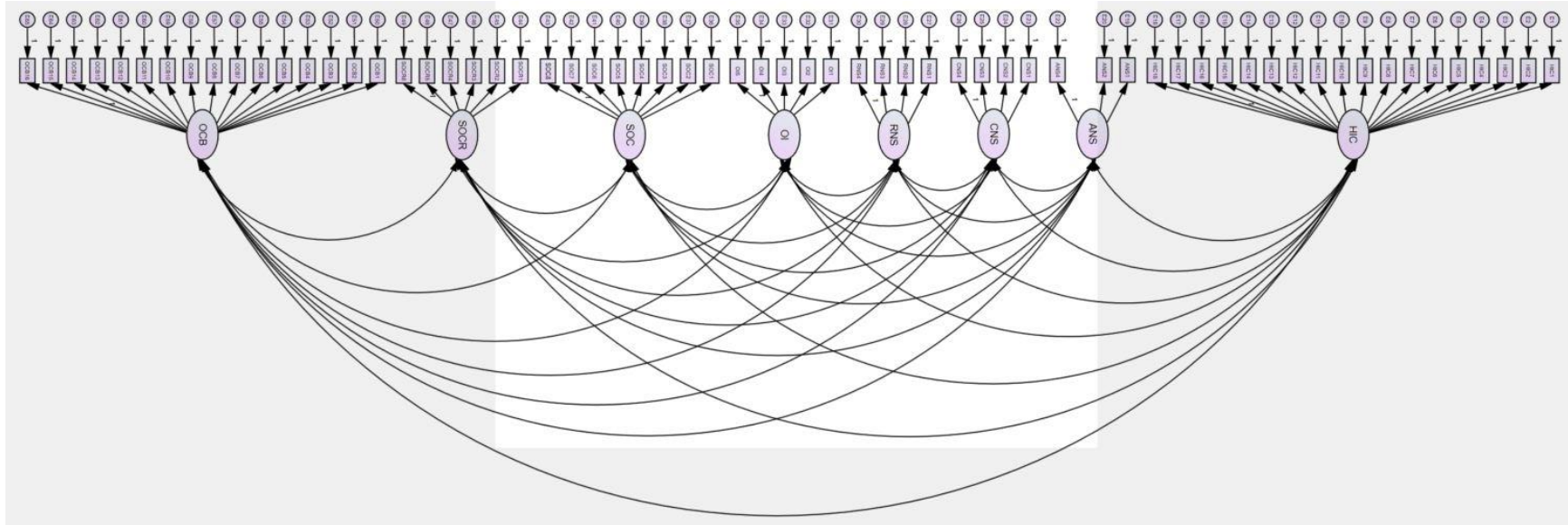


Figure 4.1. CFA Model A. HIC: high-involvement climate. ANS: autonomy need satisfaction. CNS: competence need satisfaction. RNS: relatedness need satisfaction. OI: organizational identification. SOC: psychological sense of community. SOCR: sense of community responsibility. OCB: organizational citizenship behavior.

Table 4.2

Global Fit Indices

Fit index	Index type	Threshold	Model A	Model B	Model C	Model D	Model E
χ^2	absolute	$\leq df$	4425.729	3698.123	3659.267	3684.402	3808.425
df	absolute		1924	1886	1885	1886	1905
p	absolute	< .05 expected	< .001	< .001	< .001	< .001	< .001
SRMR	absolute	$\leq .08$ (CFI > .92)	0.069	0.055	0.054	0.055	0.055
RMSEA	absolute	< .07 (CFI \geq .90)	0.065	0.056	0.055	0.055	0.055
CFI	incremental	> .90	0.818	0.868	0.871	0.869	0.874
PNFI	parsimony	higher is better	0.687	0.716	0.718	0.717	0.720

Note. Thresholds from Hair et al. (2010) except for χ^2 (Kline, 2016).

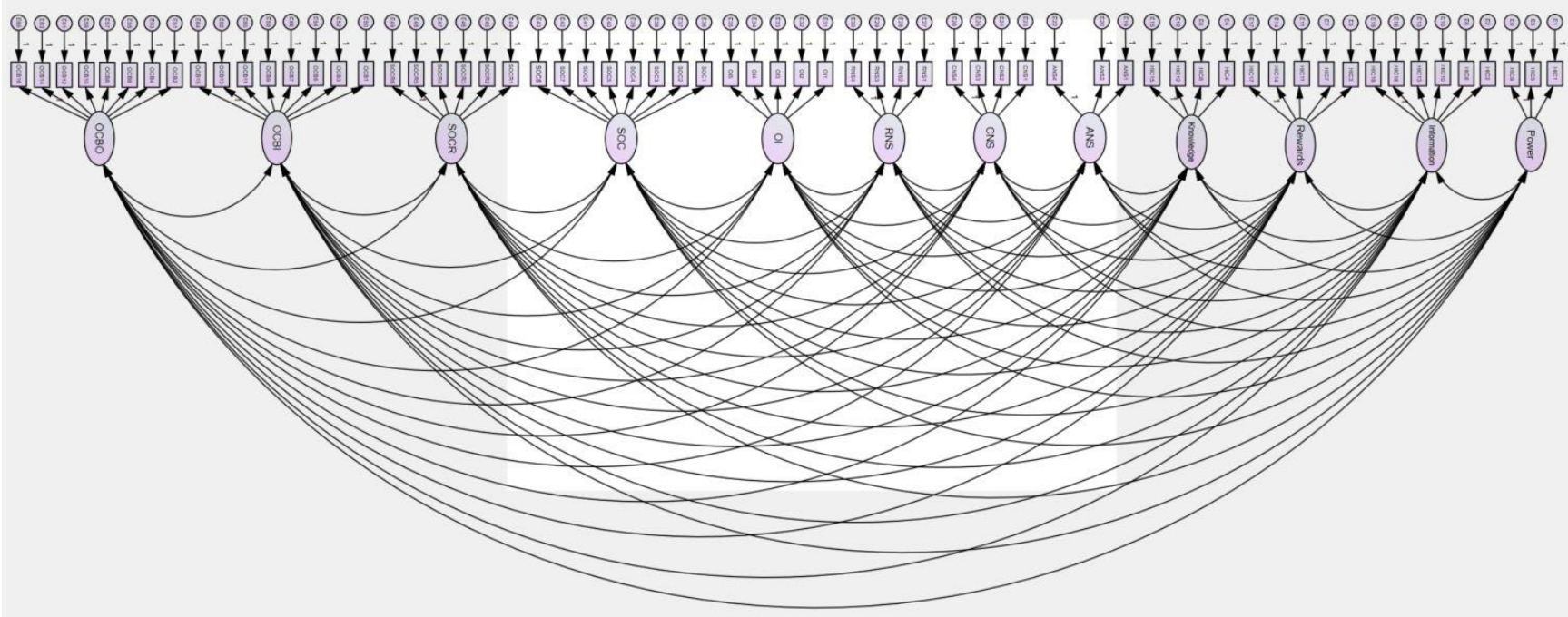


Figure 4.2. CFA Model B. HIC from model A has been respecified as a four-factor construct: power, information, rewards, knowledge. OCB from model A has been respecified as a two-factor construct: organizational citizenship behavior directed toward individuals (OCBI), and organizational citizenship behavior directed toward the organization (OCBO).

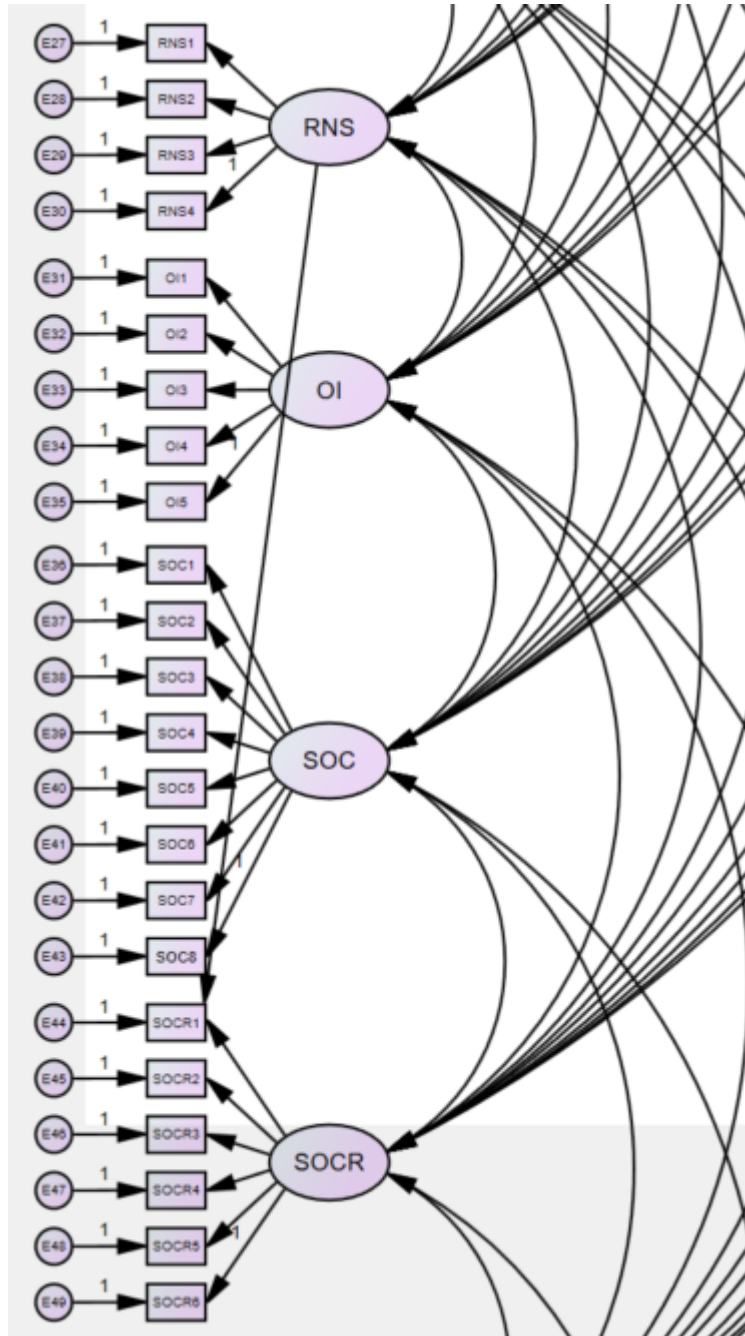


Figure 4.3. Detail of CFA Model C illustrating cross-loading of item SOCR1 on SOCR and RNS.

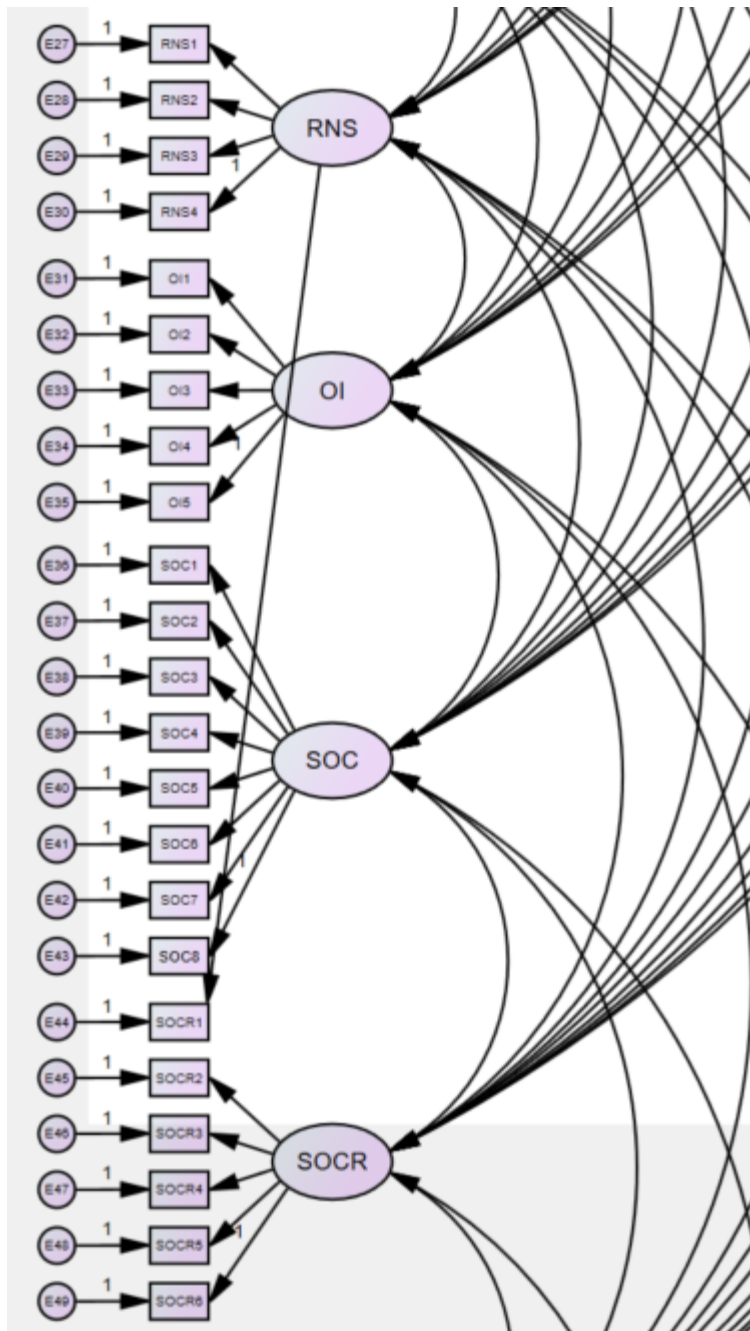


Figure 4.4. Detail of CFA Model D illustrating item SOCR1 loading exclusively on RNS.

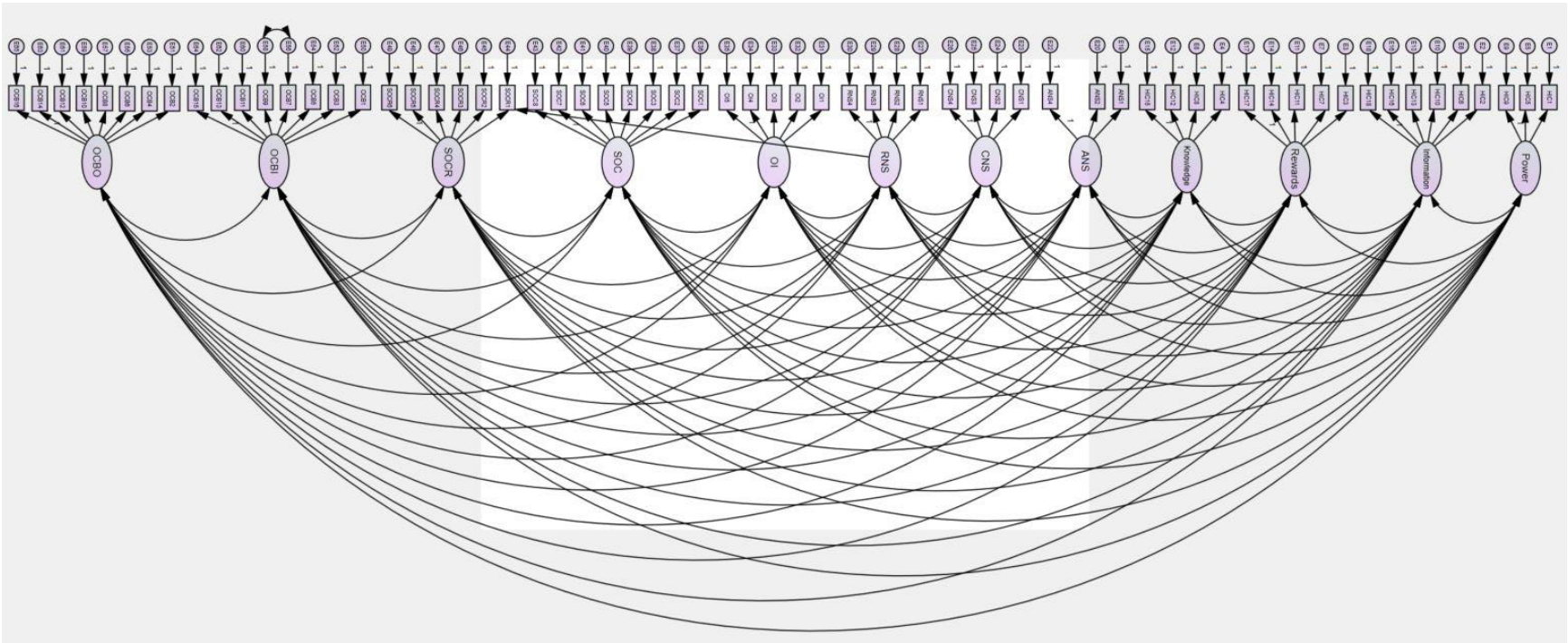


Figure 4.5. CFA Model E. SOCR1 cross-loads on SOCR and RNS; E56 and E58 are unconstrained (allowed to covary).

Examination of model C modification indices suggested that E57 and E61 (errors associated with items OCB8 and OCB12, respectively) should be allowed to covary, but the standardized residual covariance between these two items was low, suggesting little unexplained relationship variance between the two observed variables. Both modification indices and standardized residual covariances between E56 and E58 (33.09 and 2.986, respectively) suggested that the covariance between items OCB7 and OCB8 was not fully explained by latent variable OCBI. Model E (Figure 4.5) was specified allowing these items to covary, but CFI remained under .90. Further potential respecifications suggested by modification indices and standardized residual covariances either did not make conceptual sense or resulted in only minor global fit improvements (e.g., RMSEA, CFI) while decreasing model parsimony (i.e., PNFI).

Model E emerged as the model with the best overall global fit, though results were mixed. Chi-square goodness-of-fit was improved in model E over model A, though model E's chi-square (3625.375) remained large compared to its degrees of freedom (1884) with a p value less than .05, suggesting the proposed model should be rejected as not fitting the data. Hair et al. (2010) note, however, that a high chi-square statistic and significant associated p value are to be expected in studies with N greater than 250 given chi-square's sensitivity to sample size and model complexity. This sensitivity makes consideration of chi-square as a sole determinant of model fit problematic. Other common absolute measures of global fit applied to model E were SRMR (.0545) and RMSEA (.055), both of which met standards for accepting the specified model, though CFI (.862) was below the corresponding thresholds for acceptable SRMR and RMSEA (.92 and .90, respectively) (Hair et al., 2010). Global model fit was therefore determined

to be weak. This may have been due to the relatively small study sample size ($N = 312$). The minimum $N:q$ ratio (number of respondents to number of parameters) of 10:1 (Kline, 2016) used for initial sample size calculation was based on the original number of study hypotheses (14), indicating a sample size of 300 should be sufficient. CFA model E contained 196 parameters, suggesting a minimum sample size of 1,960 respondents was needed for stable parameter estimation. Study sample size may not have been sufficient for assessing global model fit.

Local Model Fit

Parameter estimate analysis began with an examination of factor covariances (Table 4.3) and correlations (Table 4.4). All factor covariances were significant to the .001 level, with standard errors in the acceptable range (none approximating zero nor respectively too high), and critical ratios were greater than 1.96 (significant to the .05 level). Most factor correlations were less than .85 indicating acceptable discriminant validity (Brown, 2015), with the exception of correlations between information, rewards, and knowledge. Factor correlations greater than .85 suggested these factors may be more parsimoniously expressed as a single factor (Brown, 2015). Information, rewards, and knowledge were merged into the single factor “IRK” in model F, leaving the power factor independent. Global fit indicators in model F generally indicated no improvement over model E. Factor correlations between power and ANS were greater than .85 in model F, but merging these factors did not make conceptual sense given study hypotheses, thus a model combining these factors was not explored.

The second phase of parameter estimate analysis examined standardized factor loading in model E (Table 4.5). All items loaded significantly (p less than .001) on their

Table 4.3

CFA Model E Factor Covariances, Standard Errors, and Critical Ratios

Factor	↔	Factor	Covar.	S.E.	C.R.	Factor	↔	Factor	Covar.	S.E.	C.R.
ANS	↔	CNS	0.471	0.057	8.277	CNS	↔	Rew.	0.264	0.043	6.184
ANS	↔	RNS	0.418	0.057	7.302	RNS	↔	Rew.	0.368	0.051	7.204
ANS	↔	OI	0.342	0.055	6.183	OI	↔	Rew.	0.389	0.053	7.265
ANS	↔	SOC	0.360	0.048	7.504	SOC	↔	Rew.	0.407	0.049	8.253
ANS	↔	SOCR	0.671	0.100	6.711	SOCR	↔	Rew.	0.718	0.096	7.509
CNS	↔	RNS	0.252	0.038	6.585	ANS	↔	Know.	0.386	0.055	6.966
CNS	↔	OI	0.246	0.040	6.096	CNS	↔	Know.	0.286	0.041	7.009
CNS	↔	SOC	0.225	0.033	6.891	RNS	↔	Know.	0.313	0.045	6.996
CNS	↔	SOCR	0.373	0.068	5.455	OI	↔	Know.	0.300	0.046	6.549
RNS	↔	OI	0.262	0.043	6.160	SOC	↔	Know.	0.320	0.041	7.785
RNS	↔	SOC	0.298	0.040	7.401	SOCR	↔	Know.	0.574	0.083	6.958
RNS	↔	SOCR	0.554	0.080	6.893	SOCR	↔	OCBI	1.236	0.168	7.340
OI	↔	SOC	0.320	0.041	7.731	SOC	↔	OCBI	0.351	0.062	5.652
OI	↔	SOCR	0.602	0.086	6.963	OI	↔	OCBI	0.369	0.079	4.647
SOC	↔	SOCR	0.590	0.075	7.903	RNS	↔	OCBI	0.409	0.074	5.549
Power	↔	Info.	0.362	0.045	8.025	CNS	↔	OCBI	0.390	0.071	5.520
Power	↔	Rew.	0.404	0.051	7.856	ANS	↔	OCBI	0.488	0.094	5.163
Power	↔	Know.	0.379	0.047	8.034	Know.	↔	OCBI	0.329	0.073	4.485
ANS	↔	Power	0.539	0.062	8.737	Rew.	↔	OCBI	0.389	0.083	4.693
CNS	↔	Power	0.317	0.041	7.695	Info.	↔	OCBI	0.351	0.072	4.859

Factor	↔	Factor	Covar.	S.E.	C.R.	Factor	↔	Factor	Covar.	S.E.	C.R.
RNS	↔	Power	0.273	0.041	6.656	Power	↔	OCBI	0.277	0.071	3.906
OI	↔	Power	0.312	0.045	6.911	OCBI	↔	OCBO	1.653	0.204	8.103
SOC	↔	Power	0.297	0.038	7.784	SOCR	↔	OCBO	1.602	0.187	8.546
SOCR	↔	Power	0.474	0.076	6.206	SOC	↔	OCBO	0.694	0.085	8.136
Info.	↔	Rew.	0.538	0.060	8.927	OI	↔	OCBO	0.816	0.101	8.042
Info.	↔	Know.	0.463	0.053	8.708	RNS	↔	OCBO	0.605	0.088	6.918
ANS	↔	Info.	0.389	0.054	7.175	CNS	↔	OCBO	0.547	0.080	6.837
CNS	↔	Info.	0.252	0.038	6.630	ANS	↔	OCBO	0.820	0.113	7.273
RNS	↔	Info.	0.294	0.042	6.928	Know.	↔	OCBO	0.669	0.092	7.277
OI	↔	Info.	0.346	0.047	7.408	Rew.	↔	OCBO	0.824	0.106	7.747
SOC	↔	Info.	0.347	0.042	8.204	Info.	↔	OCBO	0.722	0.093	7.803
SOCR	↔	Info.	0.552	0.079	6.959	Power	↔	OCBO	0.586	0.085	6.860
Rew.	↔	Know.	0.500	0.059	8.461	E58	↔	E56	0.402	0.077	5.251
ANS	↔	Rew.	0.438	0.062	7.050						

Note. All covariance p values $< .001$. Factor labels have been abbreviated in this table as follows: Information as “Info.”; Rewards as “Rew.”; Knowledge as “Know.”

Table 4.4

CFA Model E Factor Correlations

	ANS	CNS	Inform.	Knowl.	OCBI	OCBO	OI	Power	Rewards	RNS	SOC
ANS	----										
CNS	.831	----									
Information	.632	.542	----								
Knowledge	.605	.592	.882	----							
OCBI	.403	.426	.353	.319	----						
OCBO	.621	.547	.666	.594	.775	----					
OI	.495	.471	.610	.509	.330	.670	----				
Power	.870	.676	.711	.718	.277	.536	.547	----			
Rewards	.597	.477	.894	.801	.329	.639	.576	.666	----		
RNS	.722	.575	.619	.634	.437	.593	.492	.570	.650	----	
SOC	.714	.590	.838	.745	.430	.781	.689	.712	.826	.764	----
SOCR	.546	.401	.547	.548	.622	.740	.531	.466	.598	.584	.713

Note: all correlations significant ($p < .001$).

Table 4.5

CFA Model E Standardized Factor Loadings

Item	ANS	CNS	RNS	OI	SOC	SOCR	Power	Inform.	Rewards	Knowl.	OCBI	OCBO
ANS1	.762											
ANS2	.669											
ANS4	.739											
CNS1		.701										
CNS2		.608										
CNS3		.806										
CNS4		.763										
RNS1			.844									
RNS2			.877									
RNS3			.799									
RNS4			.646									
SOCR1			.398									
OI1				.670								
OI2				.751								
OI3				.669								
OI4				.753								
OI5				.823								
SOC1					.816							
SOC2					.843							
SOC3					.685							
SOC4					.892							

Item	ANS	CNS	RNS	OI	SOC	SOCR	Power	Inform.	Rewards	Knowl.	OCBI	OCBO
SOC5					.847							
SOC6					.854							
SOC7					.665							
SOC8					.672							
SOCR1						.315						
SOCR2						.721						
SOCR3						.809						
SOCR4						.813						
SOCR5						.811						
SOCR6						.816						
HIC1							.676					
HIC5							.784					
HIC9							.815					
HIC2								.698				
HIC6								.801				
HIC10								.686				
HIC13								.728				
HIC16								.447				
HIC18								.754				
HIC3									.797			
HIC7									.908			
HIC11									.738			
HIC14									.720			

Item	ANS	CNS	RNS	OI	SOC	SOCR	Power	Inform.	Rewards	Knowl.	OCBI	OCBO
HIC17									.769			
HIC4										.841		
HIC8										.723		
HIC12										.821		
HIC15										.747		
OCB1											.688	
OCB3											.793	
OCB5											.710	
OCB7											.647	
OCB9											.609	
OCB11											.808	
OCB13											.701	
OCB15											.688	
OCB2												.687
OCB4												.746
OCB6												.794
OCB8												.761
OCB10												.617
OCB12												.772
OCB14												.701
OCB16												.783

Note. All factor loadings are significant ($p < .001$). Factor labels have been abbreviated in this table as follows: Information as “Inform.”; Knowledge as “Knowl.”

respective factors, with SOCR1 cross-loading on both SOCR and RNS. Standard errors were all within acceptable range; critical ratios were all greater than 1.96; and all standardized regression weights were greater than .300, indicating salience in regards to their respective latent factors (Brown, 2015). Forty-five of 65 item regression weights were greater than or equal to .70, indicating significant and substantial loading on their respective factors (Kline, 2016). Sixteen items loaded in the .600 to .699 range; three items loaded in the .300 to .599 range (HIC16, OCB9, and SOCR1 to both SOCR and RNS). Finally, the only specified error covariance in model C between E56 and E58 was significant to the .001 level with standard error in the acceptable range and critical ratios greater than 1.96.

Model respecification was concluded at this point in an effort to avoid overfitting the model (Brown, 2015). While local fit was acceptable, global fit measures generally did not meet acceptable standards likely due to the sample size and model complexity issues previously identified. As the data set and model did not meet the requirements for effective CB-SEM analysis, PLS-SEM was considered for analyzing the model. As Kline (2016) notes, there is no shame in utilizing methods appropriate to one's sample size and model complexity.

Partial Least Squares SEM Measurement Model Assessment

Partial least squares structural equation modeling (PLS-SEM) is an alternative path modeling method to CB-SEM. PLS-SEM differs from CB-SEM in that PLS-SEM uses regression to determine the explained variance between latent dependent constructs, rather than comparing the difference between the theoretical and estimated covariance matrices as in CB-SEM. Both SEM methods include measurement and structural

components, and results are interpreted in a similar fashion (Haenlein & Kaplan, 2004; Hair, Ringle, & Sarstedt, 2011; Hair, Sarstedt, Pieper, & Ringle, 2012). PLS-SEM is a non-parametric method that is well suited to studies with relatively small samples sizes and complex models, is preferred over first-generation methods (e.g., multiple regression analysis), and is increasingly being utilized in business and management research (Hair et al., 2012; Lowry & Gaskin, 2014). PLS-SEM was determined to be appropriate for the present study and selected as the alternative to replace the CB-SEM method originally planned.

Like CB-SEM, measurement model assessment in PLS-SEM focuses on reliability and validity (convergent and discriminant), however, model fit assessment differs between the two methods. Covariance-based goodness-fit-measures employed in CB-SEM (e.g., chi-square, SRMR, RMSEA) are not well suited to PLS-SEM's variance-based approach, therefore, PLS-SEM model fit is currently based on reliability and validity assessments. Research is ongoing regarding development of model fit measures appropriate to PLS-SEM, but none have yet been widely accepted (Hair et al., 2017).

The data examination measures previously discussed are applicable to PLS-SEM (Hair et al., 2017), thus no additional data examination measures were employed. PLS-SEM analysis for both the measurement and structural models were conducted using the dataset edited as described above (less responses 171, 240, and 313; and excluding item ANS3).

Model Specification

An initial PLS-SEM path model (PLS-SEM Model A) was specified based on study hypotheses (Figure 4.6). The model was then assessed for reliability and validity.

Cronbach's alpha and composite reliability were used to assess reliability (Hair et al., 2017). Cronbach's alpha assumes all measured variables are equally reliable, or have equal loadings on the latent construct. This is potentially problematic in PLS-SEM where the algorithm prioritizes measured variables based on their individual reliability. The composite reliability statistic takes this differential loading into account and is therefore viewed as a more accurate measure of reliability in PLS-SEM (Hair et al., 2017). Composite reliability is interpreted the same as Cronbach's alpha. Model A alpha and composite reliability scores were all within acceptable limits, though scores above .90 (HIC, OCB, SOC, SOCR) suggested potentially excessive semantic similarity among items associated with some factors (Table 4.6). Overall, Model A was deemed to have acceptable scale reliability.

Item loading coefficients and latent variable average variance extracted (AVE) scores were used to assess convergent validity (Hair et al., 2017). AVEs for all factors were within the acceptable range (Table 4.6). Item loadings for ANS, CNS, OI, RNS, and SOC were acceptable, however, SOCR1 was less than 0.7 and both HIC and OCB had multiple items with loadings less than 0.7 (Table 4.7). The conservative 0.7 item loading threshold seeks to retain indicators in the model that are at least 50% explained by the latent (composite) variable. Item loading lower than 0.7 indicate that more than half of the indicator's variance is the result of error rather than the latent variable (Hair et al., 2017). The weak loading scores for HIC and OCB in particular suggested that these constructs may be comprised of more than one factor as reflected in the literature. Discriminant validity was assessed using construct heterotrait-monotrait ratios (HTMT), the Fornell-Larker test, and comparing item cross-loadings (Hair et al., 2017). All item

primary loadings were greater than any cross-loadings (Table 4.7), and all HTMT scores were acceptable, however the Fornell-Larker test suggested potential lack of discriminant validity between HIC and SOC: the HIC correlation with SOC (.818) exceeded the HIC and SOC square root AVEs (.713 and .815, respectively) (Table 4.6).

PLS-SEM Model B (Figure 4.7) was specified in an effort to address convergent and discriminant validity issues in Model A. Latent variables HIC and OCB were divided into four and two factor constructs, respectively, based on the same literature identified above in CB-SEM CFA Model A discussion. Cronbach's alpha and composite reliability remained within acceptable limits for Model B (Table 4.8). Convergent validity improved with only five factor loadings under .70: SOCR1, HIC16 (Info), OCB7 and OCB9 (OCBI), and OCB10 (OCBO) (Table 4.9). Model B AVEs were also within the acceptable range (Table 4.8). HTMT and Fornell-Larker tests suggested that Model B discriminant validity was weaker than Model A with the Power/ANS HTMT score greater than .85 at .854, and the Fornell-Larker test revealing potential lack of discrimination between Info and Know, Reward, and SOC. The cross-loadings check did not suggest any discriminant validity problems.

PLS-SEM Model C (Figure 4.8) was specified next in an attempt to address the discriminant validity issue between latent variables information (Info) and knowledge (Know) from Model B. Riordan et al. (2005) experienced similar discriminant validity issues regarding the Info and Know constructs (Vandenberg et al., 1999), resolving the problem by specifying HIC as a single factor construct. The model originally hypothesized in this study followed Riordan et al. (2005), however, discriminant validity testing did not support their single-factor solution. Info and Know were therefore

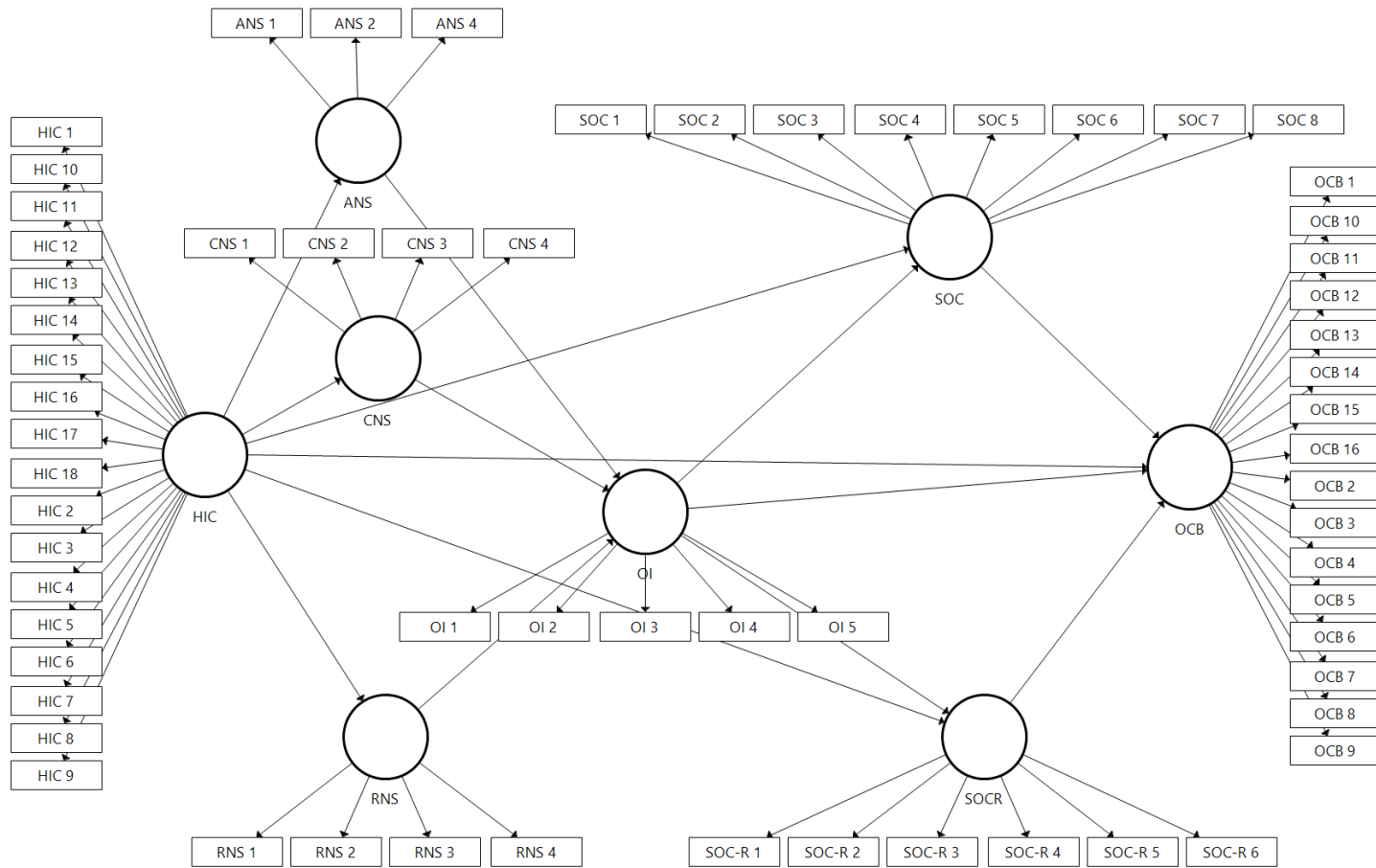


Figure 4.6. PLS-SEM Model A. Construct and item labels are consistent with CB-SEM models.

Table 4.6

PLS-SEM Model A Measurement Summary

Latent variable	Reliability		Convergent validity		Discriminant validity		
	Cronbach's Alpha	composite reliability	item loadings*	AVE	HTMT	Fornell-Larker	item correlations
ANS	0.767	0.865	acceptable	0.681	acceptable	acceptable	acceptable
CNS	0.812	0.876	acceptable	0.640	acceptable	acceptable	acceptable
HIC	0.942	0.948	exceptions: HIC 1, 5, 9, 10, 16	0.509	acceptable	exception: SOC	acceptable
OCB	0.934	0.942	exceptions: OCB 1, 5, 7, 9, 10, 13, 15	0.503	acceptable	acceptable	acceptable
OI	0.853	0.895	acceptable	0.630	acceptable	acceptable	acceptable
RNS	0.869	0.911	acceptable	0.719	acceptable	acceptable	acceptable
SOC	0.926	0.940	acceptable	0.664	acceptable	exception: HIC	acceptable
SOCR	0.887	0.915	exceptions: SOCR 1	0.644	acceptable	acceptable	acceptable

Note. * $p < .001$ for all loadings

Table 4.7

PLS-SEM Model A Item Loadings

	ANS	CNS	HIC	OCB	OI	RNS	SOC	SOCR
ANS 1	.871	.507	.584	.444	.366	.552	.586	.435
ANS 2	.781	.619	.409	.380	.297	.427	.417	.333
ANS 4	.821	.531	.511	.371	.333	.462	.503	.399
CNS 1	.492	.804	.446	.339	.317	.305	.419	.301
CNS 2	.437	.702	.328	.325	.232	.406	.352	.247
CNS 3	.626	.836	.482	.442	.342	.419	.451	.316
CNS 4	.539	.848	.455	.378	.366	.450	.447	.297
HIC 1	.515	.453	.540	.304	.363	.395	.446	.268
HIC 2	.413	.397	.703	.378	.420	.437	.538	.394
HIC 3	.474	.379	.799	.436	.437	.554	.692	.493
HIC 4	.408	.471	.766	.366	.385	.495	.575	.424
HIC 5	.579	.483	.687	.368	.396	.435	.536	.359
HIC 6	.397	.335	.774	.435	.486	.444	.673	.406
HIC 7	.427	.343	.841	.479	.487	.541	.731	.512
HIC 8	.380	.385	.718	.381	.378	.410	.547	.374
HIC 9	.634	.469	.661	.342	.410	.421	.574	.378
HIC 10	.364	.317	.686	.403	.333	.389	.541	.352
HIC 11	.373	.321	.700	.380	.422	.367	.579	.424
HIC 12	.441	.433	.751	.399	.346	.485	.565	.429
HIC 13	.395	.446	.717	.399	.422	.415	.549	.346

	ANS	CNS	HIC	OCB	OI	RNS	SOC	SOCR
HIC 14	.447	.402	.722	.404	.377	.520	.583	.396
HIC 15	.456	.384	.766	.456	.411	.493	.635	.447
HIC 16	.270	.201	.448	.279	.212	.270	.395	.232
HIC 17	.413	.342	.706	.392	.388	.444	.600	.447
HIC 18	.467	.352	.761	.419	.425	.444	.652	.453
OCB 1	.190	.293	.237	.637	.288	.277	.269	.341
OCB 2	.378	.299	.476	.724	.372	.394	.490	.536
OCB 3	.249	.284	.198	.707	.202	.305	.281	.441
OCB 4	.411	.413	.495	.756	.420	.410	.540	.541
OCB 5	.256	.187	.283	.683	.237	.245	.356	.487
OCB 6	.425	.373	.569	.761	.601	.400	.638	.559
OCB 7	.257	.353	.250	.657	.283	.315	.309	.370
OCB 8	.403	.403	.561	.769	.531	.463	.623	.494
OCB 9	.295	.391	.308	.640	.307	.363	.342	.402
OCB 10	.340	.279	.276	.676	.259	.315	.366	.433
OCB 11	.316	.269	.280	.740	.181	.371	.371	.545
OCB 12	.447	.419	.568	.755	.516	.481	.686	.552
OCB 13	.216	.261	.189	.625	.196	.244	.238	.389
OCB 14	.405	.367	.367	.728	.348	.393	.481	.490
OCB 15	.271	.280	.334	.681	.250	.312	.368	.464
OCB 16	.431	.345	.481	.778	.515	.488	.572	.593
OI 1	.261	.248	.363	.361	.735	.262	.354	.257
OI 2	.375	.348	.472	.473	.818	.394	.507	.419

	ANS	CNS	HIC	OCB	OI	RNS	SOC	SOCR
OI 3	.259	.331	.418	.384	.751	.297	.418	.321
OI 4	.353	.318	.473	.404	.805	.363	.557	.436
OI 5	.336	.327	.470	.411	.854	.387	.538	.414
RNS 1	.549	.448	.537	.453	.362	.882	.619	.518
RNS 2	.585	.473	.604	.451	.389	.894	.684	.500
RNS 3	.488	.376	.584	.447	.399	.870	.637	.478
RNS 4	.332	.367	.359	.436	.321	.736	.443	.472
SOC 1	.520	.454	.726	.523	.509	.569	.837	.525
SOC 2	.563	.541	.705	.528	.534	.622	.858	.509
SOC 3	.485	.343	.623	.473	.386	.475	.729	.523
SOC 4	.537	.433	.721	.579	.585	.626	.899	.645
SOC 5	.499	.415	.717	.535	.552	.588	.860	.550
SOC 6	.504	.454	.699	.546	.560	.584	.875	.586
SOC 7	.433	.339	.580	.514	.376	.524	.724	.533
SOC 8	.474	.429	.537	.509	.426	.663	.714	.566
SOCR 1	.368	.280	.377	.458	.319	.572	.454	.649
SOCR 2	.374	.303	.342	.562	.291	.459	.498	.784
SOCR 3	.415	.344	.496	.567	.455	.458	.578	.850
SOCR 4	.369	.288	.450	.607	.397	.408	.573	.834
SOCR 5	.428	.300	.579	.551	.441	.493	.622	.837
SOCR 6	.333	.240	.431	.546	.357	.413	.524	.841

Note. Factor loadings associated with their defined latent variable are in boldface; italicized loadings are $< .70$. All loadings are significant ($p < .001$).

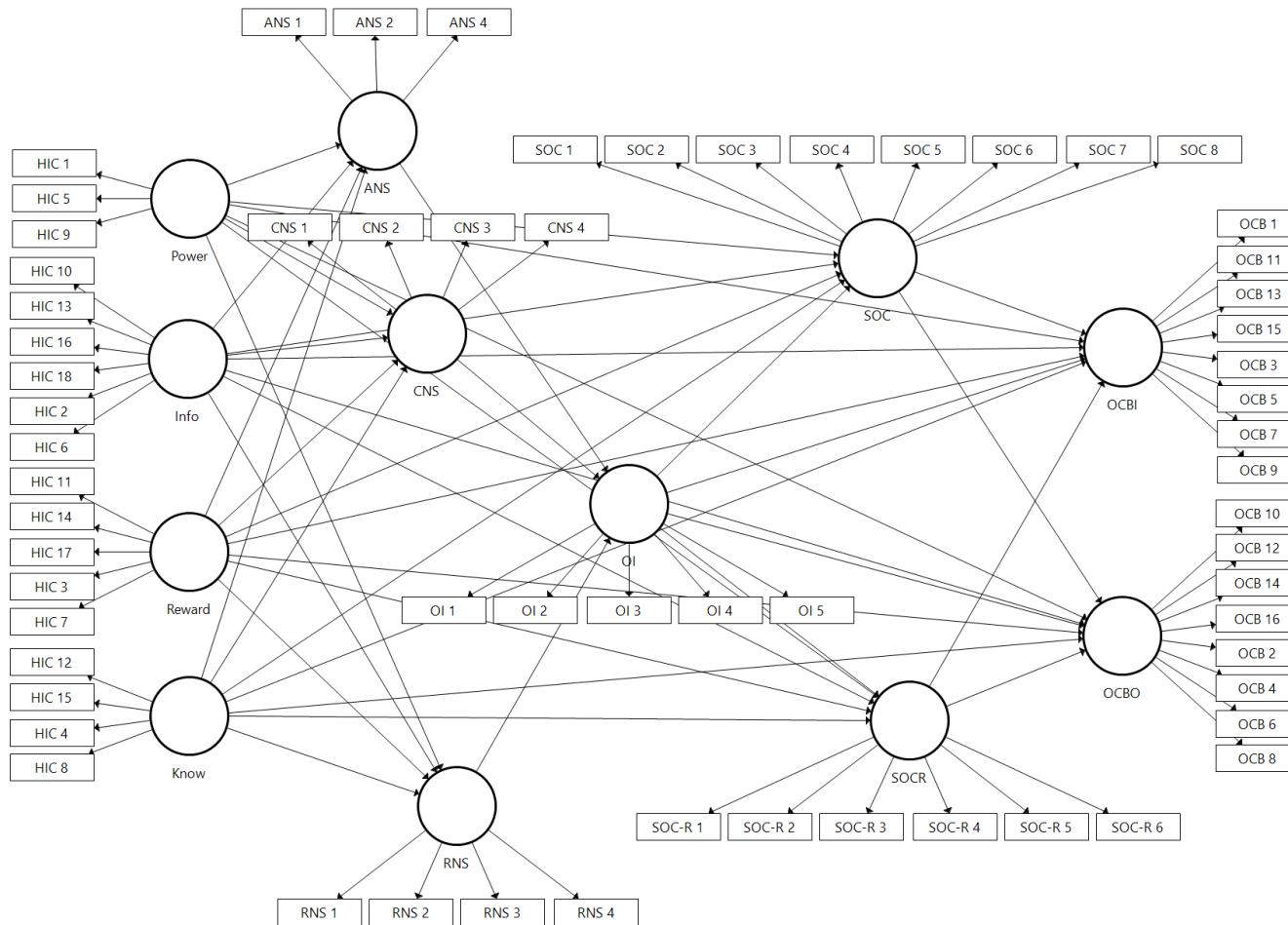


Figure 4.7. PLS-SEM Model B. HIC from model PLS-SEM Model A has been respecified as a four-factor construct: power (Power), information (Info), rewards (Reward), knowledge (Know). OCB from model A has been respecified as a two-factor construct: organizational citizenship behavior directed toward individuals (OCBI), and organizational citizenship behavior directed toward the organization (OCBO).

Table 4.8

PLS-SEM Model B Measurement Summary

Latent variable	Reliability		Convergent validity			Discriminant validity	
	Cronbach's Alpha	composite reliability	item loadings*	AVE	HTMT	Fornell-Larker	item correlations
ANS	0.767	0.864	acceptable	0.680	acceptable	acceptable	acceptable
CNS	0.812	0.876	acceptable	0.640	acceptable	acceptable	acceptable
Info	0.841	0.884	exception: HIC 16	0.565	acceptable	exceptions: Know, Reward, SOC	acceptable
Know	0.860	0.905	acceptable	0.705	acceptable	acceptable	acceptable
OCBI	0.887	0.910	exception: OCB 7, 9	0.560	acceptable	acceptable	acceptable
OCBO	0.905	0.923	exception: OCB 10	0.602	acceptable	acceptable	acceptable
OI	0.853	0.895	acceptable	0.630	acceptable	acceptable	acceptable
Power	0.803	0.884	acceptable	0.717	exception: Power --> ANS .854	acceptable	acceptable
RNS	0.869	0.911	acceptable	0.719	acceptable	acceptable	acceptable
Reward	0.891	0.920	acceptable	0.698	acceptable	acceptable	acceptable
SOC	0.926	0.940	acceptable	0.664	acceptable	acceptable	acceptable
SOCR	0.887	0.915	exception: SOCR 1	0.644	acceptable	acceptable	acceptable

Note. * $p < .001$ for all loadings

Table 4.9

PLS-SEM Model B Item Loadings

	ANS	CNS	Info	Know	OCBI	OCBO	OI	Power	RNS	Reward	SOC	SOCR
ANS1	.866	.507	.486	.484	.306	.488	.366	.615	.551	.505	.587	.434
ANS2	.772	.620	.367	.366	.275	.409	.298	.426	.426	.310	.418	.333
ANS4	.833	.531	.416	.386	.276	.393	.333	.625	.461	.429	.503	.399
CNS1	.491	.803	.393	.406	.265	.351	.318	.442	.305	.353	.418	.300
CNS2	.433	.704	.285	.335	.269	.326	.232	.322	.407	.235	.352	.248
CNS3	.624	.838	.393	.453	.373	.439	.342	.504	.419	.383	.451	.316
CNS4	.541	.847	.388	.392	.308	.382	.366	.475	.450	.375	.447	.297
HIC2	.411	.397	.777	.625	.243	.428	.419	.461	.436	.550	.538	.393
HIC6	.399	.335	.822	.640	.257	.507	.486	.506	.443	.680	.673	.405
HIC10	.364	.317	.750	.571	.266	.451	.333	.450	.389	.576	.541	.350
HIC13	.395	.445	.806	.636	.276	.437	.422	.429	.415	.574	.549	.345
HIC16	.267	.201	.530	.380	.140	.341	.211	.234	.269	.368	.395	.231
HIC18	.468	.351	.784	.613	.282	.465	.425	.519	.443	.689	.651	.451
HIC4	.407	.471	.659	.875	.239	.412	.385	.526	.495	.614	.575	.422
HIC8	.379	.386	.652	.794	.221	.447	.378	.409	.410	.612	.547	.373
HIC12	.440	.434	.648	.867	.259	.450	.346	.546	.485	.576	.565	.428
HIC15	.457	.384	.654	.820	.301	.509	.411	.540	.492	.654	.634	.445
OCB1	.188	.294	.224	.184	.724	.506	.288	.192	.278	.220	.270	.342
OCB3	.248	.285	.213	.185	.817	.557	.202	.102	.306	.168	.282	.442
OCB5	.257	.188	.244	.251	.756	.558	.237	.167	.245	.299	.356	.489
OCB7	.259	.353	.232	.214	.693	.556	.283	.175	.315	.238	.309	.371
OCB9	.293	.391	.316	.270	.657	.555	.308	.207	.363	.266	.342	.402
OCB11	.317	.270	.239	.259	.840	.592	.181	.248	.371	.243	.372	.546
OCB13	.215	.261	.192	.143	.743	.479	.196	.097	.245	.197	.238	.390

	ANS	CNS	Info	Know	OCBI	OCBO	OI	Power	RNS	Reward	SOC	SOCR
OCB15	.272	.280	.314	.297	.738	.566	.251	.281	.312	.279	.369	.465
OCB2	.379	.300	.441	.401	.628	.706	.372	.341	.394	.455	.490	.537
OCB4	.409	.413	.483	.469	.590	.783	.421	.326	.410	.426	.540	.541
OCB6	.424	.373	.527	.475	.565	.810	.601	.390	.400	.558	.638	.558
OCB8	.401	.403	.540	.480	.564	.823	.531	.431	.463	.496	.623	.494
OCB10	.340	.280	.226	.226	.572	.667	.259	.202	.315	.295	.367	.433
OCB12	.444	.420	.540	.492	.508	.840	.516	.448	.481	.496	.686	.552
OCB14	.403	.368	.347	.366	.579	.746	.348	.275	.392	.295	.482	.490
OCB16	.431	.346	.449	.396	.589	.818	.515	.364	.488	.453	.572	.593
OI1	.261	.248	.343	.290	.227	.410	.736	.321	.263	.318	.354	.256
OI2	.375	.348	.446	.404	.321	.522	.819	.402	.394	.402	.507	.419
OI3	.259	.331	.396	.357	.242	.437	.752	.317	.297	.376	.418	.320
OI4	.354	.318	.430	.340	.239	.470	.803	.404	.363	.469	.557	.434
OI5	.336	.327	.438	.394	.232	.486	.853	.372	.387	.427	.538	.413
HIC1	.516	.453	.434	.438	.190	.347	.363	.808	.394	.351	.446	.267
HIC5	.580	.483	.542	.585	.224	.425	.396	.860	.435	.533	.536	.358
HIC9	.638	.468	.515	.508	.218	.387	.410	.872	.421	.535	.574	.377
RNS1	.547	.449	.454	.500	.340	.478	.362	.420	.882	.498	.619	.518
RNS2	.583	.473	.535	.522	.350	.470	.389	.466	.893	.572	.684	.500
RNS3	.489	.376	.512	.509	.315	.485	.399	.455	.870	.551	.637	.477
RNS4	.332	.367	.278	.351	.409	.405	.321	.305	.738	.328	.444	.473
HIC3	.476	.379	.711	.642	.278	.493	.437	.557	.554	.824	.692	.491
HIC7	.428	.343	.755	.676	.284	.557	.487	.517	.541	.902	.731	.511
HIC11	.372	.320	.575	.581	.236	.435	.421	.394	.367	.808	.579	.423
HIC14	.446	.402	.586	.601	.266	.452	.376	.473	.519	.800	.583	.395
HIC17	.414	.342	.586	.546	.271	.430	.388	.397	.444	.840	.601	.446
SOC1	.520	.454	.676	.623	.340	.589	.508	.567	.568	.657	.836	.523
SOC2	.563	.540	.652	.573	.334	.601	.534	.567	.621	.655	.858	.509

	ANS	CNS	Info	Know	OCBI	OCBO	OI	Power	RNS	Reward	SOC	SOCR
SOC3	.485	.343	.558	.501	.311	.530	.386	.446	.475	.633	.730	.522
SOC4	.536	.434	.676	.617	.371	.656	.584	.536	.625	.664	.899	.644
SOC5	.501	.415	.651	.590	.335	.610	.552	.572	.588	.674	.859	.549
SOC6	.504	.453	.652	.613	.329	.633	.559	.517	.584	.637	.874	.585
SOC7	.431	.339	.554	.507	.402	.532	.376	.337	.524	.571	.725	.533
SOC8	.474	.429	.457	.475	.387	.534	.426	.445	.663	.501	.715	.566
SOCR1	.366	.280	.341	.345	.450	.413	.319	.240	.572	.365	.455	.650
SOCR2	.375	.303	.301	.282	.533	.519	.291	.271	.460	.333	.499	.787
SOCR3	.416	.344	.430	.438	.451	.582	.455	.394	.458	.464	.579	.848
SOCR4	.368	.288	.392	.403	.513	.604	.397	.288	.408	.457	.574	.835
SOCR5	.430	.299	.515	.504	.428	.574	.440	.416	.493	.563	.623	.833
SOCR6	.333	.241	.366	.408	.448	.550	.356	.286	.413	.421	.525	.841

Note. Factor loadings associated with their defined latent variable are in boldface; italicized loadings are < .70. All loadings are significant ($p < .001$).

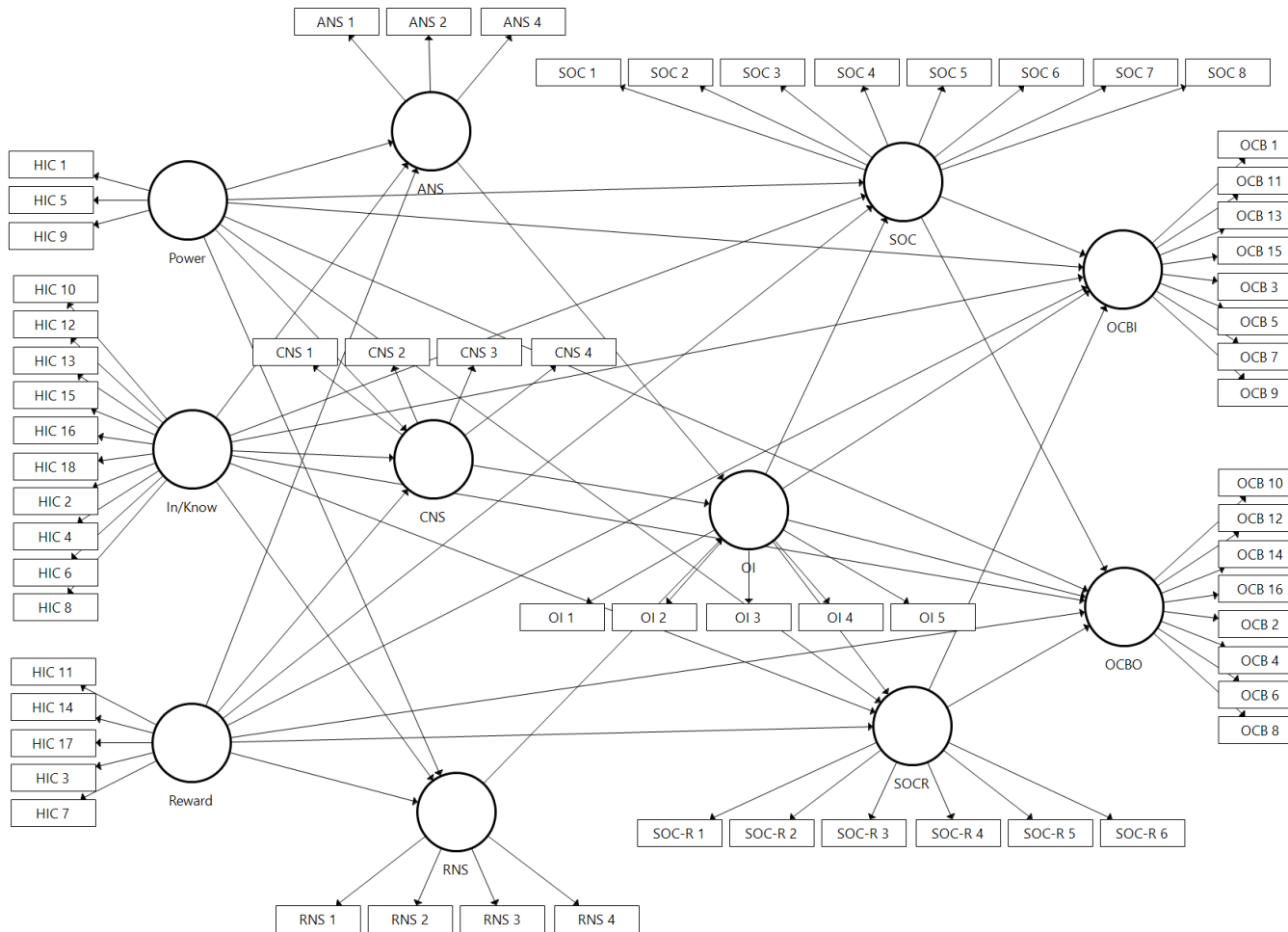


Figure 4.8. PLS-SEM Model C. Information (Info) and knowledge (Know) from model PLS-SEM Model B have been respecified as a single construct: In/Know.

combined into a single latent variable based on potential conceptual similarities between them (Vandenberg et al., 1999). Note that no attempt was made to address other discriminant validity problems identified in Model B as creating composite variables comprised of Power and ANS, for example, could not be theoretically supported.

Cronbach's alpha and composite reliability scores for Model C all exceeded .70, though scores above .90 for seven of eleven latent variables indicate most scales may include semantically redundant items (Table 4.10). All factor loadings and construct AVEs were within acceptable limits indicating convergent validity, though HIC16, SOCR1, and OCB2, 7, 9, and 10 loadings remained less than .70 (Table 4.11). All Model C constructs met discriminant validity thresholds with the exception of the In/Know square root AVE being less than its correlations with Reward and SOC in the Fornell-Larker test (Table 4.10). Given that combining In/Know with Reward or SOC could not be supported by the literature, the preference for HTMT as a discriminant validity test in PLS-SEM (Hair et al., 2017), and all items loading on their respective constructs than other variables (Table 4.11), the scales in Model C were deemed to have acceptable discriminant validity.

Common Method Variance

Changing methods from CB-SEM to PLS-SEM also necessitated a change in statistical tests and controls for common method variance (CMV). Such tests are still under development in regards to PLS-SEM. Liang, Saraf, Hu, and Xue (2007) recently proposed the unmarked latent method construct approach (P. M. Podsakoff et al., 2003) as an appropriate test and control for CMV when utilizing PLS-SEM, however, Chin, Thatcher, and Wright (2012) have demonstrated this approach is ineffective in the PLS-

Table 4.10

PLS-SEM Model C Measurement Summary

Latent variable	Reliability		Convergent validity		Discriminant validity		
	Cronbach's Alpha	composite reliability	item loadings*	AVE	HTMT	Fornell-Larker	item correlations
ANS	0.767	0.864	acceptable	0.680	acceptable	acceptable	acceptable
CNS	0.812	0.876	acceptable	0.640	acceptable	acceptable	acceptable
In/Know	0.908	0.924	exception: HIC 16	0.552	acceptable	exceptions: Reward & SOC	acceptable
OCBI	0.887	0.915	exceptions: OCB 7, 9	0.560	acceptable	acceptable	acceptable
OCBO	0.905	0.923	exception: OCB 10	0.602	acceptable	acceptable	acceptable
OI	0.853	0.895	acceptable	0.63	acceptable	acceptable	acceptable
Power	0.803	0.884	acceptable	0.717	acceptable	acceptable	acceptable
Reward	0.891	0.920	acceptable	0.698	acceptable	acceptable	acceptable
RNS	0.869	0.911	acceptable	0.719	acceptable	acceptable	acceptable
SOC	0.926	0.940	acceptable	0.664	acceptable	acceptable	acceptable
SOCR	0.887	0.915	exception: SOCR 1	0.644	acceptable	acceptable	acceptable

Note. * $p < .001$ for all loadings

Table 4.11

PLS-SEM Model C Item Loadings

	ANS	CNS	In/Know	OCBI	OCBO	OI	Power	RNS	Reward	SOC	SOCR
ANS1	.866	.507	.514	.306	.488	.366	.615	.551	.505	.587	.434
ANS2	.772	.620	.388	.275	.409	.298	.426	.426	.310	.418	.333
ANS4	.833	.531	.427	.277	.393	.333	.625	.462	.429	.503	.399
CNS1	.491	.803	.423	.265	.351	.318	.442	.305	.353	.418	.301
CNS2	.433	.703	.326	.269	.326	.232	.322	.406	.235	.352	.248
CNS3	.624	.837	.445	.372	.439	.342	.504	.419	.383	.451	.316
CNS4	.541	.848	.413	.308	.382	.366	.475	.450	.375	.447	.297
HIC2	.412	.397	.751	.243	.428	.419	.461	.437	.550	.538	.393
HIC4	.407	.471	.801	.239	.412	.385	.526	.495	.614	.575	.422
HIC6	.399	.335	.785	.257	.507	.486	.506	.444	.680	.673	.405
HIC8	.379	.386	.758	.221	.447	.378	.409	.410	.612	.547	.373
HIC10	.364	.317	.710	.266	.451	.333	.450	.389	.576	.541	.350
HIC12	.440	.433	.791	.259	.450	.346	.546	.485	.576	.565	.428
HIC13	.395	.446	.773	.276	.437	.422	.429	.415	.574	.549	.345
HIC15	.457	.384	.772	.301	.509	.411	.540	.493	.654	.634	.445
HIC16	.268	.201	.491	.140	.341	.211	.234	.270	.368	.395	.231
HIC 18	.468	.352	.750	.282	.465	.425	.519	.444	.689	.651	.451
OCB1	.188	.294	.219	.724	.506	.288	.192	.277	.220	.270	.342
OCB3	.248	.285	.213	.817	.557	.202	.102	.305	.168	.282	.442
OCB5	.257	.188	.262	.757	.558	.237	.167	.245	.299	.356	.489

	ANS	CNS	In/Know	OCBI	OCBO	OI	Power	RNS	Reward	SOC	SOCR
OCB7	.259	.353	.237	.693	.556	.283	.175	.315	.238	.309	.371
OCB9	.293	.391	.313	.656	.555	.308	.207	.363	.266	.342	.402
OCB11	.317	.270	.263	.840	.593	.181	.248	.371	.243	.372	.546
OCB13	.215	.261	.181	.743	.479	.196	.097	.244	.197	.238	.390
OCB15	.272	.280	.325	.738	.566	.251	.281	.312	.279	.369	.465
OCB2	.379	.300	.448	.628	.706	.372	.341	.394	.455	.490	.537
OCB4	.409	.413	.505	.590	.783	.421	.326	.410	.426	.540	.541
OCB6	.424	.373	.534	.565	.810	.601	.390	.400	.558	.638	.558
OCB8	.401	.403	.543	.564	.823	.531	.431	.463	.496	.623	.494
OCB10	.340	.280	.240	.572	.667	.259	.202	.315	.295	.367	.433
OCB12	.444	.419	.550	.508	.840	.516	.448	.481	.496	.686	.552
OCB14	.403	.368	.377	.579	.746	.348	.275	.392	.295	.482	.490
OCB16	.431	.346	.451	.589	.818	.515	.364	.488	.453	.572	.593
OI1	.261	.248	.338	.227	.410	.736	.321	.262	.318	.354	.256
OI2	.375	.348	.453	.321	.522	.819	.402	.394	.402	.507	.419
OI3	.259	.331	.401	.241	.437	.752	.317	.297	.376	.418	.320
OI4	.354	.318	.413	.239	.470	.803	.404	.363	.469	.557	.434
OI5	.336	.327	.443	.232	.486	.853	.372	.387	.427	.538	.413
HIC1	.516	.453	.462	.190	.347	.363	.808	.395	.351	.446	.267
HIC5	.580	.483	.595	.224	.425	.396	.860	.435	.533	.536	.358
HIC9	.638	.469	.542	.218	.387	.410	.872	.421	.535	.574	.377
RNS1	.547	.449	.503	.340	.478	.362	.420	.882	.498	.619	.518
RNS2	.583	.473	.561	.350	.470	.389	.466	.894	.572	.684	.500

	ANS	CNS	In/Know	OCBI	OCBO	OI	Power	RNS	Reward	SOC	SOCR
RNS3	.489	.376	.542	.315	.485	.399	.455	.871	.551	.637	.477
RNS4	.332	.367	.330	.409	.404	.321	.305	.736	.328	.444	.473
HIC3	.476	.379	.721	.278	.493	.437	.557	.554	.824	.692	.491
HIC7	.428	.343	.763	.284	.557	.487	.517	.541	.902	.731	.511
HIC11	.372	.320	.612	.236	.435	.421	.394	.367	.808	.579	.423
HIC14	.446	.403	.628	.266	.452	.376	.473	.520	.800	.583	.395
HIC17	.414	.342	.602	.271	.430	.388	.397	.444	.840	.601	.446
SOC1	.520	.454	.691	.340	.589	.508	.567	.569	.657	.836	.524
SOC2	.563	.541	.654	.334	.601	.534	.567	.622	.655	.858	.509
SOC3	.485	.343	.564	.311	.530	.386	.446	.475	.633	.730	.522
SOC4	.537	.434	.688	.372	.656	.584	.536	.626	.664	.899	.644
SOC5	.501	.415	.661	.335	.610	.552	.572	.588	.674	.859	.549
SOC6	.504	.454	.672	.329	.633	.559	.517	.584	.637	.874	.585
SOC7	.431	.339	.565	.402	.532	.376	.337	.524	.571	.725	.533
SOC8	.474	.429	.493	.387	.534	.426	.445	.663	.501	.716	.566
SOCR1	.366	.280	.363	.450	.413	.319	.240	.572	.365	.455	.650
SOCR2	.375	.303	.310	.534	.519	.291	.271	.459	.333	.499	.788
SOCR3	.416	.344	.460	.451	.582	.455	.394	.458	.464	.579	.848
SOCR4	.368	.288	.421	.513	.604	.397	.288	.408	.457	.574	.835
SOCR5	.430	.300	.540	.428	.574	.440	.416	.493	.563	.623	.833
SOCR6	.333	.241	.408	.449	.550	.356	.286	.413	.421	.525	.841

Note. Factor loadings associated with their defined latent variable are in boldface; italicized loadings are $< .70$. All loadings are significant ($p < .001$).

SEM context. Chin, Thatcher, Wright, and Steel (2013) instead offered a measured latent marker variable approach specifically designed for PLS-SEM, which bears similarity to Williams et al.'s (2010) CFA marker approach originally planned for this study. The Chin et al. (2013) approach requires the marker variable to include a minimum of four scale items; the work-family conflict marker variable included in the present study included only three item and thus was not suited for application of Chin et al.'s measured latent marker method. Lowry and Gaskin (2014) suggest Harman's single factor test (P. M. Podsakoff & Organ, 1986) and latent variable correlation (Pavlou et al., 2007) as simple indicators of potential CMV when other methods are not available. Harman's single factor test was run using IBM® SPSS® Statistics 24. Sixty-four factors were produced accounting for 100% of the variance among indicators. The largest percentage of variance accounted for by a single factor was less than 50 percent at 37.96 percent, indicating little risk for common method variance in the data. Latent variable correlations (Table 4.12) also indicated a low potential for CMV as they were all below .90.

Measurement Model Conclusion

PLS-SEM Model C represented an overall improvement in reliability and validity compared to PLS-SEM models A and B. And while HIC16, SOCR1, and OCB2, 7, 9, and 10 loaded low on their respective constructs, all coefficients exceeded .40 providing the researcher with some discretion regarding removing these items from the model (Hair et al., 2017). Given the AVE and reliability statistics for all constructs related to the low loading items exceeded the relevant thresholds (In/Know, SOCR, OCBI, and OCBO), no further attempt was made to respecify the model. PLS-SEM Model C was determined to have acceptable reliability and validity to proceed with structural model analysis.

PLS-SEM Structural Model Assessment

Structural model assessment of PLS-SEM Model C (Figure 4.9) began with a collinearity check of predictor constructs, this included both exogenous latent variables as well as mediating latent variables that function as an independent variable to another endogenous latent variable (Hair et al., 2017). Variance inflation factors (VIFs) (Table 4.13) calculated by SmartPLS 3 (Ringle et al., 2015) were below 5.0 indicating little evidence of collinearity (Hair et al., 2017). This confirmed the collinearity measures taken during data examination.

Coefficient of multiple determination (R^2) values were examined for all Model C endogenous variables (Table 4.14) showing all to be significant ($p < .001$). Path coefficients (β) for all latent variable relationships were examined next (Table 4.15), with 18 of 32 direct effects specified in PLS-SEM Model C significant to at least the .05 level. Cohen's f^2 was calculated to provide insight into the size of these direct effects. Cohen's f^2 examines the change in R^2 when a specific exogenous construct is removed from the model; comparing results enables the f^2 to provide insight into the effect size of that specific latent variable (Hair et al., 2017). Cohen (1988) recommends the following guidelines for interpreting f^2 : greater than or equal to .35 indicates the exogenous variable has a large effect on the endogenous variable; greater than or equal to .15 indicates a medium effect; greater than or equal to .02 indicates a small effect; less than .02 indicates no effect. Effect sizes supported direct (non-mediated) effect significance results: non-significant direct effects had f^2 values less than .02 (Table 4.15). Indirect (mediated) effects as defined in Model C were examined next with 19 of 29 indirect effects significant ($p < .05$) (Table 4.16). Finally, Stone-Geisser's Q^2 values were

Table 4.12

PLS-SEM Model C Latent Variable Correlations

	ANS	CNS	In/Know	OCBI	OCBO	OI	Power	RNS	Reward	SOC	SOCR
ANS	----										
CNS	.601	----									
In/Know	.480	.391	----								
OCBI	.416	.420	.351	----							
OCBO	.506	.421	.570	.718	----						
OI	.333	.357	.446	.248	.542	----					
Power	.649	.473	.571	.253	.416	.393	----				
RNS	.618	.426	.610	.336	.518	.369	.572	----			
Reward	.468	.334	.801	.295	.572	.463	.558	.663	----		
SOC	.548	.421	.724	.399	.685	.524	.569	.722	.768	----	
SOCR	.509	.352	.553	.586	.674	.402	.410	.582	.591	.679	----

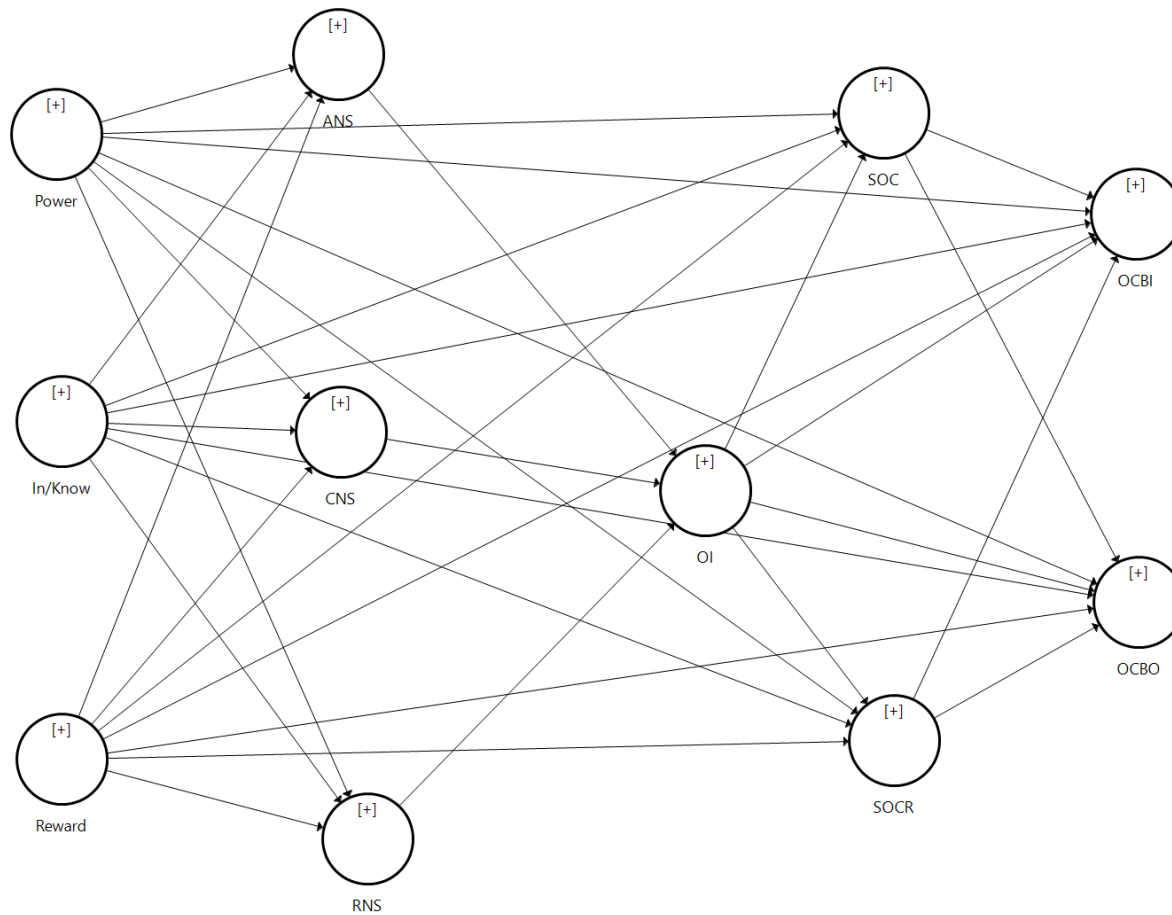


Figure 4.9. PLS-SEM Model C structural model (latent variables only).

Table 4.13

PLS-SEM Model C Variance Inflation Factors for Predictor and Dependent Construct Pairs

	ANS	CNS	OCBI	OCBO	OI	RNS	SOC	SOCR
ANS					2.103			
CNS					1.821			
In/Know	3.216	3.216	3.581	3.581		3.216	3.286	3.286
OCBI								
OCBO								
OI			1.642	1.642			1.463	1.463
Power	1.692	1.692	1.816	1.816		1.692	1.75	1.75
RNS					1.57			
Reward	2.836	2.836	3.325	3.325		2.836	2.907	2.907
SOC			4.118	4.118				
SOCR			1.889	1.889				

Note. Predictor constructs label each row; dependent constructs label each column. VIFs < 5.0 indicate collinearity is unlikely.

Table 4.14

PLS-SEM Model C Endogenous Variable R² and Q²

Endogenous variable	R ²	p	Q ²
ANS	.495	< .001	.313
CNS	.347	< .001	.205
OCBI	.348	< .001	.176
OCBO	.617	< .001	.342
OI	.242	< .001	.140
RNS	.398	< .001	.264
SOC	.706	< .001	.436
SOCR	.359	< .001	.214

Table 4.15

PLS-SEM Model C Direct effects

Direct effect	β	p	f^2	Direct effect	β	p	f^2
Power -> ANS	.558	< .001	.364	Reward -> ANS	.131	.059	.012
SOCR -> OCBI	.544	< .001	.240	In/Know -> OCBO	.122	.095	.011
Power -> CNS	.388	< .001	.136	In/Know -> SOCR	.153	.132	.011
Reward -> SOC	.346	< .001	.140	ANS -> OI	.125	.150	.010
SOC -> OCBO	.334	< .001	.071	In/Know -> ANS	.084	.226	.004
SOCR -> OCBO	.329	< .001	.149	Reward -> OCBI	-.086	.318	.003
Reward -> RNS	.306	< .001	.055	Reward -> OCBO	-.056	.383	.002
In/Know -> SOC	.294	< .001	.090	In/Know -> OCBI	.064	.461	.002
RNS -> OI	.272	< .001	.062	OI -> OCBI	.043	.487	.002
OI -> SOC	.217	< .001	.109	SOC -> OCBI	.059	.528	.001
OI -> OCBO	.204	< .001	.066	Power -> SOCR	.031	.665	.001
OI -> SOCR	.234	.001	.058	Power -> OCBO	-.018	.694	.000
In/Know -> CNS	.261	.002	.033	Power -> OCBI	-.015	.812	.000
Reward -> SOCR	.286	.003	.044	Reward -> CNS	.000	.996	.000
Power -> SOC	.134	.003	.035				
CNS -> OI	.183	.012	.024				
Power -> RNS	.178	.016	.031				
In/Know -> RNS	.225	.018	.026				

Note. Sorted by significance (p value) and path coefficient (β) strength.

Table 4.16

PLS-SEM Model C Indirect Effects

Indirect effect	β	p
Reward -> OCBO	.245	< .001
Power -> OI	.189	< .001
OI -> OCBO	.149	< .001
In/Know -> OCBO	.191	.001
Reward -> OCBI	.194	.002
OI -> OCBI	.140	.002
Power -> OCBO	.122	.002
RNS -> OCBO	.096	.003
Power -> SOC	.041	.003
RNS -> SOC	.059	.007
In/Know -> OI	.119	.009
Reward -> OI	.100	.009
Power -> SOCR	.044	.017
RNS -> SOCR	.064	.024
CNS -> OCBO	.065	.026
Reward -> SOC	.022	.028
CNS -> SOC	.040	.030
In/Know -> SOC	.026	.033
CNS -> SOCR	.043	.044
RNS -> OCBI	.050	.052
In/Know -> SOCR	.028	.056
Reward -> SOCR	.023	.057
In/Know -> OCBI	.123	.063
CNS -> OCBI	.034	.109
ANS -> SOC	.027	.187
Power -> OCBI	.059	.194
ANS -> OCBO	.044	.200
ANS -> SOCR	.029	.227
ANS -> OCBI	.023	.252

Note. Sorted by significance (p value) and coefficient (β) strength.

calculated to provide an indication of the model's out-of-sample predictive relevance (Geisser, 1974; Hair et al., 2017; Stone, 1974). All Q^2 values exceeded 0.00 indicating the model's predictive relevance (Table 4.14).

Hypothesis Testing

The decomposition of HIC and OCB into multi-factor constructs required extension of the original hypotheses to incorporate the new factors (Table 4.17). Hypothesis one (H1) examines the relationship of the high involvement climate constructs (power, information and knowledge, rewards) to the psychological need satisfaction constructs (autonomy, competence, relatedness). H1 was partially supported with each HIC construct positively related to at least one PNS variable (Table 4.18). Power had a role in predicting all three psychological need satisfaction variables, but In/Know was related to only competence (CNS) and relatedness (RNS), while Reward only contributed to predicting RNS. Hypothesis 2 was also partially supported with only CNS and RNS positively related to organizational identification (OI). Hypothesis 3 was fully supported with OI positively related to both psychological sense of community (SOC) and sense of community responsibility (SOCR). Hypothesis 4 was partially supported, with OI found to be positively related to only organizational citizenship behavior directed toward the organization (OCBO). Hypothesis 5 (H5) was partially supported with both SOC and SOCR positively related to OCBO, but only SOCR predicted organizational citizenship behavior directed toward individuals (OCBI). H5c required testing for the differential impact of the SOC and SOCR path coefficients on OCB and OCBO. Chin, Kim, and Lee's (2013) bootstrapping test for differential impact was applied to H5c2, indicating no significant difference between the SOC and SOCR to

OCBO path coefficients ($p = .538$). Hypotheses H6 and H7 specified partially mediated relationships between the exogenous HIC variables (Power, In/Know, Reward) and the WC (SOC, SOCR) and OCB (OCBI, OCBO) variables, respectively (Table 4.19). H6 was partially supported with a mix of partially mediated, fully mediated, and non-mediated (direct only) relationships. H7 was not supported with only indirect or no relationships found.

Testing for Group Effects

The survey instrument captured a variety of respondent group attributes: organization type (e.g., public sector, private sector, not-for-profit); industry type; location by region of the United States; organization size by number of people employed; organization size by revenue; workgroup size; and respondent tenure, role, race/ethnicity, age group, and gender identification. Groups in PLS-SEM must meet the same sample size requirements as a total sample (Hair et al., 2017). As only gender identification subgroups met sample size requirements based on raw data response (female, $n = 188$; male, $n = 124$), cumulative percentage breakdowns were performed with all remaining groups in an effort to meet sample size requirements while maintaining groups that made conceptual sense. Successfully recoded groups were: age (40 years or less, $n = 162$; greater than 40, $n = 149$); tenure (3 years or less, $n = 122$; 4 or more years, $n = 190$); company size by number of people employed (500 employees or less, $n = 167$; more than 500 employees, $n = 145$), and region (West and Midwest, $n = 134$; East and South, $n = 166$).

Hair and colleagues (Hair et al., 2017; Hair, Sarstedt, Ringle, & Gudergan, 2018) recommend Chin and Dibbern's (2010) permutation test for multi-group analysis with

Table 4.17

PLS-SEM Model C Extended Hypotheses

Number	Original hypothesis	Number	Extended hypothesis
H1	HIC is positively related to employee PNS.	H1	HIC is positively related to employee PNS*
H1a	HIC is positively related to ANS.	H1a1	Power is positively related to ANS.
		H1a2	In/Know is positively related to ANS.
		H1a3	Reward is positively related to ANS.
H1b	HIC is positively related to CNS.	H1b1	Power is positively related to CNS.
		H1b2	In/Know is positively related to CNS.
		H1b3	Reward is positively related to CNS.
H1c	HIC is positively related to RNS.	H1c1	Power is positively related to RNS.
		H1c2	In/Know is positively related to RNS.
		H1c3	Reward is positively related to RNS.
H2	PNS is positively related to OI.	H2	PNS is positively related to OI.*
H2a	ANS is positively related to OI.	H2a	ANS is positively related to OI.*
H2b	CNS is positively related to OI.	H2b	CNS is positively related to OI.*
H2c	RNS is positively related to OI.	H2c	RNS is positively related to OI.*
H3	OI is positively related to WC.	H3	OI is positively related to WC.*
H3a	OI is positively related to SOC.	H3a	OI is positively related to SOC.*
H3b	OI is positively related to SOCR.	H3b	OI is positively related to SOCR.*
H4	OI is positively related to OCB.	H4	OI is positively related to OCB.*
		H4a	OI is positively related to OCBI.
		H4b	OI is positively related to OCBO.

Number	Original hypothesis	Number	Extended hypothesis
H5	WC is positively related to OCB.	H5	WC is positively related to OCB.*
H5a	SOC is positively related to OCB.	H5a1	SOC is positively related to OCBI.
		H5a2	SOC is positively related to OCBO.
H5b	SOCCR is positively related to OCB.	H5b1	SOCCR is positively related to OCBI.
		H5b2	SOCCR is positively related to OCBO.
H5c	SOCCR is a relatively stronger predictor of OCB compared to SOC.	H5c1	SOCCR is a relatively stronger predictor of OCBI compared to SOC.
		H5c2	SOCCR is a relatively stronger predictor of OCBO compared to SOC.
H6	The relationship between HIC and WC is partially mediated by PNS and OI.	H6	The relationship between HIC and WC is partially mediated by PNS and OI.*
H6a	The relationship between HIC and SOC is partially mediated by PNS and OI.	H6a1	The relationship between Power and SOC is partially mediated PNS and OI.
		H6a2	The relationship between In/Know and SOC is partially mediated PNS and OI.
		H6a3	The relationship between Reward and SOC is partially mediated PNS and OI.
H6b	The relationship between HIC and SOCCR is partially mediated by PNS and OI.	H6b1	The relationship between Power and SOCCR is partially mediated PNS and OI.
		H6b2	The relationship between In/Know and SOCCR is partially mediated PNS and OI.
		H6b3	The relationship between Reward and SOCCR is partially mediated PNS and OI.

Number	Original hypothesis	Number	Extended hypothesis
H7	The relationship between HIC and OCB is partially mediated by PNS, OI, and WC.	H7	The relationship between HIC and OCB is partially mediated by PNS, OI, and WC.*
		H7a	The relationship between Power and OCBI is partially mediated by PNS, OI, and WC.
		H7b	The relationship between Power and OCBO is partially mediated by PNS, OI, and WC.
		H7c	The relationship between In/Know and OCBI is partially mediated by PNS, OI, and WC.
		H7d	The relationship between In/Know and OCBO is partially mediated by PNS, OI, and WC.
		H7e	The relationship between Reward and OCBI is partially mediated by PNS, OI, and WC.
		H7f	The relationship between Reward and OCBO is partially mediated by PNS, OI, and WC.

Note. * indicates no change from original hypothesis.

Table 4.18

Direct Effect Hypotheses Analysis

Number	Extended hypothesis	β	p	f^2	R^{2**}	Q^2	Analysis
H1	HIC is positively related to employee PNS.						partially supported
H1a1	Power is positively related to ANS.	.558	< .001	.364	.495	.313	supported
H1a2	In/Know is positively related to ANS.	.084	NS	NE	.495	.313	not supported
H1a3	Reward is positively related to ANS.	.131	NS	NE	.495	.313	not supported
H1b1	Power is positively related to CNS.	.388	<.001	.364	.347	.205	supported
H1b2	In/Know is positively related to CNS.	.261	<.05	.033	.347	.205	supported
H1b3	Reward is positively related to CNS.	.000	NS	NE	.347	.205	not supported
H1c1	Power is positively related to RNS.	.178	<.05	.031	.398	.264	supported
H1c2	In/Know is positively related to RNS.	.225	<.05	.026	.398	.264	supported
H1c3	Reward is positively related to RNS.	.306	<.001	.055	.398	.264	supported
H2	PNS is positively related to OI.						partially supported
H2a	ANS is positively related to OI.	.125	NS	NE	.242	.140	not supported
H2b	CNS is positively related to OI.	.183	<.05	.024	.242	.140	supported
H2c	RNS is positively related to OI.	.272	<.001	.062	.242	.140	supported
H3	OI is positively related to WC.						supported
H3a	OI is positively related to SOC.	.271	<.05	.058	.706	.436	supported
H3b	OI is positively related to SOCR.	.234	<.05	.058	.359	.214	supported
H4	OI is positively related to OCB.						partially supported
H4a	OI is positively related to OCBI.	.043	NS	NE	.348	.176	not supported
H4b	OI is positively related to OCBO.	.204	<.001	.066	.617	.342	supported

Number	Extended hypothesis	β	p	f^2	R^{2**}	Q^2	Analysis
H5	WC is positively related to OCB.						partially supported
H5a1	SOC is positively related to OCBI.	.059	NS	NE	.348	.176	not supported
H5a2	SOC is positively related to OCBO.	.334	<.001	.071	.617	.342	supported
H5b1	SOCR is positively related to OCBI.	.544	<.001	.240	.348	.176	supported
H5b2	SOCR is positively related to OCBO.	.329	<.001	.149	.617	.342	supported
H5c1	SOCR is a relatively stronger predictor of OCBI compared to SOC.						supported
H5c2	SOCR is a relatively stronger predictor of OCBO compared to SOC.						not supported

Note. NS: not significant. NE: no effect. ** All R^2 values significant to the .001 level.

Table 4.19

Indirect Effect Hypotheses Analysis

Number	Hypothesis	Indirect effect		Direct effect		Analysis
		β	p	β	p	
H6	The relationship between HIC and WC is partially mediated by PNS and OI.					partially supported
H6a1	The relationship between Power and SOC is partially mediated by PNS and OI.	.041	<.05	.134	<.05	supported
H6a2	The relationship between In/Know and SOC is partially mediated by PNS and OI.	.026	<.05	.294	<.001	supported
H6a3	The relationship between Reward and SOC is partially mediated by PNS and OI.	.022	<.05	.346	<.001	supported
H6b1	The relationship between Power and SOCR is partially mediated by PNS and OI.	.044	<.05	.031	NS	indirect only (fully mediated)
H6b2	The relationship between In/Know and SOCR is partially mediated by PNS and OI.	.028	NS	.153	NS	not supported
H6b3	The relationship between Reward and SOCR is partially mediated by PNS and OI.	.023	NS	.286	<.05	direct only (not mediated)
H7	The relationship between HIC and OCB is partially mediated by PNS, OI, and WC.					not supported (indirect only)
H7a	The relationship between Power and OCBI is partially mediated by PNS, OI, and WC.	.059	NS	-.015	NS	not supported
H7b	The relationship between Power and OCBO is partially mediated by PNS, OI, and WC.	.122	<.05	-.018	NS	indirect only (fully mediated)

Number	Hypothesis	Indirect effect		Direct effect		Analysis
		β	p	β	p	
H7c	The relationship between In/Know and OCBI is partially mediated by PNS, OI, and WC.	.123	NS	.064	NS	not supported
H7d	The relationship between In/Know and OCBO is partially mediated by PNS, OI, and WC.	.191	<.05	.122	NS	indirect only (fully mediated)
H7e	The relationship between Reward and OCBI is partially mediated by PNS, OI, and WC.	.194	<.05	-.086	NS	indirect only (fully mediated)
H7f	The relationship between Reward and OCBO is partially mediated by PNS, OI, and WC.	.245	<.001	-.056	NS	indirect only (fully mediated)

Note. NS: not significant.

two groups (appropriate for the present study as each recoded group included two subgroups). Hair et al. (2018) also recommend conducting a measurement invariance of the composite models (MICOM) procedure (Henseler, Ringle, & Sarstedt, 2016) prior to multi-group analysis to ensure measurement equivalence between groups, i.e., different groups – such as women and men – interpret scales and response options similarly. An absence of measurement equivalence (or invariance) between groups can result in imprecise estimates and produce misleading results. The MICOM procedure was performed in SmartPLS 3 (Ringle et al., 2015) on gender and each recoded group (i.e., age, tenure, company size, region), with results indicating a lack of configural and/or compositional invariance in each group. Lacking favorable invariance test results, permutation testing for group effects was not performed, and therefore the moderating role of group effects was not determined.

Summary of Findings

The purpose of this study is to better understand the mechanisms through which high involvement climate contributes to creating and sustaining workplace community, and the impact both climate and community have on organizational citizenship behavior as a proxy for organizational performance. Chapter four assessed the study's seven primary hypotheses by examining the PLS-SEM results associated with the 34 sub-hypotheses. Hypothesis three (OI is positively related to WC) was fully supported, and hypothesis seven (the relationship between HIC and OCB is partially mediated) was not supported – this relationship was found to be fully mediated. The remaining five primary hypotheses were all partially supported. Partial support of these remaining hypotheses is detailed in the respective sub-hypotheses where individual factors vary in their relationships with

dependent variables (Figure 4.10). For example, the division of HIC into a three factor construct (Power, In/Know, Reward) provided insight into how specific aspects of HIC influence dependent variables in the HIC to OCB stream of relationships. Power was found to predict all three psychological need satisfaction constructs (ANS, CNS, RNS), while Reward was found to predict only RNS. The relationships between the HIC factors and WC hypothesized as partially mediated also varied in terms of the relationship between specific HIC and workplace community factors, and the mediated nature of those relationships. For example, Power, In/Know, and Reward were all found to predict SOC in a partially mediated fashion, while only Power and Reward predicted SOCR, with the Power relationships fully mediated and the Reward relationship direct only. Importantly, the HIC factor relationships with OCB were clarified finding no direct relationships between them. Reward was found to be the only HIC factor predicting OCBI; all three HIC factors have significant relationships with OCBO. Again, all of these HIC to OCB relationships are fully mediated.

Among the mediators, ANS had a relatively large R^2 value but was not found to predict OI, whereas the other PNS factors (CNS and RNS) were found to do so. The role of OI was found to be relatively weak in this model with a low R^2 , but was a significant predictor of both SOC and SOCR. In regards to OI's relationship with OCB, OI was only found to significantly predict OCBO, not OCBI. Finally, both SOCR and SOC were found to predict OCBO with similar strength, while only SOCR predicted OCBI. Chapter five discusses the importance and implications of these findings.

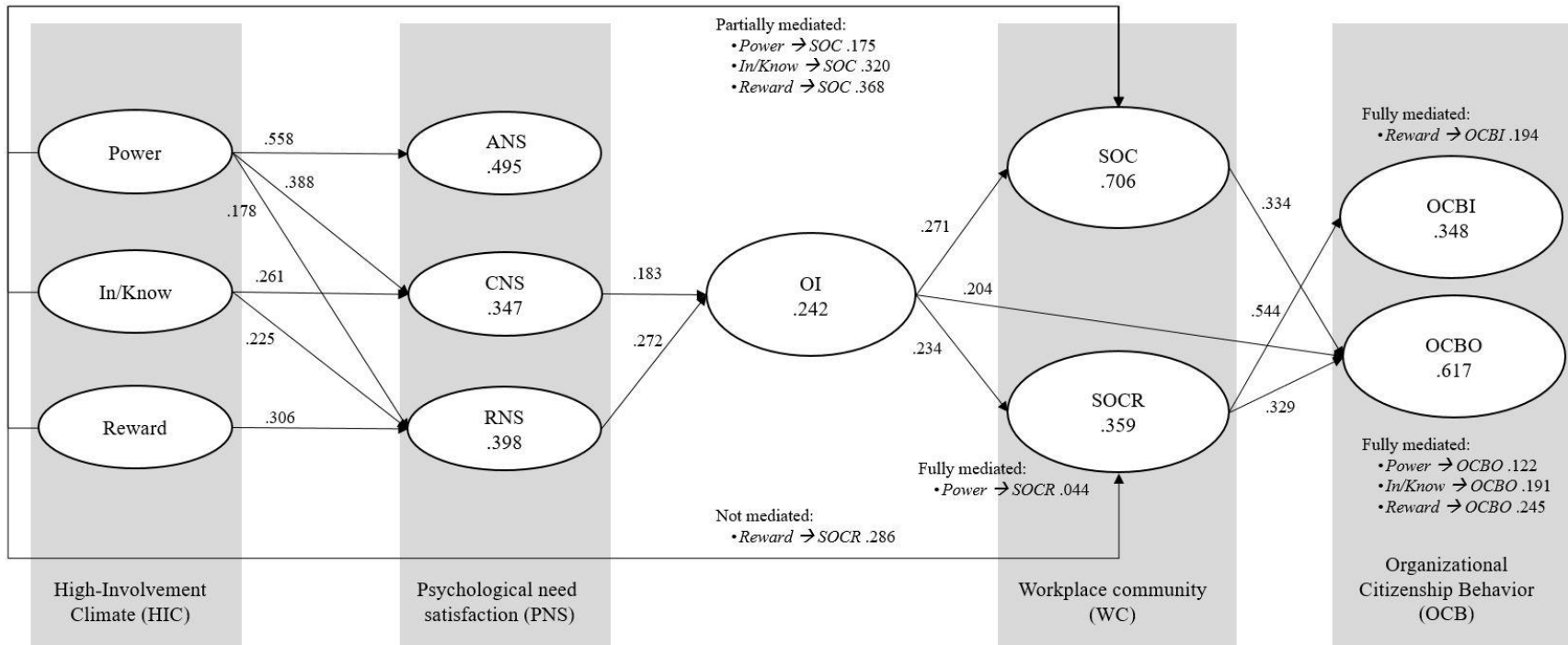


Figure 4.10. Summary of PLS-SEM Model C structural analysis showing only significant results (see tables 4.14, 4.15, 4.16, 4.18, and 4.19).

CHAPTER 5

CONCLUSIONS

This study seeks to illuminate the strategic human resource management system black box in an effort to better understand the social mediators through which high-performance work systems as measured by high-involvement climate (a) create and sustain workplace community, and (b) impact organizational performance as measured by organizational citizenship behavior. Study design drew upon constructs from strategic human resource management system research (high-involvement climate), human motivation theory (self-determination theory), organizational psychology (organizational identification, organizational citizenship behavior) and community psychology to construct the framework for this interdisciplinary project. Study findings provide insight and support for practitioners and leaders involved in the creation or re-creation of their companies as high-performing workplace communities where all experience membership and a sense that they are part of a dependable stable structure, members acknowledge their interdependence, and they actively express their willingness to maintain that interdependence through reciprocal citizenship behaviors (Sarason, 1974). The development of such workplace communities can provide an important setting for social connection in our fractured society and build the foundation for more sustainable economy and society (Mintzberg, 2009). Chapter five summarizes, integrates, and reflects on project results beginning with a discussion of findings, followed by identification of research limitations and recommendations for future research.

High-Involvement Climate and its Relationships

High-involvement climate (HIC) was used in this study as an indicator of high-involvement work systems (HIWS) – a type of high performance work system (HPWS) – based on the contingent view of strategic human resource management system (SHRM) and HPWS research (e.g., Boxall & Purcell, 2011; Posthuma et al., 2013; Toh et al., 2008). This study examined employees' experience of HIWS, thus organizational climate (Schneider, 1975), based on the power, information, rewards, knowledge – or PIRK – model (Lawler, 1986; Lawler, 1992; Richardson & Vandenberg, 2005; Vandenberg et al., 1999; Wood & Wall, 2007). The three HIC constructs identified in this study – power (Power), information and knowledge (In/Know), and rewards (Reward) – were hypothesized to be directly and positively related to the three psychological need satisfaction constructs of autonomy need satisfaction (ANS), competence need satisfaction (CNS), and relatedness need satisfaction (RNS). Power, In/Know and Reward were also hypothesized to be both directly and indirectly related to (a) the workplace community constructs of psychological sense of community (SOC) and sense of community responsibility (SOCR), and (b) the organizational citizenship behavior constructs of organizational citizenship behavior directed toward individuals (OCBI) and organizational citizenship behavior directed toward the organization (OCBO) (Figure 3.1). Study findings confirmed the multi-factor nature of all four constructs (HIC, psychological need satisfaction, workplace community, OCB) and provided important insight into how the HIC factors interact with the factors comprising these other constructs.

HIC and Psychological Need Satisfaction (H1)

The psychological need satisfaction factors R^2 values show Power, In/Know and Reward to be significant and important predictors of ANS, CNS, and RNS (Table 4.17, Figure 4.18). Power was found to directly and significantly predict all three factors ANS, CNS and RNS, with the Power to ANS relationship being the strongest ($\beta = .558$). In/Know directly and positively predicted both CNS and RNS, while Reward only predicted RNS. The diversity among the HIC variables in their impact on psychological need satisfaction is consistent with Marescaux et al.'s (2013) findings that different human resource management (HRM) practices have a direct positive relationship with ANS, CNS, and/or RNS, and Marescaux et al.'s speculation that employee perception of the practices (not just the presence of the practices themselves) influence the strength of the relationship. The present study measured employee perception of HRM systems, specifically HIWS, rather than testing for the presence of specific practices, finding that a climate in which employees have a perception of autonomy (Power), access to information and proactive development of employee skills, ability and knowledge (In/Know), and where both intrinsic and extrinsic rewards are present (Reward), significantly and positively predicts psychological need satisfaction, thus adding to the HPWS, SHRM, organizational climate, and self-determination theory literature.

HIC and Workplace Community (H6)

Power, In/Know and Reward (the HIC factors) were all found to have significant and positive direct and indirect, or partially mediated, relationships with SOC (Table 4.19, Figure 4.10). These findings are consistent with prior workplace community research linking specific HRM practices and their perception to SOC (e.g., Burroughs & Eby, 1998; Lambert & Hopkins, 1995). Beyond reflecting prior research, the present

study specifically identifies HIC as an antecedent of SOC in the workplace with both direct and indirect effects.

The relationship of the HIC constructs with SOCR was found to be somewhat different than the HIC-SOC relationship. Power had a fully mediated (and small) relationship with SOCR, while Reward's relationship with SOCR was exclusively direct. In/Know was not found to predict SOCR. These findings add important insights to the emerging research on SOCR in the workplace (e.g., Boyd et al., 2017), identifying the role of the HIC factors as antecedents of SOCR.

HIC and Organizational Citizenship Behavior (H7)

The HIC relationships with OCBI and OCBO were found to be fully mediated, in contrast to the partially mediated relationships that were hypothesized (Table 4.19, Figure 4.10). Reward was the only HIC factor found to be related to OCBI, while Power, In/Know, and Reward were all found to be positively and indirectly related to OCBO. This extends Sun et al.'s (2007) findings that identified HPWS as an antecedent of service-related OCBs, with the present study specifically identifying HIC constructs in fully mediated relationships with the OCB constructs of OCBI and OCBO.

Mediator Relationships

Psychological Need Satisfaction and Organizational Identification (H2)

The relationships between ANS, CNS, RNS and organizational identification (OI) were weaker than anticipated based on the literature review (Ellemers & Rink, 2005; Kumar & Jauhari, 2016; Wegge & Haslam, 2003; Wiesenfeld et al., 2001) (Table 4.19, Figure 4.10). No significant relationship was found between ANS and OI, while the CNS and RNS path coefficients to OI were significant but relatively small. Importantly, the

significant RNS-OI relationship confirms Kumar and Jauhari's (2016) similar findings. Notably, OI's R^2 value was also the weakest in the model at .242. In sum, the psychological need satisfaction constructs and their HIC antecedents were found to have a significant role in accounting for the amount of variance in OI, but opportunity for further definition of OI's role as a mediator in the HIC to OCB relationship remains.

OI and its Relationships (H3 and H4)

OI was found to be significantly and positively related to both workplace community constructs: SOC and SOCR (Table 4.19, Figure 4.10). These findings clarify and extend prior research in which OI was identified as co-occurring with SOC (Cicognani et al., 2012), but direct relationship between the OI and workplace community constructs were not explored. OI's relationship with OCB was similarly clarified and extended compared to prior research. Prior research on the OI to OCB relationship characterized OCB as a single factor construct (Callea et al., 2016; Riketta, 2005; Van Dick et al., 2006), as did the original hypotheses in the present study. Measurement model analysis resulted in specification of OCB as a two factor construct in this study: OCBI and OCBO (see chapter 4). OI was found to have a significant positive relationship with OCBO, but no relationship with OCBI. This finding makes sense given the OI phenomenon through which the self is depersonalized and the individual sees her or himself as an exemplar or prototype of the organization (Haslam, 2004). This view of the self is exemplified in OCBO instrument items such as "defend the organization when other employees criticize it," "show pride when representing the organization in public," "take action to protect the organization from potential problems," and "demonstrate concern about the image of the

organization” (Lee & Allen, 2002). The OI-OCBO relationship is an important clarification regarding OI’s mediating role in the hypothesized model.

Workplace Community and OCB (H5)

Present study findings differed from prior research regarding the relationship between the workplace community and OCB constructs. This study found only SOCR to have a significant positive relationship with both OCBO and OCBI; SOC was significantly and positively related to only OCBO. Further, SOCR was not found to be a stronger predictor of OCBO relative to SOC, though by default SOCR was a stronger predictor of OCBI as SOC did not predict OCBI in this study. These results differ from the relationships between workplace community and OCB found by Boyd and colleagues that was conducted inside a specific organization (Boyd et al., 2017; Boyd & Nowell, 2017). While the overall relationship between workplace community as an important mediator of OCB was confirmed in both the present study and Boyd et al.’s work, the difference between single organization versus cross-organization results illustrate the need for further research to better understand the contextual factors that may affect the relationship between the workplace community and OCB constructs.

Discussion and Implications for Practice

This study sought to better understand the human resource management systems and mediating social variables that build workplace community, and the relationship of workplace community to organizational performance. Study design responded to calls for deeper examination of the social variables operating in the strategic human resource management black box: the constructs mediating the relationship between high-performance work systems – specifically high-involvement work systems – and

organizational performance (Jackson et al., 2014; K. Jiang et al., 2012; Kang et al., 2007). This study's results provide important insights into social mediators of organizational performance and the role of workplace community in that mediation. The workplace community constructs of SOC and SOCR were both identified as significant and important predictors of OCB, the proximal indicator of organization performance used in this study. Further, the role of HIC – this study's measure of high-involvement work systems – in predicting the three constructs of psychological need satisfaction was confirmed, with important insights revealed regarding the differential role of the three HIC constructs have in predicting ANS, CNS, and RNS. HIC was further demonstrated to have significant and important direct and indirect effects on employee experience of workplace community, both SOC and SOCR. OI was also found to have an important mediating role in the black box, though results suggest further exploration and specification of OI's specific role is needed. Finally and importantly, the relationship between the HIC and OCB constructs was found to be fully mediated by workplace community and its specified antecedent variables.

Together these findings shine new light into the strategic human resource management black box, identifying not only the important role workplace community has as a social mediator of organization performance, but insight regarding how the experience of workplace community may be developed at the individual-level inside commercial organizations. These insights also suggest important guidelines for managers and executives seeking to lead their organizations in the development of workplace communities after Rost's (1993) tradition of humble transformational leadership; a tradition that recognizes the dignity and worth of all organization members, emphasizes

the collaborative and reciprocal nature of the workplace community, and seeks to achieve collective goals and purposes through relationships of mutual, interactive influence.

Guideline one: HPWS should be designed to address both the human capital and social mediators of organization performance. The relationship of HPWS to organization performance as mediated by sustainable human capital development has been well documented (e.g., K. Jiang et al., 2012). This study and others (e.g., Gittell, 2016) suggest that social factors are also important mediator between HPWS and organization performance. Designing HPWS that support these social mediators, such as HIWS, is an important component of building sustainable organizational performance, and therefore sustainable competitive advantage.

Guideline two: develop and maintain HIWS. The employee experience of HIC (having the autonomy and necessary information to make decisions regarding the design and execution of their work; opportunities for training, development, and advancement; and experiencing/receiving both intrinsic and extrinsic rewards) begins with HIWS, and HIWS may be an important antecedent of both workplace community and OCB. The exact composition of HIWS systems will vary by organization and industry type, but managers and leaders should ensure that these HIC outcomes are consistently experienced by employees at all organizational levels to ensure the sustainable development of community and OCB in the organization.

Guideline three: recruit, select, develop, and reward employees for (a) practices that support workplace community, and (b) exhibiting OCBs. Study findings suggest that supporting workplace community and practicing OCB should be the integrating

principles of any HIWS. Specific HRM practices should be designed and periodically reviewed for their effectiveness in this regard.

Research Limitations

Limitations of this study are linked to its cross-sectional, cross-organization, single rater, online non-probability design, and choice of data analysis method. Cross-sectional data collection does not allow for conclusions to be drawn regarding the causal relationship between variables (Stangor, 2011). Further, the cross-organization approach does not acknowledge equifinality in organizational systems which expects HRM systems to vary by organization and industry (Boxall, Guthrie, & Paauwe, 2016; Paauwe & Boon, 2009). The use of a single rater for all survey responses also raises the possibility of common method variance (P. M. Podsakoff et al., 2003), though procedural and statistical steps were taken to mitigate and monitor potential single-rater bias, none of which was found (see chapters three and four). The use of careless response/inattention checks to screen for response quality may affect external validity (Oppenheimer et al., 2009). Further, the nonprobability nature of the sample suggests potential limitations to the generalizability of study results. Some comparisons of nonprobability online panel research to census or probability sampling methods have found little difference in research results (e.g., Revilla et al., 2015; Sell, Goldberg, & Conron, 2015) while others find gaps in sample target population representativeness (e.g., Blom, Gathmann, & Krieger, 2015; Szolnoki & Hoffmann, 2013). Finally, partial least squares structural equation modeling's handling of measurement error and emphasis on variation between latent constructs, as opposed to model fit, suggests results are best understood as exploratory (Hair et al., 2010; Kline, 2016). While caution is appropriate in generalizing

the results of the present study, findings contribute to the understanding of the role of workplace community and other social mediators in the HPWS-organizational performance relationship. These potential limitations on generalizability also highlight the need for continued research.

Recommendations for Future Research

In addition to implications for practitioners, the present study also has implications for future research in light of its findings and limitations. First, additional cross-sectional, longitudinal, and mixed-method studies should be conducted to (a) confirm the relationships identified, (b) explore differences across contexts (e.g., business and industry types, locations, culture), and (c) identify specific HRM practices associated with HIWS across contexts. Differences across contexts are assumed in the contextual approach to SHRM (Boxall & Purcell, 2011; Posthuma et al., 2013; Toh et al., 2008), and are highlighted by the differential findings regarding the workplace community-OCB relationship in this study versus Boyd et al. (Boyd & Nowell, 2017; Boyd et al., 2017). Potential differences due to individual characteristics (e.g., gender identification, race and ethnicity, age, employment tenure) also need further exploration, particularly given results in early workplace community research (e.g., Lambert & Hopkins, 1995; Pretty & McCarthy, 1991).

The specific roles of self-determination theory (ANS, CNS, and PNS) and OI as social mediators of workplace community and OCB also need further development. ANS was found to be a significant and important outcome of the HIC construct of Power, but was not found to predict OI in the hypothesized model. Further, OI's R^2 value was the lowest in the model. These findings are not entirely surprising given the conflicting

perspectives on antecedent-outcome relationship between psychological need satisfaction and OI in the literature (see chapter 2). As such the role of OI as a potential antecedent of psychological need satisfaction should be further explored. For example, the HIC constructs may have a partially mediated relationship with OI rather than the exclusively indirect relationship specified in the present study (Kreiner & Ashforth, 2004). OI may also have partially mediated relationships with the OCB constructs as proxies for performance (Ellemers & Rink, 2005; Wegge & Haslam, 2003), as well as SOC and SOCR.

Finally, recent SHRM research has suggested additional social variables connected to organization performance, and relationships among those variables, not explored in the present study. For example, J. Jiang and Liu (2015) identify social capital as having a potential role in the SHRM black box, and Nishii and Wright (2008) propose some social variables as moderators in the black box. The role of additional social variables and their black box relationships should also be explored.

Future workplace community research such as that suggested above and beyond will provide additional insight and support for practitioners and leaders working to develop organizations where membership in a dependable stable structure larger than oneself is experienced, and organization members acknowledge their interdependence – and their willingness to maintain that interdependence – through reciprocal citizenship behaviors (Sarason, 1974). The development of such workplace communities will provide important opportunities for social connection in our fractured society and help build the foundation for more sustainable economy and society (Mintzberg, 2009).

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APPENDIX A
RESEARCH CONSENT FORM AND SURVEY INSTRUMENT



Welcome to the Workplace Community Survey

<< [click here to enter survey](#)>>

Welcome and Greetings!

I am an instructor and doctoral student at Eastern University pursuing a Ph.D. in organizational leadership.

You are invited to participate in a research study about workplace community. You were selected as a potential participant from the Qualtrics online panel as a frontline employee in your organization. Please read this form and ask any questions you may have before agreeing to participate in this study.

Background Information

This study, which is part of my doctoral research, is designed to explore the relationship between management systems and the experience of workplace community by front-line workers.

Procedures

If you agree to be in the study, you will complete this online survey. No further action will be required on your part.

Confidentiality

Participation in this study is voluntary and confidential. You will not be asked to provide any information to reveal your identity beyond general demographic information, nor will you be asked to identify your specific employer. Nobody from your organization will have access to individual surveys or individual results; participation in this survey will not affect your employment in any way. Individual survey results will only be viewed by researchers. At no time will anybody from your organization have access to individual survey results. Research records will be stored securely by Eastern University and only researchers will have access to these records. Records will be maintained confidentially for three years and then destroyed.

Survey data will be aggregated for analysis and only aggregated results by your organization location reported to Eastern University and your organization. Reports will not contain any information that makes it possible to identify a survey participant.

Risks and Benefits of Participating in this Study

There are no known risks to participating in this study, however, participants may experience some emotional response to survey questions as they reflect on their workplace experience and relationships with co-workers.

Study benefits on a personal level include an opportunity to reflect on your employment experience. Management research will also benefit by developing a deeper understanding of how workplace environments are developed and maintained.

Compensation

You will be compensated for completing this survey in accordance with your agreement with Qualtrics.

Voluntary Nature of the Study

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Eastern University or your organization, and will result in no penalty. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships and without penalty.

Contacts and Questions

The researcher conducting this study is:

Richard Jonsen
Eastern University
1300 Eagle Road
St. Davids, PA 19087
610-341-1497

rjensen@eastern.edu

Please contact me with any questions you may have about this project.

This project has been approved by Eastern University's Institutional Review Board (IRB) as of April 3, 2017. Do not agree to participate in this study if the date is older than one year. If you have any concerns about the manner in which this study is conducted, you may contact the Eastern University IRB via email at irb@eastern.edu.

You may access a copy of this information to keep for your records at <https://sites.google.com/eastern.edu/workplacecommunitystudy/study-details/consent-form>.

If you choose to participate, please click on the "I agree to participate" button below. If you choose to not participate, please close this window in your browser.

<<I agree to participate>>

Survey Instructions

This survey consists of eight sections. Please complete each section according to the section instructions. It will take about 15-20 minutes to complete the entire survey.

Note that there are no "right" answers in any of these sections. Your best answer is usually the first response that comes to mind.

The word "organization" in this survey refers to the company you work for.

A few questions before we get started...

1. Please indicate your organizational role:

- Individual contributor (I do not supervise other people).
- Supervisor or first-level manager (I hire, terminate, plan, schedule, and manage the performance of individual contributors).
- Middle manager (I manage supervisors and/or first-level managers).
- Executive (I am the chief executive or directly report to the chief executive in my organization).
- Other

Condition: Individual contributor (Individual contributor... Is Not Selected. Skip To: End of Block.

2. My employment status is...

- Full-time (I am regularly scheduled to work at least 30 hours per week at my organization).
- Part-time: (I am regularly scheduled to work LESS than 30 hours per week at my organization).
- Retired
- Unemployed
- Other

Condition: Full-time (I am regularly s... Is Not Selected. Skip To: End of Block.

3. Please indicate the gender with which you identify:

- Female
- Male
- non-binary/third gender
- Prefer to self-describe _____
- Prefer not to state

We care about the quality of our data. In order for us to get the most accurate measures of your opinions, it is important that you thoughtfully provide your best answers to each question in this survey. Do you commit to thoughtfully provide your best answers to each question in this survey?

- I will provide my best answers
- I will not provide my best answers
- I can't promise either way

<<continue>>

Section 1 of 8 – Instructions

Please indicate the degree to which you disagree or agree with each statement by clicking on the relevant term.

1. It feels like a personal insult when someone criticizes this organization.

- Strongly disagree
- Disagree
- Neither disagree nor agree
- Agree
- Strongly agree

2. I am very interested in what others think about this organization.

- Strongly disagree
- Disagree
- Neither disagree nor agree
- Agree
- Strongly agree

3. I usually say “we” rather than “they” when I talk about this organization.

- Strongly disagree
- Disagree
- Neither disagree nor agree
- Agree
- Strongly agree

4. This organization’s successes are my successes.

- Strongly disagree
- Disagree
- Neither disagree nor agree
- Agree
- Strongly agree

5. It feels like a personal complement when someone praises this organization.

- Strongly disagree
- Disagree
- Neither disagree nor agree
- Agree
- Strongly agree

<<continue to next section>>

Section 2 of 8 - Instructions

This section asks about your experience with organization policies, procedures, and practices. It has a different set of possible responses compared to the previous section.

Please indicate the degree to which you disagree or agree with each of the next 18 statements by clicking on the relevant term.

1. I have sufficient authority to fulfill my job responsibilities.
 - Disagree
 - Slightly disagree
 - Slightly agree
 - Agree

2. Company goals and objectives are clearly communicated to employees.
 - Disagree
 - Slightly disagree
 - Slightly agree
 - Agree

3. I am satisfied with the amount of recognition I receive when I do a good job.
 - Disagree
 - Slightly disagree
 - Slightly agree
 - Agree

4. I receive sufficient training to do my job.
 - Disagree
 - Slightly disagree
 - Slightly agree
 - Agree

5. I have enough input in deciding how to accomplish my work.
 - Disagree
 - Slightly disagree
 - Slightly agree
 - Agree

6. The channels for employee communication with top management are effective.
 - Disagree
 - Slightly disagree
 - Slightly agree
 - Agree

7. Generally I feel this company rewards employees who make an extra effort.
- Disagree
 - Slightly disagree
 - Slightly agree
 - Agree
8. Education and training are integral parts of this company's culture.
- Disagree
 - Slightly disagree
 - Slightly agree
 - Agree
9. I have enough freedom over how to do my job.
- Disagree
 - Slightly disagree
 - Slightly agree
 - Agree
10. Top management is adequately informed of the important issues in my department.
- Disagree
 - Slightly disagree
 - Slightly agree
 - Agree
11. There is a strong link between how well I perform my job and the likelihood of receiving a raise in pay/salary.
- Disagree
 - Slightly disagree
 - Slightly agree
 - Agree
12. I have had sufficient/adequate job-related training.
- Disagree
 - Slightly disagree
 - Slightly agree
 - Agree

13. Company policies and procedures are clearly communicated to employees.

- Disagree
- Slightly disagree
- Slightly agree
- Agree

14. There is a strong link between how well I perform my job and the likelihood of receiving high performance appraisal ratings.

- Disagree
- Slightly disagree
- Slightly agree
- Agree

15. If I felt that I needed more job-related training, the company would provide it.

- Disagree
- Slightly disagree
- Slightly agree
- Agree

16. I often have to rely upon the grapevine to get job-related information.

- Disagree
- Slightly disagree
- Slightly agree
- Agree

17. If I perform well, I am more likely to be promoted.

- Disagree
- Slightly disagree
- Slightly agree
- Agree

18. Most of the time I receive sufficient notice of changes affecting my work group.

- Disagree
- Slightly disagree
- Slightly agree
- Agree

<<continue to next section>>

Section 3 of 8 – Instructions

This section asks about how your habits and behaviors at work. Click on the responses to each of the 16 statements below that indicates how often you perform the identified behavior.

1. Help others who have been absent.

- Never
- Once in a while
- Sometimes
- About half the time
- Often
- Almost Always
- Always

2. Attend functions that are not required but that help the organizational image.

- Never
- Once in a while
- Sometimes
- About half the time
- Often
- Almost Always
- Always

3. Willingly give my time to help others who have work-related problems.

- Never
- Once in a while
- Sometimes
- About half the time
- Often
- Almost Always
- Always

4. Keep up with developments in the organization.

- Never
- Once in a while
- Sometimes
- About half the time
- Often
- Almost Always
- Always

5. Adjust my work schedule to accommodate other employees' request for time-off.

- Never
- Once in a while
- Sometimes
- About half the time
- Often
- Almost Always
- Always

6. Defend the organization when other employees criticize it.

- Never
- Once in a while
- Sometimes
- About half the time
- Often
- Almost Always
- Always

7. This is an attention check. Please only select "often" in response to this statement.

- Never
- Once in a while
- Sometimes
- About half the time
- Often
- Almost always
- Always

Condition: Often Is Not Selected. Skip To: End of Block.

8. Go out of my way to make newer employees feel welcome in the work group.

- Never
- Once in a while
- Sometimes
- About half the time
- Often
- Almost Always
- Always

9. Show pride when representing the organization in public.

- Never
- Once in a while
- Sometimes
- About half the time
- Often
- Almost Always
- Always

10. Show genuine concern and courtesy toward co-workers, even under the most trying business or personal situations.

- Never
- Once in a while
- Sometimes
- About half the time
- Often
- Almost Always
- Always

11. Offer ideas to improve functioning of the organization.

- Never
- Once in a while
- Sometimes
- About half the time
- Often
- Almost Always
- Always

12. Give up time to help others who have work or non-work problems.

- Never
- Once in a while
- Sometimes
- About half the time
- Often
- Almost Always
- Always

13. Express loyalty to the organization.

- Never
- Once in a while
- Sometimes
- About half the time
- Often
- Almost Always
- Always

14. Assist others with their duties.

- Never
- Once in a while
- Sometimes
- About half the time
- Often
- Almost Always
- Always

15. Take action to protect the organization from potential problems.

- Never
- Once in a while
- Sometimes
- About half the time
- Often
- Almost Always
- Always

16. Share personal property with others to help their work.

- Never
- Once in a while
- Sometimes
- About half the time
- Often
- Almost Always
- Always

17. Demonstrate concern about the image of the organization.

- Never
- Once in a while
- Sometimes
- About half the time
- Often
- Almost Always
- Always

<<continue to next section>>

4.0 Section 4 of 8 – Instructions

This section asks about how time spent at work affects your home life. Please indicate the degree to which you disagree or agree with each of the following 3 statements by clicking on the appropriate response.

1. My work keeps me from my family activities more than I would like.

- Strongly disagree
- Disagree
- Neither disagree nor agree
- Agree
- Strongly agree

2. The time I must devote to my job keeps me from participating equally in household responsibilities and activities.

- Strongly disagree
- Disagree
- Neither disagree nor agree
- Agree
- Strongly agree

3. I have to miss family activities due to the amount of time I must spend on work responsibilities.

- Strongly disagree
- Disagree
- Neither disagree nor agree
- Agree
- Strongly agree

Section 5 of 8 – Instructions

This section asks about your experience within your organization.

Please indicate the degree to which you disagree or agree with each statement by clicking on the relevant term. Note that the response options have changed once again.

1. I can get what I need in this organization.

- Strongly disagree
- Disagree
- Neither disagree nor agree
- Agree
- Strongly agree

2. I feel like a member of this organization.

- Strongly disagree
- Disagree
- Neither disagree nor agree
- Agree
- Strongly agree

3. I have a say about what goes on in this organization.

- Strongly disagree
- Disagree
- Neither disagree nor agree
- Agree
- Strongly agree

4. I feel connected to this organization.

- Strongly disagree
- Disagree
- Neither disagree nor agree
- Agree
- Strongly agree

5. This organization fulfills my needs.

- Strongly disagree
- Disagree
- Neither disagree nor agree
- Agree
- Strongly agree

6. I belong in this organization.

- Strongly disagree
- Disagree
- Neither disagree nor agree
- Agree
- Strongly agree

7. People in this organization are good at influencing each other.

- Strongly disagree
- Disagree
- Neither disagree nor agree
- Agree
- Strongly agree

8. I have a good bond with others in this organization.

- Strongly disagree
- Disagree
- Neither disagree nor agree
- Agree
- Strongly agree

<<continue to next section>>

Section 6 of 8 – Instructions

This section asks about your experience at work. Please indicate the degree to which you disagree or agree with each of the following 12 statements by clicking on the relevant term. Note that the response options are different than those in the prior section.

1. My work allows me to make decisions.

- Strongly disagree
- Disagree
- Somewhat disagree
- Somewhat agree
- Agree
- Strongly agree

2. I have the ability to do my work well.

- Strongly disagree
- Disagree
- Somewhat disagree
- Somewhat agree
- Agree
- Strongly agree

3. This is an attention check. Please only select "Disagree" in response to this statement.

- Strongly disagree
- Disagree
- Somewhat disagree
- Somewhat agree
- Agree
- Strongly agree

Condition: Disagree Is Not Selected. Skip To: End of Block.

4. I feel understood when I am with people from work.

- Strongly disagree
- Disagree
- Somewhat disagree
- Somewhat agree
- Agree
- Strongly agree

5. I can use my judgement when solving work-related problems.

- Strongly disagree
- Disagree
- Somewhat disagree
- Somewhat agree
- Agree
- Strongly agree

6. I feel competent at work.

- Strongly disagree
- Disagree
- Somewhat disagree
- Somewhat agree
- Agree
- Strongly agree

7. I feel heard when I am with people from work.

- Strongly disagree
- Disagree
- Somewhat disagree
- Somewhat agree
- Agree
- Strongly agree

8. I can take on responsibilities at my job.

- Strongly disagree
- Disagree
- Somewhat disagree
- Somewhat agree
- Agree
- Strongly agree

9. I am able to solve problems at work.

- Strongly disagree
- Disagree
- Somewhat disagree
- Somewhat agree
- Agree
- Strongly agree

10. I feel as though I can trust people at work when I am with them.

- Strongly disagree
- Disagree
- Somewhat disagree
- Somewhat agree
- Agree
- Strongly agree

11. I feel free to do tasks my own way when at work.

- Strongly disagree
- Disagree
- Somewhat disagree
- Somewhat agree
- Agree
- Strongly agree

12. I am successful at work.

- Strongly disagree
- Disagree
- Somewhat disagree
- Somewhat agree
- Agree
- Strongly agree

13. I feel I am a friend to my co-workers when I am with them.

- Strongly disagree
- Disagree
- Somewhat disagree
- Somewhat agree
- Agree
- Strongly agree

<<continue to next section>>

Section 7 of 8 – Instructions

This section asks about your feelings of responsibility toward your employer. Please indicate the degree to which you disagree or agree with each of the following 6 statements by clicking on the appropriate response.

1. One of the best things I can do to improve my organization is to be of service to my co-workers.

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither disagree nor agree
- Somewhat disagree
- Agree
- Strongly agree

2. I am always ready to help out people in my organization even if it creates hardship for me.

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither disagree nor agree
- Somewhat disagree
- Agree
- Strongly agree

3. It is easy for me to put aside my own agenda in favor of the greater good of my organization.

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither disagree nor agree
- Somewhat disagree
- Agree
- Strongly agree

4. When volunteers are needed in my organization, I feel like I should be one of the first to step up.

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither disagree nor agree
- Somewhat disagree
- Agree
- Strongly agree

5. I feel it is my duty to give to my organization without needing to receive anything in return.

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither disagree nor agree
- Somewhat disagree
- Agree
- Strongly agree

6. I often feel an obligation to do things that benefit my organization even if my costs outweigh any personal benefit I may receive.

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither disagree nor agree
- Somewhat disagree
- Agree
- Strongly agree

<<continue to next section>>

8.0 Section 8 of 8 – Instructions

And now a few questions about you and your organization.

As a reminder, individual surveys will only be viewed by researchers. At no time will anybody from your organization have access to individual survey data. Individual survey data will be aggregated for analysis and only aggregated results by location reported to Eastern University. Reports will not contain any information that makes it possible to identify a survey participant.

Click on the appropriate response to each of the questions below.

1. The organization I work for is in the...

- Public sector, excluding public education (e.g., a government agency)
- Public education, K-12
- Public higher education
- Not-for-profit sector, excluding education
- Not-for-profit education, K-12
- Not for profit higher education
- Private sector (e.g., most businesses)
- I do not know
- Other

Display This Question:

If 1. The organization I work for is in the... Private sector (e.g., most businesses) Is Selected

1.1 My organization primarily operates in the following industry:

- agriculture, forestry, fishing & hunting
- mining
- utilities
- construction
- manufacturing
- wholesale trade
- retail trade
- transportation & warehousing
- information, publishing, & news media
- finance & insurance
- real estate & rental & leasing
- professional, scientific & technical services
- management of companies & enterprises
- administrative & support & waste management
- educational services
- health care & social assistance
- arts, entertainment & recreation
- accommodation & food services
- other services (except public administration)
- central administrative office activity
- other

2. What region of the United States do you work in?

- Pacific (Alaska, California, Hawaii, Oregon, Washington State)
- Mountain West (Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming)
- West North Central (Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota)
- East North Central (Indiana, Illinois, Michigan, Ohio, Wisconsin)
- West South Central (Arkansas, Louisiana, Oklahoma, Texas)
- East South Central (Alabama, Kentucky, Mississippi, Tennessee)
- South Atlantic (Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia)
- Middle Atlantic (New Jersey, New York, Pennsylvania)
- New England (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont)
- United States Territories
- My work location is outside of the United States
- Other

3. Approximately how many people work at your organization?

- less than 50
- 50-100
- 101-200
- 201-500
- 501-1,000
- 1,001-1,500
- 1,501-2,000
- more than 2,000

4. What was your organization's total revenue last year (in US dollars)?

- less than \$1 million
- \$1-9 million
- \$10-99 million
- \$100-499 million
- \$500-999 million
- \$1 billion or more
- I do not know
- I prefer not to state

5. How many people are in your immediate work group (the number of people who report to your direct supervisor).

- 1-5 people
- 6-10 people
- 11-15 people
- 16-20 people
- 21 or more people

6. How long you have been employed by your organization?

- less than 1 year
- 1 - 3 years
- 4 - 6 years
- 7 - 9 years
- 10 or more years

7. Please indicate the race and/or ethnicity with which you identify (select all that apply).

- Asian or Asian-American
- Black or African-American
- Latina/Latino or Hispanic
- Native American, Alaska Native, or Pacific Islander
- Non-Hispanic White
- Other
- Prefer not to state

8. Please indicate your age group.

- Under 18 years of age
- 18 - 20 years of age
- 21 - 25 years of age
- 26 - 30 years of age
- 31 - 40 years of age
- 41 - 50 years of age
- Greater than 50 years of age
- Prefer not to state

Continue to the next screen to submit your survey.

<<continue to next screen and submit my responses>>

APPENDIX B
CODEBOOK

Codebook

Variable Name	Survey Section & Question	Description	Response Options
<i>High-involvement Climate</i>			
HIC1	2.1	sufficient authority	1 = disagree 2 = slightly disagree 3 = slightly agree 4 = agree
HIC2	2.2	company goals & objectives clearly communicated	1 = disagree 2 = slightly disagree 3 = slightly agree 4 = agree
HIC3	2.3	recognition satisfaction	1 = disagree 2 = slightly disagree 3 = slightly agree 4 = agree
HIC4	2.4	sufficient training	1 = disagree 2 = slightly disagree 3 = slightly agree 4 = agree
HIC5	2.5	enough input	1 = disagree 2 = slightly disagree 3 = slightly agree 4 = agree
HIC6	2.6	effective communication channels with top management	1 = disagree 2 = slightly disagree 3 = slightly agree 4 = agree
HIC7	2.7	rewards for extra effort	1 = disagree 2 = slightly disagree 3 = slightly agree 4 = agree
HIC8	2.8	education & training are part of company culture	1 = disagree 2 = slightly disagree 3 = slightly agree

			4 = agree
HIC9	2.9	freedom over how to do to job	1 = disagree 2 = slightly disagree 3 = slightly agree 4 = agree
HIC10	2.10	management informed of department-level issues	1 = disagree 2 = slightly disagree 3 = slightly agree 4 = agree
HIC11	2.11	pay increases are linked to performance	1 = disagree 2 = slightly disagree 3 = slightly agree 4 = agree
HIC12	2.12	job-related training is sufficient	1 = disagree 2 = slightly disagree 3 = slightly agree 4 = agree
HIC13	2.13	policies & procedures clearly communicated	1 = disagree 2 = slightly disagree 3 = slightly agree 4 = agree
HIC14	2.14	actual performance is linked to performance ratings	1 = disagree 2 = slightly disagree 3 = slightly agree 4 = agree
HIC15	2.15	training provided when needed	1 = disagree 2 = slightly disagree 3 = slightly agree 4 = agree
HIC16 <i>reverse scored</i>	2.16	rely on the grapevine to get job-related information	1 = disagree 2 = slightly disagree 3 = slightly agree 4 = agree
HIC17	2.17	promotion is linked to performance	1 = disagree 2 = slightly disagree 3 = slightly agree 4 = agree

HIC18	2.18	notice of workgroup changes sufficient	1 = disagree 2 = slightly disagree 3 = slightly agree 4 = agree
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Autonomy Need Satisfaction

ANS1	6.1	work allows decision-making	1 = strongly disagree 2 = disagree 3 = somewhat disagree 4 = somewhat agree 5 = agree 6 = strongly agree
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ANS2	6.5	use judgement when solving work problems	1 = strongly disagree 2 = disagree 3 = somewhat disagree 4 = somewhat agree 5 = agree 6 = strongly agree
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ANS3	6.8	take on responsibilities on-the-job	1 = strongly disagree 2 = disagree 3 = somewhat disagree 4 = somewhat agree 5 = agree 6 = strongly agree
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ANS4	6.11	free to do tasks my own way at work	1 = strongly disagree 2 = disagree 3 = somewhat disagree 4 = somewhat agree 5 = agree 6 = strongly agree
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Competence Need Satisfaction

CNS1	6.2	have ability to do work well	1 = strongly disagree 2 = disagree 3 = somewhat disagree 4 = somewhat agree 5 = agree 6 = strongly agree
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CNS2	6.6	feel competent	1 = strongly disagree
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		at work	2 = disagree 3 = somewhat disagree 4 = somewhat agree 5 = agree 6 = strongly agree
CNS3	6.9	able to solve problems at work	1 = strongly disagree 2 = disagree 3 = somewhat disagree 4 = somewhat agree 5 = agree 6 = strongly agree
CNS4	6.12	successful at work	1 = strongly disagree 2 = disagree 3 = somewhat disagree 4 = somewhat agree 5 = agree 6 = strongly agree

Relatedness Need Satisfaction

RNS1	6.4	understood when with co-workers	1 = strongly disagree 2 = disagree 3 = somewhat disagree 4 = somewhat agree 5 = agree 6 = strongly agree
RNS2	6.7	feel heard when with co-workers	1 = strongly disagree 2 = disagree 3 = somewhat disagree 4 = somewhat agree 5 = agree 6 = strongly agree
RNS3	6.10	trusts people at work when with them	1 = strongly disagree 2 = disagree 3 = somewhat disagree 4 = somewhat agree 5 = agree 6 = strongly agree
RNS4	6.13	friend to co-workers when with the	1 = strongly disagree 2 = disagree 3 = somewhat disagree

4 = somewhat agree
5 = agree
6 = strongly agree

Organizational Identification

OI1	1.1	criticism of the org. is a personal insult	1 = strongly disagree 2 = disagree 3 = neither disagree nor agree 4 = agree 5 = strongly agree
OI2	1.2	interested in what others think about the org.	1 = strongly disagree 2 = disagree 3 = neither disagree nor agree 4 = agree 5 = strongly agree
OI3	1.3	says “we” when talking about the org.	1 = strongly disagree 2 = disagree 3 = neither disagree nor agree 4 = agree 5 = strongly agree
OI4	1.4	org’s successes are my successes	1 = strongly disagree 2 = disagree 3 = neither disagree nor agree 4 = agree 5 = strongly agree
OI5	1.5	personal complement when the org. is praised	1 = strongly disagree 2 = disagree 3 = neither disagree nor agree 4 = agree 5 = strongly agree

Psychological Sense of Community

SOC1	5.1	get what s/he needs from org.	1 = strongly disagree 2 = disagree 3 = neither disagree nor agree 4 = agree 5 = strongly agree
SOC2	5.2	feels like a member of org.	1 = strongly disagree 2 = disagree

			3 = neither disagree nor agree 4 = agree 5 = strongly agree
SOC3	5.3	has a say about what happens in org.	1 = strongly disagree 2 = disagree 3 = neither disagree nor agree 4 = agree 5 = strongly agree
SOC4	5.4	feels connected to org.	1 = strongly disagree 2 = disagree 3 = neither disagree nor agree 4 = agree 5 = strongly agree
SOC5	5.5	org. fulfills needs	1 = strongly disagree 2 = disagree 3 = neither disagree nor agree 4 = agree 5 = strongly agree
SOC6	5.6	belongs in org.	1 = strongly disagree 2 = disagree 3 = neither disagree nor agree 4 = agree 5 = strongly agree
SOC7	5.7	people in org. influence each other	1 = strongly disagree 2 = disagree 3 = neither disagree nor agree 4 = agree 5 = strongly agree
SOC8	5.8	good bond with others in org.	1 = strongly disagree 2 = disagree 3 = neither disagree nor agree 4 = agree 5 = strongly agree

Sense of Community Responsibility

SOCR1	7.1	duty to serve co-workers	1 = strongly disagree 2 = disagree 3 = somewhat disagree 4 = neither disagree nor agree
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			5 = somewhat agree 6 = agree 7 = strongly agree
SOCR2	7.2	duty to help others	1 = strongly disagree 2 = disagree 3 = somewhat disagree 4 = neither disagree nor agree 5 = somewhat agree 6 = agree 7 = strongly agree
SOCR3	7.3	duty to set aside personal agenda to benefit org.	1 = strongly disagree 2 = disagree 3 = somewhat disagree 4 = neither disagree nor agree 5 = somewhat agree 6 = agree 7 = strongly agree
SOCR4	7.4	duty to volunteer	1 = strongly disagree 2 = disagree 3 = somewhat disagree 4 = neither disagree nor agree 5 = somewhat agree 6 = agree 7 = strongly agree
SOCR5	7.5	duty to give without receiving in return	1 = strongly disagree 2 = disagree 3 = somewhat disagree 4 = neither disagree nor agree 5 = somewhat agree 6 = agree 7 = strongly agree
SOCR6	7.6	duty to act in ways that benefit the org.	1 = strongly disagree 2 = disagree 3 = somewhat disagree 4 = neither disagree nor agree 5 = somewhat agree 6 = agree 7 = strongly agree

Organizational Citizenship Behavior

OCB1	3.1	help others who have been absent	1 = never 2 = once in a while 3 = sometimes 4 = about half the time 5 = often 6 = almost always 7 = always
OCB2	3.2	attend functions that help org. image	1 = never 2 = once in a while 3 = sometimes 4 = about half the time 5 = often 6 = almost always 7 = always
OCB3	3.3	give time to others with work-related problems	1 = never 2 = once in a while 3 = sometimes 4 = about half the time 5 = often 6 = almost always 7 = always
OCB4	3.4	keep up with org. developments	1 = never 2 = once in a while 3 = sometimes 4 = about half the time 5 = often 6 = almost always 7 = always
OCB5	3.5	adjust schedule to accommodate others' time off requests	1 = never 2 = once in a while 3 = sometimes 4 = about half the time 5 = often 6 = almost always 7 = always
OCB6	3.6	defend the org. when other employees criticize it	1 = never 2 = once in a while 3 = sometimes 4 = about half the time 5 = often 6 = almost always

			7 = always
OCB7	3.8	welcome new employees	1 = never 2 = once in a while 3 = sometimes 4 = about half the time 5 = often 6 = almost always 7 = always
OCB8	3.9	show pride when representing org.	1 = never 2 = once in a while 3 = sometimes 4 = about half the time 5 = often 6 = almost always 7 = always
OCB9	3.10	concern & courtesy toward co-workers	1 = never 2 = once in a while 3 = sometimes 4 = about half the time 5 = often 6 = almost always 7 = always
OCB10	3.11	offer ideas to improve org. functioning	1 = never 2 = once in a while 3 = sometimes 4 = about half the time 5 = often 6 = almost always 7 = always
OCB11	3.12	help others with work or non-work Problems	1 = never 2 = once in a while 3 = sometimes 4 = about half the time 5 = often 6 = almost always 7 = always
OCB12	3.13	express loyalty to org.	1 = never 2 = once in a while 3 = sometimes 4 = about half the time

			5 = often 6 = almost always 7 = always
OCB13	3.14	assist others with their duties	1 = never 2 = once in a while 3 = sometimes 4 = about half the time 5 = often 6 = almost always 7 = always
OCB14	3.15	protect the org. from harm	1 = never 2 = once in a while 3 = sometimes 4 = about half the time 5 = often 6 = almost always 7 = always
OCB15	3.16	share personal property with others	1 = never 2 = once in a while 3 = sometimes 4 = about half the time 5 = often 6 = almost always 7 = always
OCB16	3.17	demonstrate concern about org. image	1 = never 2 = once in a while 3 = sometimes 4 = about half the time 5 = often 6 = almost always 7 = always
<i>Demographics</i>			
OrgType	8.1	organization type	1 = public sector, except education 2 = private sector (most businesses) 3 = not-for-profit sector, except education 4 = public education, K-12 5 = public higher education

			6 = I do not know 7 = not-for-profit education, K-12 8 = not-for-profit higher education 9 = other
Industry	8.1.1	private sector industry	1 = agriculture, forestry, fishing, and hunting 2 = mining 3 = utilities 4 = construction 5 = manufacturing 6 = wholesale trade 7 = retail trade 8 = transportation & warehousing 9 = information, publishing, & news media 10 = finance & insurance 11 = real estate & rental & leasing 12 = professional, scientific, & technical services 13 = management of companies & enterprises 14 = administrative & support & waste management 15 = educational services 16 = health care and social assistance 17 = arts, entertainment, & recreation 18 = accommodations & food service 19 = other services (except public administration) 20 = central administrative office activity 22 = other
Region	8.2	region of the U.S.	1 = Pacific (Alaska, California, Hawaii, Oregon, Washington State)

- 2 = West North Central
(Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota)
- 3 = West South Central
(Arkansas, Louisiana, Oklahoma, Texas)
- 4 = East North Central
(Indiana, Illinois, Michigan, Ohio, Wisconsin)
- 5 = East South Central
(Alabama, Kentucky, Mississippi, Tennessee)
- 6 = Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia)
- 7 = Middle Atlantic (New Jersey, New York, Pennsylvania)
- 8 = New England
(Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island)
- 10 = Other
- 11 = My work location is outside the United States
- 12 = United States Territories
- 13 = Mountain West
(Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming)

#people

8.3

org size: number of people

- 1 = < 50
- 2 = 50-100
- 3 = 101-200
- 4 = 201-500
- 5 = 501-1,000
- 6 = 1,001-1,500
- 7 = 1,501-2,000

			8 = more than 2,000
Revenue	8.4	org size: revenue	1 = < \$1 million 2 = \$1-9 million 3 = \$10-99 million 4 = \$100-499 million 5 = \$500-999 million 6 = \$1 billion or more 7 = I do not know 8 = I prefer not to state
Workgroup	8.5	number of people in immediate work group	1 = 1-5 people 2 = 6-10 people 3 = 11-15 people 4 = 16-20 people 5 = 21 or more people
Tenure	8.6	number of years at current employer	1 = < 1 year 2 = 1-3 years 3 = 4-6 years 4 = 7-9 years 5 = ≥ 10 years
Role	id 1	role in company	1 = individual contributor 2 = supervisor/first-level manager 3 = middle manager 4 = executive 5 = other
Status	id 2	employment status	1 = full-time (≥ 30 hours/week) 2 = part-time (< 30 hours/week) 3 = retired 4 = unemployed 5 = other
Asian	8.7.1	respondent identifies as Asian or Asian-American	0 = no 1 = yes
Black	8.7.2	respondent identifies as Black or African-American	0 = no 1 = yes

Latina/o	8.7.3	respondent identifies as Latina/o or Hispanic	0 = no 1 = yes
Indigenous	8.7.4	respondent identifies as Native American, Alaska Native, or Pacific Islander	0 = no 1 = yes
White	8.7.5	respondent identifies as Non-Hispanic White	0 = no 1 = yes
Other	8.7.6	respondent identifies as "other"	0 = no 1 = yes
DidNotState	8.7.7	respondent preferred to not identify race/ethnicity	0 = no 1 = yes
Age	8.8	respondent age group	1 = < 18 years 2 = 18-20 years 3 = 21-25 years 4 = 26-30 years 5 = 31-40 years 6 = 41-50 years 7 = > 50 years 8 = prefer not to state
Gender ID	id 3	gender identification	1 = female 2 = male 3 = non-binary/third gender 4 = prefer to self-describe 5 = other
<i>Marker Variable: Work-Family Conflict</i>			
MV1	4.1	work keeps me from family activities	1 = strongly disagree 2 = disagree 3 = neither disagree nor agree 4 = agree 5 = strongly agree
MV2	4.2	work time detracts from household responsibilities & activities	1 = strongly disagree 2 = disagree 3 = neither disagree nor agree 4 = agree 5 = strongly agree

MV3	4.3	miss family activities due to work	1 = strongly disagree 2 = disagree 3 = neither disagree nor agree 4 = agree 5 = strongly agree
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Careless Response Self-Report Indicators

Self-report 1	id quality	thoughtful response commitment	1 = will provide best answers 2 = will not provide best answers 3 = can't promise either way
Self-report 2	3.7	select only "often"	1 = never 2 = once in a while 3 = sometimes 4 = about half the time 5 = often 6 = almost always 7 = always
Self-report 3	6.3	select only "disagree"	1 = strongly disagree 2 = disagree 3 = somewhat disagree 4 = somewhat agree 5 = agree 6 = strongly agree

APPENDIX C
GLOSSARY OF ABBREVIATIONS

Glossary of Abbreviations

AMO	Ability, motivation, opportunity
ANS	Autonomy need satisfaction
AVE	Average variance extracted
BPNWS	Basic Psychological Needs at Work Scale
BSCS	Brief Sense of Community Scale
CB-SEM	Covariance-based structural equation modeling
CFA	Confirmatory factor analysis
CFI	Comparative fit index
CMV	Common method variance or bias
CNS	Competence need satisfaction
EFA	Exploratory factor analysis
GFI	Goodness-of-fit index
HCWS	High-commitment work systems
HIC	High-involvement climate
HIWS	High-involvement work systems
HPWS	High-performance work systems
HRM	Human resources management
HTMT	Heterotrait-monotrait ratio
IFI	Incremental fit index
KSAO	Knowledge, skills, abilities, and other attributes
OCB	Organizational citizenship behavior
OCBI	Organizational citizenship behavior directed toward individuals

OCBO	Organizational citizenship behavior directed toward the organization
OI	Organizational identification
PIRK	Power, information, rewards, knowledge
PLS-SEM	Partial least squares structural equation modeling
PNS	Psychological need satisfaction
RBV	Resource-based view of the firm
RMSEA	Root mean square error of approximation
RNS	Relatedness need satisfaction
SCI	Sense of Community Index
SCT	Self-categorization Theory
SDT	Self-determination Theory
SEM	Structural equation modeling
SHRM	Strategic human resource management
SIT	Social Identity Theory
SOC	Psychological sense of community
SOCR	Sense of community responsibility
SR	Structural regression
SRMR	Standardized root mean square residual
TAD	Workforce training and development
VIF	Variance inflation factor
VRIO	Valuable, rare, inimitable, organization
WC	Workplace community
WFC	Work-family conflict

APPENDIX D
DEFINITION OF TERMS

Definition of Terms

Ability, motivation, opportunity model (AMO). A causal model common in HPWS research whereby integrated HRM practices impact organizational performance through building and organizing organizational, human, and social capital in support of organizational strategy (Boxall, 2012; K. Jiang et al., 2012). HRM practices are understood to build human and social capital by building employee ability and capacity to perform (employee knowledge, skills, abilities, and other attributes, or KSAOs), influencing employee motivation to do the work, and providing opportunity for voice and to contribute discretionary effort. The ability, motivation, opportunity (AMO) model has cross-disciplinary roots in industrial and organizational (IO) psychology, human capital economics, and industrial relations (Gerhart, 2007).

Autonomous motivation. Motivation to act based on the satisfaction of the three basic needs defined in SDT: autonomy, competence, and relatedness. Autonomously motivated persons act with volition and integrity, endorsing and concurring with their own behavior. Autonomous motivation can be intrinsic or identified. Intrinsic motivation results as one's personal values and behavioral norms are endorsed, prompting behavior that is interesting and rewarding in its own right; identified motivation occurs when the adopted values and norms of a new group are endorsed. Self-determined or self-regulated behavior occurs when action is a result of autonomous motivation. (Deci & Ryan, 2008; 2012; Gagné et al., 2015). Contrasted in SDT with controlled motivation.

Autonomy need. “the organismic desire to self-organize experience and behavior and to have activity be concordant with one’s integrated sense of self” (Deci & Ryan, 2000, p. 231). This SDT understanding of autonomy emphasizes volition – the power to make decisions consistent with one’s understanding of self – rather than internal locus of control or individualism.

Autonomy-supportive environment or climate. A social context in which initiation is encouraged, choice is available, and individuals (supervisors or co-workers) relate to the actor by taking their perspective, supporting choice, and being responsive to the actor’s input, questions, and initiatives (Deci & Ryan, 2008).

Black box. The mediating mechanisms by which SHRM systems impact organization performance, often colloquially referred to in the SHRM literature as the SHRM “black box” as a result of their relatively under developed state in the literature (Becker & Huselid, 2006).

Competence need. The psychological need to experience a sense of effectiveness or mastery over one’s environment, attain valued outcomes within that environment, and develop new skills. The competence need’s effectance motivation is constantly triggered as new environmental experiences are both encountered and autonomously sought (Deci & Ryan, 2000; Van den Broeck et al., 2016; White, 1959).

Controlled motivation. Also referred to as extrinsic motivation. Controlled motivation is developed in contexts in which the three basic needs (autonomy, competence, relatedness) are met; action is taken in order to receive an extrinsic reward or avoid punishment. Behavior tends to become dependent on the

reward/punishment such that behaviors are not exhibited when the contingencies are not operative. (Deci & Ryan, 2012). Contrasted in SDT with autonomous motivation.

Equifinality. A principle of open system theory that states a specific outcome may be obtained by beginning from different contexts and proceeding through alternate paths (von Bertalanffy, 1969). As applied to SHRM research, equifinality suggests that organizations may achieve improved employee performance and sustainable competitive advantage through a variety of paths. These paths can vary based on organizational context (Gerhart, 2007; Posthuma et al., 2013; Trist, 1981; Walton, 1972).

High-commitment work systems (HCWS). An integrated system of HRM and management practices that emphasizes worker commitment to the organization as a fundamental objective of the structure of work. The benefits of high-commitment must accrue to both employees and the business in order for HCWS to be effective. Employee gains are primarily in terms of meaningful work and on-the-job well-being, while business gains include improved productivity and sustainable competitive advantage (Walton, 1981; 1985).

High-involvement climate. An organizational climate characterized by high levels of power sharing, information availability and sharing, recognition utilizing intrinsic and extrinsic rewards, and employee knowledge building (see HIWS and PIRK below).

High-involvement work systems (HIWS). An integrated system of HRM and “work design practices that are designed to give all employees the skills, information,

power, and rewards to make decisions in the workplace” (Benson & Lawler, 2016, p. 13). Similar to HCWS, HIWS focus on employee participation as the key to simultaneous improvement in employee quality of work life and organizational performance (Lawler, 1986).

High-performance work systems (HPWS). Integrated systems of human resources management practices that are complementary to one another and aligned with the commercial strategy of the firm (Huselid, 1995). HPWS seek to increase individual and organizational performance by creating collaborative workplaces where employee discretionary effort is welcomed and necessary to execute organizational strategy and achieve sustainable competitive advantage (Appelbaum et al., 2000; Bailey et al., 2001). This approach stands in contrast to individually siloed HRM practices or sub-functions reflecting industry or professional best practices (Barney & Wright, 1998; Jackson et al., 2014; K. Jiang et al., 2012; Wright & McMahan, 1992). Note that the HPWS moniker is frequently used in the literature as a broad term referring to all bundles of SHRM practices including high-involvement and high-commitment work systems (Jackson et al., 2014; Wood & Wall, 2007).

Homonymy. A feeling of relatedness and belonging (Emery, 1977).

Human capital. Individual employees’ experience, knowledge, skills, abilities, and other attributes (Barney & Wright, 1998; Barney & Clark, 2007; Wright et al., 1994).

Human resources. The combination of employees’ experience, knowledge, and skills (human capital), employee relationships inside and outside the firm (social

capital), and their commitment to the organization (Barney & Wright, 1998; Barney & Clark, 2007; Wright et al., 1994).

Identities. A self-concept attribute. Identities enable contextual sense making and can be personal or social (Brewer, 1991; Oyserman et al., 2012; Turner et al., 1994). Just as identities are nested within self-concepts, levels of identity are nested within themselves with personal identities at the center and social identities at the next level (Haslam et al., 2000).

Mechanistic management system. Management systems characterized by an authoritarian/bureaucratic approach to control, and transactional or instrumental orientation to work, routine job design with low decision-making discretion, and strategically defensive goal setting (Burns & Stalker, 1961; Burrell & Morgan, 1979; Morgan, 2006). Typically contrasted with organic management systems.

Mediation. A third variable mediates the effect of an independent variable on a dependent variable when it serves a generative role between the two; the mediator variable is caused by the independent variable, and the mediator in-turn at least partially causes the dependent variable. A mediated relationship between an independent and dependent variable may be fully mediated: the independent and dependent variables are only related through the third mediating variable. In this case the independent and dependent variables are said to have an “indirect” relationship. The relationship may also be partially mediated: the independent and dependent variables have both (a) a direct unmediated relationship, and (b) an indirect mediated relationship through the third variable. There may be multiple mediators between an independent and dependent variable. Mediation helps to

explain why a particular outcome occurs. For example, the present study hypothesizes a set of mediating variables to explain why organizational citizenship behavior occurs as a result of high-involvement work systems. (Baron & Kenny, 1986; Hair et al., 2010; Stangor, 2011). Also see “moderation.”

Moderation. A third variable moderates the relationship between an independent and dependent variable when the third variable’s presence changes the direction or strength of the relationship between the independent and dependent variables. Moderators may be qualitative (e.g., gender, employment status, race/ethnicity) or quantitative (e.g., level of reward or compensation). For example, the relationship between an independent and dependent variable could be significant for people employed by a company and not significant for independent contractors, or the relationship could be negative in one group and positive in the other (Baron & Kenny, 1986; Hair et al., 2010; Stangor, 2011). Also see “mediation.”

Organic management system. Management systems characterized by workplace democracy, a self-actualizing approach to work, complex roles with high decision-making discretion, and proactive learning systems (Burns & Stalker, 1961; Burrell & Morgan, 1979; Morgan, 2006). Typically contrasted with mechanistic management systems.

Organizational capital. The company’s organization design, formal and informal systems for planning, controlling and coordinating, and informal relationships within the organization and between the organization and its external environment (Barney, 1991).

Organizational climate. “the shared perceptions of employees concerning the practices, procedures, and kind of behaviors that get rewarded and supported in a particular setting” (Schneider et al., 1998, p. 151).

Organizational citizenship behavior (OCB). Employee behavior that support the organization’s social and psychological environment (Organ, 1997). These behaviors are often, but not always, extra-role behaviors beyond the task behaviors specifically called for in an employee’s job description.

Organizational citizenship behavior directed toward individuals (OCBI). OCB directed toward specific individuals inside the organization. Examples include helping a new employee feel welcome and helping a co-worker who has a work-related problem (Lee & Allen, 2002).

Organizational citizenship behavior directed toward the organization (OCBO). OCB directed toward the organization. Examples include attending a function that is not required but helps the organization’s image, and defending the organization when co-workers criticize it (Lee & Allen, 2002).

Organizational identification (OI). The perception of oneness with or belonging to a group (Ashforth & Mael, 1989; van Knippenberg, 2000). OI occurs when a person integrates an organization into her or his construction of self. In doing so the individual adopts the values, goals and beliefs of the organization, and behaves in ways consistent with those norms (Ashforth et al., 2008). OI is a form of social identity (Haslam & Ellemers, 2011).

Participative management. An approach to management and leadership that seeks to improve organizational performance by (a) maximizing employee motivation

through addressing needs beyond simple economic needs, and (b) leveraging the social aspects of organization by involving employees at all levels of the organization in decision-making (Likert, 1961).

Personal identity. Personal identity individuates the person into a category of one based on personal biography and experiences (Rosenberg, 1979). Importantly, persons are who they are in relation to other persons; personal biography and experience are social and institutional in origin, providing the basis for the person's social identities (Owens et al., 2010; Rosenberg, 1979).

Physical capital. The organization's facilities, equipment, natural resources, raw materials, and the like (Barney, 1991; Penrose, 1959).

Physical characteristics. A self-concept attribute that includes individual height, skin tone, physical disabilities, etcetera. Physical characteristics influence how others respond to the person, thus shaping self-concept development (Rosenberg, 1979).

Power, information, rewards, knowledge (PIRK). A model for measuring HIWS effectiveness by the degree to which (a) decision-making authority and responsibility – or power – have been pushed to the lowest possible levels in the organization; (b) all employees have access to and share the information necessary to make responsible decisions; (c) both intrinsic and extrinsic rewards are utilized in recognizing achievement and performance; and (d) all employees have opportunities to continuously develop their personal knowledge and skills; (Lawler, 1986; Lawler, 1992; Richardson & Vandenberg, 2005; Vandenberg et al., 1999; Wood & Wall, 2007).

Psychological sense of community (SOC). “the perception of similarity to others, an acknowledged interdependence with others, a willingness to maintain this interdependence by giving to or doing for others what one expects from them, the feeling that one is part of a larger dependable and stable structure” (Sarason, 1974, p. 157). SOC is typically conceptualized using a four-factor model measuring membership, influence, needs integration/fulfillment, and shared emotional connection (McMillan & Chavis, 1986). See sense of community responsibility below for a related but separate community construct and measure.

Relatedness need. The reciprocal desire “to feel connected to others – to love and care, and to be loved and cared for” (Deci & Ryan, 2000, p. 231, based on Baumeister & Leary, 1995).

Resource-based view of the firm (RBV): A business strategy model emphasizing the organization’s internal environment. The RBV assumes resource heterogeneity (a) can exist across firms in an industry in terms of the resources each controls, and (b) can be long lasting because resources may not be perfectly mobile (Barney, 1991; Barney & Clark, 2007; Penrose, 1959; Rumelt, 1984; Wernerfelt, 1984; 1989). Resources available to the firm are physical, human, and organizational capital (Barney, 1991). These resources contribute to the organization’s sustained competitive advantage to the extent that they are (a) valuable, (b) rare, (c) inimitable, and (d) the organization has the ability to effectively utilize them (Barney, 1991; Barney, 1995; Barney & Clark, 2007). The RBV supplements external environment-focused strategy models by highlighting and emphasizing

the importance of internal resources needed to exploit opportunities and guard against threats in the firm's external environment.

Self. A memory structure and cognitive capacity. As a memory structure the self identifies the person as a knower and actor having existence outside of particular contexts and social structure; a unique individual or "I". As cognitive capacity the self considers itself as an object of reflexive thought, to consider what "me" is comprised of given different contexts and situations (Baumeister, 1998; Mead, 1934; Oyserman et al., 2012); it contains all the learned perspectives and attitudes the person takes toward her or himself. Cognitive capacity is comprised of the nested constructs of self-concepts and identities (Owens et al., 2010; Oyserman et al., 2012). The human self is reflexive and interpersonal, and one's understanding of her or himself is used for making decisions about action (self-regulation) (Baumeister, 1998).

Self-actualization. Realizing one's full potential in the context of *gemeinschaftsgefühl*, or community feeling (Adler, 1938). Self-actualizing people "have for human beings a general deep feeling of identification, sympathy, and affection [and] a genuine desire to help the human race. It is as if they were all members of a single family" (Maslow, 1954, p. 217).

Self-categorization theory (SCT). A theory of self and identity that argues perceiving oneself as a collective rather than an individual (i.e., as "we and "us" as opposed to "I" and "me") is a normal experience. At these times the self is depersonalized and experienced as equivalent to or interchangeable with other ingroup members. Which particular identity is salient at a given time, and by extension how the

person defines her or himself, is a product of the immediate social context and extent of the person's identification with the group (i.e., membership is valued and ego-involving). Self-categorization provides the foundation for the person's social orientation toward other persons in both in groups and outgroups. Shared social identity with ingroup members results in depersonalization of the self, prompting collective group behavior (Turner & Onorato, 1999/2012).

Self-concepts. Self-concepts are one's theory of personality, or what one believes to be true about oneself. They include three broad categories of attributes: physical characteristics, self-referring dispositions, and identities (Rosenberg, 1979).

Self-determination theory (SDT). A universal or grand theory of human motivation that recognizes humanity to be inherently social. As such, individual socialization (internalization of societal norms and behaviors) is necessary not only for individual survival and flourishing, but to simultaneously ensure societal sustainability. Socialization occurs naturally as the individual's basic needs for autonomy, competence, and relatedness are satisfied with appropriate environmental support. (Deci & Ryan, 2000; Ryan & Deci, 2000).

Self-referring dispositions. A self-concept attribute. Self-referring dispositions are the abstract categories a person develops over her or his lifetime that are used for self-regulation, or responding to the environment. These dispositions include cultural structures such as individualism versus collectivism, evaluative judgements of one's competence and sense of worth (e.g., self-efficacy and self-esteem), and mental concepts about who one was, is, and will become (Oyserman et al., 2012).

Sense of community responsibility (SOCR). “A feeling of personal responsibility for the individual and collective well-being of a community of people not directly rooted in an expectation of personal gain” (Boyd & Nowell, 2014, p. 231). See psychological sense of community above for a separate but related community construct and measure.

Social capital. Employee relationships inside and outside the firm (Barney & Wright, 1998; Barney & Clark, 2007; Wright et al., 1994).

Social identities and social identity theory (SIT). Social identities are self-defined categories that characterize the person in terms of similarities with members of certain groups (in groups) and in contrast to members of other groups (outgroups) (Turner & Onorato, 1999/2012). Social identities involve understanding oneself as a group member, feelings about being a member of that group, and knowledge of the group’s comparative status or rank in relation to other groups (Tajfel, 1981). Social identities can be based on roles (the position one holds in a group or organization), socially meaningful categories (e.g., Canadian, African-American), and/or actual membership in a bounded group (e.g., Sierra Club, one’s employer) (Owens et al., 2010; Rosenberg, 1979).

Social identity approach. A collective label for SIT and SCT (Haslam et al., 2000; Haslam, 2004).

Strategic human resources management (SHRM). An area of management research and practice concerned with aligning organizational HRM practices and outcomes with the organization’s strategies and outcomes, particularly in regards to

achieving sustainable competitive advantage (Barney & Clark, 2007; Beer et al., 1984; Boxall & Purcell, 2011; Tichy et al., 1984; Wright et al., 1994).

Theory X. A theory of management advocating an authoritarian, directive style of control based on the assumptions that (a) people inherently dislike work, (b) control, coercion and punishment are necessary to achieve the levels of worker performance required by the organization, and (c) workers only have a need for security; they have little ambition and prefer supervisory direction (McGregor, 1960). Typically contrasted to Theory Y.

Theory Y. A theory of management based upon the integration of individual employee and organizational objectives for the benefit of both. Theory Y is based on a series of assumptions regarding human nature that include the possibility of growth and development, and stress the need for adaptive management as opposed to a more authoritarian or absolute forms of control (McGregor, 1960). Typically contrasted to Theory X.

VRIO model: Four measures (valuable, rare, inimitable, and organization) for resource-based analysis of an organization's competitive position and strategy in the resource-based view of the firm (see above).

Workplace community: An umbrella term used in this study to capture the constructs psychological sense of community (SOC) and sense of community responsibility (SOCR).