

©2013

Andrea Kim

ALL RIGHTS RESERVED

ALL FOR ONE AND ONE FOR ALL: THE IMPACT OF PARTICIPATIVE  
PRACTICES ON SOCIAL COHESION, VOLUNTARY TURNOVER, AND LABOR  
PRODUCTIVITY AT THE ORGANIZATION LEVEL

by

ANDREA KIM

A dissertation submitted to the  
Graduate School-New Brunswick  
Rutgers, The State University of New Jersey

In partial fulfillment of the requirements

For the degree of

Doctor of Philosophy

Graduate Program in Industrial Relations and Human Resources

Written under the direction of

Douglas L. Kruse

And approved by

---

---

---

---

New Brunswick, New Jersey

October, 2013

## **ABSTRACT OF THE DISSERTATION**

All for One and One for All: The Impact of Participative Practices on Social Cohesion,  
Voluntary Turnover, and Labor Productivity at the Organization Level

By ANDREA KIM

Dissertation Director:

Douglas L. Kruse

In pursuit of an organization level comprehensive theoretical framework for participative work structures, this study identifies how organization-based incentives and employee involvement affect a collective attitude and behavior of employees in order to ultimately improve labor productivity. From realistic group conflict theory, organizational social cohesion is derived as a proximal collective attitudinal outcome of the participative practices. Drawing on research and evidence, reduced voluntary turnover is derived as a collective behavioral outcome of organizational social cohesion. Finally, labor productivity is regarded as a distal organizational outcome which may be determined by the indirect effects of the participative practices through the collective attitudinal and behavioral outcomes. Using a multi-source and partially lagged U.S. large company dataset, it is indicated that both participative practices are positively related to organizational social cohesion and negatively influence collective voluntary turnover through organizational social cohesion. It is further demonstrated that organization-based

incentives improve labor productivity through reduced voluntary turnover whereas employee involvement increases it through both enhanced social cohesion and decreased voluntary turnover. This study's theoretical claim and empirical knowledge are envisaged to contribute to our systematic understanding about how and why participative practices leverage greater organizational productivity from employees.

Keywords: Employee involvement; labor productivity; organization-based incentives; participative practices; shared capitalism; social cohesion; turnover

## **ACKNOWLEDGEMENT**

I cannot appreciate enough people around me for their instruction, support, and encouragement in the process of realizing my lifelong dream, becoming a doctor by completing this dissertation. Six scholars played unforgettable roles in realizing the dream at the beginning and at the end. Dr. Yookeun Shin, an emeritus professor and my former advisor in the Business School of Seoul National University, inculcated the dream of becoming a Ph.D. in human resources (HR) in my mind. During this dissertation work, it was very fortunate for me to have sincere, thorough, and professional guidance from Dr. Douglas L. Kruse, Dr. Susan E. Jackson, Dr. Mark A. Huselid, and Dr. Takao Kato. In addition, I truly appreciate Dr. Joseph R. Blasi and the Great Place to Work® (GPTW) Institute for the data used in my dissertation study. Thanks to these people, my long journey for the dream has come to a happy ending.

Many scholars have trained me to be equipped with intellectual capital for high-quality research, especially for this dissertation. In the coursework, I have learned a lot of knowledge, information, and insight from Dr. Mark A. Huselid (Strategic HR Management), Dr. Paula Caligiuri (Research Method), Dr. Douglas L. Kruse (Economics; Employee Ownership, Profit Sharing, and Broad-Based Stock Options), Dr. Thomas A. Kochan (MIT Sloan School of Management; Work, Employment, and Industrial Relations), Dr. Adrienne Eaton (Industrial Relations), Dr. Jimmy de la Torre (Rutgers Graduate School of Education; Regression Analysis), Dr. Stanley M. Gully (Multivariate Analysis; Multilevel Theory and Research), Dr. Jean M. Phillips (Organizational Behavior), Dr. Joseph R. Blasi (Employee Ownership, Profit Sharing, and Broad-Based Stock Options), Dr. David P. Lepak (Organization Theory), and Dr.

Patrick F. McKay (Micro Foundations in HR). Although all the instruction that I learned was not reflected, it fortified my foundation to advance this dissertation and furthermore become a good researcher. Regrettably, I could not have learned from other excellent faculty members such as Dr. Randall S. Schuler, Dr. Charles H. Fay, and Dr. Ingrid S. Fulmer in Rutgers School of Management and Labor Relations (SMLR). In the future, I will constantly learn from their outstanding research.

Working together with some faculty members was very precious moments. Through such collaborations, I have learned many practical abilities and knowledge to conduct high-quality research. My special thanks for the collaborations should be given to Dr. Stanley M. Gully, Dr. Jean M. Phillips, Dr. David P. Lepak, Dr. Douglas L. Kruse, Dr. Lisa A. Schur, Dr. Joseph R. Blasi, Dr. Susan E. Jackson, and Dr. William G. Castellano. Working with these excellent researchers was a major source to improve the quality of this dissertation study.

During my Ph.D. studies, I have had considerable support and encouragement from other faculty members such as Dr. Paula B. Voos, Dr. Susan J. Schurman, Dr. Jessica M. Methot, Dr. Rebecca Kehoe, Dr. Joseph McCune, Dr. Michael Kukenberger, Dr. Hazel-Anne Johnson, Len Garrison, and David A. Ferio. Nice administrative support has been provided by Ellen Weber, Amalia Marchitto, Wanda Radowski, Joaane Mangels, Rebecca Tinkham, Joanna Eriksen, Shital Asarpota, Ashe Husein, Linda Post, Renee Walker, Janice DiLella, and Lura Hart. Finally, my work and life at Rutgers SMLR have been so much fun with Saba Colakoglu, Ying Hong, Steve Guo, Boniface Michael, Yuan Jiang, Kaifeng Jiang, Mohammed Abbas Ali, Anne-Laure Winkler, Shahid Zaman, Sean Rogers, John McCarthy, Chunyun Li, Sargam Garg, Fuxi Wang, Yan Chen, Frederick Scott Bentley, Dan Weltmann, Mason Ameri, and Doyup Nho.

## **DEDICATION**

This dissertation is dedicated to my family. My mother in heaven has been always with me in order to support my dissertation study. My father, sister, parents-in-law, and all the relatives have given full material and emotional support to me as well. Above all things, I wish this dissertation will be dedicated to my son, Daniel Kim and my wife, Kyongji Han, for whom I truly pray to become a scholar along with me.

## TABLE OF CONTENTS

Abstract.....	ii
Acknowledgement.....	iv
Dedication.....	vi
Table of Contents.....	vii
List of Tables.....	x
List of Figures.....	xi
Introduction.....	1
Theoretical Development and Hypotheses.....	7
Participative Practices: Organization-Based Incentives and Employee Involvement.....	7
A Multi-Mediation Model of Participative Practices for Organizational Productivity.....	10
A Collective Attitudinal Outcome: Organizational Social Cohesion .....	12
The Direct Effects of Participative Practices on Organizational Social Cohesion: The Realistic Group Conflict Theory.....	14
A Collective Behavioral Outcome: Collective Voluntary Turnover.....	18
The Indirect Effects of Participative Practices on Collective Voluntary Turnover through Organizational Social Cohesion: A Relational Perspective...	19
The Indirect Effects of Participative Practices on Labor Productivity through Organizational Social Cohesion and Collective Voluntary Turnover.....	22
A Mediated Moderation Model of Participative Practices, Organizational Social Cohesion, Collective Voluntary Turnover, and Labor Productivity.....	28



Methods.....	30
Sample and Data.....	30
The GPTW Survey Administration Procedure.....	32
Measures.....	33
Construct Validity Tests.....	38
Aggregation Tests.....	40
Analytical Strategies.....	42
Results.....	45
Hypotheses 1 and 2: The Main Effects of Organization-Based Incentives and Employee Involvement on Organizational Social Cohesion .....	46
Hypotheses 3 and 4: The Effects of Organization-Based Incentives and Employee Involvement on Collective Voluntary Turnover through Organizational Social Cohesion .....	46
Hypotheses 5 and 6: The Effects of Organization-Based Incentives and Employee Involvement on Labor Productivity via Organizational Social Cohesion and Collective Voluntary Turnover .....	48
Hypotheses 7, 8, and 9: The Mediated Moderation Model.....	50
An Additional Analysis with a Three-Year Panel Dataset of GPTW.....	52
Discussion.....	60
Theoretical Implications.....	61
Managerial Implications.....	67
Limitations and Suggestions.....	69
Conclusion.....	73

References.....	74
-----------------	----

## LIST OF TABLES

TABLE 1: Companies by Industry Classification.....	103
TABLE 2: Correlation and Descriptive Statistics.....	104
TABLE 3: Results of Regression Analysis Predicting Organizational Social Cohesion (Hypotheses 1 and 2).....	105
TABLE 4: Results of Regression Analysis Predicting Collective Voluntary Turnover (Hypotheses 3 and 4).....	106
TABLE 5: Results of Regression Analysis Predicting Labor Productivity (Hypotheses 5 and 6).....	107
TABLE 6: Regression Results of the Mediated Moderation Model (Hypotheses 7, 8, and 9).....	108
TABLE 7: A Summary of Regressing Organizational Social Cohesion on Organization-Based Incentives and Employee Involvement.....	109
TABLE 8: A Summary of Regressing Collective Voluntary Turnover on Organization-Based Incentives, Employee Involvement, and Organizational Social Cohesion.....	110
TABLE 9: A Summary of Regressing Labor Productivity on Organization-Based Incentives, Employee Involvement, Organizational Social Cohesion, and Collective Voluntary Turnover.....	111
TABLE 10: A Summary of Distribution Percentiles and Standard Deviations for Key Variables.....	113
TABLE 11: A Summary of Hypotheses Test Results.....	114

## LIST OF FIGURES

FIGURE 1: A Theoretical Framework.....	102
--	-----

## INTRODUCTION

The utilization of participative practices has long been believed to be a noteworthy feature of highly productive organizations. Such practices are designed to increase either financial or decision-making participation of employees. Incentive plans for organizational performance function to align employees' interests with organizational goals (Bartol & Locke, 2000; Eisenhardt, 1989; Gerhart, Rynes, & Fulmer, 2009). Employee involvement practices function to empower employees, promote their participation in decision-making, and share information with them (Cotton, 1993; Lawler, 1986). These participative practices are conceived as a way to efficiently produce organizational output, because they serve to cultivate a more dependable, responsible, and cooperative workforce (Pfeffer, 1998) and the better realization of human, relational, and intellectual assets (Rousseau & Shpering, 2003). Reflecting this long-standing belief, participative practices have become widespread globally (Arthur & Aiman-Smith, 2001; Blasi & Kruse, 2006; Kato & Morishima, 2002; Kruse, Freeman, & Blasi, 2010; Lawler, Mohrman, & Benson, 2001; Poutsma, Lighthart, & Veersma, 2006) in an effort to address organizational concerns about labor productivity.

Corresponding to this global dispersion, scholars in diverse disciplines (e.g., industrial relations, human resources, and organizational behavior) have been interested in investigating participative practices (Litwin, 2011; Marchington & Suter, 2013) and their productivity-enhancing effects. However, the positive linkages between participative practices and organizational productivity are not empirically compelling and conclusive in the literature on employee participation and involvement (Godard, 2004; Litwin, 2011; Pendleton & Robinson, 2010). On the one hand, it has been demonstrated

that organization-based incentives and employee involvement practices are positively related to organizational productivity in diverse settings. For instance, employee financial participation through gainsharing, profit-sharing, or employee stock plans was found to positively influence organizational productivity with samples of U.S. firms in multiple industries (Kruse, 1993), U.S. manufacturing firms (Hatcher & Ross, 1991; Wagner, Rubin, & Callahan, 1988), and Japanese manufacturing firms (Jones & Kato, 1995). Employee involvement practices also were indicated to positively affect organizational productivity in analyses of U.S. manufacturing firms (Cooke, 1989), U.K. establishments in diverse industries (Addison, Siebert, Wagner, & Wei, 2000), German manufacturing firms (FitzRoy & Kraft, 2005), and branches of a large Finnish retail firm (Jones, Kalmi, & Kauhanen, 2010). The productivity-enhancing effects of these participative practices were affirmed in meta-analytic reviews (e.g., Doucouliagos, 1995). On the other hand, researchers have reported that these participative practices have weak productivity effects (Cappelli & Neumark, 2001), small initial productivity effects (Kleiner, Leonard, & Pilarski, 2002), and no strong relationships with organizational productivity (Blasi, Conte, & Kruse, 1996). These mixed results from prior studies imply no automatic positive effects of participative practices on organizational productivity (Kruse & Blasi, 1997) and have led to calls by researchers (e.g., Arthur & Aiman-Smith, 1991; Gerhart et al., 2009) to develop a theory-based understanding of how and when participative practices influence organizational productivity.

These inconsistent results regarding the positive linkages between participative practices and organizational productivity are in part attributed to omitted variables (Gerhart et al., 2009; Jones, Kato, & Pliskin, 1997), which may have important influences

on the results in two ways. First, little research has simultaneously investigated employee involvement and financial participation in predicting organizational productivity. In the extant literature on employee participation and involvement, a central tenet is that organizational productivity may be more improved by the combined use of both participative practices (Ben-Ner & Jones, 1995; Milgrom & Robert, 1992). In fact, many organizations adopt multiple forms of participative practices (Kruse et al., 2010). Despite this, only a few studies (e.g., Cooke, 1994; Kato & Morishima, 2002; Pendleton & Robinson, 2010) have looked at both forms simultaneously, while most prior studies have predominantly focused on either category. This theoretically and practically is an important omission. Second, intervening variables between participative practices and organizational productivity have usually been overlooked. Prior studies have mainly examined whether organizational productivity is directly improved by either organization-based incentives or employee involvement. This is another key omission, with most studies simply assuming that participative practices predispose employees to have productive work attitudes and behaviors. In this regard, researchers have called for studies that uncover the black box connecting organization-based incentive plans and employee involvement to organizational outcomes (Gerhart, 2000; Gerhart et al., 2009; Magnan & St-Onge, 2005).

This research aims to contribute to the employee participation and involvement literature by identifying a comprehensive theoretical route through which participative practices influence organizational productivity. The proposed model of this study is designed to fill the aforementioned gaps in this literature. First, organization-based incentives and employee involvement are simultaneously considered in predicting

organizational productivity. Second, an organization level theoretical model is developed to specifically illuminate how these participative practices affect organizational productivity. In the human resources (HR) management literature, there has been a growing consensus on the sequential effects of HR practices on an array of outcomes such as collective employee attitudes, behaviors, and organizational performance (Bowen & Ostroff, 2004; Dyer & Reeve, 1995; Guest, 1997). Borrowing this multi-mediation model of HR practice effectiveness, this research explores a collective employee attitude and behavior as two intervening outcomes between these participative practices and organizational productivity. Using realistic group conflict theory (Campbell, 1965) as well as the literatures on social cohesion and turnover, organizational social cohesion is derived as an attitudinal outcome and voluntary turnover is derived as a behavioral outcome at the organization level. Finally, this research empirically tests this theoretical model with a multi-source and partially lagged U.S. large company dataset generated by combining the 2010 and 2011 Great Place to Work® datasets, with further tests using the 2008 and 2009 data. This dataset has several important methodological strengths for this study, including multi-source data to help avoid problems of common method bias, and lagged variables to help address concerns about causality. Figure 1 illustrates the proposed relationships among constructs of interest in this research and the sources and timing of measuring the constructs.

-----  
Insert Figure 1 about here  
-----



The investigation in this research helps to promote a systematic understanding of the effectiveness of participative practices for organizational productivity. This research is among the first to figure out sequential effects of participative practices on employees' collective attitudinal and behavioral outcomes and then organizational productivity. As discussed above, scholars in employee participation and involvement literature have somewhat lamented the mixed findings on the linkages between participative practices and organizational productivity. Investigating the mechanisms linking participative practices to organizational productivity is theoretically crucial to a clear understanding of the productivity effects of participative practices. Doing so not only helps us better understand how organization-based incentives and employee involvement improve organizational productivity, but also provides this literature with theoretical clues to help explain reasons for mixed results in prior studies focused on the main effects of participative practices on organizational productivity. This research suggests that participative practices may first need to achieve positive attitudinal and behavioral outcomes in order to ultimately improve organizational productivity. In doing so, this research provides a new insight for intervening processes that may determine productivity effects of participative practices.

The section of theoretical development begins by briefly introducing organization-based incentives and employee involvement. A multi-mediation model of HR practice effectiveness is then laid out and applied to a proposed model of this research, where the roles of both participative practices are theoretically delineated in regard to organizational social cohesion, collective voluntary turnover, and labor productivity. The methods section explains data, measures, and statistical analysis

employed to test this integrative theoretical model of participative practices effectiveness for organizational productivity. After reporting the statistical evidence in the results section, the findings of this research and their theoretical and practical implications are discussed.

## **THEORETICAL DEVELOPMENT AND HYPOTHESES**

### **Participative Practices: Organization-Based Incentives and Employee Involvement**

Organization-based incentives and employee involvement have been theoretically proposed as core organizational practices that constitute participative work structures for organizational productivity in the employee participation and involvement literature (Ben-Ner & Jones, 1995; Ichniowski, Shaw, & Prennushi, 1997; Levine & Tyson, 1990; Milgrom & Roberts, 1992; Weitzman & Kruse, 1990) as well as in the broader management literature (Datta, Guthrie, & Wright, 2005; Guthrie, 2001; Huselid, 1995; Welbourne & Gomez-Mejia, 1995; Zatzick & Iverson, 2006).

Organization-based incentives are compensation plans in which payouts are connected to organizational performance. The prevailing forms of organization-based incentives are profit-sharing, gainsharing, employee ownership programs, and stock options. Profit-sharing is an annual incentive plan for organizational profitability, which is paid in cash in some cases but sometimes deferred to a retirement plan or given in company stock. Gainsharing is a cash bonus which is based on the productivity improvements or cost reduction of a work group or an overall organization, and may be paid annually or more frequently. The employee ownership plans allow employees to own stock in their organizations, so that employees' financial benefits from the plans hinge on organizational performance. Employee Stock Ownership Plans (ESOP) and Employee Stock Purchase Plans (ESPP) are the most popular forms of employee ownership. An ESOP provides company stock or cash to buy the company stock for employees. In the typical ESOP, employees receive a grant of stock without buying the stock with their wages or savings. An ESPP provides employees with opportunities to

purchase their organizations' stocks at a discounted price. Stock options provide employees with the right to buy company stock at a specific exercise price, typically the market price on the day the option was granted, for 10 years and then to sell the stock and pocket the difference between the exercise price and the future price. A 401(k) is a retirement savings plan in which some portion of employees' wages is invested in stocks or bonds, or directly saved in their accounts for retirement. In many cases, employees also receive company grants of stock that match their purchases. In this case, the 401(k) with investments in company stock is considered to be a collective incentive plan that ties employees' financial benefits to organizational performance. These diverse forms of organization-based incentives have emerged with a common goal of promoting organizational performance although with unique approaches to implementation (Han, Kim, Kruse, & Blasi, 2012).

More than 100 studies have demonstrated a positive association on average between organization-based incentives and organizational productivity or profits, though with noteworthy dispersion in results. Kaarsemaker's (2006) and Freeman's (2007) reviews of the employee ownership literature concluded that previous studies on ESOPs and employee ownership largely found favorable results pertaining to the effectiveness of plans. Formal meta-analyses analyzing the combined results of studies have found strong evidence of a positive association between organization-based incentives and organizational performance (Doucouliagos, 1995; Kruse & Blasi, 1997; Weitzman & Kruse, 1990). As reviewed in Kruse (1993) and Kruse and Blasi (1997), most of the prior studies with longitudinal data have found average productivity increases of 4-5% after adoption of organization-based incentives. Pre/post evidence from Weiss (1987) and

Hansen (1997) have indicated that average worker quality did not change as compensation was changed from individual to group incentives (initially high- and low-productivity workers were equally likely to leave), while average worker performance improved under the group incentives. Furthermore, at least two studies have been conducted with a true experiment using random assignment. Frohlich, Godard, Oppenheimer, and Starke's (1998) laboratory study indicated higher productivity among subjects organized into employee-owned "firms." Peterson and Luthans (2006) implemented a random assignment of profit-sharing at 3 of 21 establishments within a firm and found that the performance of those establishments improved relative to the control group. In sum, the evidence using hard measures of performance shows higher average performance under organization-based incentives, with positive results maintained using a variety of methods to control for diverse forms of selection bias. There is nonetheless substantial dispersion within and among studies in estimated effects of organization-based incentives, indicating that the effects depend upon how they are implemented and they affect performance-related attitudes and behaviors of employees.

Employee involvement has been long advanced by organizational researchers (Lam, Chen, & Schaubroeck, 2002) since the Hawthorne experiments (Leana, Ahlbrandt, & Murrell, 1992). In the literatures on organizational practices in general and employee participation and involvement in particular, employee involvement generally refers to the management practice of allowing employees' influence over managerial decision-makings through communication between management and employees.<sup>1</sup> Employee

---

<sup>1</sup> In employee participation and involvement literature, employee involvement is usually understood as the term that represents a participative practice as described in this research. Thus, employee involvement is conceptually distinguished from the similar

involvement is built on “a conscious and intended effort by individuals at a higher level in an organization,” and provides “opportunities for individuals or groups at a lower level in the organization to have greater voice in one or more areas of organizational performance” (Glew, O’Leary-Kelly, Griffin, & VanFleet, 1995, p. 402). Employees can participate in decision-making at the job level, the department level, and the organization level (Long, 1978). Depending on the properties (i.e., formal or informal, direct or indirect, and the amount of access or influence) identified by Dachler and Wilpert (1978), employee involvement can be carried out in diverse forms such as participative work decisions, consultative participation, informal participation, and representative participation (Cotton, Vollrath, Froggatt, Lengnick-hall, & Jennings, 1988). Beyond the participative decision-making, Lawler (1986) suggested a multi-dimensional framework of employee involvement, including communication and information sharing. This framework has been widely accepted in previous research on employee involvement (e.g., Wright, McCormick, Sherman, & McMahan, 1999). Based on this discussion, employee involvement is regarded in this study as the organizational practice of capturing management’s conscious and intended effort for communication with employees and the participation of employees in decisions on various issues within an organization.

### **A Multi-Mediation Model of Participative Practices for Organizational Productivity**

Among scholars who are concerned with the impact of HR practices on organizational performance, there has been a growing awareness of multi-mediational linkages among HR practices, employee attitudes, employee behaviors, and

---

terms of individual work attitudes such as job involvement defined as individual attachment to or identification with the specific job (Lodahl & Kejner, 1965) and employee engagement defined as individual state of optimal functioning at the specific job (Bakker & Xanthopoulou, 2009; Kahn, 1990).

organizational performance. While a body of research has reported positive effects of HR practices on a host of organizational outcomes (Huselid & Becker, 2011; Kaufman, 2010), some scholars have strived to develop an organizing framework that coherently delineates the link between HR practices and organizational performance (e.g., see Dyer & Reeve, 1995; Guest, 1997; Rogers & Wright, 1998). For the standpoint of organizational psychology, it has been widely presupposed that employee attitudes and behaviors may be intermediate outcomes between HR practices and organizational performance. According to organizational psychologists (e.g., see Ostroff & Bowen, 2000), organizational practices, policies, and procedures shape employees' perceptions about what kinds of attitudes and behaviors are required and valued in their organizations, because they send messages that lead employees to understand their work context (Rousseau, 1995). Hence, the extensive use of particular HR practices is likely to promote employees' shared understanding of their work environment and thereby influence their collective attitudes and behaviors as intended by the HR practices (Bowen & Ostroff, 2004). In this perspective, organizational performance does not directly stem from the use of HR practices, but instead from employees' desirable attitudes and behaviors that the HR practices are designed to induce (Gerhart, 2005; MacDuffie, 1995; Schuler & Jackson, 1987; Wright & Snell, 1991). Therefore, employee attitudes and behaviors have been suggested as prominent intermediate outcomes that at least partially determine the effects of HR practices on organizational performance (Lepak, Liao, Chung, & Harden, 2006). Consequently, there has been a call for studies that examine specific linkages between particular HR practices and particular attitudes and behaviors of employees.

Following this line of reasoning, this study proposes that participative practices may have unique intervening processes that generate collective employee attitudes and behaviors required for improved organizational productivity. Drawing on realistic group conflict theory, organizational social cohesion is proposed as a collective attitudinal outcome. Then, based on the literatures on social cohesion and turnover, voluntary turnover at the organization level is suggested as a collective behavioral outcome. Finally, as illustrated in Figure 1, integrating the aforementioned discussion boils down to a multi-mediation model that predicts the productivity effects of organization-based incentives and employee involvement through unique paths of social cohesion and voluntary turnover at the organization level. Overall, this study argues, more positive common experiences of organizational members from the effective implementation of organization-based incentives and employee involvement may foster stronger social cohesion among them and deter voluntary separation, subsequently improving organizational productivity.

### **A Collective Attitudinal Outcome: Organizational Social Cohesion**

While cohesion has typically been studied in the group dynamics and processes literature (Casey-Campbell & Martens, 2009), social cohesion has been recognized as a type of cohesion (Rosh, Offermann, & Van Diest, 2012; Tziner, 1982). In general, social cohesion is the term used to capture shared attraction and mutual liking among group members based on their social relations (Evans & Jarvis, 1980; Lewin, 1935; Seashore, 1954; Shaw, 1981) and a desire to maintain social relationships (Brawley, Carron, & Widmeyer, 1993) and group membership (Lott & Lott, 1965). An example of social cohesion is that group members get along with each other, have a mutual liking for each



other, and regard one another as friends (Hardy, Eys, & Carron, 2005). Therefore, social cohesion is an essential element of social integration within groups (O'Reilly, Caldwell, & Barnett, 1989; Webber & Donahue, 2001).

Organizational social cohesion is an organizational characteristic. Just as groups may possess a group level characteristic that is equivalent to an individual characteristic (Cohen & Bailey, 1997), organizations may possess an organization level characteristic that is analogous to a group characteristic. As with other organizational phenomena such as justice perceptions (Konovsky, 2000) and learning (Crossan, Lane, & White, 1999), social cohesion can be understood in the multilevel nature of organizations. People can be attracted individually or collectively (Gully, Devine, & Whitney, 1995). Likewise, social cohesion can emerge at the organization level (Hogg & Terry, 2000). In this case, organizational social cohesion signifies how well people in various units or departments are integrated within an organization.

Drawing on the extant cohesion literature, this research defines organizational social cohesion as the extent to which organizational members are committed to interpersonal relationships and express liking for one another. It is important to distinguish organizational social cohesion from collective affective organizational commitment. Affective organizational commitment is originally a concept of individual job attitude and refers to employees' psychological bond with their organizations (Allen & Meyer, 1990). As Gardner, Wright, and Moynihan (2011, p. 318) delineated, collective affective organizational commitment is defined as "a shared mindset and a shared psychological state among a delimited collective of individuals regarding their employer typified by feelings of loyalty and a desire to invest mental and physical energy in

helping the organization achieve its goals (Kanter, 1968; Meyer & Allen, 1997).” A key distinction between the two concepts is the locus of psychological bond. Organizational social cohesion refers to organizational members’ psychological bond to their colleagues, whereas collective affective organizational commitment refers to organizational members’ psychological bond to their common employer. The latter is a broader concept because it conceptually includes employees’ intention to stay with their colleagues in the current employer.

Using the above definition, organizational social cohesion is an organization level concept that represents psychological attachment among members within an organization. It is a shared perception of “we-ness” among organizational members and entails their shared sense of friendship, family, teamwork, and loyalty to one another. Thus, in socially cohesive organizations, members are inclined to stick together, remain united, and have a collective identity (Bandura, 1997).

### **The Direct Effects of Participative Practices on Organizational Social Cohesion: The Realistic Group Conflict Theory**

Participative practices may effectively promote organizations to unite their members into a unified whole. It has often been demonstrated that social cohesion has strong negative relationships with conflict at the group level (e.g., see Barrick, Stewart, Neubert, & Mount, 1998) and particularly relationship conflict at the organization level (Gelfand, Leslie, Keller, & de Dreu, 2012). This evidence indicates that socially cohesive organizations where the members are tied together in a strong psychological bond can be founded on an organizational effort that prevents unnecessary and inordinate conflicts among the members. The realistic group conflict theory (Campbell, 1965) sheds light on

an underlying principle to embody the organizational effort for social cohesion. As Brief, Umphress, Dietz, Burrows, Butz, and Scholten (2005) revealed, the thrust of the realistic group conflict theory is that the competition for valuable but limited resources instigates hostility among the members within a social entity. The feelings of animosity among the members are the root cause of their relationship conflicts (Jehn, 1997) and a major threat to their social cohesion. In this theoretical lens, it is therefore plausible that organizational social cohesion is likely to be heightened by the extensive use of organizational practices reducing competition among organizational members for valuable resources.

Organization-based incentives may be a useful practice to foster organizational social cohesion, because under these incentive plans financial benefits are shared among organizational members. Organization-based incentives are based on the notion of a positive-sum or win-win game, providing extrinsic rewards to prevent factionalism among eligible employees. Other pay-for-performance schemes such as individual incentives, in which pay distribution is based on individual performance, and group-based incentives, in which bonuses are distributed depending on group performance, do not automatically create a positive-sum game for all employees in the organization, and instead may create a zero-sum game with increased competition if there is a fixed pool or limited opportunities for the incentive. In general, the monetary benefits of organization-based incentives are given to employees based on organization-wide performance (e.g., productivity, profitability, sales growth, and cost reduction) when the organization exceeds its performance goals. Under organization-based incentive plans, organizational members can financially benefit when they jointly create higher performance for the

organization. Therefore, organization-based incentives, where the financial benefits of employees are positively correlated (Deutsch, 1949) and interdependent (Wageman & Baker, 1997), can be described as a positive-sum game, as opposed to a competition for a limited valuable resource (e.g., a fixed pool of financial benefits). Consistent with this idea, Collins (1995) qualitatively analyzed 11 non-unionized manufacturing facilities which had implemented gainsharing plans for at least four years, and revealed that although gainsharing did not completely break down class barriers between management and employees, it was effective in making both parties cooperate toward their common goals. Thus, Collins's case study supports the idea that organization-based incentives can reduce conflict among organizational members and provide "glue" for them to unify their interests.

Individual and group-based incentives, on the contrary, can have the function of promoting competition among individual employees (Deutsch, 1949; Lawler, 1971) and work groups. In general, individual and group-based incentives are distributed to employees differentially based on individual and group performance. Under those incentive schemes, individual employees and work groups tend to be more self-interested for their own financial benefit (Deutsch, 1949; Shaw, Gupta, & Delery, 2002). They are also more likely to see other colleagues and groups as obstacles to their own success due to the competition for a limited number of incentives (Kohn, 2002). Finally, they are more likely to perceive pay inequities from the differential payments. Individual and group-based incentives, thus, are more likely to be a case of a zero-sum or win-lose game due to a competition for a limited valuable resource, because the financial benefits for employees may be negatively correlated and incompatible (Deutsch, 1949). On balance,

the organizational members may be more likely to decode a message of we-ness from organization-based incentives when the organization-based incentives are extensively implemented.

***Hypothesis 1. Organization-based incentives positively influence organizational social cohesion.***

Employee involvement may be another organizational practice to bolster organizational solidarity, as it allows organizational members to share influence and information (Jackson, 1983). Participation in decision-making is a form of idea capturing schemes (Wright, Gardner, & Moynihan, 2003) that ask and encourage employees to suggest ideas for performance improvements (Delery & Doty, 1996). Information sharing refers to a formal channel through which organizations provide employees with crucial information pertaining to business and organizational performance (Seibert, Silver, & Randolph, 2004), so that it can fulfill their needs for information. Influence and information are intrinsic rewards *per se* (Leana et al., 1992), and valuable sources to facilitate the success of organizational members within an organization. However, depending on the degree of centralization or decentralization (Scott, 1998), influence and information may be either limited or shared resources. In a centralized work context, the authority for decision-making regarding organizational issues is centered upon individuals at a high level in an organization (Fayol, 1916), and critical information flows occur among the high-status individuals. In the centralized situation, therefore, influence and information are limited valuable resources that organizational members may compete for. On the other hand, in the decentralized situation where authority for decision-making and access to organizational information are shared widely with organizational members,

influence and information are no longer limited valuable resources. Instead, influence is shared between the high-status and the low-status employees (Mitchell, 1973), and among organizational members (Locke & Schweiger, 1979) through participative decision-making. In addition, organizational members can gain better understanding about their jobs and their organization's operation and performance through communication and information sharing from management (Schuler, 1979). Consequently, employee involvement is likely to reduce organizational members' feelings of isolation (Jackson, 1983) and competition for influence and information, and thereby may serve to create organizational social cohesion.

***Hypothesis 2.** Employee involvement positively influences organizational social cohesion.*

#### **A Collective Behavioral Outcome: Collective Voluntary Turnover**

In this study, collective voluntary turnover is defined as the aggregate rate of employee voluntary separations that occur within organizations during a certain period. With respect to the level of analysis, collective voluntary turnover is examined at the organization level, since this research seeks to propose a theoretical model at the organization level. According to a refined classification of turnover (McElroy, Morrow, & Rude, 2001; Shaw, Delery, Jenkins, & Gupta, 1998), voluntary turnover refers to employee-initiated-departure requiring replacement, and consequently is distinguished from involuntary turnover (i.e., organization-initiated-departure requiring replacement) and reduction-in-force turnover (i.e., organization-initiated-departure requiring no replacement). Only voluntary turnover is initiated by employees and has been most consistently indicated to have a strong negative relationship with organizational

performance (Holtom, Mitchell, Lee, & Eberly, 2008). Hence, collective voluntary turnover is regarded as an intermediate behavioral outcome of employees that not only may be influenced by their shared commitment to the social relationships in their organizations and/or their experience of participative practices but also may affect organizational productivity.

### **The Indirect Effects of Participative Practices on Collective Voluntary Turnover through Organizational Social Cohesion: A Relational Perspective**

Participative practices may decrease collective voluntary turnover through organizational social cohesion. Organizational practices and collective employee attitudes are prominent categories of antecedents to employee voluntary turnover at the organization level (Hausknecht & Trevor, 2011). While scholars (e.g., Batt, Colvin, & Keefe, 2002; Hausknecht & Trevor, 2011; Shaw et al., 1998) have suggested the mediation effects of collective employee attitudes on the linkages between organizational practices and collective voluntary turnover, very few studies (e.g., Gardner et al., 2011) have investigated psychological processes that link organizational practices to collective voluntary turnover. In line with this research stream, it is explored whether and why organizational social cohesion may mediate the influences of organization-based incentives and employee involvement on collective voluntary turnover.

Organizational social cohesion may be a collective employee attitude that immediately suppresses collective voluntary turnover. Just as employee attitudes initiate the turnover decision process at the individual level (March & Simon, 1958), collective employee attitudes (e.g., aggregated organizational commitment) have been shown to reduce collective voluntary turnover (Angle & Perry, 1981; Gardner et al., 2011; Trevor

& Nyberg, 2008). In a similar vein, organizational social cohesion may be a pertinent antecedent that influences voluntary turnover at the organization level. As social cohesion reflects an individual's desire to maintain his or her social relationships with others (Lott & Lott, 1965), it is conceptually related to the individual voluntary turnover process. Some studies (Piper, Marrache, Lacroix, Richardsen, & Jones, 1983; Sheridan, 1985) have found that social cohesion or individual attraction to others is positively associated with individual commitment to remaining with their colleagues. At the unit level, it also has been reported that teamwork and social cohesion are negatively related to turnover at the branch level (Ryan, Schmit, & Johnson, 1996) and at the group level (O'Reilly et al., 1989), respectively. This line of research and evidence in social cohesion literature is echoed by an emerging relational perspective in the turnover literature. As Harrison, Newman, and Roth (2006, p. 307) noted, "the depth and breadth of interpersonal relationships" are a major retention driver (Mitchell, Holtom, Lee, Sablinski, & Erez, 2001), so that employees with strong (i.e., deep and broad) relationships with their colleagues are less likely to quit their jobs and move to another employer (Mossholder, Settoon, & Henagan, 2005). Logically, these scholars' relational perspective at the individual level can be extended to the organization level linkage between social cohesion and voluntary turnover. Organizational social cohesion is a reflection of strong social bonds tying individuals together. Since organizational social cohesion can be understood as a construct to display the depth and breadth of interpersonal relations among employees at the organization level, it is anticipated to inhibit collective voluntary turnover.



Organization-based incentives and employee involvement are expected to have indirect negative effects on collective voluntary turnover through organizational social cohesion. This prediction is built on the aforementioned direct effects of participative practices on organizational social cohesion combined with the aforementioned direct effects of organizational social cohesion on collective voluntary turnover. While organization-based incentives (Peterson & Luthans, 2006; Wilson & Peel, 1990, 1991) and employee involvement practices (Batt et al., 2002; Gardner et al., 2011; Huang, 1997; Spencer, 1986; Wilson & Peel, 1990, 1991) have been demonstrated to reduce voluntary turnover at the unit level, some other studies (Delery, Gupta, Shaw, Jenkins, & Ganster, 2000; Shaw et al., 1998) have found no relationships among these relationships. These inconsistent results on the relationship between participative practices and collective voluntary turnover may indicate theoretical conditions that intervene to affect the efficacy of participative practices in decreasing collective voluntary turnover. For example, participative practices may not be able to create greater social cohesion due to a history of conflict, distrust, or other circumstances that make employees suspicious or otherwise unresponsive to participative practices. Prior studies have not had the necessary data to examine whether factors like these limit the effects of participative practices on turnover and may help to help the mixed findings. As Gardner and colleagues (2004) hinted with the notion of efficiency wage theory (Schlicht, 1978), organizational practices may enable employees to stay at their organizations when those practices increase utility. In this view, organization-based incentives and employee involvement, if effectively implemented, may benefit employees by providing enhanced social relationships with other colleagues in the workplace. In other words, teamwork,

social interactions, and inclusion in group communication inherent in organization-based incentives and employee involvement are likely to intensify social cohesion among organizational members (Osterman, 1995), and subsequently deter their turnover intention (Krackhardt & Porter, 1986; Roberts & O'Reilly, 1979), because employees who work in socially cohesive organizations are likely to have affective benefits such as increased morale, job satisfaction, and coworker satisfaction (Locke & Schweiger, 1979). Taken as a whole, this study therefore provides the following two hypotheses regarding the mediating role of organizational social cohesion between the two participative practices and collective voluntary turnover.

***Hypothesis 3.** Organization-based incentives negatively influence collective voluntary turnover through organizational social cohesion.*

***Hypothesis 4.** Employee involvement negatively influences collective voluntary turnover through organizational social cohesion.*

### **The Indirect Effects of Participative Practices on Labor Productivity through Organizational Social Cohesion and Collective Voluntary Turnover**

This research proposes an integrative theoretical framework for the productivity effects of participative practices by including organizational social cohesion and collective voluntary turnover. There has been an on-going debate among scholars from diverse disciplinary perspectives regarding whether organization-based incentives and employee involvement positively affect organizational productivity. On the proponents' side, the utilization of participative practices creates some advantages for organizational productivity. For example, participative practices enable organizational members to work cooperatively for organizational efficiency (Alchian & Demsetz, 1996; Milgrom &

Roberts, 1992; Putterman, 1996), to better understand the formal and informal expectations about their roles through increased communication with others (Jackson, 1983), and to enhance employees' knowledge and skills through the processes of knowledge sharing and organizational learning (Arthur & Aiman-Smith, 2001; Batt, 2002; Huselid, 1995; Liao, Toya, Lepak, & Hong, 2009).

On the other side, opponents have been concerned about the unclear line of sight and free-rider problem which may undermine the efficacy of collective incentive schemes and working structures in improving organizational outcomes (Gerhart et al., 2009; Pendleton, 2006). The line of sight between employee effort and reward is likely to weaken or disappear under organization-based incentives, particularly equity-based plans, mainly for the following two reasons. First, an individual employee may have a limited and indirect contribution to organizational outcomes. Second, by and large, an individual's financial benefits from organization-based incentives are strongly affected by exogenous influences (e.g., market conditions and stock market situations). Unlike organization-based incentives, individual incentive plans are typically built on a clear line of sight which connects an individual employee's effort to the value of financial benefits from the individual incentives. Motivating employees via the clear line of sight is, therefore, a major mechanism through which individual incentives can support organizational outcomes. Individual incentives have drawbacks, however, in that they do not encourage – and may even discourage – cooperation that may be important for performance in a teamwork setting, and they may result in misuse of capital equipment and resistance to changes in technology that alter incentive standards.

The free-rider problem is a general problem of collective working and rewards structures, and especially likely to happen under organization-based incentives. It is argued that employees have a disincentive to increase their work effort in a collective production context because they receive only a fraction of the extra value stemming from their own effort (Karau & Williams, 1993; Leibowitz & Tollison, 1980). The free-rider problem is likely to be more serious when it is difficult for management to directly evaluate each individual's contribution to the outcome of collective production (Alchian & Demsetz, 1996) and/or when employees of a work group themselves "feel that they can hide in the crowd" (Davis, 1969 as cited in Pearsall, Christian, & Ellis, 2010, p. 185). The free-rider problem may be overcome in settings where group members can establish and maintain a cooperative agreement with high work norms (Weitzman & Kruse, 1990). Laboratory experiments have shown the existence of the free-rider problem in some settings, but have also shown that it can be overcome in some groups by formal or informal cooperation to discourage free-riding and create higher performance (e.g., see Mellizo, in press).

As a unique theoretical route, this research contends that organizational social cohesion plays a significant role in overcoming the line of sight and free-rider problems, and realizing the productivity effects of organization-based incentives and employee involvement. Strong social cohesion has long been indicated as a key feature of highly productive groups (Darley, Gross, & Martin, 1952; Lodahl, & Porter, 1961; Podsakoff, MacKenzie, & Ahearne, 1997; Tziner & Vardi, 1983). In strong cohesive groups, the members basically tend to be oriented toward the group goal attainment (Klein & Mulvey, 1995; Mulvey & Klein, 1998), responsible for their roles in the collective working

processes (Katz & Khan, 1978; Shaw, 1981), and engaged in extra-role behaviors (Kidwell, Mossholder, & Bennett, 1997; Shin & Choi, 2010). Indeed, it has been widely reported that social cohesion is negatively related to social loafing. For example, it was found that the members in strong cohesive groups tend to work as hard collectively as they did individually (Karau & Hart, 1998) and perceive that other group members work as well as they can (Mulvey & Klein, 1998). Liden, Wayne, Jaworski, and Bennett's (2004) field study confirmed that social cohesion is negatively related to group members' social loafing in organizational settings. In socially cohesive groups, employees are psychologically attracted and attached to their colleagues. In order to fulfill their needs to sustain social affiliation with their favorite colleagues, they need to work harder and contribute to the group goal achievement (Katz & Khan, 1978; Shaw, 1981). Extending this logic, employees are likely to perform their jobs in a productive manner when they work in socially cohesive organizations. Organizational social cohesion helps establish and enforce the norms that encourage collaborative hard working and punish free-riders (e.g., alienation). If employees are strongly attracted and attached to other members in their organizations, they are more likely to maintain their organizational membership in order to work with a cooperative community of workers and to have work motivation for sustaining their organizations. Although participative practices generally have the line of sight and the free-riding problems, both problems may be neutralized among organizational members working in strong social cohesion. In other words, whether organization-based incentives and employee involvement create organizational social cohesion may be regarded as a key avenue to predict whether both organizational practices can positively affect organizational productivity.

Collective voluntary turnover may be another important route that activates the productivity effects of participative practices. As noted in Guthrie (2000, p. 427), “although turnover can be either functional (i.e., beneficial to the firm) or dysfunctional (harmful to the firm), as a general rule, it is extremely costly and most employers are better served with lower rates of employee turnover (Baysinger & Mobley, 1983).”<sup>2</sup> In particular, it has been recognized that voluntary turnover is more costly and disruptive to organizations than other types of turnover (Holtom et al., 2008). Park and Shaw’s (2013) meta-analytic review supported this awareness by substantiating a negative linkage between total turnover rates and organizational productivity as well as the greater negative linkage for voluntary turnover than for involuntary turnover. As Hausknecht and Trevor (2011, p. 360) delineated, collective voluntary turnover ultimately can exert a negative influence on organizational business outcomes “because it entails the loss of firm-specific human and social capital, disrupts operations and collective function, saddles remaining members with newcomer socialization and training, and increases recruitment and selection costs (Bluedorn, 1982; Dess & Shaw, 2001; Mobley, 1982; Osterman, 1987; Price, 1977; Staw, 1980).” In addition, as voluntary turnover usually happens for higher performers who have many external employment opportunities due to their skills and abilities (Trevor, 2001), it is more likely to be detrimental to organizational functioning. From the extant turnover literature, it is derived that reducing

---

<sup>2</sup> Voluntary turnover may sometimes be good for organizations if it helps to get rid of employees who are mismatched to their jobs. The past empirical evidence, however, supports the theoretical views predicting negative effects of voluntary turnover on organizational performance. For example, prior studies have substantiated that collective voluntary turnover is negatively related to a various array of organizational outcomes such as financial performance, labor productivity, and customer satisfaction (Huselid, 1995; McElroy et al., 2001; Morrow & McElroy, 2007; Park & Shaw, 2013; Ton & Huckman, 2008).

collective voluntary turnover is likely to lead to improved organizational productivity.<sup>3</sup> Combined with the aforementioned discussion, it is finally anticipated that participative practices can contribute to improved organizational productivity through enhanced organizational social cohesion and reduced collective voluntary turnover. As discussed above, organizational social cohesion is conceived as a key driver of retaining employees at the organization level. The effective implementation of organization-based incentives and employee involvement may serve to establish well-integrated organizations where employees' effort and behaviors are harmoniously coordinated and united. Thus, this research proposes the following two hypotheses on the mediating roles of organizational social cohesion and collective voluntary turnover between participative practices and labor productivity.

***Hypothesis 5.** Organization-based incentives positively influence labor productivity through organizational social cohesion and collective voluntary turnover.*

***Hypothesis 6.** Employee involvement positively influences labor productivity through organizational social cohesion and collective voluntary turnover.*

---

<sup>3</sup> Regarding the causality issue, turnover rates were quantitatively found to significantly predict change in organizational profits over time (Siebert & Zubanov, 2009; Van Iddekinge, Ferris, Perrewé, Perryman, Blass, & Heetderks, 2009). Hausknecht and Trevor's (2011) and Shaw's (2011) qualitative reviews reached the same conclusion that total voluntary turnover rates are more likely to cause the change in organizational performance as compared to the reverse, which strengthens the case of causality. Park and Shaw's (2013) meta-analytic review found that the negative relationship between turnover rates and organizational performance is stronger in lagged performance samples than in cross-sectional samples.

### **A Mediated Moderation Model of Participative Practices, Organizational Social Cohesion, Collective Voluntary Turnover, and Labor Productivity**

Organization-based incentives and employee involvement may interact to affect organizational social cohesion, collective voluntary turnover, and labor productivity in order. This speculation is underpinned by economic and psychological ownership perspectives. A group of economists have identified a return right and a control right as two components of economic ownership and argued that organizational practices that grant both rights to employees should be simultaneously implemented in order to maximize labor productivity (Ben-Ner & Jones, 1995; Milgrom & Roberts, 1992). Some psychologists have suggested that formal ownership is a multidimensional concept consisting of equity, influence, and information (Pierce, Kostova, & Dirks, 2001; Pierce, Rubenfeld, & Morgan, 1991), and combining multiple organizational practices for sharing rights or privileges is more likely to provide organizational members with coherent and mutually reinforcing messages regarding a psychological contract – i.e., a reciprocal agreement regarding the employment relationship (Rousseau & Shperling, 2003). Extending the tenet of ownership in the economic and psychological ownership literatures, it is predicted that organizational members can more completely fulfill their economic and psychological interests in the organizational context when both organization-based incentives and employee involvement are more extensively implemented together. In other words, organizational members may be likely to perceive a stronger sense of we-ness from their extensive experience of shared returns, shared influence, and shared information under the combination of organization-based incentives and employee involvement. This more heightened social cohesion among organizational



members may dramatically reduce their voluntary separations and in turn maximize labor productivity. Hence, this study attempts to explore whether organization-based incentives and employee involvement jointly affect an array of organizational outcomes.

***Hypothesis 7.*** *Organization-based incentives and employee involvement interact to positively influence organizational social cohesion.*

***Hypothesis 8.*** *Organization-based incentives and employee involvement interact to negatively influence collective voluntary turnover through organizational social cohesion.*

***Hypothesis 9.*** *Organization-based incentives and employee involvement interact to positively influence labor productivity through organizational social cohesion and collective voluntary turnover.*

## METHODS

### Sample and Data

This study combined and analyzed the 2010 and 2011 datasets of the Great Place to Work® (GPTW) Institute. The GPTW Institute ([www.greatplacetowork.com](http://www.greatplacetowork.com)) has administered the data collection since 1998, in order to create the “100 Best Companies to Work for in America” published by Fortune each January. The GPTW datasets were used in prior organizational research. For example, Kruse, Blasi, and Freeman’s (2012) work analyzed the GPTW datasets including 780 firms over the 3-year span 2005-2007. To test the theoretical model, this study used the 2010 GPTW dataset for organization-based incentives, employee involvement, organizational social cohesion, and collective voluntary turnover, as well as the 2011 GPTW dataset for labor productivity. This partially longitudinal design with one-year lagged organizational performance strengthens this study’s confidence in the causal direction of the relationships between predictors and labor productivity in the theoretical model.

The sample of this study is 313 companies and 129,889 full-time employees (on average 414.98 full-time employees per company) from the 2010 GPTW dataset and 176 companies from the 2011 GPTW dataset. The GPTW Institute provided access to the data for 342 firms in the 2010 dataset and for 313 firms in the 2011 dataset, including both those that made the 100 best list and those that applied and did not make the list, under a confidentiality agreement which allowed linking the data to other data sources and to analyzing it on a GPTW Institute server. The final sample to test the theoretical model of this study was determined sequentially in the following three ways. First, scatter plots and histograms were examined to identify outlying values (i.e., very unrealistic values

caused by insincere responses or typos) in the variables of this study and 14 companies in the 2010 dataset were dropped in this way.<sup>4</sup> Second, among 200 companies which participated in both the 2010 and 2011 GPTW surveys, 12 companies which did not provide information necessary to calculate labor productivity were dropped. Third, Cook's Distance was used to detect influential outliers in the data of the key study variables such as organization-based incentives, employee involvement, organizational social cohesion, collective voluntary turnover, and labor productivity. Because the sample (i.e., 328 companies) for analyzing the effects of organization-based incentives, employee involvement, and organizational social cohesion on collective voluntary turnover is different from the sample (i.e., 188 companies) for testing the impacts of those variables on labor productivity, Cook's Distance was calculated for the two different samples and relationships of the variables, respectively. The cutoff value is calculated by dividing 4 by the number of observations and the observation which has a greater value of Cook's Distance than the cut-off value would be eliminated from the sample (Bollen & Jackman, 1990). Following this procedure, the cutoff values turned out to be 0.0122 for the sample of 328 and 0.021 for the sample of 188, respectively, and then 15 observations which have greater values of Cook's Distance than the cutoff values were deleted in the sample for the subsequent analysis. Thus, the final sample of this study consists of 313 companies in the 2010 dataset and 176 companies in the 2011

---

<sup>4</sup> For example, one service company reported a voluntary turnover rate of 69.17% among 2,044 full-time employees. As compared to a service industry mean of 9.9%, the inordinately high values raise questions of data quality (e.g., whether the data were reported or coded correctly) and/or special circumstances affecting a firm in a particular year. After excluding these extreme outliers in the voluntary turnover measure, the average voluntary turnover rate of sample companies is 9% (see Table 2), which is comparable to the 2010 voluntary turnover rate of all industries.

dataset. Table 1 depicts the industry classification of the companies examined in this study.

As most of the companies in the GPTW dataset have implemented favorable and supportive HR practices, one might be concerned about the potential selection bias. In order to focus on the impact of organization-based incentives and employee involvement, however, this sample of those with diverse exemplary HR practices has some advantages, because the potential impact of omitted traits of workplace situations and practices in a representative sample of companies may be mitigated in this non-representative sample of companies where alternative positive characteristics of the workplace are more likely to be abundant (Kruse et al., 2012). Many of the firms without the policies measured here will have other unmeasured policies (e.g., flexible working arrangements) that also contribute to good employee attitudes and outcomes, compressing the distribution of attitudes and outcomes in the sample. Put another way, the fact that the firms tend to be drawn from the “upper tail” of firms with good labor practices means that outcomes are likely to be more compressed than in a representative sample, making it more difficult to detect significant differences. Therefore, any findings of significant differences are all the more noteworthy due to the select nature of the sample.

-----  
 Insert Table 1 about here  
 -----

### **The GPTW Survey Administration Procedure<sup>5</sup>**

---

<sup>5</sup> See <http://www.greatplacetowork.com/best-companies/about-applying-to-best-companies-lists/about-the-process> for more detailed information.

The GPTW dataset consists of two parts with different sources of information. One is the “Culture Audit” survey. This is the company survey in which management representatives of the companies fill out the survey items asking about employment circumstances and HR practices when they apply for the competition to be ranked in the “100 best companies to work for” list. The other one is called the “GPTW trust index survey.” This is the employee survey comprising 57 questions asking about employees’ perceptions of their own and their colleagues’ attitudes and behaviors, as well as their perceived or experienced HR practices and policies. The GPTW trust index surveys are randomly given to between 200 and 300 representative employees in each company that applies for selection to the list of the “100 best companies to work for.” Once the groups of representative employees are identified, companies are responsible for sending out the questionnaire packets, containing a preaddressed and stamped envelope to return the questionnaire directly to the data processor in the GPTW Institute. Thus, the survey responses of employees are not seen by anyone in the participant companies. As a follow-up step, the participant company contacts are also asked for information about how the companies generated their random samples (e.g., by social security number and employee ID) and how they distributed the questionnaires (e.g., by internal mail and regular mail). All responses of the GPTW trust index employee survey are rated on a 5-point Likert scale (1 = almost always untrue; 2 = often untrue; 3 = sometimes untrue/sometimes true; 4 = often true; 5 = almost always true).

## **Measures**

As seen in Figure 1, the constructs of this study were measured by different informants in two periods.

*Organization-based incentives.* This study focused on broad-based stock awards plans among several forms of organization-based incentives for two reasons. First, broad-based stock awards plans are a genuine scheme of organization-based incentives, because stock prices comprehensively reflect entire business outcomes at the organization level. Although profit-sharing and gainsharing are tied to organizational business outcomes (e.g., profits and productivity, respectively), they are occasionally linked to performance outcomes at the lower-unit (e.g., establishment, department, work group, or team) level. Second, the GPTW dataset includes information regarding what percentage of all full-time employees received stock option awards over the last year, whereas it does not have the same information for profit-sharing, gainsharing, and employee ownership plans.

Measuring the percentage of employees covered is theoretically the most appropriate for this research that aims to test the impact of organization-based incentives on social cohesion, voluntary turnover, and labor productivity, because it measures how broadly the organization-based incentives are spread throughout the workforce, and broad coverage is an important precondition for social cohesion. While it would be ideal to have a measure of what percentage of employees are covered by any form of organization-based incentive, as noted above such information is not available on other organization-based incentives; also, information from other datasets indicates a strong correlation between the percentage of employees covered by stock options and other organization-based incentives.<sup>6</sup> For the analysis here, the percentage of employees

---

<sup>6</sup> Given Blasi, Kruse, and Freeman's (2006) information that in the national General Social Survey (GSS) sample, 92% of employees holding stock options also reported owning company stock and/or being eligible for profit-sharing, the percentage of employees with stock awards plans is probably a lower bound on the percentage of employees eligible for organization-based incentives more generally.

measure is more appropriate than other measures used in prior work that includes a dummy variable, average bonus per employee, and ratio of the bonus to wages or total compensation (Jones et al., 1997). Methodologically, the continuous measurement of organization-based incentives used in this research may have lower measurement error than scale, interval, or dummy measures (Judge, Piccolo, Podsakoff, Shaw, & Rich, 2010). The information pertaining to the coverage of broad-based stock awards was provided by the management representatives in the company survey. With this item about the percentage of stock option award recipients, this research intends to measure the extent to which the participant companies extensively use organization-based incentives for their full-time employees.

***Employee involvement.*** As discussed above, employee involvement in this research is regarded as the HR practice reflecting management's conscious and intended effort for communication with employees and their participation in decision-making. Employee involvement is constructed by aggregating full-time supervisory employees' average responses to the following three statements in the employee survey<sup>7</sup> [for this and organizational social cohesion measures, item factor loadings are given in parentheses after each item]: (1) "management involves people in decisions that affect their jobs or work environment [0.67]," (2) "management genuinely seeks and responds to suggestions and ideas [0.79]," and (3) "management is approachable, easy to talk with [0.69]."

---

<sup>7</sup> In order to keep a consistency in the raters for organizational practices, supervisory employees' responses to the employee involvement practice were intentionally used and aggregated to construct the organization-level employee involvement just as organization-based incentives were rated by management representatives. The correlation between aggregated employee involvement rated by a supervisory group and that rated by a non-supervisory group is 0.65 ( $p < 0.001$ ).

Cronbach's Alpha is 0.86. Principal component analysis with varimax rotation displayed that all the three items are loaded on one factor and account for 47.88 percent of the variance. These three questions are comparable to other published items of employee involvement. For example, Wayne, Shore, Bommer, and Tetrick (2002) developed survey items to measure how well the company leads to employee involvement in ways that ask the respondent for their opinions on important issues, discuss implications of decision-making with the respondent, and provide the respondent with privileged communication from management (i.e., being in the loop).

***Organizational social cohesion.*** Building on theory and research on social cohesion, organizational social cohesion is defined in this research as the extent to which organizational members are committed to interpersonal relationships and express liking for one another. Organizational social cohesion is constructed by aggregating full-time non-supervisory employees' average responses to the following four statements in the employee survey<sup>8</sup>: (1) "there is a 'family' or 'team' feeling here [0.71]," (2) "we're all in this together [0.80]," and (3) "people care about each other here [0.60]," and (4) "people celebrate special events around here [0.62]."<sup>9</sup> Cronbach's Alpha is 0.87. Principal component analysis with varimax rotation displayed that all the four items are loaded on one factor and account for 52.13 percent of the variance. Conceptually, these four questions are appropriate to capture the degree of social bonds that lead members to stick together and remain united (Carron, 1982; Casey-Campbell & Martens, 2009), which are

---

<sup>8</sup> The correlation between aggregated organizational social cohesion rated by a supervisory group and that rated by a non-supervisory group is 0.69 ( $p < 0.001$ ).

<sup>9</sup> The same result of factor analysis was found with the student sample ( $N = 48$ ).



the core attributes composing the concept of social cohesion. A comparison to an established measure of social cohesion is provided below.

***Collective voluntary turnover.*** The collective voluntary turnover rate was calculated following Shaw and colleagues (2005). In the GPTW dataset, management representatives provided information on the number of voluntary separations (excluding retirements) of full-time employees in the past 12 months as well as on the number of full-time employees 12 months ago and now. With these data, the collective voluntary turnover rate was calculated as the number of voluntary separations divided by the average number of full-time employees between the two times.

***Labor productivity.*** As a distal organizational performance variable, this research considered labor productivity. Labor productivity has been widely studied in the management literature (Batt & Colvin, 2011; Hausknecht & Trevor, 2011; Richard, Devinney, Yip, & Johnson, 2009). In general, labor productivity refers to total output divided by labor inputs (Samuelson & Nordhaus, 1989) and shows the degree to which a company's employees efficiently produce output for the business (Datta et al., 2005). In this research, labor productivity was measured as the logarithm of the ratio of firm revenue to number of employees (Datta et al., 2005).

***Control variables.*** To better assess the theoretical model by reducing the power of alternative explanations of organizational social cohesion, collective voluntary turnover, and labor productivity, this study controlled for industry membership (6 dummy variables representing 7 industrial classifications; see Table 1), firm size (the number of employees), firm age (the number of years since the foundation date), union presence (1 = yes and 0 = no), experience of layoff over the last five years (1 = yes and 0 = no), and

experience of Merger and Acquisition over the last one year (M&A; 1 = yes and 0 = no). Depending on the industry membership, there can be variation in the voluntary turnover rate and labor productivity (Yanadori & Kato, 2007). Firm size and age have been traditionally included in control variables in the organizational effectiveness research (e.g., Huselid, 1995). Union representation affects turnover rates of organizations (Hausknecht & Trevor, 2011), and unionized employees have been indicated to have different levels of work attitudes (Hammer & Avgar, 2005) and turnover (Freeman, 1980). Having a recent layoff was controlled because it can influence labor productivity and surviving employees' perceptions about their organizations. The recent experience of M&A was controlled for two reasons. First, at the individual level, this major change is seen as a shock (Iverson & Pullman, 2000) that enables employees to deliberately think about their jobs and may lead them to either leave or stay (Lee & Mitchell, 1994). Second, at the organization level, merging heterogeneous organizations is likely to influence employees' feeling of relational solidarity as well as the sample companies' voluntary turnover and labor productivity. Natural logarithm was applied to firm size and age because the data for both variables were skewed.

### **Construct Validity Tests**

As the GPTW Institute did not use standard items to measure employee involvement and organizational social cohesion, the validity of the constructs must be established. To address this concern, construct validity tests were conducted by comparing the GPTW measures and standard measures in the extant literature and checking the convergent validity between the two measures (i.e., whether the two measures are positively and significantly correlated). The sampling frame for the

construct validity tests was 69 students enrolled in a labor economics course in a Master of HR management program at a large eastern public university, and 48 students participated in the on-line survey for construct validity tests (i.e., a response rate of 70%). In this sample, 33 students are female, whereas 15 students are male. On average, their age is about 26, and their total full-time working experience is 3.5 years.

Unless otherwise stated, on a 6-point Likert scale (1 = strongly disagree; 6 = strongly agree), the students responded to survey items of several constructs pertaining to the work practices and environment in their prior or current work experience. Original items were adapted from previous research but modified in ways that rephrased the items to be contextualized for workplace settings and shifted the referent of the items from the individual level to the organizational level due to this study's level of theory and analysis.

In the case of employee involvement, the three items used in this study were first compared with three items used in the work of Wayne and colleagues (2002): how well their organizations (1) discuss implications of decisions with their employees, (2) ask for their employees' opinions on important issues, and (3) give privileged communication from management. Next, the three items were compared with five items used in the works of Lam and colleagues (2002) and Siegel and Ruh (1973): in this organization, employees (1) have high degree of influence in company decisions, (2) often participate in decisions regarding their jobs, (3) have high degree of influence in the decisions affecting them, (4) can participate in setting new company policies, and (5) have real influence in company decisions. The values of the employee involvement scales used in this study turned out to be significantly and positively correlated ( $r = 0.62, p < 0.001$ ) with the values of Wayne and colleagues' 3-item measure ( $\alpha = 0.82$ ) as well as ( $r = 0.71$ ,

$p < 0.001$ ) with the values of Siegel and Ruh's 5-item measure ( $\alpha = 0.87$ ). The results indicated the convergent validity of the employee involvement scales from the GPTW dataset.

The GPTW measures of organizational social cohesion was compared with Seashore's (1954) four-item measure of group cohesiveness, which has been most often used in previous cohesion research (Casey-Campbell & Martens, 2009). On a 6-point scale (6 = great, couldn't be better; 1 = not very good), I collected information of students' responses to the following four items: (1) the extent to which group members were ready to defend each other from criticism by outsiders, (2) how well they help each other on the job, (3) how well they get along with each other, and (4) how well they stick together. The values of the organizational social cohesion scales used in this study appeared to be significantly and positively correlated ( $r = 0.65, p < 0.001$ ) with the values of the group cohesiveness measure ( $\alpha = 0.86$ ). The results indicate convergent validity with the organizational social cohesion measure from the GPTW dataset.

### **Aggregation Tests**

The research model for this research includes employee involvement and organizational social cohesion. Both variables are measured by individual employees' perceptions at the organization level. As such, a series of aggregation tests were conducted to justify aggregating individual level values to the organization level values.

Following the below formula of LeBreton, James, and Lindell (2005), within-group interrater agreement was calculated using  $r_{wg}$  (James, Demaree, & Wolf, 1984, 1993) for the two variables. The mean  $r_{wg}$  values for employee involvement and

organizational social cohesion were 0.60 and 0.68, respectively and surpass the rule of thumb value of 0.60 (James, 1982). Thus, the aggregation was justified.

$$r_{wg} = 1 - (S^2_x / [A^2 - 1] / 12)$$

$S^2_x$ : The observed variance on X

A: The number of response option

Intraclass correlation coefficients such as ICC(1) and ICC(2) were calculated to further justify the aggregation of the two variables. ICC(1) assesses the proportion of variance in ratings due to organization membership (Bliese, 2000), so that it provides an estimate of the degree to which individual variability on the variables is explained by the organization membership. In the meantime, ICC(2) estimates the reliability of organization mean differences (Bliese, 2000). In this study, ICC(1) and ICC(2) were assessed with the following formula with a one-way, random-effects analysis of variance (Bartko, 1976):

$$ICC(1) = (MSB - MSW) / (MSB + [N_k - 1] \times MSW)$$

$$ICC(2) = (MSB - MSW) / MSB$$

MSB: Mean square between

MSW: Within-subjects variance

$N_k$  = Unit size (average size when sizes differ across units)

All the ICC(1) and ICC(2) coefficients for employee involvement and organizational social cohesion were statically significant ( $p < .001$ ). The ICC(1)s for the two variables were 0.04 and 0.05, respectively. Their values of ICC(1) are slightly lower than the median value of 0.12 reported by James (1982) and in the organizational literature (see Bliese, 2000), as well as relative to a general acceptable level of 0.10

(LeBreton & Senter, 2008; Murphy & Myors, 1998). However, these values of ICC(1) are fairly typical of real-world data (LeBreton & Senter, 2008) and show organization level variance to some extent. Indeed, similar values have been seen in previous organizational research (e.g., Hausknecht, Trevor, & Howard, 2009). The ICC(2)s for the two variables were 0.95 and 0.96, respectively. The two variables' ICC(2)s far exceed a general cutoff of 0.70 (Bliese, 2000). The results of ICC(1) and ICC(2) demonstrated that there is relatively acceptable homogeneity within organizations and very reliable between-organization variance in individual employees' perceptions on employee involvement and organizational social cohesion. Therefore, ICC(1)s and ICC(2)s also justified the aggregation.

### **Analytical Strategies**

To test Hypotheses 1 to 6, a hierarchical regression analysis was conducted with STATA 11.0. Testing the mediation hypotheses followed Shrout and Bolger's (2002) revised procedure of Baron and Kenny (1986), which is a causal steps approach of joint significance (Hayes, 2009). According to Baron and Kenny (1986), a mediation relationship emerges with meeting the four steps: in Step 1, the independent variable needs to be significantly related to the dependent variable; in Step 2, the independent variable must be significantly related to the mediator; in Step 3, the mediator must be significantly related to the dependent variable without the independent variable, and; in Step 4, after controlling for the independent variable, the mediator must significantly affect the dependent variable, and the effect of the independent variable on the dependent variable must either significantly diminish (partial mediation) or disappear (full mediation). Although mostly similar to Baron and Kenny's four steps, Step 1 is not

necessarily required (Kenny, Kashy, & Bolger, 1998), thus meaning that Steps 2, 3, and 4 are essential. Also, partial or full mediation is judged by whether the effect of the independent variable is significant or not in the Step 4.

To test the mediated moderation model for Hypotheses 7 to 9, a hierarchical regression analysis was performed based on the suggestions of Edwards and Lambert's (2007) 'first stage moderation model' and Preacher, Rucker, and Hayes's (2007) 'model 2.' Baron and Kenny (1986) argued that mediated moderation is to transmit a moderating effect by a mediator variable, and moderated mediation is a mediating effect which is moderated by a particular variable. In the proposed model of this study, it is relevant to apply the mediated moderation, because the model proposes that organizational social cohesion and collective voluntary turnover mediate the indirect effects of employee involvement and organization-based incentives on labor productivity. To test the mediated moderation Hypotheses, I established the following equations:

$$OSC = a_0 + a_1 \times OBI + a_2 \times EI + a_3 \times OBI \times EI + e_{osc}$$

$$CVT_1 = a_0 + a_1 \times OBI + a_2 \times EI + a_3 \times OBI \times EI + e_{cvt_1}$$

$$CVT_2 = b_0 + b_1 \times OBI + b_2 \times EI + b_3 \times OBI \times EI + b_4 \times OSC + e_{cvt_2}$$

$$LP_1 = a_0 + a_1 \times OBI + a_2 \times EI + a_3 \times OBI \times EI + e_{lp_1}$$

$$LP_2 = b_0 + b_1 \times OBI + b_2 \times EI + b_3 \times OBI \times EI + b_4 \times OSC + e_{lp_2}$$

$$LP_3 = c_0 + c_1 \times OBI + c_2 \times EI + c_3 \times OBI \times EI + c_4 \times OSC + c_5 \times CVT + e_{lp_3}$$

Where,

OBI: Organization-based incentives

EI: Employee involvement

OSC: Organizational social cohesion

CVT: Collective voluntary turnover

LP: Labor productivity

eosc: Error term for organizational social cohesion

ecvt<sub>1</sub>: Error term for collective voluntary turnover 1

ecvt<sub>2</sub>: Error term for collective voluntary turnover 2

elp<sub>1</sub>: Error term for labor productivity 1

elp<sub>2</sub>: Error term for labor productivity 2

elp<sub>3</sub>: Error term for labor productivity 3

In this analytic procedure, I centered organization-based incentives and employee involvement in constructing the interaction terms, in order to reduce multicollinearity through the product terms between the two variables (Aiken & West, 1991). The models also include the control variables described above.



## RESULTS

Table 2 presents means and standard deviations for the principal variables, and correlations among the variables of interest. The sample firms are characterized by the average size of 12,413.96 (min = 1,000; max = 333,646) and the average age of 66.89 (min = 6; max = 207). 28% of the sample firms have unions. 19% and 17% of the sample firms have experienced layoff and M&A, respectively. On average, 8.58% of full-time employees in the sample firms were stock-option-awarded (min = 0; max = 100%). The average voluntary turnover rate turned out to be 9%.

In general, correlations among the variables of interest showed similar patterns to theory and previous research. As predicted, organizational social cohesion is positively correlated to employee involvement ( $r = 0.66$ )<sup>10</sup>. Consistent with the turnover literature, the voluntary turnover rate at the organization level is negatively correlated with union presence ( $r = -0.16$ ). The union presence in the sample firms is negatively correlated with

---

<sup>10</sup> With the GPTW dataset, a high correlation was found between employee involvement and organizational social cohesion, although the two constructs were computed by aggregating different groups of raters (i.e., supervisory employees for employee involvement and non-supervisory employees for organizational social cohesion). When considering employee involvement rated by non-supervisory groups and organizational social cohesion rated by supervisory groups, the correlation between the constructs is 0.57. Despite this high correlation between employee involvement and organizational social cohesion, multicollinearity should not substantially affect the findings of this study, because there is no variable whose variation inflation factor (VIF) value is greater than 10 and tolerance (1/VIF) is lesser than 0.1. In fact, with the student sample ( $N = 48$ ) for the construct validity tests, a moderate correlation (0.37,  $p < 0.01$ ) was found between the two constructs. These high and inconsistent correlation results are surprising but not necessarily unrealistic. In organizational research, many constructs have revealed some overlap with other constructs (Gruman & Saks, 2011), and correlations vary across samples and measurements. In addition, a fairly high correlation has been occasionally found even between conceptually distinguished constructs. For example, Meyer, Stanley, Herscovitch, and Topolnysky's (2002) meta-analysis displayed a positive correlation of 0.65 between job satisfaction and affective organizational commitment at the individual level.

organizational social cohesion ( $r = -0.24$ ). In addition, organization-based incentives ( $r = -0.15$ ) and employee involvement ( $r = -0.13$ ) are negatively correlated with the union presence.

-----  
 Insert Table 2 about here  
 -----

### **Hypotheses 1 and 2: The Main Effects of Organization-Based Incentives and Employee Involvement on Organizational Social Cohesion**

It was anticipated that organization-based incentives (Hypothesis 1) and employee involvement (Hypothesis 2) are positively associated with organizational social cohesion. The results showed that organization-based incentives ( $B = 0.001$ ,  $p < 0.05$  in model 2 of Table 3) and employee involvement ( $B = 0.58$ ,  $p < .001$  in model 3 of Table 3) have significant positive effects on organizational social cohesion. Thus, Hypotheses 1 and 2 were supported.

-----  
 Insert Table 3 about here  
 -----

### **Hypotheses 3 and 4: The Effects of Organization-Based Incentives and Employee Involvement on Collective Voluntary Turnover through Organizational Social Cohesion**

Organization-based incentives (Hypothesis 3) and employee involvement (Hypothesis 4) were predicted to reduce collective voluntary turnover via organizational social cohesion, respectively. In Table 4, organization-based incentives turned out to

exert a significant negative effect on collective voluntary turnover ( $B = -0.0004, p < 0.05$  in Model 2), and employee involvement appeared to have a marginal significant negative effect on it ( $B = -0.03, p < 0.1$  in Model 3). As viewed in Model 4 of Table 4, it was found that organizational social cohesion significantly and negatively influences collective voluntary turnover ( $B = -0.06, p < 0.01$ ). In Model 5 of Table 4, after controlling for organization-based incentives ( $B = -0.0003, p < 0.1$ ), organizational social cohesion still turned out to have a significant negative effect on collective voluntary turnover ( $B = -0.05, p < 0.01$ ). Meanwhile, after controlling for employee involvement ( $B = 0.008, n.s.$ ), organizational social cohesion still appeared to have a significant negative effect on collective voluntary turnover ( $B = -0.06, p < 0.01$  in Model 6 of Table 5). Combined with the supporting evidence for Hypotheses 1 and 2 (i.e., the main effects of organization-based incentives and employee involvement on organizational social cohesion), consequently Hypotheses 3 and 4 were supported. These findings show that organizational social cohesion partially mediates the negative linkage between organization-based incentives and collective voluntary turnover whereas it fully mediates the negative linkage between employee involvement and collective voluntary turnover.<sup>11</sup>

---

<sup>11</sup> As voluntary separation may be influenced by employees' demographic characteristics, gender and organizational tenure, which are representative traits of workforce and available in the management-reported information of GPTW, were controlled at the organization level in two additional analyses. In one analysis, natural logarithm was applied to gender (i.e., the ratio of female employees to the total employment size) and organizational tenure (i.e., the portion of full-time employees with the organizational tenure over 16 years) as both variables were skewed. In the other analysis, natural logarithm was applied to the gender ratio data after excluding a conspicuous outlier, and the data of more than 6 years organizational tenure, which approximates a normal distribution, was used instead of the natural logarithm. Both analyses found the partial mediation effect of organizational social cohesion between organization-based incentives and collective voluntary turnover and the full mediation effect of that between employee involvement and collective voluntary turnover. These results are the same as those

-----  
 Insert Table 4 about here  
 -----

### **Hypotheses 5 and 6: The Effects of Organization-Based Incentives and Employee Involvement on Labor Productivity via Organizational Social Cohesion and Collective Voluntary Turnover**

It was expected that organization-based incentives (Hypothesis 5) and employee involvement (Hypothesis 6) positively affect organizational labor productivity through increased organizational social cohesion as well as through decreased collective voluntary turnover. As seen in Table 5, the two mediators significantly influence labor productivity, such that organizational social cohesion ( $B = 0.72, p < 0.1$  in Model 4) predicted increased labor productivity in the following year and collective voluntary turnover ( $B = -2.68, p < 0.05$  in Model 5) predicted the following year's decreased labor productivity. With respect to the main effects of participative practices, organization-based incentives ( $B = 0.0088, p < 0.05$  in Model 2) turned out to have a significant positive effect on labor productivity but employee involvement did not (Model 3). When regressing labor productivity on organization-based incentives, organizational social cohesion, and collective voluntary turnover in order to test the mediational process, the positive significant effects of organization-based incentives on labor productivity ( $B = 0.008, p < 0.05$  in both Models 6 and 7) still existed, but only the significant negative

---

reported above without controlling for gender and organizational tenure. That is, the results about the linkages among participative practices, organizational social cohesion, and collective voluntary turnover are consistent whether gender and organizational tenure were controlled or not. As gender and organizational tenure do not change the results, the results without both workforce traits were reported here.

effect of collective voluntary turnover was maintained ( $B = -2.38, p < 0.05$  in Model 7) and the marginal significant positive effect of organizational social cohesion disappeared ( $B = 0.64, n.s.$  in Model 6). These results show that only collective voluntary turnover partially mediates the positive linkage between organization-based incentives and labor productivity. Therefore, Hypothesis 5 was partially supported. When the same procedure to test a mediational process was applied with employee involvement in lieu of organization-based incentives, employee involvement turned out to improve organizational labor productivity via enhanced organizational social cohesion ( $B = 0.97, p < 0.1$  in Model 9), via reduced collective voluntary turnover rate ( $B = -2.65, p < 0.05$  in Model 10), and via both (in model 11). According to Shrout and Bolger (2002), the direct significant effect of employee involvement on labor productivity is not mandatory. These findings represent that although it does not directly increase labor productivity, employee involvement can improve productivity via enhanced organizational social cohesion and reduced collective voluntary turnover rate. That is, the results illustrate that organizational social cohesion and collective voluntary turnover fully mediate the positive linkage between employee involvement and labor productivity. Hence, Hypothesis 6 was supported.<sup>12</sup>

---

<sup>12</sup> Capital intensity is a common control in empirical studies on labor productivity. Unfortunately, the GPTW dataset did not provide information to calculate it. As an alternative way, the information to calculate the capital labor intensity was added from Compustat, but only 62 companies of the sample companies, which are public companies, had capital stock data that could be used in testing the theoretical model of this study. With these 62 companies, the hypothesized relationships among the study variables were explored after controlling for capital labor intensity. In this exploratory analysis, the natural logarithm of capital labor intensity was used as part of the Cobb-Douglas equation. The results showed that organization-based incentives and employee involvement are positively related to organizational social cohesion, which is consistent with hypotheses 1 and 2. In addition, it was found that employee involvement (+) and

-----  
 Insert Table 5 about here  
 -----

### **Hypotheses 7, 8, and 9: The Mediated Moderation Model**

Hypotheses 7, 8, and 9 comprise a mediated moderation model of predicting interplay between organization-based incentives and employee involvement on labor productivity through organizational social cohesion and collective voluntary turnover. Following a conditional process modeling approach (Hayes & Preacher, in press), a regression-based moderated path analysis was conducted to estimate and probe interactions and conditional indirect effects. Process modeling is employed to explore the mechanism through which an independent variable affects a dependent variable via one or more intermediary variables. Conditional process modeling estimates the direct and indirect pathways through which a variable transmits its effects, and models how the size of those effects differs depending on the values of a moderator (Hayes and Preacher, in press). Process modeling is similar to mediation analysis. However, rather than relying on sequential rule based significance tests to establish the presence or absence of mediation (e.g., Baron & Kenny, 1986), indirect effects are directly computed and evaluated and nonlinear bootstrapping is used to establish confidence intervals around the indirect effects (Gully, Philips, Castellano, Han, & Kim, in press).

To provide strong support for this mediated moderation model, the interplay between organization-based incentives and employee involvement must be significant for

---

collective voluntary turnover (-) have marginal significant direct effects on organizational labor productivity. The fundamental relationships do not appear to be changed when using the smaller sample that controls for capital intensity.

labor productivity as well as each of the intervening mediators such as organizational social cohesion and collective voluntary turnover. Next, the effect of the moderator, once significant, must become non-significant upon entry of the mediator. This pattern carries through all of the mediators until reaching labor productivity. To establish full mediation, the interaction term must predict labor productivity as well as each of the mediators (i.e., organizational social cohesion and collective voluntary turnover). Then, each of the mediators must predict each of the subsequent mediators or outcome variables beyond the previously entered interaction and mediators in the model. Finally, the effect of the interaction term must be greatly reduced or non-significant upon entry of the mediator, and the effect of each mediator must be significant upon entry but greatly reduced or non-significant upon entry of each subsequent mediator.

Table 6 shows the results of a series of moderated regressions conducted for each organizational outcome followed by entry of subsequent mediators, when appropriate, to test both moderating and mediating effects. As viewed in Model 1 of Step 1, the interaction between organization-based incentives and employee involvement turned out to be non-significant for organizational social cohesion, thus rejecting Hypothesis 7. As seen in Models 2 and 3 of Step 1, the interaction term appeared to be non-significant for collective voluntary turnover but significant for labor productivity. These results made further analyses for Hypotheses 8 and 9 useless. As such, Hypotheses 8 and 9 were not supported.<sup>13</sup>

---

<sup>13</sup> In the literature on employee participation and involvement, researchers have suggested that some work practices (e.g., job rotation, long-term employment, promotion tournaments) may have complementarity with organization-based incentives in order to improve organizational outcomes. The GPTW dataset provided information for the average hours of training per employee. Although this measure for training in the GPTW

-----  
 Insert Table 6 about here  
 -----

### **An Additional Analysis with a Three-Year Panel Dataset of GPTW**

While the previous analyses used partially longitudinal data by analyzing lagged effects of organization-based incentive and employee involvement on labor productivity through organizational social cohesion and collective voluntary turnover, the longitudinal aspect of those relationships would be better tested if more years of a panel dataset are used. Thus, this study employed a panel data analysis to empirically explore whether the proposed relationships hold over time for the period between 2009 and 2011. To do so, the final dataset was created by combining three years of GPTW data. The dataset contains information on 1,003 companies after excluding two companies which had extraordinary values in organization-based incentives (i.e., more than 100%). The overall structure of the final dataset is unbalanced since not all the companies participated in the surveys for the three years. Because this is a short panel and there is not substantial within-firm variation over time in the key variables, the results should be seen as exploratory.

---

dataset is not ideal, an exploratory analysis with this information was conducted to see if training is a complementary practice. The effect of training practice was tested in two ways: as a control variable and as a moderator that interacts with organization-based incentives. The results with controlling for training practice were not different from the aforementioned results without controlling for it. In testing the interaction, the results showed no significant interplay between organization-based incentives and training practice on organizational social cohesion, collective voluntary turnover, and labor productivity. In sum, in these data training does not change the results when used as a control variable and appears to have no complementarity with organization-based incentives to influence organizational outcomes with controlling for employee involvement. These results inconsistent with prior studies would be attributed to the limited nature of the training measure.



The influence of unobserved variables at the firm level can be accounted for in panel data using either a random-effects model or a fixed-effects model. A random-effects model allows researchers to test between-firm as well as within-firm variation at the same time but a fixed-effects model tests only the within-firm variation (Kruse et al, 2012). For this study I tested both models, but due primarily to insufficient within-firm variation in the key variables, I focus on the random-effects model.

If unobserved firm-specific variables are not correlated with the variables of interest, then the random-effects model should produce the same coefficients as the fixed-effects model, but be more efficient due to taking account of the between-firm variation. To confirm the appropriateness of the use of a random-effects model, Hausman tests were conducted for all testing models. A Hausman test shows whether there are differences between a fixed-effects model and a random-effects model. A random-effects model is preferred under the null hypothesis. As such, the use of a random-effects model is confirmed, if a Hausman test holds the null hypothesis (i.e., when chi-square is not significant).

Table 7 shows the results of random-effects regressions and fixed-effects regressions of organizational social cohesion on organization-based incentives and employee involvement. As seen in Table 7, random-effects regression results show the positive influence of employee involvement on organizational social cohesion whereas the same effect was not shown for organization-based incentives. Similarly, the fixed-effects regression results show the positive effect only for employee involvement. The results of the Hausman test show that the values of chi-squared for both models are

significant, which means that the null hypothesis was rejected. On balance, the adoption of a random-coefficient model was inappropriate.

-----  
 Insert Table 7 about here  
 -----

In contrast, random-effects models appear to be appropriate in estimating the factors influencing collective voluntary turnover. The first column of each model in Table 8 shows the results of random-effects regressions of collective voluntary turnover on organization-based incentive, employee involvement, and organizational social cohesion. In Model 1 of Table 8, the result of random-effects regression shows the significant negative effect of organization-based incentives on collective voluntary turnover. Its effects slightly reduced after adding organizational social cohesion in the equation, which also significantly influenced collective voluntary turnover (Model 4 of Table 8). However, these results cannot confirm the partial mediation role of organizational social cohesion between organization-based incentives and collective voluntary turnover, since organization-based incentives did not have a significant effect on organizational social cohesion (Model 1 of Table 7).

As seen in Model 2 of Table 8, there was no relationship between employee involvement and collective voluntary turnover. After entering organizational social cohesion into the equation, the influence of employee involvement on collective voluntary turnover became significant but in a positive direction (Model 5 of Table 8).

The fixed-effects model results for testing the same effects are summarized in the second column of each model in Table 8. Different from the findings of random-effects

models, the fixed-effects regressions show that there was a marginal significant negative effect of employee involvement on collective voluntary turnover (Model 2 in Table 8). Further, its effects still existed when organizational social cohesion was added in the equation, but in this case the effect of organizational social cohesion became non-significant in a positive direction.

Based on Hausman test results for those models, the values of chi-squared for all models are not significant, which confirms the adoption of a random-effects model is acceptable.

-----  
 Insert Table 8 about here  
 -----

When labor productivity is used as a dependent variable, however, the results in Table 9 indicate that a random-effects model is not appropriate. The results of random-effects regressions of labor productivity on organization-based incentives, employee involvement, organizational social cohesion, and collective voluntary turnover are summarized in the first column of all models of Table 9. As seen in Table 9, although organizational social cohesion had a significant positive effect on labor productivity (Model 3) and collective voluntary turnover had a marginal significant negative effect on it (Model 4), there were no significant effects of organization-based incentives (Model 1) and employee involvement (Model 2) on it. After controlling for organization-based incentives, the positive effect of organizational social cohesion on labor productivity remained significant and the negative effect of collective voluntary turnover was marginally significant. However, since the previous model (i.e., Model 1 of Table 8)

showed that organization-based incentives had a significant negative effect on collective voluntary turnover, only the indirect effect of organization-based incentives on labor productivity through collective voluntary turnover is established. In the meantime, after controlling for employee involvement, the positive effect of organizational social cohesion (Model 8) and the negative effect of collective voluntary turnover on labor productivity (Model 9) were still significant. However, as employee involvement had a positive significant effect of organizational social cohesion (Model 2 of Table 7), only the indirect effect of employee involvement on labor productivity through organizational social cohesion is established.

The fixed-effects model results are summarized in the second column for each model of Table 9. According to those results, there was a significant negative effect of organization-based incentives on labor productivity (Model 1), whereas there were no significant effects of employee involvement (Model 2), organizational social cohesion (Model 3), and collective voluntary turnover (Model 4) on it. As the two mediation variables did not have significant effects on labor productivity, it was useless to test the mediational process.

The Hausman test results reject the use of the random-effects model as values of chi-squared for all models are significant.

-----  
 Insert Table 9 about here  
 -----

In sum, the results using random-effects and fixed-effects regressions do not tell a simple story. Most of the results testing the proposed relationships with random-effects

models were not accepted because the random-effects models were rejected by the Hausman test in favor of fixed-effects models. The results do support several elements of the model: (1) increases in employee involvement are linked to improvements in the organizational social cohesion (under both fixed-effects and random-effects Models in Table 7), (2) increases in organization-based incentives are linked to lower collective voluntary turnover (based on random-effects which are not rejected relative to fixed-effects, in Table 8), and (3) improvements in the organizational social cohesion are linked to lower collective voluntary turnover (based on random-effects which are not rejected relative to fixed-effects, in Table 8).

The limited information provided by random-effects and fixed-effects models examining a three-year panel data could be caused by some critical limitations of the data. First, according to the results of the Hausman tests which rejected random-effects models in favor of fixed-effects models, it can be inferred that the firm-specific random-effects are highly correlated with the variables of interest and there is not sufficient information to disentangle the independent effects of organization-based incentives and employee involvement. In other words, the significant between-firm variation in the outcomes examined here may be driven by organization-based incentives and employee involvement, or by unobserved firm-specific factors with which they are highly correlated.

The other problem is that while fixed-effects models are theoretically correct for fixed unobserved firm-specific factors, the identification of effects requires substantial within-firm variation over time in the variables of interest, and the within-firm variation may be driven by errors-in-variables (random variation in reported values over time that

increase the noise-to-signal ratio, increasing standard errors and making it more difficult to identify true effects). Unfortunately, little within-firm variation over time was found in the panel companies' organization-based incentives and organizational social cohesion, making it difficult to obtain good estimates from fixed-effects models. Table 10 compares variation in the key variables in the full sample and the within-firm deviations (reflecting the variation available to estimate fixed-effects models). Variation is measured both as the standard deviation and the inter-quartile range. As seen in Table 10, the variation is much lower for the within-firm deviations than in the overall sample. For example, for organization-based incentives the standard deviation for within-firm deviations is less than half the standard deviation in the overall sample (9.513 compared to 21.516), and the inter-quartile range is zero compared to 4 for the overall sample. The lower level of within-firm variation means that errors in measuring the variables at the firm level are likely to play a more important role, and the increased measurement error increases standard errors and makes it more difficult to detect significant relationships.

-----  
 Insert Table 10 about here  
 -----

Given that the likelihood of finding significant relationships in fixed-effects and random-effects models is decreased both by the lower variation in key variables and by the increased role of errors-in-variables, it is noteworthy that several relationships in the model are nonetheless supported. The information provided by the current panel dataset is however limited in testing the hypotheses using random-effects and fixed-effects

models. Future analysis can help address this problem by using additional data with more within-firm variation from a longer panel dataset.

## DISCUSSION

Recognizing the prior mixed results on the direct linkages between participative practices and labor productivity at the organization level, this research proposed a comprehensive theoretical model that illustrates how organization-based incentives and employee involvement influence organizational labor productivity. Building on a multi-mediation model of organizational practice effectiveness, this research integrated organizational social cohesion and collective voluntary turnover as attitudinal and behavioral outcomes of employees, respectively. The results of analyzing a sample of U.S. large companies in various industries identified two important theoretical routes that intervene the effects of organization-based incentives and employee involvement on labor productivity. In other words, the extensive use of both participative practices was found to immediately foster social cohesion among organizational members. It also was indicated that both participative practices directly decrease collective voluntary turnover although the significant level of employee involvement is marginal. Finally, employee involvement was substantiated to improve labor productivity through enhanced social cohesion and reduced voluntary turnover at the organization level whereas organization-based incentives were demonstrated to boost it directly as well as indirectly only through decreased collective voluntary turnover. The findings of this study are summarized in Table 11. These results are based on variation among firms; exploratory tests to control for unobserved firm differences were conducted and support several of the relationships, but these tests were limited by a lack of substantial within-firm variation over time and the likely increased role of measurement error.



-----  
Insert Table 11 about here  
-----

### **Theoretical Implications**

This study's theoretical model and empirical knowledge primarily contribute to a systematic understanding of participative practices effectiveness for organizational productivity. As discussed above, there has been an on-going debate among scholars from diverse disciplinary perspectives in regard to whether organization-based incentives and employee involvement positively affect organizational productivity. Proponents view positively the productivity effects of participative practices because they assume that both practices cultivate a pool of reliable, dependable, and cooperative workers. On the contrary, opponents take a negative stance in their assumption that both organizational practices may shape a pool of stray free-riders. Although scholars in the two camps have totally different assumptions, it is noteworthy that scholars in common infer that participative practices influence employee attitudes and behaviors in either a positive or a negative way and subsequently affect organizational productivity in the same direction. Based on this notice, this research theoretically investigated mechanisms through which organization-based incentives and employee involvement equip organizations with such a productive workforce. By incorporating social cohesion and voluntary turnover into an integrative organization level model, this research is among the first to figure out sequential effects of participative practices on employees' collective attitudinal and behavioral outcomes and in turn organizational productivity. In doing so, this research provides a new insight that the participative practices may not enhance organizational

productivity until they are effective in establishing socially cohesive organizations and/or reduced voluntary turnover.

The results of this study help to broaden our understanding on incentive plans based on organizational performance. In the extant literature, researchers have widely recognized compensation as an HR practice that profoundly affects organizational performance and have called for more research on the implications for organizational performance (Brown, Sturman, & Simmering, 2003). In addition, researchers (e.g., Gerhart, 2000; Gerhart et al., 2009; Kruse & Blasi, 1997) have lamented a lack of research that investigates causal mechanisms, especially psychological processes (e.g., Wagner, Parker, & Christiansen, 2003). However, most previous work has been focused on impact of pay for lower-level (e.g., individual, group, team, or unit) performance on lower-level performance outcomes and examined their direct effects on the outcome variables. This study framed an integrative theoretical model of exploring sequential influences of organization-based incentives on attitudinal, behavioral, and operational outcomes at the organization level. This integrative model at the organization level goes beyond Guthrie and Hollensbe (2004) that focused on the mediating roles of goal-setting between group incentives and group performance. As indicated in this study, organization-based incentives have significant direct effects on social cohesion, voluntary turnover, and labor productivity at the organization level. Furthermore, it was demonstrated that employee financial participation reduces collective voluntary turnover through enhanced social cohesion and improves labor productivity through decreased voluntary turnover. The empirical knowledge from this integrative model establishes our systematic understanding of mechanisms through which a compensation plan tied to

organizational performance affects organizational outcomes such as voluntary turnover and labor productivity.

The findings of this study suggest another theoretical implication for the literature on collective incentives. Despite the prevalence of organization-based incentives and the importance of turnover, surprisingly little attention has been directed toward linkages between collective incentives and turnover at the unit level. As revealed in Hausknecht and Trevor (2011), the few existing studies for the linkage provided mixed results. For example, Guthrie (2000) found a positive linkage between collective incentives and overall turnover rate in a sample of 153 New Zealand companies. Peterson and Luthans (2006) found a negative linkage between collective incentives and unit level turnover rate in a sample of 21 stores in a fast-food franchise corporation. With a sample of 4,160 Canadian workplaces, Haines, Jalette, and Larose (2010) did not find significant effects of collective incentives (i.e., gainsharing and profit-sharing) on the workplace voluntary turnover rates. The present study with a sample of firms in various industries indicated that organizational voluntary turnover rates are decreased by the extensive use of organization-based incentives as well as by organizational social cohesion shaped by organization-based incentives. These findings ascertain the direct negative impact of organization-based incentives and the indirect negative impact of those through organizational social cohesion on collective voluntary turnover. Future research is necessary to figure out other psychological processes that explicate how organization-based incentives decrease collective voluntary turnover.

This study promotes our understanding on the effectiveness of employee involvement. Organizational researchers have studied employee involvement for a long

time (Lam et al., 2002), and indicated that it promotes organizational productivity (e.g., Batt, 2002; Batt & Colvin, 2011; Huselid, 1995). However, Lawler (1992) asserted that employee involvement might not be effective in all types of industries. In other words, employee involvement might not effectively improve the effectiveness of organizations or industries which require rigid adherence to standards (Riordan, Vandenberg, & Richardson, 2005). Indeed, most of the past work which examined the performance effects of employee involvement focused on a single job and a single industry where employee involvement is influential to organizational performance. With a sample of U.S. large companies in various industries, this study substantiated that employee involvement improves labor productivity when it creates social cohesion and/or reduces voluntary turnover at the organization level. These findings indicate when and how the efficacy and utility of employee involvement can be realized for organizational productivity.

This study's contributions to social cohesion literature are twofold. First, this study showed the presence of social cohesion at the organization level and its significant influences on voluntary turnover and labor productivity. Management theorists have long believed that organizational cohesion is an essential property of high-performing organizations. Earlier, Barnard (1938) asserted that cohesive workforce is a paramount driver for organizational strategy execution. In a similar vein, Lawrence and Lorsch (1967) viewed an organization as a system of interdependent people performing various tasks in different units or departments and suggested that organizational effectiveness hinges in large part on how well organizations integrate efforts and behaviors of their members. Arguably, members in cohesive and well-integrated organizations should be more proficient in collaboration and coordination. As a result, harmonious collaboration

and tight coordination among members allow cohesive organizations to achieve outstanding organizational performance (Fayol, 1949; Pfeffer, 1998; Thompson, 1967). Indeed, it is not difficult to identify organizations that gain competitive advantages through cohesive workforce. For instance, McKinsey, Goldman Sachs, and Hewitt Associates have been able to offer high-quality professional services all the time with their one-firm management approaches that integrate their members into a unified whole and boost their feeling of loyalty for one another (Maister, 1985). This being so, building cohesive workforce and thus achieving organizational integration have been constantly required for organizational leaders (Barnard, 1938; Schein, 1985). Although organizational cohesion has been emphasized a long time ago, theory and empirical knowledge that support organizations' effort for integration have not been virtually explored (Barki & Pinsonneault, 2005). Ever since Lewin (1935) first coined the term cohesiveness, this scholarship has generally investigated cohesion at the group level (Casey-Campbell & Martens, 2009; Rosh et al., 2012). This research is among the first to theoretically explore social cohesion at the organization level and investigate its consequences. Consistent with management theorists' claim, organizational social cohesion was found to distinguish well-functioning organizations from others as it is related to reduced voluntary turnover rate and increased labor productivity. These findings articulate that social cohesion is a predictor of positive outcomes at the organization level and contribute to a systematic understanding of how organizational social cohesion improves labor productivity by indicating the mediating role of voluntary turnover.

Second, the findings of this study provide theoretical implications on how organizational social cohesion emerges. Based on realistic group conflict theory, this study theoretically derived organization-based incentives and employee involvement as its two drivers and empirically confirmed that both participative practices are antecedents of organizational social cohesion. Identifying organizational practices as antecedents of organizational social cohesion is conducive to the extant cohesion literature where much less is known about determinants of cohesion (Kozlowski & Ilgen, 2006). Interestingly, the results showed that employee involvement outperforms organization-based incentives in forming organizational social cohesion. This finding is somewhat consistent with the field theory (Lewin, 1943) arguing that an individual reaction to a social environment depends on the proximity and salience of the individual perceptions on constituents of the social environment (Mathieu & Hamel, 1989). In general, more proximal elements have a greater influence on individuals (Bishop, Scott, & Burroughs, 2000). As the field theory predicted, this evidence implies that employees are more likely to perceive that they are necessary and influential to their colleagues and their organizations when they are exposed to more opportunities for participation in decision-makings regarding various issues in the workplace. As indicated in this study, organization-based incentives enable employees to perceive a sense of solidarity due to the interconnected rewards. However, organization-based incentives tend to be paid only occasionally (often just once a year), whereas employee involvement may be more frequently experienced by employees. Due to the frequency of experiencing HR practices, there may be variation in the two participative practices' effectiveness of fostering organizational social cohesion. As this study begins to figure out which HR practices are effective for organizational social

cohesion, it is necessary to identify other effective HR practices for this collective employee attitude. In the context of Attraction-Selection-Attrition (ASA) model, staffing may be another effective HR practice. Also, socialization may be effective because it can help new hires become a part of their organizations by making them learn important organizational information. Future research is needed to examine effectiveness of those HR practices on organizational social cohesion.

This study contributes to the turnover literature by establishing, and providing empirical knowledge regarding, an integrative model including antecedents and a consequence of voluntary turnover at the organization level. As recent review articles (Hausknecht & Trevor, 2011; Holtom et al., 2008; Shaw, 2011) pointed out, this literature has suffered from a lack of organization level theory and evidence. While some previous studies have developed theoretical models of exploring impact of organizational practices in the individual turnover process (e.g., Allen, Shore, & Griffeth, 2003), only a handful of studies have shown the impact of collective incentives on employee turnover at the unit level (e.g., Peterson & Luthans, 2006). This study identified organizational social cohesion as a driver to inhibit voluntary turnover at the organization level, and the roles of broad-based stock awards and employee involvement in shaping social cohesion among organizational members. As organizational voluntary turnover is still theoretically underdeveloped, more future research is required to better understand organizational process of voluntary turnover.

### **Managerial Implications**

The results of this study show that organization-based incentives and employee involvement can have large practical effects. The coefficients from Table 4 indicate that

extending organization-based incentives to an additional 21% of the workforce (an increase of one standard deviation) would be predicted to lower turnover by 0.84 percentage points – e.g., from the mean of 9 percent to 8.16%, or almost a 10% decrease in the voluntary turnover rate. A one-standard deviation increase in employee involvement (0.23) is predicted to have very similar effect, lowering collective voluntary turnover by 0.69 percentage points – e.g., from the mean of 9 percent to 8.31 percent. The effects on labor productivity are also noteworthy, based on the results from Table 5. A decrease in voluntary turnover of one percentage point is linked to an increase of 0.027 in the natural logarithm of firm revenue per employee, or a 2.7% increase in labor productivity, while extending organization-based incentives to a additional 21% of the workforce is associated with an increase of 0.185 in the natural logarithm of firm revenue per employee, or close to 20% higher productivity. This latter estimate is large and raises questions of plausibility. Past research has found that the average estimated productivity effect of adopting a profit-sharing plan or an ESOP is in the range of 4-5%, although there is substantial dispersion in the estimates. It is possible that the well-managed companies in this sample are especially good at implementing organization-based incentives and maximizing their value to the organization; it is also possible, however, that there is a selection effect or other unmeasured variables that help account for the apparently large effect. With that caveat, the magnitudes of these estimates indicate that organization-based incentives and employee involvement can have substantial practical impacts on voluntary turnover and labor productivity at the organization level.

The findings of this study may provide U.S. employers with practical suggestions for how to effectively utilize participative practices for labor productivity by identifying



some prerequisites for realizing the productivity-enhancing effects of participative work structures. Historically, U.S. employers have adopted diverse programs for employee involvement and participation in order to improve organizational efficiency and productivity. However, not all the U.S. employers have benefited from the use of participative work structures. Such phenomena somewhat have been reflected in the results of field studies conducted by U.S. scholars in this discipline. As noted at the outset, there has been mixed evidence on the productivity-enhancing effects of participative practices, especially in the U.S. organizations. Given that the adoption of participative practices does not automatically lead to better performance, it is important to understand how and why the participative practices improve labor productivity. This study indicated that the extensive use of organization-based incentives and employee involvement may create shared positive experiences among organizational members and thereby have a powerful influence on organizational social cohesion and collective voluntary turnover. As further demonstrated, these collective and behavioral outcomes may lead to a positive change in labor productivity. The theoretical routes from participative practices to organizational social cohesion to collective voluntary turnover provide useful metrics that managers may assess and utilize in improving organizational productivity (Messersmith, Patel, & Lepak, 2011). Thus, the findings of this study underline the significance of not merely implementing participative practices but also paying attention to employee attitudes and behaviors and diagnosing whether those are positive and productive. That is, in order to improve labor productivity, managers may need to ensure positive changes in employee attitudes and behaviors which are more likely to improve labor productivity.

### **Limitations and Suggestions**

As with most research, this study is not without limitations. First, the sample of this study might be problematic because these companies are in the “upper tail” of companies with very supportive organizational practices. This non-representative sample might compromise the generalizability of the findings of this study. However, as noted earlier, this non-representative sample of U.S. best companies has advantages for a conservative test of the proposed theoretical model, due to the compression of outcomes among firms aspiring to join the list of best companies to work for. Nonetheless, subsequent research is needed to confirm the generalizability of this research model, and the significance of indirect effects found by analyzing data collected from additional organizations.

Second, this study did not specifically consider the nature of jobs in the companies. Obviously, some jobs require cooperation with other incumbents in the company in order to increase individual job performance as well as common performance goals among the interdependent jobs. In contrast, other types of jobs may benefit more from competition than from cooperation in improving job performance and contributing to common performance goals. In the latter case, organizational performance outcomes can be increased via a different mechanism from what this study proposed and tested. Consistent with some scholars’ emphasis on the importance of integration (Lawrence & Lorsch, 1967) and cooperation (Pfeffer, 1998), this study intended to delve into what sorts of organizational practices can promote employees to work together for their organizational performance. Future research can broaden our systematic understanding about how compensation plans motivate employees in charge of different jobs, if it simultaneously examines fits between types of compensation plans (e.g., individual

incentives and group incentives) and types of jobs in an integrative model. Furthermore, future research can provide a profound implication for compensation literature, if it simultaneously examines diverse mechanisms through which different components of total compensation packages affect job performance of different job holders, and in turn, organizational productivity.

Third, one might be concerned about the GPTW's measures for organizational social cohesion and employee involvement, because they are not standard measures widely used in past organizational research. To address this concern, this study conducted the test for convergent validity between the measures of this study and the comparable measures in the extant literature by collecting data from students and analyzing correlations. As reported earlier, the GPTW's measures for organizational social cohesion and employee involvement turned out to have high significant positive correlations with standard measures for both constructs, respectively. As these findings validate that the GPTW measures used in this study are comparable to standard measures in extant literature, it is not felt that these data constraints compromise the contribution of this study. Nonetheless, additional research will need to replicate the theoretical model of this study with fully validated measures for organizational social cohesion and employee involvement.

Fourth, the ICC(1)s for organizational social cohesion and employee involvement appeared to be slightly lower than a general acceptable level. ICC(1) assesses the proportion of variance in ratings due to group membership (Bliese, 2000) and represents the degree to which individual-level variability on the variables is explained by group membership. Previous multi-level research with aggregating individual perceptions to

higher-level perceptions has generally focused on work groups, teams, or units comprising employees in charge of a homogeneous job. However, in order to generate organizational constructs for organizational social cohesion and employee involvement, this study aggregated responses of employees in heterogeneous jobs in supervisory and non-supervisory groups, respectively. The organization level and the aggregation of responses from different job holders seem to entail a low level of ICC(1), because different jobs are conceived as an individual difference which may predispose employees to perceive the same thing differently. At the expense of slightly low ICC(1)s, this study intended to capture organization-wide social cohesion and employee involvement perceived by diverse employees. Future research may need to examine the relative merits of a comprehensive approach versus a narrow approach in measuring organization level perceptions and attitudes.

## **CONCLUSION**

Despite the limitations, this study illustrates how an organization can predispose employees to feel a sense of unity, and then how the organization can benefit from this socially cohesive workforce. The results of this study showed that companies are more likely to foster organizational social cohesion, reduce voluntary turnover rate, and improve labor productivity in a sequential process when they extensively use organization-based incentives and/or employee involvement. This comprehensive model was not only underpinned by theory and previous research, but also substantiated with a multi-source and partially lagged dataset. It is hoped that the findings of this study will help in uniting organizational members into one, maximizing their collaborative contribution to their organizational effectiveness, and then sharing the rewards for organizational success.

## REFERENCES

- Addison, J. T., Siebert, W. S., Wagner, J., & Wei, X. 2000. Worker participation and firm performance: Evidence from Germany and Britain. *British Journal of Industrial Relations*, 38(1): 7-48.
- Aiken, L. S., & West, S. G. 1991. *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Alchian, A., & Demsetz, H. 1996. Production, information costs, and economic organization. In L. Putterman & R. S. Kroszner (Eds.), *The economic nature of the firm (2<sup>nd</sup> edition)*: 193-216. New York, NY: Cambridge University.
- Allen, D. G., Shore, L. M., & Griffeth, R. W. 2003. The role of perceived organizational support and supportive human resource practices in the turnover process. *Journal of Management*, 29(1): 99-118.
- Allen, N. J., & Meyer, J. P. 1990. The measurement and antecedents of affective, continuance, and normative commitment to the organization. *Journal of Occupational Psychology*, 63(1): 1-18.
- Angle, H. L., & Perry, J. L. 1981. An empirical assessment of organizational commitment and organizational effectiveness. *Administrative Science Quarterly*, 26(1): 1-14.
- Arthur, J. B., & Aiman-Smith, L. 2001. Gainsharing and organizational learning: An analysis of employee suggestions over time. *Academy of Management Journal*, 44(4): 737-754.

- Bakker, A. B., & Xanthopoulou, D. 2009. The crossover of daily work engagement: Test of an Actor-partner interdependence model. *Journal of Applied Psychology*, 94(6): 1562-1571.
- Barki, H., & Pinsonneault, A. 2005. A model of organizational integration, implementation effort, and performance. *Organization Science*, 16(2): 165-179.
- Baron, R. M., & Kenny, D. A. 1986. The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6): 1173-1182.
- Barnard, C. I. 1938. *The functions of the executive*. Cambridge, MA: Harvard University Press.
- Barrick, M. R., Stewart, G. L., Neubert, M. J., & Mount, M. K. 1998. Relating member ability and personality to work-team processes and team effectiveness. *Journal of Applied Psychology*, 83(3): 377-391.
- Bartko, J. J. 1976. On various intraclass correlation reliability coefficients. *Psychological Bulletin*, 83(5): 762-765.
- Bartol, K. M., & Locke, E. A. 2000. Incentives and motivation. In S. L. Rynes & B. Gerhart (Eds), *Compensation in organizations: Current research and practices*: 104-147. San Francisco, CA: Jossey-Bass.
- Bandura, A. 1997. *Self-efficacy: The exercise of control*. New York, NY: W. H. Freeman and Company.
- Batt, R. 2002. Managing customer services: Human resource practices, quit rates, and sales growth. *Academy of Management Journal*, 45(3): 587-597.

- Batt, R., & Colvin, A. J. S. 2011. An employment systems approach to turnover: Human resources practices, quits, dismissals, and performance. *Academy of Management Journal*, 54(4): 695-717.
- Batt, R., Colvin, A. J. S., & Keefe, J. 2002. Employee voice, human resource practices, and quit rates: Evidence from the telecommunications industry. *Industrial and Labor Relations Review*, 55(4): 573-594.
- Baysinger, B. D., & Mobley, W. H. 1983. Employee turnover: Individual and organizational analysis. In K. M. Rowland & G. R. Ferris (Eds.), *Research in personnel and human resource management*: 269-319. Greenwich, CT: JAI.
- Ben-Ner, A., & Jones, D. C. 1995. Employee participation, ownership, and productivity: A theoretical framework. *Industrial Relations*, 34(4): 532-554.
- Bishop, J. W., Scott, K. W., & Burroughs, S. M. 2000. Support, commitment, and employee outcomes in a team environment. *Journal of Management*, 26(6): 1113-1132.
- Blasi, J., Conte, M., & Kruse, D. 1996. Employee stock ownership and corporate performance among public companies. *Industrial and Labor Relations Review*, 50(1): 60-79.
- Blasi, J. R., & Kruse, D. L. 2006. U.S. high performance work practices at century's end. *Industrial Relations*, 45(4): 547-578.
- Blasi, J. R., Kruse, D. L., & Freeman, R. B. 2006. Shared capitalism at work: Impacts and policy options. In E. E. Lawler III & J. O'Toole (Eds.), *America at work: Choices and challenges*: 275-296. New York, NY: Palgrave Macmillan.



- Bliese, P. D. 2000. Within-group agreement, non-independence, and reliability: Implication for data aggregation and analysis. In K. J. Klein & S. W. J. Kozloski (Eds.), *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions*: 349-381. San Francisco, CA: Jossey-Bass.
- Bluedorn, A. C. 1982. The theories of turnover: Causes, effects, and meaning. In S. B. Bacharach (Ed.), *Research in the sociology of organizations*: 75-128. Greenwich, CT: JAI Press.
- Bollen, K. A., & Jackman, R. W. 1990. Regression diagnostics: An expository treatment of outliers and influential cases. In J. Fox & J. S. Long (Eds.), *Modern methods of data analysis*: 257-291. Newbury Park, CA: Sage.
- Bowen, D. E., & Ostroff, C. 2004. Understanding HRM-firm performance linkages: The role of the “strength” of the HRM system. *Academy of Management Review*, 29(2): 203-221.
- Brawley, L., Carron, A. V., & Widmeyer, N. 1993. The influence of the group and its cohesiveness on perceptions of group goal-related variables. *Journal of Sport and Exercise Psychology*, 15(3): 245-263.
- Brief, A. P., Umphress, E. E., Dietz, J., Burrows, J. W., Butz, R. M., & Scholten, L. 2005. Community matters: Realistic group conflict theory and the impact of diversity. *Academy of Management Journal*, 48(5): 830-844.
- Brown, M. P., Sturman, M. C., & Simmering, M. J. 2003. Compensation policy and organizational performance: The efficiency, operational, and financial implications of pay levels and pay structure. *Academy of Management Journal*, 46(6): 752-762.

- Campbell, D. T. 1965. Ethnocentric and other altruistic motives. In D. Levine (Ed.), *Nebraska symposium on motivation*: 283-311. Lincoln, NE: University of Nebraska Press.
- Cappelli, P., & Neumark, D. 2001. Do 'high-performance' work practices improve establishment level outcomes? *Industrial and Labor Relations Review*, 54(4): 737-776.
- Carron, A. V. 1982. Cohesiveness in sport groups: interpretations and considerations. *Journal of Sport Psychology*, 4(2): 123-138.
- Casey-Campbell, M., & Martens, M. L. 2009. Sticking it all together: A critical assessment of the group cohesion – performance literature. *International Journal of Management Reviews*, 11(2): 223-246.
- Cohen, S. G., & Bailey, D. E. 1997. What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management*, 23(3): 239-290.
- Collins, D. 1995. A socio-political theory of workplace democracy: Class conflict, constituent, reactions and organizational outcomes at a gainsharing facility. *Organization Science*, 6(6): 628-644.
- Cooke, W. N. 1989. Improving productivity and quality through collaboration. *Industrial Relations*, 28(2): 299-317.
- Cooke, W. M. 1994. Employee participation programs, group-based incentives, and company performance: A union-nonunion comparison. *Industrial and Labor Relations Review*, 47(4): 594-609.

- Cotton, J. L., Vollrath, D. A., Froggatt, K. L., Lengnick-hall, M. L., & Jennings, K. R. 1988. Employee participation: Diverse forms and different outcomes. *Academy of Management Journal*, 13(1): 8-22.
- Cotton, J. L. 1993. *Employee involvement: Methods for improving performance and work attitudes*. Newbury Park, CA: Sage.
- Crossan, M. M., & Lane, H. W., & White, R. E. 1999. An organizational learning framework: From intuition to institution. *Academy of Management Review*, 24(3): 522-537.
- Dachler, H. P., & Wilpert, B. 1978. Conceptual dimensions and boundaries of participation in organizations: A critical evaluation. *Administrative Science Quarterly*, 23(1): 1-39.
- Darley, J. G., Gross, N., & Martin, W. C. 1952. Studies of group behavior: Factors associated with the productivity of groups. *Journal of Applied Psychology*, 36(6): 396-403.
- Datta, D. K., Guthrie, J. P., & Wright, P. M. 2005. Human resource management and labor productivity: Does industry matter? *Academy of Management Journal*, 48(1): 135-145.
- Davis, J. H. 1969. *Group performance*. Reading, MA: Addison-Wesley.
- Delery, J. E., & Doty, D. H. 1996. Modes of theorizing in strategic human resource management: Tests of universalistic, contingency, and configurational performance predictions. *Academy of Management Journal*, 39(4): 802-835.

- Delery, J. E., Gupta, N., Shaw, J. D., Jenkins, G. D., & Ganster, M. 2000. Unionization, compensation, and voice effects on quits and retention. *Industrial Relations*, 39(4): 625-646.
- Dess, G. G., & Shaw, J. D. 2001. Voluntary turnover, social capital, and organizational performance. *Academy of Management Review*, 26(3): 446-456.
- Deutsch, M. 1949. A theory of co-operation and competition. *Human Relations*, 2(2): 129-152.
- Doucouliafos, C. 1995. Worker participation and productivity in labor-managed and participatory capitalist firms: A meta-analysis. *Industrial and Labor Relations Review*, 49(1): 58-77.
- Dyer, L., & Reeve, T. 1995. Human resource strategies and firm performance: What do we know and where do we need to go? *International Journal of Human Resource Management*, 6(3): 656-670.
- Edwards, J. R., & Lambert L. S. 2007. Methods for integrating moderation and mediation: A general analytical framework using moderated path analysis. *Psychological Methods*, 12(1): 1-22.
- Eisenhardt, K. M. 1989. Agency theory: An assessment and review. *Academy of Management Review*, 14(1): 57-74.
- Evans, N. J., & Jarvis, P. A. 1980. Group cohesion: A review and reevaluation. *Small Group Behavior*, 11(4): 359-370.
- Fayol, H. 1916. General principles of management. In D. S. Pugh (Ed.), *Organization theory: Selected readings*: 181-202. London, England: Penguin Books.

- FitzRoy, F., & Kraft, K. 2005. Co-determination, efficiency and productivity. *British Journal of Industrial Relations*, 43(2): 233-247.
- Freeman, R. B. 1980. The exit-voice tradeoff in the labor market: Unionism, job tenure, quits, and separations. *Quarterly Journal of Economics*, 94(4): 643-673.
- Freeman, S. F. 2007. Effects of ESOP adoption and employee ownership: Thirty years of research and experience. Working Paper #07-01, Organizational Dynamics Programs, University of Pennsylvania.
- Frohlich, N., Godard, J., Oppenheimer, J. A., & Starke, F. A. 1998. Employee versus conventionally- owned and controlled firms: An experimental analysis. *Managerial and Decision Economics*, 19(4/5): 311-326.
- Gardner, T. M., Wright, P. M., & Moynihan, L. M. 2011. The impact of motivation, empowerment, and skill-enhancing practices on aggregate voluntary turnover: The mediating effect of collective affective commitment. *Personnel Psychology*, 64(2): 315-350.
- Gelfand, M. J., Leslie, L. M., Keller, K., & de Dreu, C. 2012. Conflict cultures in organizations: How leaders shape conflict cultures and their organizational-level consequences. *Journal of Applied Psychology*, 97(6): 11-31-1147.
- Gerhart, B. 2000. Compensation strategy and organizational performance. In S. L. Rynes & B. Gerhart (Eds.), *Compensation in organizations: Current research and practice*: 151-194. San Francisco, CA: Jossey-Bass.
- Gerhart, B. 2005. Human resources and business performance: Findings, unanswered questions, and an alternative approach. *Management Revue*, 16(2): 174-185.

- Gerhart, B., Rynes, S. L., & Fulmer, I. S. 2009. Pay and performance: Individuals, groups, and executives. *Academy of Management Annals*, 3(1): 251-315.
- Glew, D. J., O'Leary-Kelly, A. M., Griffin, R. W., & VanFleet, D. D. 1995. Participation in organizations: A preview of the issues and proposed framework for future analysis. *Journal of Management*, 21(3): 395-421.
- Godard, J. 2004. A critical assessment of the high-performance paradigm. *British Journal of Industrial Relations*, 42(2): 349-378.
- Gruman, J. A., & Saks, A. M. 2011. Performance management and employee engagement. *Human Resource Management Review*, 21(2): 123-136.
- Guest, D. E. 1997. Human resource management and performance: A review and research agenda. *International Journal of Human Resource Management*, 8(3): 263-276.
- Gully, S. M., Devine, D. J., & Whitney, D. J. 1995. A meta-analysis of cohesion and performance: Effects of level of analysis and task interdependence. *Small Group Research*, 26(4): 497-520.
- Gully, S. M., Phillips, J. M., Castellano, W. G., Han, K., & Kim, A. In press. A mediated moderation model of recruiting socially and environmentally responsible job applicants. *Personnel Psychology*.
- Guthrie, J. P. 2000. Alternative pay practices and employee turnover: An organization economics perspective. *Group and Organization Management*, 25(4): 419-439.
- Guthrie, J. P. 2001. High-involvement work practices, turnovers, and productivity: Evidence from New Zealand. *Academy of Management Journal*, 44(1): 180-190.

- Guthrie, J. P., & Hollensbe, E. C. 2004. Group incentives and performance: A study of spontaneous goal setting, goal choice, and commitment. *Journal of Management*, 30(2): 263-284.
- Haines, V. Y., III, Jalette, P., & Larose, K. 2010. The influence of human resource management practices on employee voluntary turnover rates in the Canadian non-governmental sector. *Industrial and Labor Relations Review*, 63(2): 228-246.
- Hammer, T. H., & Avgar, A. 2005. The impact of unions on job satisfaction, organizational commitment, and turnover. *Journal of Labor Research*, 26(2): 241-266.
- Han, K., Kim, A., Kruse, D., & Blasi, J. 2012. The effectiveness of short-term and long-term oriented group incentives. Working paper. Rutgers University.
- Hansen, D. G. 1997. Worker performance and group incentives: A case study. *Industrial and Labor Relations Review*, 51(1): 37-49.
- Hardy, J., Eys, M. A., & Carron, A. V. 2005. Exploring the potential disadvantages of high cohesion in sports teams. *Small Group Research*, 36(2): 166-187.
- Harrison, D. A., Newman, D. A., & Roth, P. L. 2006. How important are job attitudes? Meta-analytic comparisons of integrative behavioral outcomes and time sequences. *Academy of Management Journal*, 49(2): 305-325.
- Hatcher, L., & Ross, T. L. 1991. From individual incentives to an organization-wide gainsharing plan: Effects on teamwork and product quality. *Journal of Organizational Behavior*, 12(3): 169-183.

- Hausknecht, J. P., & Trevor, C. O. 2011. Collective turnover at the group, unit, and organizational levels: Evidence, issues, and implications. *Journal of Management*, 37(1): 352-388.
- Hausknecht, J. P., Trevor, C. O., & Howard, M. J. 2009. Unit level voluntary turnover rates and customer service quality: Implications of group cohesiveness, newcomer concentration, and size. *Journal of Applied Psychology*, 94(4): 1068-1075.
- Hayes, A. F. 2009. Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, 76(4): 408-420.
- Hayes, A. F., & Preacher, K. J. In press. Conditional process modeling: Using structural equation modeling to examine contingent causal processes. To appear in G. R. Hancock & R. O. Mueller (Eds.), *Structural equation modeling: A second course (2<sup>nd</sup> Edition)*. Greenwich, CT: Information Age Publishing.
- Hogg, M. A., & Terry, D. J. 2000. Social identity and self-categorization processes in organizational contexts. *Academy of Management Review*, 25(1): 121-140.
- Holtom, B. C., Mitchell, T. R., Lee, T. W., & Eberly, M. B. 2008. Turnover and retention research: A glance at the past, a closer review of the present, and a venture into the future. *Academy of Management Annals*, 2(1): 231-274.
- Huang, T. C. 1997. The effect of participative management on organizational performance: The case of Taiwan. *International Journal of Human Resource Management*, 8(5): 677-689.
- Huselid, M. A. 1995. The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 38(3): 635-672.



- Huselid, M. A., & Becker, B. E. 2011. Bridging micro and macro domains: Workforce differentiation and strategic human resource management. *Journal of Management*, 37(2): 421-428.
- Ichniowski, C., Shaw, K., & Prennushi, G. 1997. The effects of human resource management practices on productivity: A study of steel finishing lines. *American Economic Review*, 87(3): 291-313.
- Iverson, R. D., & Pullman, J. A. 2000. Determinants of voluntary turnover and layoffs in an environment of repeated downsizing following a merger: An event history analysis. *Journal of Management*, 26(5): 977-1003.
- Jackson, S. E. 1983. Participation in decision making as a strategy for reducing job-related strain. *Journal of Applied Psychology*, 68(1): 3-19.
- James, L. R. 1982. Aggregation bias in estimates of perceptual agreement. *Journal of Applied Psychology*, 67(2): 219-229.
- James, L. R., Demaree, R. G., & Wolf, G. 1984. Estimating within-group interrater reliability with and without responses bias. *Journal of Applied Psychology*, 69(1): 85-98.
- James, L. R., Demaree, R. G., & Wolf, G. 1993.  $r_{wg}$ : An assessment of within-group interrater agreement. *Journal of Applied Psychology*, 78(2): 306-309.
- Jehn, K. A. 1997. A qualitative analysis of conflict types and dimensions in organizational groups. *Administrative Science Quarterly*, 42(3): 530-557.
- Jones, D. C., Kalmi, P., & Kauhanen, A. 2010. How does employee involvement stack up? The effects of human resource management policies on performance in a retail firm. *Industrial Relations*, 49(1): 1-21.

- Jones, D. C., & Kato, T. 1995. The productivity/effects of employee stock-ownership plans and bonuses: evidence from Japanese panel data. *American Economic Review*, 85(3): 391-414.
- Jones, D. C., Kato, T., & Pliskin, J. 1997. Profit sharing and gainsharing: A review of theory, incidence, and effects. In D. Lewin, D. J. B. Mitchell, & M. A. Zaidi (Eds.), *The human resource management handbook, Part I*: 153-174. Greenwich, CT: JAI Press.
- Judge, T. A., Piccolo, R. F., Podsakoff, N. P., Shaw, J. C., & Rich, B. L. 2010. The relationship between pay and job satisfaction: A meta-analysis of the literature. *Journal of Vocational Behavior*, 77(2): 157-167.
- Kaarsemaker, E. C. A. 2006. Employee ownership and its consequences: Synthesis-generated evidence for the effects of employee ownership and gaps in the research literature. York, UK: University of York.
- Kahn, W. A. 1990. Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33(4): 692-724.
- Katz, D., & Kahn, R. L. 1978. *The social psychology of organizations*. New York, NY: Wiley.
- Kanter, R. M. 1968. Commitment and social organization: A study of commitment mechanisms in utopian communities. *American Sociological Review*, 33(4): 499-517.
- Karau, S. J., & Hart, J. W. 1998. Group cohesiveness and social loafing: Effects of a social interaction manipulation on individual motivation within groups. *Group Dynamics: Theory, Research, and Practice*, 2(3): 185-191.

- Karau, S. J., & Williams, K. D. 1993. Social loafing: A meta-analytic review and theoretical integration. *Journal of Personality and Social Psychology*, 65(4): 681-706.
- Kato, T., & Morishima, M. 2002. The productivity effects of participatory employment practices: Evidence from new Japanese pane data. *Industrial Relations*, 41(4): 487-520.
- Kaufman, B. E. 2010. SHRM theory in the post-Huselid era: Why it is fundamentally misspecified. *Industrial Relations*, 49(2): 286-313.
- Kenny, D. A., Kashy, D. A., & Bolger, N. 1998. Data analysis in social psychology. In D. Gilbert, S. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology (Vol. 1, 4<sup>th</sup> ediction)*: 233-265. Boston, MA: McGraw-Hill.
- Kidwell, R. H., Jr., Mossholder, K. W., & Bennett, N. 1997. Cohesiveness and organizational citizenship behavior: A multilevel analysis using work groups and individuals. *Journal of Management*, 23(6): 775-793.
- Klein, H. J., & Mulvey, P. W. 1995. Two investigations of the relationships among group goals, goal commitment, cohesion, and performance. *Organizational Behavior and Human Decision Processes*, 61(1): 44-53.
- Kleiner, M. M., Leonard, J. S., & Pilarski, A. M. 2002. How industrial relations affects plant performance: The case of commercial aircraft manufacturing. *Industrial and Labor Relations Review*, 55(2): 195-218.
- Kohn, A. 2002. Why incentive plans cannot work. In A. Rappaport & A. Kohn (Eds.), *Harvard business review on compensation*: 29-49. Boston, MA: Harvard Business School Press.

- Konovsky, M. A. 2000. Understanding procedural justice and its impact on business organizations. *Journal of Management*, 26(3): 489-511.
- Kozlowski, S. W. J., & Ilgen, D. R. 2006. Enhancing the effectiveness of work groups and teams. *Psychological Science in the Public Interest*, 7(3): 77-124.
- Krackhardt, D., & Porter, L. W. 1986. The snowball effect: Turnover embedded in communication networks. *Journal of Applied Psychology*, 71(1): 50-55.
- Kruse, D. L. 1993. *Profit sharing: Does it make a difference?* Kalamazoo, MI: W. E. Upjohn Institute for Employment Research.
- Kruse, D. L., & Blasi, J. R. 1997. Employee ownership, employee attitudes, and firm performance: A review of the evidence. In D. Lewin, D. J. B. Mitchell, & M. A. Zaidi (Eds.), *The human resource management handbook, Part I*: 113-151. Greenwich, CT: JAI Press Inc.
- Kruse, D. L., Blasi, J. R., & Freeman, R. B. 2012. Does linking worker pay to firm performance help the best firms do even better? Working paper. National Bureau of Economic Research.
- Kruse, D. L., Freeman, R. B., & Blasi, J. R. (Eds). 2010. *Shared capitalism at work: Employee stock ownership, profit and gain sharing, and broad-based stock options*. Chicago, IL: University of Chicago Press.
- Lam, S. S. K., Chen, X., & Schaubroeck, J. 2002. Participative decision making and employee performance in different cultures: The moderating effects of allocentrism/Idiocentrism and efficacy. *Academy of Management Journal*, 45(5): 905-914.

- Lawler, E. E., III. 1971. *Pay and organization effectiveness: A psychological view*. New York, NY: McGraw-Hill.
- Lawler, E. E., III. 1986. *High-involvement management*. San Francisco, CA: Jossey-Bass.
- Lawler, E. E., III. 1992. *The ultimate advantage: Creating the high involvement organization*. San Francisco, CA: Jossey-Bass.
- Lawler, E. E., III, Mohrman, S. A., & Benson, G. S. 2001. *Organizing for high performance: The CEO report on employee involvement, TQM, reengineering, and knowledge management in fortune 1000 companies*. San Francisco, CA: Jossey-Bass.
- Lawrence, P. R., & Lorsch, J. W. 1967. Differentiation and integration in complex organizations. *Administrative Science Quarterly*, 12(1): 1-47.
- Leana, C. R., Ahlbrandt, R. S., & Murrell, A. J. 1992. The effects of employee involvement programs on unionized workers' attitudes, perceptions, and preferences in decision making. *Academy of Management Journal*, 35(4): 861-873.
- LeBreton, J. M., & Senter, J. L. 2008. Answers to 20 questions about interrater reliability and interrater agreement. *Organizational Research Methods*, 11(4): 815-852.
- LeBrenton, J. M., James, L. R., & Lindell, M. K. 2005. Recent issues regarding  $r_{wg}$ ,  $r^*_{wg}$ ,  $r_{wg(j)}$ , and  $r^*_{wg(j)}$ . *Organizational Research Methods*, 8(1): 128-138.
- Lee, T. W., & Mitchell, T. R. 1994. An alternative approach: The unfolding model of voluntary employee turnover. *Academy of Management Review*, 19(1): 51-89.

- Leibowitz, A., & Tollison, R. . 1980. Free riding, shirking, and team production in legal partnerships. *Economic Inquiry*, 18(3): 380-394.
- Lepak, D. P., Liao, H., Chung, Y., & Harden, E. E. 2006. A conceptual review of human resource management systems in strategic human resource management research. In J. J. Martocchio (Ed.), *Research in personnel and human resource management*: 217-271. Greenwich, CT: JAI Press.
- Levine, D. I., & Tyson, L. D. 1990. Participation, productivity and the firm's environment. In A. S. Blinder (Ed.), *In paying for productivity*: 183-236. Washington, DC: Brookings Institution.
- Lewin, K. 1935. *A dynamic theory of personality: Selected papers*. New York, NY: McGraw-Hill.
- Lewin, K. 1943. Defining the "field at a given time." *Psychological Review*, 50(3): 292-310.
- Liao, H., Toya, K., Lepak, D. P., & Hong, Y. 2009. Do they see eye to eye? Management and employee perspectives of high-performance work systems and influence processes on service quality. *Journal of Applied Psychology*, 94(2): 371-391.
- Liden, R. C., Wayne, S. J., Jaworski, R. A., & Bennett, N. 2004. Social loafing: A field investigation. *Journal of Management*, 30(2): 285-304.
- Litwin, A. S. 2011. Technological change at work: The impact of employee involvement on the effectiveness of health information technology. *Industrial and Labor Relations Review*, 64(5): 863-888.

- Locke, E. A., & Schweiger, D. M. 1979. Participation in decision making: One more look. In B. M. Staw (Ed.), *Research in organizational behavior*: 265-339. Greenwich, CT: JAI Press.
- Lodahl, T. M., & Kejner, M. 1965. The definition and measurement of job involvement. *Journal of Applied Psychology*, 49(1): 24-33.
- Lodahl, T. M., & Porter, L. W. 1961. Psychometric score patterns, social characteristics, and productivity of small industrial workgroups. *Journal of Applied Psychology*, 45(2): 73-79.
- Long, R. J. 1978. The effects of employee ownership on organizational identification, employee job attitudes, and organizational performance: A tentative framework and empirical findings. *Human Relations*, 31(1):29-49.
- Lott, A. J., & Lott, B. E. 1965. Group cohesiveness as interpersonal attraction: A review of relationships with antecedent and consequent variables. *Psychological Bulletin*, 64(4): 259-309.
- MacDuffie, J. P. 1995. Human resource bundles and manufacturing performance: Organizational logic and flexible production systems in the world auto industry. *Industrial and Labor Relations Review*, 48(2): 197-221.
- Magnan, M., & St-Onge, S. 2005. The impact of profit sharing on the performance of financial services firms. *Journal of Management Studies*, 42(4): 761-791.
- Maister, D. H. 1985. The one-firm firm: What makes it successful. *Sloan Management Review*, 27(1): 3-13.
- March, J. G., & Simon, H. A. 1958. *Organizations*. New York, NY: Wiley.

- Marchington, M., & Suter, J. 2013. Where informality really matters: Patterns of employee involvement and participation (EIP) in a non-union firm. *Industrial Relations*, 52(1): 284-312.
- Mathieu, J. E., & Hamel, K. 1989. A causal model of the antecedents of organizational commitment among professionals and nonprofessionals. *Journal of Vocational Behavior*, 34(3): 299-317.
- McElroy, J. C., Morrow, P. C., & Rude, S. N. 2001. Turnover and organizational performance: A comparative analysis of the effects of voluntary, involuntary, and reduction-in-force turnover. *Journal of Applied Psychology*, 86(6): 1294-1299.
- Mellizo, P. P. In press. Can group-incentives without participation survive the free-rider problem? A view from the lab. In D. L. Kruse (Ed.), *Sharing ownership, profits, and decision-making in the 21<sup>st</sup> century (Vol. 14)*. Bingham, UK: Emerald Publishing.
- Messersmith, J. G., Patel, P. C., & Lepak, D. P. 2011. Unlocking the black box: Exploring the link between high-performance work systems and performance. *Journal of Applied Psychology*, 96(6): 1105-1118.
- Meyer, J. P., & Allen, N. J. 1997. *Commitment in the workplace: Theory, research, and application*. Thousand Oaks, CA: Sage.
- Meyer, J. P., Stanley, D. J., Herscovitch, L., & Topolnytsky, L. 2002. Affective, continuance, and normative commitment to the organization: A meta-analysis of antecedents, correlates, and consequences. *Journal of Vocational Behavior*, 61(1): 20-52.
- Milgrom, P & Roberts, J. 1992. *Economics, organization, and management*. Englewood Cliffs, NJ: Prentice Hall.



- Mitchell, T. R. 1973. Motivation and participation: An integration. *Academy of Management Journal*, 16(4): 670-679.
- Mitchell, T. R., Holtom, B. C., Lee, T. W., Syblynski, C. J., & Erez, M. 2001. Why people stay: Using job embeddedness to predict voluntary turnover. *Academy of Management Journal*, 44(6): 1102-1121.
- Mobley, W. H. 1982. *Employee turnover: Causes, consequences, and control*. Reading, MA: Addison-Wesley.
- Morrow, P. C., & McElroy, J. C. 2007. Efficiency as a mediator in turnover-organizational performance relations. *Human Relations*, 60(6): 827-849.
- Mossholder, K. W., Settoon, R. P., & Henagan, S. 2005. A relational perspective on turnover: Examining structural, attitudinal, and behavioral predictors. *Academy of Management Journal*, 48(4): 607-618.
- Mulvey, P. W., & Klein, H. J. 1998. The impact of perceived loafing and collective efficacy on group goal processes and group performance. *Organizational Behavior and Human Decision Processes*, 74(1): 62-87.
- Murphy, K. R., & Myers, B. 1998. *Statistical power analysis: A simple and general model for traditional and modern hypothesis tests*. Mahwah, NJ: Lawrence Erlbaum.
- O'Reilly III, C. A., Caldwell, D. F., & Barnett, W. P. 1989. Work group demography, social integration, and turnover. *Administrative Science Quarterly*, 34(1): 21-37.
- Ostroff, C., & Bowen, D. E. 2000. Moving HR to a higher level: HR practices and organizational effectiveness. In K. J. Klein & S. W. J. Kozlowski (Eds.),

- Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions*: 211-266. San Francisco, CA: Jossey-Bass.
- Osterman, P. 1987. Turnover, employment security, and the performance of the firm. In M. M. Kleiner, R. N. Block, M. Roomkin, & S. W. Salsburg (Eds.), *Human resources and the performance of the firm*: 275-317. Madison, WI: Industrial Relations Research Association.
- Osterman, P. 1995. Work/family programs and the employment relationship. *Administrative Science Quarterly*, 40(4): 681-700.
- Park, T.-Y., & Shaw, J. D. 2013. Turnover rates and organizational performance: A meta-analysis. *Journal of Applied Psychology*, 98(2): 268-309.
- Pearsall, M. J., Christian, M. S., & Ellis, A. P. J. 2010. Motivating interdependent teams: Individual rewards, shared rewards, or something in between. *Journal of Applied Psychology*, 95(1): 183-191.
- Pendleton, A. 2006. Incentives, monitoring, and employee stock ownership plans: New evidence and interpretations. *Industrial Relations*, 45(4): 753-777.
- Pendleton, A., & Robinson, A. 2010. Employee stock ownership, involvement, and productivity: An interaction-based approach. *Industrial and Labor Relations Review*, 64(1): 3-29.
- Peterson, S. J., & Luthans, F. 2006. The impact of financial and nonfinancial incentives on business-unit outcomes over Time. *Journal of Applied Psychology*, 91(1): 156-165.
- Pfeffer, J. 1998. *The human equation: Building profits by putting people first*. Boston, MA: Harvard Business School Press.

- Pierce, J. L., Kostova, T., & Dirks, K. T. 2001. Toward a theory of psychological ownership in organizations. *Academy of Management Review*, 26(2): 298-310.
- Pierce, J. L., Rubenfeld, R. A., & Morgan, S. 1991. Employee ownership: A conceptual model of process and effects. *Academy of Management Review*, 16(1): 121-144.
- Piper, W. E., Marrache, M., Lacroix, R., Richardsen, A. M., & Jones, B. D. 1983. Cohesion as a basic bond in groups. *Human Relations*, 36(2): 93-108.
- Podsakoff, P. M., MacKenzie, S. B., & Ahearne, M. 1997. Moderating effects of goal acceptance on the relationship between group cohesiveness and productivity. *Journal of Applied Psychology*, 82(6): 974-983.
- Poutsma, E., Ligthart, P. E. M., & Veersma, U. 2006. The diffusion of calculative and collaborative HRM practices in European firms. *Industrial Relations*, 45(4): 513-546.
- Preacher, K. J., Rucker, D. D., & Hayes, A. F. 2007. Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, 42(1): 185-227.
- Price, J. L. 1977. *The study of turnover*. Ames: Iowa State University Press.
- Putterman, L. 1996. Ownership and the nature of the firm. In L. Putterman & R. S. Kroszner (Eds.), *The economic nature of the firm (2<sup>nd</sup> edition)*: 361-369. New York, NY: Cambridge University Press.
- Richard, P. J., Devinney, T. M., Yip, G. S., & Johnson, G. 2009. Measuring organizational performance: Towards methodological best practice. *Journal of Management*, 35(3): 718-804.

- Riordan, C. M., Vandenberg, R. J., & Richardson, H. A. 2005. Employee involvement climate and organizational effectiveness. *Human Resource Management*, 44(4): 471-488.
- Roberts, K. H., & O'Reilly III, C. A. 1979. Some correlates of communication roles in organizations. *Academy of Management Journal*, 22(1): 42-57.
- Rogers, E. W., & Wright, P. M. 1998. Measuring organizational performance in strategic human resource management research: Problems, prospects, and performance information markets. *Human Resource Management Review*, 8(3): 311-331.
- Rosh, L., Offermann, L. R., & Diest, R. V. 2012. Too close for comfort? Distinguishing between team intimacy and team cohesion. *Human Resource Management Review*, 22(2): 116-127.
- Rousseau, D. M. 1995. *Psychological contracts in organizations*. Thousand Oaks, CA: Sage.
- Rousseau, D. M., & Shperling, Z. 2003. Pieces of the action: Ownership and the changing employment relationship. *Academy of Management Review*, 28(4): 533-570.
- Ryan, A. M., Schmit, M. J., & Johnson, R. 1996. Attitudes and effectiveness: Examining relations at an organizational level. *Personnel Psychology*, 49(4): 853-882.
- Samuelson, P. A., & Nordhaus, W. D. 1989. *Economics (13<sup>th</sup> edition)*. New York, NY: McGraw-Hill.
- Schein, E. 1985. *Organizational culture and leadership*. San Francisco, CA: Jossey-Bass.
- Schlicht, E. 1978. Labour turnover, wages structure, and natural unemployment. *Journal of Institutional and Theoretical Economics*, 134(2): 337-364.

- Schuler, R. S. 1979. A role perception transactional process model for organizational communication-outcome relationships. *Organizational Behavior and Human Performance*, 23(2): 268-291.
- Schuler, R. S., & Jackson, S. E. 1987. Linking competitive strategies with human resource management practices. *Academy of Management Executive*, 1(3): 207-219.
- Scott, W. R. 1998. *Organizations: Rational, natural, and open systems*. Upper Saddle River, NJ: Prentice Hall.
- Seashore, S. E. 1954. *Group cohesiveness in the industrial work group*. Ann Arbor, MI: University of Michigan Press.
- Seibert, S. E., Silver, S. R., & Randolph, W. A. 2004. Taking empowerment to the next level: A multiple-level model of empowerment, performance, and satisfaction. *Academy of Management Journal*, 47(3): 332-349.
- Shaw, M. E. 1981. *Group dynamics: The psychology of small group behavior (3rd edition)*. New York, NY: McGraw-Hill.
- Shaw, J. D. 2011. Turnover rates and organizational performance: Review, critique, and research agenda. *Organizational Psychology Review*, 1(3): 187-213.
- Shaw, J. D., Delery, J. E., Jenkins, G. D., & Gupta, N. 1998. An organization-level analysis of voluntary and involuntary turnover. *Academy of Management Journal*, 41(5): 511-525.
- Shaw, J. D., Gupta, N., & Delery, J. E. 2002. Pay dispersion and workforce performance: Modeling effects of incentives and interdependence. *Strategic Management Journal*, 23(6): 491-512.

- Sheridan, J. E. 1985. A catastrophe model of employee withdrawal leading to low job performance, high absenteeism, and job turnover during the first year of employment. *Academy of Management Journal*, 28(1): 88-109.
- Shin, Y., & Choi, J. N. 2010. What makes a group of good citizens? The role of perceived group-level fit and critical psychological states in organizational teams. *Journal of Occupational and Organizational Psychology*, 83(2): 531-552.
- Shrout, P. E., & Bolger, N. 2002. Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, 7(4): 422-445.
- Siebert, W. S., & Zubanov, N. 2009. Searching for the optimal level of employee turnover: A study of a large U.K. retail organization. *Academy of Management Journal*, 52(2): 294-313.
- Siegel, A. L., & Ruh, R. A., 1973, Job involvement, participation in decision making, personal background, and job behavior. *Organizational Behavior and Human Performance*, 9(2): 318-327.
- Spencer, D. G. 1986. Employee voice and employee retention. *Academy of Management Journal*, 29(3): 488-502.
- Staw, B. M. 1980. The consequences of turnover. *Journal of Occupational Behavior*, 1(4): 253-273.
- Thompson, J. D. 1967. The structure of complex organization. In D. S. Pugh (Ed.), *Organization theory: Selected readings*: 29-43. London, England: Penguin Books.

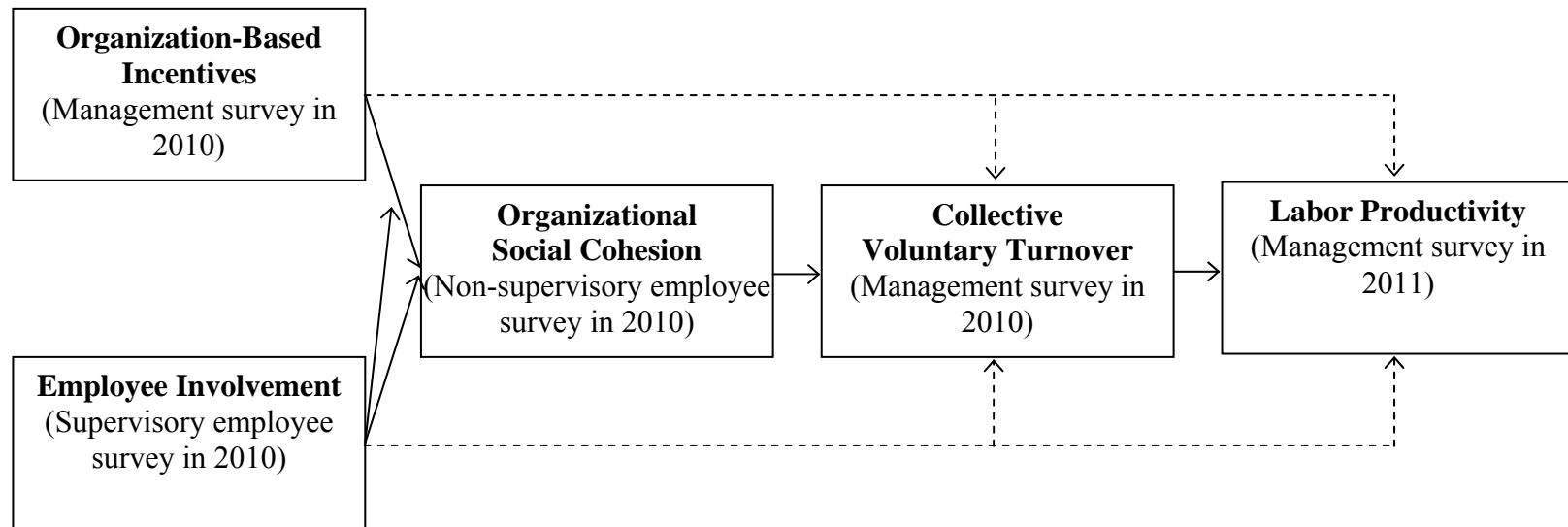
- Ton, Z., & Huckman, R. S. 2008. Managing the impact of employee turnover on performance: The role of process conformance. *Organization Science*, 19(1): 56-68.
- Trevor, C. O. 2001. Interactions among actual ease-of-movement determinants and job satisfaction in the prediction of voluntary turnover. *Academy of Management Journal*, 44(4): 621-638.
- Trevor, C. O., & Nyberg, A. J. 2008. Keeping your headcount when all about you are losing theirs: Downsizing, voluntary turnover rates, and the moderating role of HR practices. *Academy of Management Journal*, 51(2): 259-276.
- Tziner, A. 1982. Differential effects of group cohesiveness types: A clarifying overview. *Social Behavior and Personality*, 10(2): 227-239.
- Tziner, A., & Vardi, Y. 1983. Ability as a moderator between cohesiveness and tank crews' performance. *Journal of Occupational Behavior*, 4(2): 137-143.
- Van Iddekinge, C. H., Ferris, G. R., Perrewé, P. L., Perryman, A. A., Blass, F. R., & Heetderks, T. D. 2009. Effects of selection and training on unit level performance over time: A latent growth modeling approach. *Journal of Applied Psychology*, 94(4): 829-843.
- Wageman, R., & Baker, G. 1997. Incentives and cooperation: The joint effects of task and reward interdependence on group performance. *Journal of Organizational Behavior*, 18(2): 139-158.
- Wagner, S. H., Parker, C. P., & Christiansen, N. D. 2003. Employees that think and act like owners: Effects of ownership beliefs and behaviors on organizational effectiveness. *Personnel Psychology*, 56(4): 847-871.

- Wagner, J. A. III, Rubin, P. A., & Callahan, T. 1988. Incentive payment and nonmanagerial productivity: An interrupted time series analysis of magnitude and trend. *Organizational Behavior and Human Decision Processes*, 42(1): 47-74.
- Wayne, S. J., Shore, L. M., Bommer, W. H., & Tetrick, L. E. 2002. The role of fair treatment and rewards in perceptions of organizational support and leader-member exchange. *Journal of Applied Psychology*, 87(3): 590-598.
- Weiss, A. 1987. Incentives and worker behavior. In H. Nalbantian (Ed.), *Incentives, cooperation, and risk sharing*: 137-150. Totowa, NJ: Rowman and Littlefield.
- Weitzman, M. L., & Kruse, D. L. 1990. Profit sharing and productivity. In A. S. Blinder (Ed.), *In paying for productivity*: 95-140. Washington, DC: Brookings Institution.
- Welbourne, T. M., & Gomez-Mejia, L. R. 1995. Gainsharing: A critical review and a future research agenda. *Journal of Management*, 21(3): 559-610.
- Wilson, N., & Peel, M. J. 1990. The impact of profit-sharing, worker participation, and share ownership on absenteeism and quits: Some UK Evidence. In G. D. Jenkins & M. Poole (Eds.), *New forms of ownership*: 205-231. London: Routledge.
- Wilson, N., & Peel, M. J. 1991. The impact on absenteeism and quits of profit-sharing and other forms of employee participation. *Industrial and Labor Relations Review*, 44(3): 454-468.
- Wright, P. M., Gardner, T. M., & Moynihan, L. M. 2003. The impact of HR practices on the performance of business units. *Human Resource Management Journal*, 13(3): 21-36.



- Wright, P. M., McCormick, B., Sherman, W. S., & McMahan, G. C. 1999. The role of human resource practices in petro-chemical refinery performance. *International Journal of Human Resource Management*, 10(4): 551-571.
- Wright, P. M., & Snell, S. A. 1991. Toward an integrative view of strategic human resource management. *Human Resource Management Review*, 1(3): 203-225.
- Yanadori, Y., & Kato, T. 2007. Average employee tenure, voluntary turnover ratio, and labour productivity: Evidence from Japanese firms. *International Journal of Human Resource Management*, 18(10): 1841-1857.
- Zatzick, C. D., & Iverson, R. D. 2006. High-involvement management and workforce reduction: Competitive advantage or disadvantage? *Academy of Management Journal*, 49(5): 999-1015.

**FIGURE 1**  
**A Theoretical Framework**



**TABLE 1**  
**Companies by Industry Classification**

Industry	Number of companies in industry	
	2010	2011
Agricultural and food production	2	1
Construction and real estate	14	10
Manufacturing	57	27
Transportation and communication	9	7
Retail	32	20
Finance	33	22
Service	166	89
Total	313	176

**TABLE 2**  
**Correlation and Descriptive Statistics**

	N	Mean	S.D.	1	2	3	4	5	6	7	8	9
1. Firm size <sup>a</sup>	313	12,413.96	29,264.35									
2. Firm age <sup>a</sup>	313	66.89	43.38	0.05								
3. Union presence	313	0.28	0.45	0.19**	0.15**							
4. Layoff	313	0.19	0.39	-0.06	-0.02	-0.03						
5. M&A	313	0.17	0.38	0.11†	-0.09	-0.02	0.16**					
6. Organization-based incentives	313	8.58	21.04	0.01	-0.20***	-0.15**	0.29***	0.14*				
7. Employee involvement	313	4.21	0.23	-0.16**	-0.04	-0.13*	-0.13*	-0.06	-0.02			
8. Organizational social cohesion	313	4.21	0.21	-0.24***	-0.09	-0.24***	-0.07	-0.08	0.09	0.66***		
9. Collective voluntary turnover	313	0.09	0.06	0.02	-0.28***	-0.16**	-0.11*	-0.13*	-0.12*	-0.02	-0.09†	
10. Labor productivity <sup>a</sup>	176	0.51	0.71	-0.21**	0.09	0.03	0.21**	-0.02	0.21**	0.02	0.18*	-0.24**

*Note.* Numbers 1-9 in the top row correspond to the variables in the respective sections of the table.

<sup>a</sup> The logarithms for these variables were used in all subsequent analyses.

† $p < 0.1$ . \* $p < 0.05$ . \*\* $p < 0.01$ . \*\*\* $p < 0.001$ .

**TABLE 3**  
**Results of Regression Analysis Predicting Organizational Social Cohesion (Hypotheses 1 and 2)**

Variables	Model 1	Model 2	Model 3
<b>Organization-based incentives</b>		<b>0.001*</b>	
<b>Employee involvement</b>			<b>0.58***</b>
Firm size <sup>a</sup>	-0.03***	-0.04***	-0.02*
Firm age <sup>a</sup>	-0.01	-0.01	-0.02
Union presence	-0.08**	-0.07**	-0.06**
Layoff	-0.03	-0.04	0.01
M&A	-0.03	-0.03	-0.02
<i>F</i>	4.13***	4.22***	24.53***
<i>R</i> <sup>2</sup>	0.13	0.14	0.49
$\Delta R^2$		0.01	0.36
<i>F</i> for $\Delta R^2$		4.62*	216.41***

Note. *N* = 313.

<sup>a</sup> Logarithm.

Industry dummies are included but not reported.

†*p* < 0.1. \**p* < 0.05. \*\**p* < 0.01. \*\*\**p* < 0.001.

**TABLE 4**  
**Results of Regression Analysis Predicting Collective Voluntary Turnover (Hypotheses 3 and 4)**

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<b>Organization-based incentives</b>		<b>-0.0004*</b>			<b>-0.0003†</b>	
<b>Employee involvement</b>			<b>-0.03†</b>			<b>0.008</b>
<b>Organizational social cohesion</b>				<b>-0.06**</b>	<b>-0.05**</b>	<b>-0.06**</b>
Firm size <sup>a</sup>	0.00	0.00	0.00	-0.00	0.00	-0.00
Firm age <sup>a</sup>	-0.02***	-0.02***	-0.02***	-0.02***	-0.02***	-0.02***
Union presence	-0.02*	-0.02*	-0.02*	-0.02**	-0.02**	-0.02**
Layoff	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
M&A	-0.02*	-0.02*	-0.02*	-0.02*	-0.02*	-0.02**
<i>F</i>	6.58***	6.55***	6.39***	7.28***	7.06***	6.71***
<i>R</i> <sup>2</sup>	0.19	0.21	0.20	0.23	0.24	0.23
$\Delta R^2$		0.02	0.01	0.04	0.03	0.03
<i>F</i> for $\Delta R^2$		5.24*	3.67†	12.23**	10.57**	8.61**

Note. *N* = 313.

<sup>a</sup> Logarithm.

Industry dummies are included but not reported.

†*p* < 0.1. \**p* < 0.05. \*\**p* < 0.01. \*\*\**p* < 0.001.

**TABLE 5**  
**Results of Regression Analysis Predicting Labor Productivity<sup>a</sup> (Hypotheses 5 and 6)**

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11
<b>Organization-based incentives</b>		<b>0.0088*</b>				<b>0.0080*</b>	<b>0.0080*</b>	<b>0.0076*</b>			
<b>Employee involvement</b>			<b>0.17</b>						<b>-0.38</b>	<b>0.12</b>	<b>-0.36</b>
<b>Organizational social cohesion</b>				<b>0.72†</b>		<b>0.64</b>		<b>0.55</b>	<b>0.97†</b>		<b>0.85†</b>
<b>Collective voluntary turnover</b>					<b>-2.68*</b>		<b>-2.38*</b>	<b>-2.17†</b>		<b>-2.65*</b>	<b>-2.40*</b>
Firm size <sup>a</sup>	-0.15*	-0.15*	-0.14*	-0.11	-0.14*	-0.11†	-0.15*	-0.11†	-0.11†	-0.14†	-0.11†
Firm age <sup>a</sup>	0.11	0.17†	0.12	0.13	0.07	0.18†	0.12	0.13	0.13	0.07	0.08
Union presence	-0.01	0.01	-0.01	0.03	-0.06	0.05	-0.03	0.01	0.04	-0.06	-0.01
Layoff	0.24	0.14	0.25	0.27	0.22	0.17	0.13	0.16	0.26	0.23	0.24
M&A	-0.02	-0.06	-0.01	0.02	-0.09	-0.02	-0.11	-0.07	0.01	-0.08	-0.05
<i>F</i>	3.70***	3.97***	3.39***	3.73***	3.89***	3.91***	4.03**	3.91***	3.49***	3.57***	3.58***
<i>R</i> <sup>2</sup>	0.20	0.23	0.20	0.22	0.22	0.24	0.25	0.25	0.22	0.22	0.24
$\Delta R^2$		0.03	0.00	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.02
<i>F</i> for $\Delta R^2$		5.75*	0.20	3.41†	4.93*	2.70	3.95*	3.26†	3.88†	4.80*	3.93*

Note. *N* = 176.

<sup>a</sup> Logarithm.

Industry dummies are included but not reported.

†*p* < 0.1. \**p* < 0.05. \*\**p* < 0.01. \*\*\**p* < 0.001

TABLE 6

## Regression Results of the Mediated Moderation Model (Hypotheses 7, 8, and 9)

Steps	Variables	Model 1 Organizational social cohesion ( <i>N</i> = 313)	Model 2 Collective voluntary turnover ( <i>N</i> = 313)	Model 3 Labor productivity ( <i>N</i> = 176)
1	Organization-based incentives	0.001*	-0.000*	0.007*
	Employee involvement	0.581***	-0.028†	0.219
	Organization-based incentives × Employee involvement	0.002	-0.000	0.044*
	<i>R</i> <sup>2</sup>	0.506***	0.217***	0.257***
	$\Delta R^2$	0.001	0.000	0.030
	<i>F</i> for $\Delta R^2$	0.824	0.005	6.433*
2	Organization-based incentives		-0.000†	0.007†
	Employee involvement		0.006	-0.263
	Organization-based incentives × Employee involvement		0.000	0.044*
	Organizational social cohesion		-0.059**	0.844†
	<i>R</i> <sup>2</sup>		0.235***	0.271***
	$\Delta R^2$		0.018	0.014
3	<i>F</i> for $\Delta R^2$		7.105**	3.084†
	Organization-based incentives			0.006
	Employee involvement			-0.249
	Organization-based incentives × Employee involvement			0.044**
	Organizational social cohesion			0.750**
	Collective voluntary turnover			-2.186†
	<i>R</i> <sup>2</sup>			0.286***
	$\Delta R^2$			0.015
	<i>F</i> for $\Delta R^2$			3.396†

Control variables and industry dummies are included but not reported.

†*p* < 0.1. \**p* < 0.05. \*\**p* < 0.01. \*\*\**p* < 0.001.



**TABLE 7**  
**A Summary of Regressing Organizational Social Cohesion on**  
**Organization-Based Incentives and Employee Involvement**

Variables	Model 1		Model 2	
	Random	Fixed	Random	Fixed
Organization-based incentives	0.0004	-0.0001		
Employee involvement			0.300***	0.088***
<i>Hausman Chi-Squared</i>	57.94 ***		729.45 ***	

Note.  $N = 998$ .

† $p < 0.1$ . \* $p < 0.05$ . \*\* $p < 0.01$ . \*\*\* $p < 0.001$ .

**TABLE 8**

**A Summary of Regressing Collective Voluntary Turnover on Organization-Based Incentives, Employee Involvement, and Organizational Social Cohesion**

Variables	Model 1		Model 2		Model 3		Model 4		Model 5	
	Random	Fixed	Random	Fixed	Random	Fixed	Random	Fixed	Random	Fixed
Organization-based incentives	-0.094 *	-0.031					-0.078 †	-0.030		
Employee involvement			-0.102	11.316 †					10.851 *	10.864 †
Organizational social cohesion					-12.253**	10.082	-11.376 **	10.016	-20.394 ***	5.127
<i>Hausman Chi-Squared</i>	3.63		9.10		7.17		6.62		8.56	

*Note.*  $N = 997$ .

† $p < 0.1$ . \* $p < 0.05$ . \*\* $p < 0.01$ . \*\*\* $p < 0.001$ .

**TABLE 9**

**A Summary of Regressing Labor Productivity on Organization-Based Incentives, Employee Involvement, Organizational Social Cohesion, and Collective Voluntary Turnover**

Variables	Model 1		Model 2		Model 3		Model 4		Model 5	
	Random	Fixed	Random	Fixed	Random	Fixed	Random	Fixed	Random	Fixed
Organization-based incentives	0.002	-0.007 †							0.001	-0.007 †
Employee involvement			0.258	0.015						
Organizational social cohesion					0.553*	-0.337			0.545 **	-0.362
Collective voluntary turnover							-0.003 †	0.001		
<i>Hausman Chi-Squared</i>	39.41 ***		35.87 ***		40.28 ***		36.62 ***		45.46 ***	

Note.  $N = 921$ .

† $p < 0.1$ . \* $p < 0.05$ . \*\* $p < 0.01$ . \*\*\* $p < 0.001$ .

TABLE 9

**A Summary of Regressing Labor Productivity on Organization-Based Incentives, Employee Involvement, Organizational Social Cohesion, and Collective Voluntary Turnover (Continued)**

Variables	Model 6		Model 7		Model 8		Model 9		Model 10	
	Random	Fixed	Random	Fixed	Random	Fixed	Random	Fixed	Random	Fixed
Organization-based incentives	0.001	-0.007†	0.001	-0.007†						
Employee involvement					0.055	0.040	0.254	0.014	0.071	0.038
Organizational social cohesion			0.508 *	-0.356	0.515†	-0.353			0.465†	-0.346
Collective voluntary turnover	-0.003†	0.001	-0.003	0.000			-0.003 †	0.001	-0.003	0.001
<i>Hausman Chi-Squared</i>	42.16***		46.81 ***		40.45 ***		38.72 ***		41.90***	

Note.  $N = 921$ .

† $p < 0.1$ . \* $p < 0.05$ . \*\* $p < 0.01$ . \*\*\* $p < 0.001$ .

**TABLE 10**  
**A Summary of Distribution Percentiles and Standard Deviations for Key Variables**

Variables	Percentiles			Mean	S.D.	Inter- quartile range	N
	25%	50%	75%				
Organization-based incentives	0	0	4	8.974	21.516	4	1,003
Organization-based incentives deviation	0	0	0	0	9.513	0	706
Employee involvement	3.851	4.017	4.202	4.031	.266	.351	1,003
Employee involvement deviation	-.106	-.020	.091	0	.165	.197	706
Organizational social cohesion	4.045	4.185	4.344	4.183	.233	.299	1,003
Organizational social cohesion deviation	-.044	.000	.047	0	0.074	.091	706
Collective voluntary turnover	5.085	7.890	12.614	12.328	26.879	7.529	1,002
Collective voluntary turnover deviation	-1.610	-.203	1.356	0	20.093	2.966	706
Labor productivity	-1.954	-1.468	-.684	-1.371	1.467	1.314	923
Labor productivity deviation	-.057	0	.071	0	.859	.128	665

**TABLE 11**  
**A Summary of Hypotheses Test Results**

Hypotheses	Results
Hypothesis 1. Organization-based incentives positively influence organizational social cohesion.	Supported
Hypothesis 2. Employee involvement positively influences organizational social cohesion.	Supported
Hypothesis 3. Organization-based incentives negatively influence collective voluntary turnover through organizational social cohesion.	Supported
Hypothesis 4. Employee involvement negatively influences collective voluntary turnover through organizational social cohesion.	Supported
Hypothesis 5. Organization-based incentives positively influence labor productivity through organizational social cohesion and collective voluntary turnover.	Partially supported
Hypothesis 6. Employee involvement positively influences labor productivity through organizational social cohesion and collective voluntary turnover.	Supported
Hypothesis 7. Organization-based incentives and employee involvement interact to positively influence organizational social cohesion.	Rejected
Hypothesis 8. Organization-based incentives and employee involvement interact to negatively influence collective voluntary turnover through organizational social cohesion.	Rejected
Hypothesis 9. Organization-based incentives and employee involvement interact to positively influence labor productivity through organizational social cohesion and collective voluntary turnover.	Rejected