Individual Differences in the Workplace: Perspectives of Reciprocity and Fit

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LIST OF ABBREVIATIONS

AC	Affective commitment
ASA	Attraction-selection-attrition
ASTMA	Attraction-selection-transformation-manipulation-attrition
CFI	Comparative fit index
CSR	Corporate social responsibility
EFA	Exploratory factor analysis
FIML	Full-information maximum likelihood
GSOEP	German Socio-Economic Panel
HR	Human resource
ISCO	International Standard Classification of Occupation
KLIPS	Korean Labor and Income Panel Study
KSCO	Korean Standard Classification of Occupation
KSIC	Korean Standard Industry Classification
LOC	Locus of Control
LCS	Latent change score model
PE	Person-environment
PRESOR	Perceived role of ethics and social responsibility
RMSEA	Root mean square error of approximation
SEM	Structural equation modeling
SRMR	Standardized root mean square residual

CHAPTER 1

INTRODUCTION

Drawing on theories and research of psychology and organizational studies, the notion that "the people make the place" (Schneider, 1987) has become increasingly well known to explain the roles that people play in the formation of organizational behavior and strategy (Nishii & Wright, 2007; Lawler & Boudreau, 2009; Fukukawa, Shafer, &Lee, 2007). People bring their traits and opinions into organizations, such as knowledge (e.g. Kogut & Zander, 1992), past experiences (e.g., Zollo & Winter, 2002), personality traits (e.g. Anderson, Spataro, & Flynn, 2008), values (e.g., Fukukawa et al., 2007) and/or attitudes (e.g., Brief, 1998), the differences of which lead to variations in individual perceptions and behaviors in the organization (Nishii & Wright, 2007; Cable & DeRue, 2002). Ultimately, organizational performance is facilitated through individuals and their interactive performance (Bowditch & Buono, 2007). As Pfeffer (1995) noted, people become a crucial and differentiating factor to obtaining organizational competitive success. It is thus necessary to increase our fundamental understanding of the causes and consequences of individual differences in actual workplaces (Hersey, Blanchard, & Johnson, 2007).

With the increasing availability of employee data and variety of methodologies, human resource (HR) management research tends to be more analytical-oriented (Bersin, 2013). The analytical approach advances HR research by transforming individual information into value-added HR intelligence, which can have a direct impact on important organizational outcomes (Falletta, 2013; Mondore, Douthitt, & Carson 2011). As such, the cause-effect analytics on individual HR processes enable researchers to develop organization theories at an individual level and present practitioners with an evidence-based management of their human capital (Falletta, 2008; Rousseau & Barends, 2011). Consequently, the analytical development contributes to the strategic accountability that HR management holds for obtaining organizational competitiveness (Nishii & Wright, 2007; Falletta, 2008).

Based on these analytical developments, this dissertation consists of three independent but interlinked studies that add important insights into various aspects of individual differences at work. Specifically, these studies not only address the reciprocal relationships between individuals and their work, but also emphasize on the fit perspective to optimize the work-related outcomes. Moreover, the dissertation applies different data

sources and focuses on longitudinal designs, facilitating an investigation into causal relations. Furthermore, it also utilizes advanced structural equation modeling, thus, providing rigorous analytical methods to detect individual trajectories over time.

1.1 Theoretical Focus

The first focus of this dissertation is to study the active role of individuals in guiding their direction and actual behaviors at work. According to the ground-breaking framework of attraction-selection-attrition (ASA) by Schneider (1987), people are likely to be attracted to work with common characteristics to their own traits and they also tend to change their work situations if they do not feel they fit into the work environment. Following this theoretical development, there is ample evidence showing that personal traits are closely associated with work-related decision making, resulting in various types of work behaviors and performances. Individuals' personalities, for instance, can have a direct impact on individuals' employment choices (Woods & Hampson, 2010; Woods, Patterson, & Koczwara, 2013; Sutin, Costa, Miech, & Eaton, 2009), vocational behaviors (Ferris, Rosen, Johnson, Brown, et al., 2011; Andreassi & Thompson, 2007; Bernadi, 1997) and consequently work outcomes or career success during the employment period (Ng, Scorensen, & Eby, 2006; Moscoso & Salgado, 2004; Sutin et al., 2009). Besides individual traits, the feelings and opinions that individuals have at work can also exert great influence on their work behaviors. This mechanism is reflected as a behavioral implication of positive job attitudes (e.g. Bateman & Organ, 1983; Carmeli, 2005; Mowday, Porter & Steers, 1982), which leads to desirable task performance or contextual performance (e.g. Aryee, Budhwar, & Chen, 2002; Gardner, Van Dyne, & Pierce, 2004; Judge, Thoresen, Bono, & Patton, 2001). As a result, researchers have strived to understand the variations among individuals, through which the questions about their differentiated perceptions, choices and behaviors can be further explored (Frese, Garst, & Fay, 2007; Hoare, 2006; Nishii & Wright, 2007).

In line with this stream of literature, the study in Chapter 2, which was conducted with Torsten Biemann, establishes the link between individuals' locus of control (LOC) and individuals' job autonomy. The former construct is a personality trait showing individuals' belief in their own control of life instead of fate, luck or other people (Rotter, 1966). The latter construct is a job characteristic indicating the independence and discretion in work-related decisions (Hackman & Oldham, 1976). By integrating transitions in job autonomy, the results show that individuals' LOC indeed influences the

levels and changes of job autonomy that individuals are involved with at work. In collaboration with Torsten Biemann and Stephen J. Jaros, Chapter 3 shifts attention to individuals' affective commitment, an important job attitude indicating how individuals are attached, identified and involved in their organization (Allen & Meyer, 1990). Similar to a dynamic work environment, the findings obtained from Chapter 3 affirm a significant impact of individuals' affective commitment on individuals' income levels and income changes through an implicit behavioral implication (Meyer & Herscovitch, 2001). Both chapters are analyzed in a longitudinal context with objective work conditions, which provide further evidence for the causal effects of individual differences on their work-related outcomes.

The second focus is to explore individual trajectories in personality traits and attitudes based on their work experiences. As shown in many studies, transitions within people can occur through various socialization processes in the organization. With social investment, for instance, individuals invest in and fulfill their working roles so that they become more like what their work requires (Bleidorn, 2012; Lodi-Smtih & Roberts, 2007). Another example is social identification through which individuals seek self-identity by classifying themselves partly in relation to their organizations (De Roeck, Marique, Stinglhamber, & Swaen, 2014; Gardner et al., 2003; Tajfel & Turner, 1986). Additionally, individuals' attitudes and behaviors can be influenced through a process of social exchange, which shows as a norm of reciprocation for individuals to repay the favors from their organizations (Blau, 1964; Meyer & Allen, 1997; Molm, Takahashi, & Peterson, 2003). Individual changes take into account the reciprocal effect of work on people and provide insights regarding how to manage the workforce by influencing employee development in their traits or attitudes (Frese et al., 2007; Meier & Spector, 2013; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009).

For specific research contexts, the dissertation integrates the aforementioned theoretical processes in Chapters 2 – 4. To enrich the understanding of the roles that work experiences play in personality changes, Chapter 2 examines the reciprocal impact of the job autonomy on changes in individuals' LOC. Despite the common assumption that individuals' personalities should remain relatively stable over their lives (McCrae & Costa, 1994), the findings from Chapter 2 add evidence on personality changes as claimed in recent studies (Roberts, Walton, & Viechtbauer, 2006; Judge, Hurst, & Simon, 2009) and affirm the functions of work in shaping how people change. Drawing on commitment studies (Beck & Wilson, 2000), Chapter 3 emphasizes the necessity to investigate the

change in patterns of individuals' affective commitment to their organizations, especially for established employees. The results unveil a positive impact of individuals' income levels and changes on the individuals' trajectories of affective commitment. Chapter 4 is a field study about corporate social responsibility (CSR) in a Chinese context, which was conducted together with Nick Lin-Hi and Torsten Biemann. Through the processes of social identity and exchange, Chapter 4 provides evidence for the causal effects of organizational initiatives, i.e. CSR, on Chinese blue-collar workers' attitudes and behaviors. Thus, the dissertation adds insights into the reciprocal link in terms of how people can be influenced in the workplace.

The third focus is to examine the perspective of fit between people and work. Research regarding person-environment (PE) fit has generated a great amount of findings, showing that individuals are likely to be more satisfied with their jobs, more committed to their firms, more impactful at work and stay longer in their organizations when their personalities and values fit to that of the environment they are involved in (Anderson, Spataro, & Flynn, 2008; Cable & DeRue, 2002; Kristof-Brown, Zimmerman, & Johnson, 2005; Sakes & Ashforth, 2002; O'Reilly, Chatman, & Caldwell, 1991). Despite more than a hundred years of theoretical development (e.g. Parsons, 1909), the field of PE fit is still dominated by a static matching process between people and work (Spector & O'Connell, 1994; Rounds & Tracey, 1990). Thus, based on the interactionist point of view, Chapter 2 extends the PE fit to a dynamic setting where individuals and work are both subject to change. The dynamic reciprocity between LOC and job autonomy results in a consistent adjustment of both individuals and their work conditions, which indicates a corresponsive mechanism so that individuals can develop at work to strengthen their original traits (Roberts, Caspi, & Moffitt, 2003). Additionally, Chapter 4 examines the attitudinal and behavioral outcomes of the fit between Chinese blue-collar workers' values on CSR and firms' actual CSR initiatives. Thus, this study improves our understanding of the effects of PE fit in a concrete business context, which can lead to meaningful managerial implications for labor-intensive industries in China. By introducing CSR initiatives in the factory, individuals who perceive a higher importance of ethical and social responsibilities are shown to be more satisfied with their job, have more trust in their top management and feel more supported by their supervisors. Additionally, they also have a stronger voice behavior to the factory. All in all, the dissertation enriches the understanding of the interactionist perspective by investigating a more dynamic work environment and generating more practical implications given the importance of individual differences.

1.2 Data Strategy

To further advance the analytical research in HR management, the foremost challenge for researchers and practitioners is to gather and synthesize high-quality data on talents and workforce (Falletta, 2008). For this purpose, there are two general data and information sources, public and private. Public data resides mostly in educational institutions, governmental databases, repositories or industrial associations, such as the national household panel studies. Private data can be obtained through employee questionnaires and interviews, or an enterprise resource planning system. To simulate the business scenarios, the private data is more appreciated because it is aimed for a specific environmental context, such as specialized workforce, products or services (e.g. Fontinha, Chambel, & De Cuyper, 2013, Fu & Deshpande, 2014; Park & Deitz, 2006). However, the power of public data, especially the national household panel studies that have become increasingly popular for economists and sociologists, has been underestimated in management studies (Wagner, Frick, & Schupp 2006). Due to their representativeness, longitudinal in nature and a high level of objectivity, household panel studies provide management researchers more opportunities to discover the individual processes in various organizational settings (e.g. Haywood, 2011; Tabvuman, Georgellis, & Lang, 2015). Thus, the dissertation attempts to offer more insights by incorporating both household panel studies and self-collected data from private companies.

Both Chapter 2 and Chapter 3 draw upon the data from the national household panel studies. For the analysis of the dynamic reciprocity between individuals' LOC and job autonomy, Chapter 2 uses the German Socio-Economic Panel Study (GSOEP) from 2005 to 2010. After a strict data selection, the final sample for the analysis still includes more than 5,000 individuals. GSOEP is well-suited for this study design because it offers the possibility to observe the changes in personalities over an extended period of time, especially when personalities are commonly assumed to be relatively stable over time. Another advantage of GSOEP lies in its assessment of occupational activities, which enable job autonomy to be objectively evaluated rather than self-rated as in most relevant studies. Similarly, Chapter 3 uses the Korean Labor and Income Panel Study (KLIPS) to investigate the individual trajectories of job attitudes. The multiple measurement points of affective commitment from KLIPS offer the perfect chance to observe the temporal stability and dynamism of commitment, which is called for by recent research (e.g. Jaros, 2009). Without the household panels, the aforementioned research objectives could not

have been fulfilled because they require a long-term devotion to data collection and continuous support from companies and employees. Moreover, the longitudinal setting of the household panels facilitates the complex analytical evaluation of the causality between people and work as promoted in many business studies (Demerouti, Bakker, & Bulters., 2004; Frese et al., 2007). The representative sample without organizational restrictions can, furthermore, make the results more generalizable. Therefore, management research should pay more attention to household panel data, especially for research based on individuals.

For some specific research contexts on the other hand, internal data sources from organizations are more suitable. The data collection, however, should help uncover cause-effect relationships and apply an evidence-based approach particularly when current data can be overwhelming and fragmented (Felleta, 2008; Mondore et al., 2011). To provide empirical evidence on the causal link between CSR and Chinese blue-collar workers' attitudes and behaviors, Chapter 4 takes a great deal of evidence generated from western culture and white-collar employees into account and specifies its research agenda with a restricted set of relevant constructs. The field experiment further obtains high quality data to clarify the causality between CSR and behaviors as proposed in the study. Consequently, Chinese manufacturers can make strategic decisions based on our evidence regarding the implementation of internal CSR for their operational workers. To achieve high external validity in HR analytical research, there should thus be more open and frequent communication between researchers and organizations for the scientific-oriented collection of internal data.

1.3 Analytical Approach

Despite increasingly available data from public or private sources (Brown, Chui, & Manyika, 2011), HR researchers still face challenges regarding appropriate statistical approaches to analyze various individual processes and transfer basic information into meaningful HR intelligence (Falletta, 2008). The fact that a simple algorithm or metric cannot offer enough insights into the complex causal-effect relations results in a need for more individualized and advanced analytical designs and tools in HR management research (Bersin, 2013; Mondore et al,. 2011).

Besides the field experiment reported in Chapter 4, the dissertation particularly focuses on longitudinal designs that enable management researchers to disentangle the causality in the applied settings where environment cannot be easily manipulated (Demerouti et al., 2004). A longitudinal design allows for replication of the findings within

one study (Frese et al., 2007), controls for common method variance (Zapf, Dormann, & Frese, 1996) and reduces identification problems when the same construct needs to be examined in several waves (Finkel, 1995). Therefore, recent studies frequently express the necessity of longitudinal designs, especially for reciprocal paths, to better assess the stability of individual traits and provide enough variances in organizational fluctuations (De Lange, Taris, Kompier, Houtman, & Bongers, 2004; Xanthopoulou et al., 2009; Sonnentag, Mojza, Demerouti, & Bakker, 2012; Meier & Spector, 2013). Adding to this line of research, the dissertation includes two studies applying longitudinal designs. Chapter 2 tracks the changes in individuals' LOC across five years and individual trajectories of job autonomy over four years. Besides, the longitudinal design also provides evidence on the causal influence between personal traits and objective work conditions. With a six-wave longitudinal design, Chapter 3 reports the temporality of affective commitment and its causal association with individuals' income. Furthermore, the reciprocal relations have been replicated for multiple times in Chapter 3, ensuring the robustness of the results and thereby generating reliable practices.

Based on the longitudinal research design, this dissertation further applies and extends structural equation modeling (SEM) to examine the individual trajectories in traits and attitudes. Being well-developed in econometrics and market research, SEM as a statistical analysis approach starts to gain increasing attention from organizational psychologists and management researchers (Mondore et al., 2011). The advantages of SEM, such as its simultaneity, cause-effect implications, and reduction of measurement error, are elaborated in Chapter 2 and Chapter 3. Building on basic SEM, the dissertation integrates rigorous measurement models to ensure that the statistic model captures the true changes in individuals' traits and attitudes rather than the changes in the structural metrics. Specifically, Chapter 2 utilizes a strict factorial invariance model to assess the levels of individuals' LOC at two measurement points. Furthermore, Chapter 3 incorporates the latent change score model (LCS) to calculate the changes of affective commitment and income in multiple waves. Thus, the application of SEM in the dissertation provides a rigorous analysis of how individuals are changing over time.

By incorporating other well-developed and specialized models, SEM can offer management researchers even more power and flexibility for analytical investigation. Chapter 2, for instance, incorporates a latent growth model to assess the individual trajectory of job autonomy, which allows for examining a changing work environment. Furthermore, Chapter 3 uses a cross-lagged regression model as a general framework to

simultaneously analyze reciprocal paths in several waves. The changeability and adjustability of SME shown in the dissertation shed light on a wide range of applications of SME in HR management research.

Overall, with multiple data sources and rigorous analytical approaches, the dissertation provides a variety of perspectives to enrich the understanding of the causalities associated with individual differences in the work environment. Chapter 2 and Chapter 3 share a similar theoretical framework and methodological design. Both chapters utilize household panel data and apply a longitudinal design with advanced SEM approaches to explore the reciprocal effects between people and work. Based on objective work conditions, Chapter 2 investigates individuals' personalities, while Chapter 3 examines job attitudes. Chapter 4 shifts focus from work conditions to a firm's CSR policies, and provides methodological variations by conducting employee surveys and a field experiment. Besides the mutual and direct connections between people and work, the dissertation additionally addresses the perspective of fit in Chapter 2 and Chapter 4 as the third theoretical focus. Chapter 2 extends the fit into a dynamic work environment due to the changes in job characteristics, while Chapter 4 adds individual differences to explain the variations in the effects of the firm's policies on people. By integrating the three studies, Chapter 5 elaborates on the theoretical, methodological and practical implications. Furthermore, the discussion on general limitations in Chapter 5 paves the way for various streams of future research.

CHAPTER 2

A LONGITUDINAL ANALYSIS OF RECIPROCAL RELATIONSHIPS BETWEEN LOCUS OF CONTROL AND JOB AUTONOMY*

2.1 Introduction

Locus of control (LOC) plays a significant role in explaining individuals' situational choices. By believing in one's own control over important life events rather than fate, luck, or powerful others (Rotter, 1966), LOC is a personality trait that reflects individuals' propensity to influence the environment through one's own initiatives and competencies (Andrisani & Nestel, 1976). Because of its relevance to the perception of control (Andreassi & Thompson, 2007) and importance in motivational potential (Bernadi, 1997), LOC has served to predict situations that individuals are experiencing, such as higher education attendance (Coleman & DeLeire, 2003), high income levels (Lachman & Weaver, 1998), high psychological empowerment (Jha & Nair, 2008), and high task performance (Ng, Sorensen, & Eby, 2006).

Among its predictive roles, the link between LOC and job autonomy has evoked both scholars' and practitioners' interest due to their common focus of control. As a motivational job characteristic (Hackman & Oldham, 1976), job autonomy can offer a work condition where individuals are able to have freedom, independence, and discretion in work-related decisions; that is, they enjoy self-control at the workplace (Kohn & Schooler, 1982). Accordingly, previous research has shown that individuals with a high level of job autonomy feel liable for work outcomes (Humphrey, Nahrgang, & Morgeson, 2007) and attribute the work performance to their own efforts instead of external sources such as supervisors or regulations (Gallett, Portoghese, & Battistelli, 2011). From the perspective of person-job fit, therefore, LOC has been considered an important determinant of individuals' choice of jobs with different levels of autonomy (Spector & O'Connell, 1994; Spector, 1988; Judge, Bono, & Locke, 2000). Individuals with a perception of high control over their life events (internals) prefer direct responsibility for work outcomes,

* This chapter is based on a paper co-authored with Torsten Biemann and Stephen J. Jaros.

whereas individuals who assume that external factors such as other people or luck shape their life course (externals) put less weight on a high autonomy in work settings (Joo, Jung, & Sim, 2011; Munir & Sajid, 2010). However, other approaches have suggested a reversed causality, arguing that job autonomy affects LOC. Kohn and Schooler (1982), for instance, advocated a learning-generating process in which high occupational self-direction, including job autonomy, promotes a sense of mastery in individuals. It motivates individuals to be non-authoritarian and less conformist (Kohn & Schooler, 1982), which increases individuals' internal LOC (Ross & Wright, 1998; Bailis, Segall, & Chipperfield, 2010).

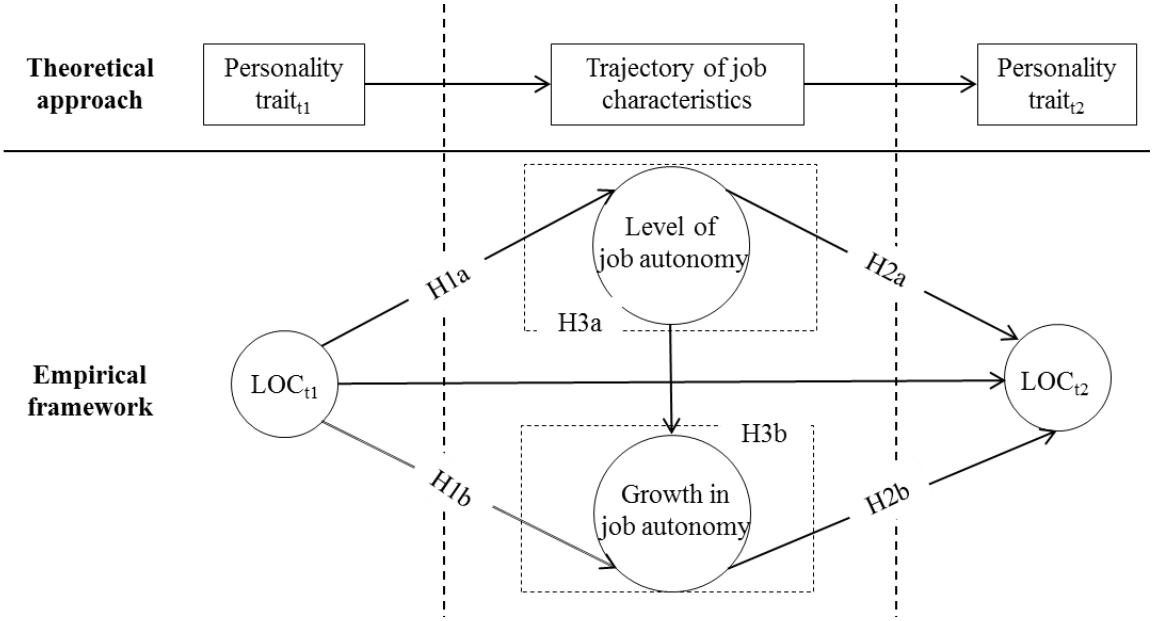
Despite these contradicting conceptualizations of the relationship between LOC and job autonomy, the reciprocity between them has not been explicitly addressed in empirical analyses. This neglected attention has provided an opportunity to further explore the reciprocity of personalities and work, given that work conditions can play a crucial role in explaining the trajectories of personality change (Wille, Beyers, & De Fruyt, 2012). Thus, we aim to firstly uncover the integrated process that incorporates both the predictive role of LOC in the level of job autonomy an individual chooses and the function of job autonomy on later LOC. With the reasoning reflected in current theoretical and empirical work (Woods, Lievens, De Fruyt, & Wille, 2013), the extension from the unidirectional impact of personality traits on work experiences challenges the long-standing tradition of personality research which focuses on only the predictive function of personality traits (McCrae et al., 2000). Consequently, theories in this context need to not only explain the stability, but also to help answer the fundamental question of how the work environment can act as a source of individuals' identity (Wille & De Fruyt, 2014). Hence, to support theoretical development in this area, many researchers have called for more longitudinal studies (Kohn & Schooler, 1973; Roberts, Caspi, & Moffitt, 2003; Woods et al., 2013) and a diversification of personalities outside of the common Big Five model (Judge, Klinger, Simon, & Yang, 2008).

We are further interested in a dynamic context where LOC and the change in job autonomy reciprocally affect each other. Unlike the level of job autonomy, the change in job autonomy reflects an individual's trajectory of actual job conditions, which can be captured by the growth rate (i.e., how strongly the job autonomy increases or decreases over time). Supplemented to a static assessment of individual traits and their matching processes with job requirements (Rounds & Tracey, 1990), we incorporate the work transition that may be caused by personality and its reverse impact on personality

development. This transitional view sheds light on a new perspective of dynamic reciprocity (Wille et al., 2012), indicating an ongoing fit process between individual and job when both are subject to change (Chartrand, 1991). This concept not only addresses some of the important criticisms regarding the static trait at work (Spector & O'Connell, 1994; Ross & Wright, 1998; Roberts et al., 2003), but more importantly provides an opportunity to understand individuals' career development process (Wille et al., 2012). Despite first applications of dynamic reciprocity in organizational psychology and management research (Wu & Griffin, 2012; Woods & Hampson, 2010; Sutin et al., 2009), studies on the dynamic reciprocity between changes in work characteristics and personality development still constitute a fairly small stream of literature (Wille et al., 2012).

Accordingly, Figure 2.1 shows our model depicting the aforementioned reciprocal relationships between LOC and job autonomy with three hypothesized links. First, we assume that personality predicts the trajectory of job characteristics, including the level and change of job autonomy. Second, in a reciprocal relationship, we hypothesize that the trajectory of job autonomy affects LOC in later years. Third, these reciprocal relationships are assumed to be linked by a corresponding mechanism where the development of LOC over time is mediated by the trajectory of job autonomy.

Figure 2.1: Research Model with Theoretical Approach and Empirical Framework



In our theoretical reasoning, we draw on views from both the personality literature (i.e. the use of social investment theory in reciprocal relations between personalities and work; e.g. Roberts et al., 2003; Roberts, Wood, & Smith, 2005; Spector & O'Connell,

1994) and established perspectives from social psychology (e.g. occupational self-direction; Kohn & Schooler, 1982). The combination of different research streams in the study is benefited from the objective assessment of job autonomy that reflects individuals' actual work conditions instead of perceptions. Despite increasing evidence on the reciprocal relations in personality literature, current studies mostly rely on self-reported measures of personality and work experiences (Roberts & Moczerk, 2008). Although large parts of the relevant literature in social psychology have examined occupational socialization based on objective job conditions, it draws less attention to a reciprocal relation over time. Consequently, the cross-fertilization of these perspectives enables us to shed light on the black box between personality and work.

The paper proceeds as follows. First, we explicate the theoretical background and develop hypotheses. Second, we outline the study's empirical design and provide results. Last, we discuss our findings, address the paper's contribution, and outline limitations as well as an agenda for future research.

2.2 Theory and Hypotheses

Our model of dynamic reciprocity between LOC and job autonomy implies a change in personality that is caused by job characteristics. This assumption challenges the traditional static view of trait models, which claim that personality traits should endure over time and remain relatively stable in later adulthood because of their independence from environmental influences (McCrae et al., 2000). In the following, we will first elaborate on this assumption of change in personality traits. Grounded in this general theoretical approach, we then develop hypotheses for each suggested link between LOC and job autonomy. We first look at the impact of LOC on job autonomy, followed by an analysis of how the trajectory of job autonomy shapes LOC. Last, we derive hypotheses for the mediational role of job autonomy in the development of LOC

2.2.1 Assumption of Change in Personality Traits

Personality traits are indisputably perceived to be relatively stable and remain consistent across time and age (Fraley & Roberts, 2005). However, as Roberts, Walton, and Viechtbauer (2006) pointed out in their meta-analysis, it is often premature to portray a trait as unchanging only because it demonstrates relative temporal consistency. Their findings indicated tendencies of change in six dimensions of adults' personality traits across a lifetime, such as an increase in agreeableness, conscientiousness, and emotional stability even in middle and old age. Together with other accumulated evidence that

contradicts the dispositional endogeneity, changes in traits have been observed across multiple birth cohorts and nations, and thus individual differences in the change of personality have been further linked to the unique experiences of individuals (Roberts et al., 2005; Scollon & Diener, 2006; Judge, Hurst, & Simon, 2009; Wu & Griffin, 2012; Bleidorn, 2012).

Early studies also acknowledged LOC's potential to change over time. Anderson (1977), for instance, observed that internals with improved business performance after a natural catastrophe become more internal whereas externals with deteriorated performance become more external. Andrisani and Nestel (1976) found in a longitudinal analysis that advancing in occupation prestige also increases the internality of male employees. More recently, Legerski and colleagues (2006) concluded that the way individuals contribute to their and others' success in the reference group plays an important role in the development of internality among involuntarily unemployed individuals. The study conducted by Specht, Egloff, and Schmukle (2012) demonstrated that LOC changes over the course of a lifetime and the variations in change are related to individuals' age, gender, and education. Despite our focus on changes in personality, we do, of course, acknowledge the potential stability of LOC over time (Tett & Burnett, 2003). Thus, trait change and trait consistency both contribute to the understanding of individuals' personality development (Fraley & Roberts, 2005).

2.2.2 LOC Predicts the Trajectory of Job Autonomy

Prior theoretical and empirical work suggested that individuals choose to engage in situations that are most congruent with their personalities (Diener, Larsen, & Emmons, 1984). The well-accepted attraction-selection-attrition framework (ASA; Schneider, 1987) disentangled this predictive role into three specific mechanisms. Attraction refers to the process by which people are attracted to the working environment with characteristics common to their personality, whereas selection represents a formal and informal process by which people with fitting personal characteristics are selected. Alternatively, attrition indicates the tendency of individuals to leave or be relieved if they do not fit into the working environment. Recently, Roberts and colleagues (2006) extended the ASA framework to include intermediate processes of transformation and manipulation, named as the attraction-selection-transformation-manipulation-attrition model (ASTMA). The two additional processes emphasize the individuals' initiatives to enhance the fit between their personality and the working environment by transforming or modifying their

organizational experiences. Both ASA and ASTMA specify different mechanisms for how personality traits predict individuals' situational choices (static) as well as situational changes (dynamic). We therefore distinguish between the impact of LOC on the level of job autonomy (situational choice) and its change patterns (situational change), which together constitute the trajectory of individuals' job autonomy.

LOC predicts the level of job autonomy. According to ASA and ASTMA, attraction and selection illustrate a static situational choice, indicating that individuals intend to choose jobs that fit their own personality traits. For example, individuals with high openness to experience are more likely to take on investigative and artistic occupations (Woods & Hampson, 2010; Judge, Higgins, Thoreson, & Barrick, 1999) and junior medical students who are low in neuroticism tend to choose realistic (e.g., surgery) and enterprising (e.g., acute medicine) specialties (Woods et al., 2013). In the same line of reasoning, we argue that individuals with a higher internal orientation have a stronger tendency to occupy jobs that offer higher autonomy because they emphasize the degree of control over the environment and prefer the perceived personal responsibility for the outcomes (Spector, 1982; Cheng, 1994). Earlier experimental studies have additionally shown that individuals with internal orientation are attracted and selected by activities that require actual conditions of more personal control and skills utilization (Kabanoff & O'Brien, 1980; Julian & Katz, 1968; Kahle, 1980). Indirectly, internally oriented individuals also prefer participative management to organizational hierarchy (Mitchell, Smyser, & Weed, 1975) or choose professional freelance over hierarchic positions (Oliver, 1983). Therefore, internals are more likely to seek high autonomy at work so as to apply their own efforts and initiatives to control the work outcomes. Thus, we assume that:

H1a. Internal orientation is positively associated with the level of job autonomy.

LOC predicts changes in job autonomy. To pursue a better fit between individuals and jobs, changes in job characteristics can also be predicted by personality traits. ASA and ASTMA demonstrate that individuals can actively shape their work environment by searching for alternative jobs (attrition) or consciously changing the organizational experiences (transformation and manipulation) (Wille et al., 2012). These self-verification processes constitute a dynamic situational choice, leading to a change of occupational attributes, such as growth in job satisfaction (Wu & Griffin, 2012) or an increase in decision latitude (Sutin & Costa, 2010). Analogously, we assume that internals would be more likely to look for alternatives when they are not satisfied with the current level of job

autonomy. By changing the job or intra-organizational experiences, internals have a greater possibility of enjoying growth in job autonomy. Despite the theoretical argument, very few studies have analyzed predictors of changes in job autonomy. An exception is Cheng (1994), who reported a high turnover rate among Hong Kong teachers with a high internal orientation when they worked in less autonomous positions. Although he did not directly link the turnover to the increase in job autonomy, this case sheds light on the possibility of internals' intention to increase their job autonomy by proactively changing their situations. Therefore, we hypothesize that:

> *H1b. Internal orientation is positively associated with the growth in job autonomy.*

2.2.3 Trajectory of Job Autonomy Shapes LOC

There is increasing consensus that traits continue to develop as a function of experiences from work, family, and community throughout adult life (Bleidorn, 2012; Lüdtke, Roberts, Trautwein, & Nagy, 2011; Wille et al., 2012; Lewis, 1997). The reciprocal link from the trajectory of job characteristics to personality traits can be further explained via the newly developed social investment theory (Lodi-Smith & Roberts, 2007; Roberts et al., 2005), which provides an alternative perspective by emphasizing the impact of social contextual factors on personality development (Woods et al., 2013). According to social investment theory, individuals' investment and commitment to work roles, such as highly prestigious jobs, lead them to accept new behavioral demands and expectations related to role fulfillment. By successfully fulfilling work roles, individuals start to establish a reward system that confirms the importance of traits promoted in these roles and thus exhibit increasingly role-related traits (Bleidorn, 2012). By integrating social investment theory in our specific context, we subsequently explain how job autonomy and its change patterns affect LOC.

The level of job autonomy shapes LOC. Consistent with social investment theory, we argue that work involvement affects trait changes through a bottom-up process (Bleidorn, 2012). Specifically, sustainable changes in personality traits should be preceded by changes in individuals' behaviors (Roberts & Jackson, 2008; Roberts, 2006, 2009), which are promoted by self-established reward systems to fulfill role demands in the workplace. Therefore, both the personality traits and the work experiences are linked through personal states, which include a stable and enduring pattern of behaviors, feelings or thoughts (Wille & De Fruyt, 2014). Hence, enduring job conditions can impact personality traits

through changes in personal states, based on individuals' involvement in the role fulfillment and occupational socialization process. For the context of job autonomy, as Kohn and Schooler (1973) found that, one's self-direction in occupation which reflects the actual job conditions of autonomy, promotes individuals' sense of mastery at work. It changes individuals' behavior to be less authoritarian and less conformist (Kohn & Schooler, 1978), so that the prolonged effects of job autonomy evoke learning experiences that eventually lead to increases in LOC (Roberts, 2009). Additionally, Ross and colleagues distinguished autonomy from non-routines in occupational self-direction and found a closer link between job autonomy and individuals' consequent LOC (Ross & Mirowsky, 1992; Bird & Ross, 1993; Ross & Wright, 1988). Hence, we propose that:

H2a. The level of job autonomy positively shapes internal orientation.

Changes in job autonomy shape LOC. Unlike the impact of level of job autonomy, which influences the changes of personal states through a consistent working environment, growth in job autonomy enables to heighten the self-control expectations for role fulfillment and emanate more situational pressures to promote role-related traits (i.e., LOC). We thus argue that growth in job autonomy affects LOC mostly through an increased role perception. Based on social investment theory, the self-established rewarding system can be re-formulated when a discrepancy between one's actual job status and a desired status of job characteristics has been reduced (Carver & Scheier, 2000). This process has been explicated by Wu and Griffin (2012) as a discrepancy-reduction mechanism. The reduction in that have-want discrepancy is supposed to lead to a self-verification process, which changes how individuals behave and think, especially when they mostly attribute the positive experiences to internal causes such as role-related traits (Schinkel, Dierendonck, & Anderson, 2004). Therefore, if prior job autonomy serves as the reference point for the later stage of autonomy, stronger growth in job autonomy reflects a greater reduction rate of have-want discrepancies. This success in reduction verifies the role-related trait, consequently affirming one's LOC. Thus, we hypothesize that:

H2b. The growth in job autonomy positively shapes internal orientation.

2.2.4 Mediational Role of the Trajectory of Job Autonomy in the Development of LOC

The most likely impact of a job characteristic on personality development is to elaborate the very personality trait that led to the choice of the job characteristic in the first place (Roberts et al., 2003; Roberts & Caspi, 2003; Roberts et al., 2005; Roberts, 2006). This

line of argument sheds light on the corresponding changes between job characteristics and personality traits, which arouses interests in recent longitudinal studies on trait development. For instance, individuals with low negative emotionality are inclined to choose jobs with high financial security and, in turn, working in highly financially secure jobs decreases individuals' negative emotionality over time (Roberts et al., 2003). Similarly, employees with high core self-evaluation (including self-esteem, generalized self-efficacy, LOC, and emotional stability) tend to have higher job satisfaction, and a satisfying job further advances their core self-evaluation (Wu & Griffin, 2012). Therefore, we assume that job characteristics take on a mediational role because they serve as a path through which experiences validate and reward personality traits and thus intensify the particular trait over time (Roberts & Jackson, 2008).

Based on the corresponding mechanism and the aforementioned reciprocal relations between LOC and job autonomy, we assume that individuals' trajectory of job autonomy can intensify their dispositional control in life. The original internal orientation predicts the subsequent level and changes in job autonomy, whereas the desirable trajectory of job autonomy verifies the prior internal orientation, leading to an increase of LOC over time. Hence, we propose that:

H3a. The level of job autonomy positively mediates the changes of internal orientation.

H3b. The growth in job autonomy positively mediates the changes of internal orientation.

2.3 Method

2.3.1 Data

To test our empirical model, we employed data from the German Socio-Economic Panel (GSOEP, v28), a yearly longitudinal survey with a representative sample of German populace started in 1984. The initial sample included 20,920 individuals, covering the time span from 2005 through 2010. LOC was measured in 2005 and 2010. We excluded individuals without a single rating on LOC in either 2005 or 2010, resulting in a sample size of 8,942. Subsequently, only individuals with full information on job autonomy from 2005 through 2009 remained in the study, since job autonomy of each year was important to constitute the growth rate across time (i.e. changes of job autonomy). This restriction led to a reduced sample of 5,825. We further conditioned this study with working individuals with age of no more than 65 in 2010, as we aimed to exclude individuals who

were retired within the investigation period. The final sample consisted of 5,720 individuals; 54% (3,090) were male and 46% (2,630) were female. The average age in 2005 was 42.04 (SD = 9.613).

2.3.2 Measures

Locus of control. LOC was measured in 2005 and 2010 with seven items derived from Rotter's (1966) original scales. Individuals were asked to indicate the extent to which they agree with statements such as "How my life goes depends on me", "I frequently have the experience that other people have a controlling influence over my life" or "What a person achieves in life is above all a question of fate or luck" based on a 7-point Likert scale (from 1 = strongly disagree to 7 = strongly agree). Although GSOEP originally included 10 items to measure individuals' LOC, recent studies have shown better consistency and validity for a shortened 7-item measurement (Specht et al., 2012; Specht, Egloff, & Schmukle, 2011a; Trzcinski & Holst, 2010). Similarly, we found that the 7-item measurement exhibited a much better model fit than the original 10-item measurement in both year of 2005 ($\Delta\chi^2(11) = 262.1$, $p < .001$) and 2010 (($\Delta\chi^2(11) = 902$, $p < .001$). According to Ferguson's (1993) study, the 7-item measurement also incorporated major items that were identified as the most consistent measurement for personal control system across diverse groups of populations. As a latent variable, the 7-item measurement of LOC in our study yielded a one-factorial solution with one eigenvalue larger than 1.00 in a principal components analysis (2.39 in 2005 and 2.55 in 2010). Cronbach's alpha for this scale was .67 in 2005 and .70 in 2010, which are close to the results found by Specht and colleagues (2011a, 2012).

Job autonomy. Job autonomy from 2005 to 2009 was coded by trained professionals of GSOEP based on individuals' occupational activities. Each year GSOEP interviewed individuals for their occupational titles based on a four-digit occupational code. The occupational codes were categorized according to International Standard Classification of Occupation (ISCO-88), which majorly focused on the similarity of skills to fulfill the tasks and duties of the jobs. Subsequently, GSOEP specified the occupational positions using job descriptions and specifications such as task complexity, required responsibility, vocational trainings and company size (Ganzeboom & Treiman, 1996). Since these categorizations were closely related to the opportunity for independent thought and action at work (Hackman & Oldham, 1976; Kabanoff & O'Brien, 1980), GSOEP further derived individual's job autonomy based on one's specific occupational position (cf. Hoffmeyer-

Zlotnik & Geis, 2003 for details). According to the German civil service laws, for instance, GSOEP classified the civil servants by the kind of activity and thus the amount of autonomy attached to it. By evaluating the level of vocational trainings, GSOEP differentiated white-collar workers by the tasks and the extent of responsibility associated with each task. Besides the specific descriptions of occupational positions, self-employed persons were allocated with different job autonomy depending on the number of employees they employed, namely the more employees the higher level of autonomy. In total, GSOEP categorized six levels of job autonomy ranging from 0 (no autonomy; e.g., apprentice, intern, unpaid trainee) to 5 (high autonomy: e.g., managers, professional freelancers).

One clear advantage of this measure of job autonomy is that it is based on an independent assessment of job descriptions and evaluations rather than self-reports that are subject to individual perceptions (Judge et al., 2000). Therefore, the coding method based on the occupational title provides a practical and feasible alternative to obtain an objective assessment of job characteristics across different jobs in a variety of organizations. Similar approaches have commonly been used in studies with the need for an objective measure of job conditions, such as job complexity (e.g., Judge et al., 2000; Kohn & Schooler, 1973; Spector & Jex, 1991). To further test the validity of the autonomy measure used by GSOEP, we conducted an additional test to substantiate whether the coded measure can capture the essence of an autonomous job condition. Specifically, we selected the 50 most frequent jobs from five levels of job autonomy (1 – 5) in our sample and asked German HR experts to rate the autonomy level of each job with the scale from "1" (low autonomy) to "5" (high autonomy). Six out of ten HR experts fully completed the survey with a high inter-rater reliability (interclass correlation coefficient ICC(2,6) = .945). The correlations between individual expert's ratings and GSOEP ratings ranged from .729 to .877. There was also a very high correlation (r = .896) between the averaged rating by HR experts and GSOEP rating. Therefore, we believe that the additional test indicates high reliability and validity of our job autonomy measure, which supports our decision to use this measure in this study. Based on the coded job autonomy, we measured the level and changes of job autonomy from 2006 through 2009 as latent variables by latent growth models. The information on job autonomy in 2005 served as the baseline for the changing patterns of job autonomy in the following years. We will elaborate on this model in a later section where the level is indicated as intercept and the change is evaluated as slope.

Control variables. Three groups of control variables were included. The first group consisted of demographics including age and gender, which differentiated individuals' personality development and work environment (Bailis et al., 2010; Ross & Wright, 1998; Specht et al., 2012). Age was measured as a continuous variable and gender was recorded as a binary variable (0-male, 1-female). The second group comprised of differences in occupation-related factors, such as individuals' occupation, income, education, job prestige, organizational tenure, job tenure, and job change. Since these factors have been linked to job conditions individuals may attach to (Bird & Ross, 1993; Robert et al., 2003; Sutin et al., 2009), we used them to control the autonomy changes caused by the general variations in the workplace. Specifically, the occupation of individuals was classified based on ISCO-88 as a categorical variable (Hartmann & Schütz, 2002). Individuals' income was calculated as the logarithm of monthly gross income in 2006. Education served as the basis for individuals to obtain a high level of autonomy and thus we used years of school until 2005 as an indicator. Job prestige can be closely related to job autonomy as they both reflect the evaluation of an occupational standing (Ganzeboom & Treiman, 1996). Therefore, we included the Magnitude Prestige Scale to indicate the prestige of a job (Wegener, 1988; Frietsch & Wirth, 2001). The scale was developed based on the German official occupational classification. Organizational tenure was measured as the length of time individuals had already worked for an organization. We derived job tenure based on individuals' job change patterns in each year from 1994 to 2009. Thus, job tenure was calculated as the amount of years individuals were working prior to a job change. Additionally, we also assessed the job change status for individuals from 2006 to 2009 to ensure that the job autonomy has been compared in the same job context across time. If individuals had changed their jobs in any of the four years, they were recorded as 1, otherwise 0. In the last group of controls, we detected nine important life events as these critical events might lead to a sudden change of personality traits (Lewis, 1997; Fraley & Roberts, 2005). Those events were moving in with a partner, new marriage, birth of a child, new separation, new divorce, death of a spouse, death of a parent, death of a child, and first job (Specht, Egloff, & Schmukle, 2011b). If persons experienced an event from 2006 through 2009, it was coded as 1.

Table 2.1: Mean, Standard Deviation and Pearson Correlation of All Variables

	M.	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1.LOC 05	5.52	.44	1																						
2.LOC10	5.50	.45	.52	1																					
3.JA 05	2.82	1.15	.20	.17	1																				
4.JA 06	2.86	1.11	.20	.18	.88	1																			
5.JA 07	2.88	1.11	.21	.19	.83	.86	1																		
6.JA 08	2.92	1.08	.20	.20	.81	.83	.87	1																	
7.JA 09	2.93	1.08	.21	.20	.80	.82	.86	.88	1																
8.Age	42.04	9.61	-.03	-.03	.28	.24	.18	.15	.13	1															
9.Sex	.46	.49	-.07	-.04	-.11	-.11	-.13	-.11	-.12	.01	1														
10. Income	3.33	.34	.17	.14	.55	.56	.54	.52	.52	.22	-.41	1													
11.Org tenure	11.29	9.33	.01	-.01	.23	.19	.16	.16	.15	.52	-.10	.30	1												
12.Job tenure	10.57	5.51	.02	-.01	.18	.14	.11	.10	.09	.43	-.08	.23	.64	1											
13.Jobprestige	66.72	30.28	.15	.14	.59	.60	.60	.60	.61	.11	.02	.38	.04	.01	1										
14.Education	12.81	2.78	.13	.13	.58	.58	.59	.58	.59	.10	-.01	.37	-.02	-.03	.66	1									
15.Job-change	.27	.44	-.01	.01	-.12	-.10	-.09	-.05	-.04	-.31	.03	-.20	-.31	-.47	.01	.02	1								
16.Move-in	.04	.20	.00	.01	-.05	-.03	-.01	.00	-.00	-.21	-.01	-.04	-.12	-.14	.03	.14	.04	1							
17.Marriage	.04	.20	-.01	-.01	.00	.02	.03	.01	.02	-.16	-.03	.02	-.09	-.08	.02	.06	.03	.15	1						
18.New-child	.03	.17	-.02	-.02	-.04	-.03	-.03	-.04	-.04	-.02	-.01	-.02	-.01	-.03	-.02	.03	-.04	.03	.04	1					
19.First job	.01	.09	.01	.02	-.12	-.11	-.07	-.03	-.02	-.17	.01	-.14	-.10	-.14	-.01	.16	-.00	.09	.03	.00	1				
20.Separation	.05	.20	-.03	-.00	-.02	-.01	.00	-.00	.01	-.12	.02	-.01	-.06	-.08	-.01	.09	.00	.17	.01	.01	.02	1			
21.Divorce	.02	.12	-.02	.01	.02	.02	.02	.01	.01	-.00	.00	.02	.00	-.01	.01	-.01	.03	.07	.03	-.01	.00	.14	1		
22.Partnerdeath	.00	.058	-.02	.00	.01	-.00	-.01	-.00	-.01	.06	.05	-.02	.02	.01	.00	-.01	-.01	.00	-.01	-.01	.01	.00	-.01	1	
23.Parentdeath	.06	.24	.01	-.01	.03	.03	.03	.02	.01	.09	.01	.02	.05	.04	-.01	-.04	.00	-.03	-.02	-.02	.02	-.03	.02	-.00	1
24.Childdeath	.00	.03	.00	-.02	-.01	-.01	-.01	-.01	-.01	-.01	.01	.00	-.01	-.01	-.01	-.01	-.01	-.01	.02	-.00	-.00	-.01	-.00	-.00	-.01

Note: In two-tails tests, $0.03 \leq |r| < 0.04$ is $p<.05$; $0.04 \leq |r| < 0.06$ is $p<.01$; $0.06 \leq |r|$ is $p<.001$. Nominal variable such as occupation was not included.

Descriptive statistics and correlations of study variables are shown in Table 2.1. Measures for LOC and job autonomy are both relatively stable over time. The correlation between LOC in 2005 and 2010 is r = .52. For job autonomy, correlations between study years range from .80 to .88. It should be noted that the correlations of job autonomy between years were much higher than the correlation between the two-time measurements of LOC, which was considered to be a stable personality trait. We believe the phenomenon may result from a lower reliability of the subjective measure for LOC compared to the objective measure for job autonomy.

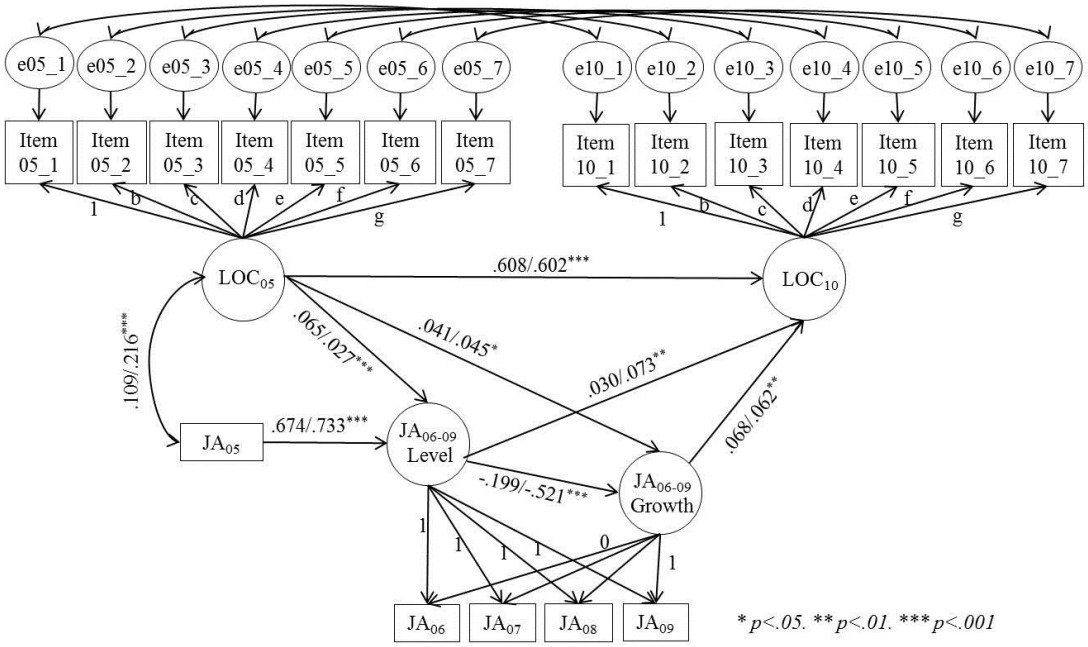
2.3.3 Analyses

We applied a factorial invariance model and latent growth model (LGM) within the framework of structure equation modeling (SEM) to assess the reciprocal changes between the development of LOC and the trajectory of job autonomy. Due to our theoretical assumption of the changes in LOC over time, we used a strict factorial invariance model as the measurement model of LOC for both 2005 and 2010 (see Figure 2.2). One advantage of the strict factorial invariance model is that it reveals the true changes of the latent variable in multiple occasions rather than the variations in structural metrics (Widaman, Ferrer, & Conger, 2010; Bollen & Curran, 2006; Collins & Sayer, 2001). With the factorial invariance model, thus, we were able to minimize the biases in measuring the LOC changes caused by varied measurement structures at two time points. Recommended by Widaman and colleagues (2010), the latent LOC in 2005 and 2010 should share identical factor loadings, measurement intercepts, and factor variances. Following previous research that looked at changes in personality (e.g., Specht et al., 2011b), we also added the correlation between errors of the same manifest indicators to control for effects that were not caused by the factors of interest (Bollen & Curran, 2006). An additional chi-square difference test asserted that the model with correlated errors fitted to the data much better than the model without correlated error terms ($\Delta\chi^2(7) = 2621.59$, $p < .001$). Additional analyses revealed that both models yielded similar results for our hypotheses.

To disentangle the causality between LOC and job autonomy, we estimated the level and growth in job autonomy from 2006 to 2009 that filled in the years between the two-time measurements of LOC in 2005 and 2010. A first-order LGM of job autonomy was applied to simultaneously measure the level and growth rate of job autonomy across four years, shown as *JA level* and *JA growth* respectively in Figure 2.2 (Collins & Sayer, 2001; Wu & Griffin, 2012). For the specific measurement, the factor *JA level* (as intercept)

was reflected with identical factor loadings of 1 from all four years of job autonomy (i.e. from 2006 to 2009). To constitute the *JA growth* (as slope), the factor loadings from job autonomy in 2006 and 2009 were constrained as 0 and 1 respectively, and factor loadings from the years between 2007 and 2008 were freely estimated. Hence, the resulting growth rate of job autonomy from 2006 to 2009 would be ranged from 0 to 1.

Figure 2.2: General Structural Model with Path Coefficients



Note: Control variables are not shown for simplicity. Before the slash is the unstandardized coefficient and after is the standardized coefficient.

The measurement models and general SEM were evaluated with AMOS 20. For missing values (e.g., job change has the highest missing rate of 10.8%), AMOS automatically used a full-information maximum likelihood estimation (FIML) to impute missing data. Parameter estimation and standard errors were simultaneously assessed by maximum likelihood estimations. Because of its simultaneous feature, researchers have argued that FIML should outperform other traditional missing data techniques (Graham, 2009; Enders & Bandalos, 2001). Regarding the model fit evaluation, we first applied the commonly used chi-squared test to show the goodness of model fit. A model is well fitted to the data when chi-squared test provides an insignificant result (p>0.05). Due to its sensitivity to sample size, however, chi-squared test mostly rejects the null hypothesis if there is a large sample, resulting in significant results (Bentler & Bonnet, 1980). Following recommendations of Hu and Bentler (1999), thus, we additionally incorporated a combination of model fit indexes with their well-fit criteria (thresholds in parentheses),

including the *comparative fit index* (*CFI* ≥ .90) for incremental fit, and the *root mean square error of approximation* (*RMSEA* ≤ .06) and the *standardized root mean square residual* (*SRMR* ≤ .08) for absolute fit.

2.4 Results

We tested measurement models of LOC and job autonomy as the basis to further estimate the full model. Based on the measurement model of LOC, we explored the change pattern of LOC by its mean-level and rank-order consistency across time. Subsequently, we assessed the measurement model of job autonomy, showing its transitional propensity from 2006 through 2009. Table 2.2 summarizes the model fit indexes of both measurement models and the general structural model.

2.4.1 Measurement Model of LOC

Although the chi-squared test of the strict factorial invariance model showed to reject the model (χ^2 (88) = 894.194), Table 2.2 presented other satisfying model fit indices for the large-sample study (*CFI* = .94, *RMSEA* = .04, and *SRMR* = .03). The good model fit of the strict factorial invariance model indicated that the change of LOC across time can be identified as the development of LOC itself, rather than a variation of the measurement structure. Specifically, we estimated the development of LOC from 2005 to 2010 with both mean-level change and rank-order consistency as two indicators of stability. Mean-level change results from mean differences of 2005 and 2010 divided by their pooled standard deviation, whereas rank-order consistency is represented by the standardized effect of latent LOC in 2005 on 2010 (Specht et al., 2012). Based on the strict factorial invariance model, LOC showed a small negative change in the normative value (d = -.031, p < .001) and exhibited moderate stability in rank order (r = .622, p < .001), which together indicated a potential trait development over time (Specht et al., 2012). We further constructed an LGM by adding intercept and slope to the strict factorial invariance model (analogous to the LGM of job autonomy) to reveal the differences in individuals' LOC development. The results showed that individuals differed in their change rates of LOC across time, indicated by the significant variance in the slope (v = .149, p < .001). Hence, the development tendency estimated by the measurement model of LOC substantiated our assumption of the multifaceted change pattern in LOC.

2.4.2 Measurement Model of Job Autonomy

The proposed LGM was well fitted to the data (*CFI* = .99, *RMSEA* = .027, and *SRMR* = .002) in spite of a not satisfying chi-squared test (χ^2 (6) = 31.007); hence, it was able to measure the level and growth in individuals' job autonomy. According to the estimated mean of autonomy and its standard error, the measurement model of job autonomy from 2006 to 2009 showed that the average autonomy over the four years was significant at the level of 2.854 ($p < .001$) based on a scale ranging from 0 to 5. Thus, the estimated mean value was a precise indicator of the population mean level of job autonomy. For the growth rate, the average change in job autonomy was significantly positive, which was referred to the mean level of the slope of job autonomy ($b = .074$, $p < .001$). In addition, individuals differed in their change slope of job autonomy because the mean of the slope showed a significant variance ($v = .158$, $p < .001$). Hence, both the positive growth rate and individual difference in the change slope supported our claim that individuals' job autonomy changed over time.

Although we treated the measurement of job autonomy as a numeric variable in the analysis, the coding of autonomy can also be perceived as ordinal in nature. Therefore, we conducted additional analyses with job autonomy treated as an ordinal variable in various reduced models (i.e. an ordinal measure of job autonomy cannot be estimated as an independent variable in some models) and the results remained to be similar (detailed results are available on request). Therefore, findings of our model are robust when measures of job autonomy were applied as numeric or ordinal variables.

Table 2.2: Summary of Model Fit Indices

Model	χ^2 (*df*)	*CFI*	*RMSEA*	*SRMR*
1: Measurement model of LOC				
Strict factorial invariance	894.194(88)	.95	.040	.030
2: Measurement model of JA				
Latent growth model	31.007(6)	.99	.027	.002
3: Research model				
Directional structure model	2453.659(432)	.97	.029	.033

Note: Summary of all the model fit indices for both measurement models and general structural model. LOC = locus of control. JA= job autonomy. CFI = comparative fit index. RMSEA = root-mean-square error of approximation. SRMR= standardized root-mean-square residual.

2.4.3 Hypothesis Testing

According to the model fit tests (see Table 2.2), the general structure model fit our data well. All model fit indexes were within our required standards (*CFI* = .97, *RMSEA* = .029,

and *SRMR* = .033) except the chi-squared test (χ^2 (432) = 2453.659). The results from the structure model largely supported our research model after a variety of control factors were included (Table 2.3). Specifically, H1a and H1b focused on the predictive role of LOC in the determination of the subsequent job autonomy level and growth. As hypothesized, internal orientation in 2005 was positively related to level of job autonomy (*b* = .065, *p* < .001) (H1a) and growth in job autonomy from 2006 through 2009 (*b* = .041, *p* = .050) (H1b). The significant results of the directional path from the pre-dispositional LOC to the trajectory of job autonomy supported our first group of hypotheses.

Table 2.3: Summary of Path Coefficients

	JA level 06-09		JA growth 06-09		LOC 10	
Predictor variable	*b*	*std.b*	*b*	*std.b*	*b*	*std.b*
LOC 05	.065***	.027***	.041*	.045*	.608***	.602***
JA level 06-09			-.199***	-.521***	.030**	.073**
JA growth 06-09					.068**	.062**
JA 05	.674***	.733***				
Age	.000	.002	-.010***	-.238***	-.001	-.017
Sex	-.023	-.013	-.061**	-.075***	.027	.031
Education	.023***	.059***	.020***	.139***	-.001	-.008
Job prestige	.002***	-.045***	.001***	.109***	.000	.017
Org tenure	.001	.008	.005***	.122***	.000	.004
Job tenure	-.005**	-.028**	-.002	-.030	-.003*	-.039*
Occupation	-.005***	-.107***	-.003***	-.187***	.000	-.002
Income	.322***	.102***	-.011	-.009	.033	.025
Job change	-.028	-.012	.059**	.060**	-.008	-.008
New marriage					-.012	-.006
New child					-.019	-.008
Partner move-in					-.010	-.005
First job					.059	.013
New divorce					.095*	.027*
New separation					.025	.012
Partner death					.127	.017
Parent death					-.027	-.015
Child death					-.254	-.017

*Note: Summary of all path coefficients in the general structure model. b indicates the unstandardized path coefficient. std.b indicates the standardized path coefficient. LOC = locus of control. JA= job autonomy. * p<.05. ** p<.01. *** p<.001.*

In H2a and H2b, we hypothesized that the trajectory of job autonomy would positively influence individuals to be more internally oriented. Consistent with our second group of hypotheses, the structure model showed that both job autonomy levels (*b* = .030,

$p < .01$) (H2a) and growth ($b = .068$, $p < .01$) (H2b) from 2006 through 2009 were significantly and positively associated with individuals' internal orientation in 2010. Thus, the positive link from the trajectory of job autonomy to internal-orientation substantiated both H2a and H2b.

According to our third group of hypotheses, both level (H3a) and growth (H3b) of job autonomy should mediate the development of LOC over time. To test the significance of these mediation processes, we conducted additional statistical tests that focused on the product of coefficients (Wood, Goodman, Beckmann, & Cook, 2008). The product of coefficients allows for the most direct investigation on whether the mediational paths are equal to zero in a simply intervening variable model (Mackinnon et al., 2002). We applied the Aroian (1947) test because it avoids the assumption of independence between path coefficients (Wood et al., 2008), yet also yields a better performance than the Goodman (1960) test in many simulation studies (e.g. Mackinnon et al., 2002; MacKinnon, Warsi, & Dwyer, 1995). The results of Aroian tests indicated that the level of job autonomy positively mediated the change of LOC across time (t=2.07, p<.05) (H3a). However, the mediated effect of growth in job autonomy was much smaller and not significant (t=1.54, p=.12), providing limited support for H3b.

2.5 Discussion

The results in the longitudinal analysis have shed light on a potential dynamic reciprocity between personality traits and job characteristics. A detailed examination of this concept helps to further explain how personality traits develop in the working environment and how individuals and work fit to each other under a changing context.

2.5.1 Development of Personality Traits

Despite the traditional assumption of the stability in personality traits (McCrae & Costa, 1994), researchers have conducted a few longitudinal investigations and realized the potential changes in personalities (Roberts et al., 2006; Specht et al., 2011b). In the same stream, our study added evidence to the multifaceted changes in LOC across six years (2005 – 2010) which lies outside the well-studied Big Five model (Bleidorn, 2012; Harms, Roberts, & Winter, 2006). The factor invariance models enabled us to further identify the true changes in LOC that occurred over time instead of the variations in measurement structure. Similar to the results by Specht et al. (2012), we found that individuals became slightly less internally oriented over time. Furthermore, individuals only preserved a moderate rank order consistency of LOC. Aligned with studies on the sources of LOC

changes (Andrisani & Nestel, 1976; Anderson, 1977; Spector, 1982; Bleidorn, 2012; Scollon & Diener, 2006), we noticed that individuals go through different change patterns of LOC. This echoes that individuals significantly differ in their personality changes and inter-individual differences are associated with their unique experiences (Wu & Griffin, 2012; Judge et al., 2009).

Our study provided interesting insights on how work roles can lead to non-normative changes in personality traits (Wille et al., 2012). That is, work experience explains personality changes that are contrary to the general trends. Our findings showed that a higher level of job autonomy was related to a small increase in LOC. However, this increasing trend was contrary to the general decrease of LOC over time (Specht et al., 2012). Therefore, for job autonomy, the work role can impose behaviors or thoughts that buffer individuals to develop a more external LOC. Therefore, not all the work involvement can contribute to the normative changes of personalities, and this counteraction should be uncovered based on specific vocational characteristics (Woods et al., 2013).

2.5.2 Job Trajectory

Job autonomy is often considered as one of the most important job characteristics (Pierce, Jussila, & Cummings, 2009; Gallett et al., 2011; Thompson & Prottas, 2006). To our best knowledge, little attention has been paid so far to its dynamics throughout one's career. Our results offered an opportunity to uncover changes of individuals' actual conditions of autonomy at work, and revealed a generally increasing tendency over time. However, these increases were not the same for all individuals. Our findings showed that the variations of changes in job autonomy were closely related to individuals' personality traits, i.e. LOC. That is, more internal oriented individuals are more likely to have a faster pace to increase their autonomy. This dynamic perspective on job trajectories enabled us to project one's career development, and make a connection to individuals' personality development.

2.5.3 Dynamic Person-Job Fit

In line with the concept of a dynamic people-environment fit, we provided evidence to strengthen the notion of dynamic reciprocity, specifically between individuals and their jobs (Scollon & Diener, 2006). Our results indicated that an internal LOC indeed encouraged and enabled individuals to arrive at jobs requiring high autonomy. We also discovered that the congruency between individuals and job characteristics was also

revealed in a dynamic context when the changes in job autonomy were considered. Since the change rate of job autonomy differed in individuals over time, more internally oriented individuals proactively shaped their working environment, leading to a higher growth in autonomy at work. Thus, while job autonomy presented a general trend of increase with individuals' working experiences, higher levels of LOC resulted in higher changes of job autonomy. Hence, the present study provided evidence for the proposition that personality has a role in determining job conditions (Spector & O'Connell, 1994). Our work extends prior longitudinal studies that were restricted to perceptive measures of both personality and work (Caspi et al., 1987; Turban & Keon, 1993; Judge et al., 1999).

The trajectory of job autonomy that resulted from the level of LOC can reversely influence changes in LOC. This reciprocal effect further supports the assumption of plasticity of an individual's personality because of experiences at the workplace (Wille & De Fruyt, 2014). Similar to the learning-generating process of the occupational self-direction (Kohn & Schooler, 1982), individuals became increasingly internally oriented when they enjoyed a high level or high increase of control at work. The work environment indeed seems to play a key position in the development of personality traits (Bleidorn, 2012; Roberts et al., 2005).

Our results further indicated that the level of job autonomy served as the mediational path through which individuals' internal orientation increases over time. This finding shows an interesting pattern for individuals' personality development, such that the changes in personality correspond to experiences that were chosen by the exact trait in the first place (Roberts et al., 2003). This dynamic reciprocity reflects the necessity for an ongoing adjustment between people and environment due to their mutual impact (Chartrand, 1991). In the present study, for instance, higher internals would become even more internal-oriented due to the impact of high job autonomy. The changed LOC can lead to more demands of job autonomy in the later stages of employment. For an individual's career development, therefore, the dynamic reciprocity requires a constant matching process between the personality and work conditions. We found, however, no evidence on the growth in job autonomy for this mediational role in our analyses. The finding might indicate the importance of an enduring state of work experiences to impact personality development (Wille & De Fruyt, 2014).The non-significant result may also occur due to the suppression effect of the level of job autonomy, such as the multi-paths that led through the growth in job autonomy (see Figure 2.2).

2.5.4 Practical Implications

The reciprocal relationships between personality and job characteristics can provide implications for improving the fit between person and job. It indicates the centrality of personality assessment in different human resource management processes, such as selection, coaching, and employee development (Wille & De Fruyt, 2014). Furthermore, the importance of personal states indicates that individuals need to be consistently involved in certain activities when personality changes are expected to occur. Thus, frequent opportunities to practice trained behaviors are needed to facilitate the desirable personality changes.

The dynamic fit during the whole career development brings more challenges but also more opportunities for human resource management. In our study, more internal-oriented individuals work in highly autonomous jobs. With high autonomy, employees become more internal-oriented, which in turn leads to a positive feedback loop, i.e. the desire of even higher levels of job autonomy. By noticing changes of individual demands due to changes of personalities, job redesign such as job enrichment could be implemented to maintain a high level of job satisfaction. Thus, understanding and achieving a continuous fit between person and job, especially for established employees, helps organizations maintain a group of motivated, suited, and committed employees over time.

The non-normative development of LOC due to job autonomy provides an interesting hint that a strong involvement combined with a certain work condition may not necessarily contribute to the general trends of personality traits (Wille et al., 2012). Since LOC is shown to be a driver of good performance (Spector, 1982), the non-normative increase of LOC due to job autonomy is actually beneficial to organizations, as it buffers the natural decrease of individuals' LOC over time. However, the non-normative development can also be detrimental to organizations. For instance, the negative association between a Director role and agreeableness (Wille et al., 2012) indicates that a higher involvement in such work roles leads to an decrease of agreeableness in employees, which contradicts the general increase of agreeableness over time. In those cases, organizations have to be aware of this counter effect from work and apply development-related programs, if available, to guide the changes of wanted traits.

2.5.5 Limitations and Further Research

Due to missing data, the present study excluded many individuals from the initial to the final sample. Finally, the continuers (included individuals) were significantly younger (*d* =

-3.233, $p < .001$), more likely to be male ($\chi^2(1) = 95.378$, $p < .001$), and less internally oriented ($d = -.20$, $p < .001$) than dropouts (excluded individuals). Although missing data is unavoidable when many waves are included in a longitudinal analysis (Farrington, 1991), GSOEP has the lowest dropout rates compared to other longitudinal surveys from Cross National Equivalent Files (CNEF). In addition, we included related control variables such as age, gender, prior LOC, and job autonomy to control for potential biases.

Another limitation of our study concerns the relatively small effect sizes for some of the hypothesized effects. One explanation is that our data only covered a relatively short period of time (six years). The interaction between personalities and work can be magnified if the study extends to one's whole work life (Spector, 1982).

Furthermore, the coded job autonomy only represented an average level for each occupation, but cannot capture different degrees of autonomy that might exist within occupations or variations between individuals. However, direct observations of individuals' work characteristics are extremely difficult for different jobs across a variety of organizations. Thus, future studies might apply study designs that allow for finer-grained measures of job autonomy or other work characteristics, as individuals might not only change their occupation, but also shape their work roles within an occupation, e.g. demanding more autonomy within their current job.

Lastly, future research could also take individuals' perception of job characteristics into account for a clearer description of mediational processes. Since our argumentations mostly relied on actual work roles, we cannot disentangle differences in individuals' perceptions from factual differences in their work roles. This differentiation between factual conditions and perceptions can further uncover the black box between working experiences and personality.

2.6 Conclusion

In keeping with the dynamic reciprocity between personality traits and job characteristics, we found the aligned reciprocal relationships between LOC and job autonomy under a changing context. The combination of the dispositional perspective of personalities (i.e., LOC influences one's job trajectory) and the contextual perspective of personalities (i.e., LOC is shaped by one's job trajectory) enables a more comprehensive understanding on the interrelationship between who people are and what people do.

CHAPTER 3

HOW AFFECTIVE COMMITMENT CHANGES OVER TIME: A LONGITUDINAL ANALYSIS OF THE RECIPROCAL RELATIONSHIPS BETWEEN AFFECTIVE COMMITMENT AND INCOME*

3.1 Introduction

According to the three-component model of organizational commitment (Allen & Meyer, 1990), affective commitment captures how employees attach to, identify with and get involved in the organization (Meyer & Herscovitch, 2001; Meyer, Bobocel, & Allen, 1991; McElroy, 2001; Riketta, 2008). A large number of studies have shown that affective commitment not only impacts focal work behaviors like absenteeism, job involvement, and turnover (cf. Vandenberghe, Bentein, & Panaccio, 2014; Meyer & Herscovitch, 2001; Bateman & Strasser, 1984), but also generates spillover effects to behaviors such as creativeness and innovativeness (Neiniger, Lehmann-Willenbrock, Kauffeld, & Henschel, 2010; Mathieu & Zajac, 1990). Compared to other types of commitment, affective commitment has the strongest and most consistent relationship
with broad dimensions of employee performance (Meyer & Herscovich, 2001; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). Due to its importance, considerable theoretical and empirical research attempted to explore how and why affective commitment develops (e.g. Meyer et al., 1991; Elias, 2009; Ahmad & Bakar, 2003; Fontinha, Chambel, & Cuyper, 2013). The majority of studies, however, focused on cross-sectional effects of affective commitment and associated antecedents. There is little evidence on how affective commitment changes over time (Kam, Morin, Meyer, & Tolopnytsky, 2013; Beck & Wilson, 2001). An investigation of intra-individual changes, thus, enables to strengthen and extend prior conclusions on causes and trends in the development of affective commitment (Beck & Wilson, 2000).

Research on intra-individual changes of affective commitment can be divided into two main approaches. The first approach comprises studies that compare affective

* This chapter is based on a paper co-authored with Torsten Biemann and Stephen J. Jaros.

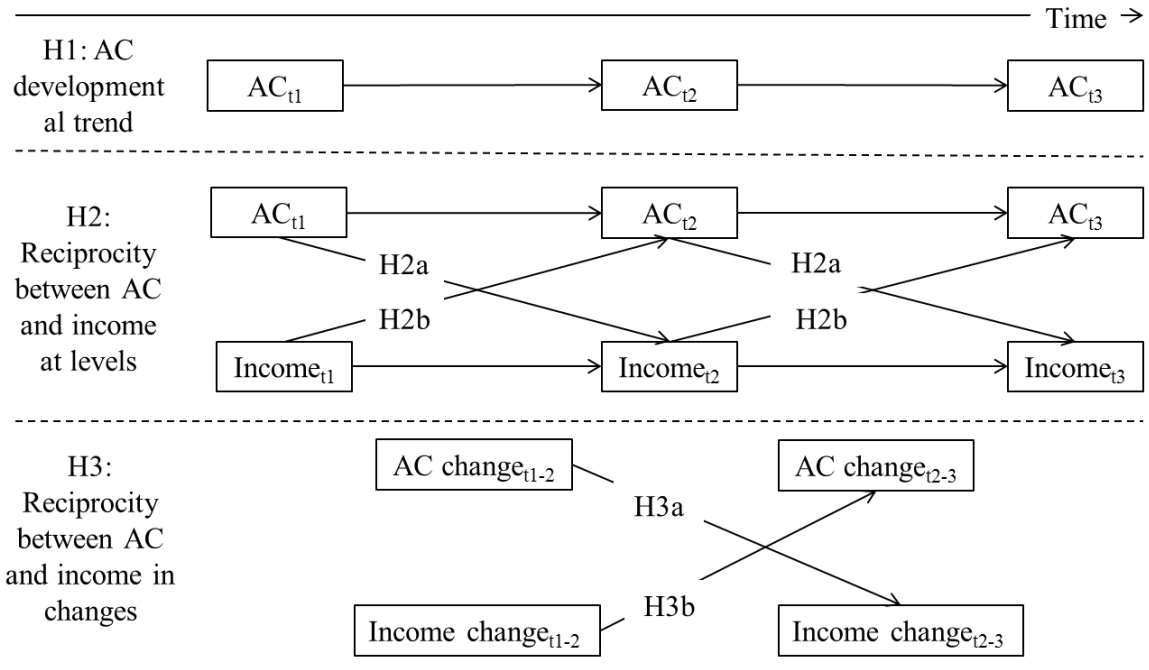
commitment among different groups based on certain attributes, such as age or tenure, in cross-sectional settings (Morrow & McElroy, 1987; Gregersen, 1993; Allen & Meyer, 1993). Results from these studies generally support an increase of affective commitment over time. The second approach is based on theories of development and aims at explaining changes in affective commitment in different career stages, mostly applying longitudinal data (Meyer et al., 1991; Simosi, 2013; Mowday, Porter, & Steers, 1982). Important results from this stream of research indicate that affective commitment decreases in the initial employment stage because of a reality shock, and increases afterwards due to a sense of belongings (Beck & Wilson, 2000; Meyer et al., 1991). The initial stage of employment has drawn relatively more attention in the empirical investigation and the results shed light on the potential decrease of affective commitment for newcomers (Vandenberg & Self, 1993; Meyer et al., 1991; Ostroff & Kozlowski, 1992). However, empirical examination of later stages of employment is rather scarce (Simosi, 2013; Beck & Wilson, 2000). Even the only two available empirical studies were restricted to only police departments and indicated a decreasing tendency of affective commitment (Beck & Wilson, 2001; Van Maanen, 1975). This study aims to fill this research gap and offer a comprehensive empirical analysis of developmental trends in affective commitment of employees from different organizations that have passed their initial stage of employment (i.e. one year after entry; Meyer et al., 1991).

A second research objective is an explanation of differences in development trends of employees' affective commitment. We have developed a reciprocal model that relates levels and changes of income to the development of affective commitment. Income is arguably the most important work outcome, indicating objective career success for individuals (Heslin, 2005) and providing opportunities to fulfill individuals' needs (Thierry, 2001). The level of income can symbolize, for instance, one's relative position, status of achievement or autonomy at workplace so that it enables individuals to identify themselves and establish the bond with the organizations (Gardner, Van Dyne, & Pierce, 2004). In the management literature, income is often conceptualized as a factor impacting different levels of affective commitment (Gardner et al., 2004; Kuvaas, 2006; Torlak & Koc, 2007). Contrarily, income can also be an outcome, resulting from the behavioral implications following from individuals' various degrees of affective commitment (Fedor, Caldwell, & Herold, 2006; Neininger et al., 2010). However, little is known about the potential reciprocity between affective commitment and income (Ogba, 2008). Thus,

although there seems to be an empirical link between income and affective commitment, the underlying causality has yet to be determined.

In our study, we distinguish between absolute levels and changes of income. In a first step, we use the absolute income level to capture the general relationship between affective commitment and income. In a second step, we study changes in affective commitment and their associations with the change of income (i.e. income increase or decrease) to further explore causal relationships (Beck & Wilson, 2001). Different from income level, income change creates disturbances at one point in time, which offers the opportunities for employees to experience positive or negative consequences in the working environment (Gardner et al., 2004). In effect, insights on the reciprocity between changes of affective commitment and income enables us to add evidence to the theoretical premise that positive working experiences are the major causes to changes in affective commitment (Meyer & Allen, 1991, 1997). Analyzing the impact of changes therefore allows a detailed analysis of potential drivers of continuous development of affective commitment.

Figure 3.1: Research Model of Hypotheses



Note: Only three time points (t1-t3) were included in the graph for simplicity. In the final statistical model, six time points were analyzed simultaneously, shown in Figures 3.2 to 3.4. AC = affective commitment

To explore changes in affective commitment over time and reciprocal relationships with income at levels and in changes respectively, we depict the three research objectives

in Figure 3.1. The remainder of this paper proceeds as follows. First we elaborate on the theoretical background and derive our hypotheses. Subsequently, we illustrate our empirical design and report the results. Lastly, we discuss our findings, practical implications, limitations as well as future research.

3.2 Theory and Hypotheses

3.2.1 Changes in Affective Commitment over Time

Research on intra-individual changes in affective commitment is still scarce (Bergman, 2006; Simosi, 2013). Most of empirical evidence has examined the initial stage of employment (0-12 months) and found evidence for a decrease in affective commitment (entry up to 5 months, Ostroff & Kozlowski, 1992; up to 6 months, Vandenberg & Self, 1993; up to 11 months, Meyer & Allen, 1988; Meyer et al., 1991; up to 12 months, Lee et al., 1992). However, very little is known about how affective commitment changes over time, especially regarding individuals who have a longer organizational tenure. The study by Beck and Wilson (2000) is an exception, as they analyzed a department of Australian police officers with tenure up to 19 years. They found a steady decline in affective commitment. Similarly, with a sample of an urban police department, Van Maanen (1975) compared affective commitment of police officers in the 30th month with levels during the first four months and also showed a tendency towards decreasing affective commitment across time.

This limited longitudinal evidence contrasts with the theoretical assumption, which proposes that individuals are more likely to experience higher affective commitment after their initial stage of employment because they have established a sense of belonging and are more likely to focus on the positive aspects at work (Mowday et al., 1982; Meyer & Allen, 1997). The possible increase in affective commitment over a longer term can also been seen in the existing correlational and cross-sectional studies which mainly presented a positive relationship between affective commitment and time-graded indices, such as age or tenure (Allen & Meyer, 1993; Cohen, 1993; Mathieu & Zajac, 1990; Weng, McElroy, & Morrow, 2010). Based on a career stage perspective, for instance, Allen and Meyer (1993) found that affective commitment increases significantly with employees' age (<31, 31-33, >34) and tenure (<2, 2-10, >10 years). Cohen (1993) and Mathieu and Zajac (1990) both reported a positive correlation between affective commitment and age as well as tenure in their meta-analysis. Despite the potential selection effect due to its negative relationships

with turnover (Payne & Huffman, 2005; Somers, 1995; Meyer et al., 2002), affective commitment generally tends to increase over the time individuals stay in the organization.

H1: Individuals show an increase in affective commitment to their organization over time.

3.2.2 Reciprocity between Affective Commitment and Income Levels

We firstly examine income levels as the causes of affective commitment changes because income levels indicate consistent experiences which are fundamental to how an individual behaves, thinks, or feels (Wille & De Fruyt, 2014). In this respect, the focus on income levels could help us explain a consistent state of how attached to the organization individuals feel over an extended period of time. Reciprocally, affective commitment leads to a consistency in working behaviors (Meyer et al., 2002), which might lead to various pay levels from the organization.

Income levels impact affective commitment levels. According to Thierry's (2001) reflection theory of compensation, income can add meaning to individuals as motivation (instrumentality), relative position (status, recognition or respect), control (freedom or autonomy) or spending (purchase with the payment). Thus, income provided by an organization offers employees with extrinsic benefits from work (Lacy, Bokemeir, & Shepard, 1983; Mottaz, 1988), which are viewed as valuable to individuals themselves (Kuvaas, 2006). Thereby individuals would likely to be more loyal and put more efforts in their work as an exchange, i.e. increasing their affective commitment (Eisenberger, Fasolo, & Davis-LaMastro, 1990; Molm, Takahashi, & Peterson, 2003). Furthermore, Gardner and colleagues (2003) found that income could also indicate individuals' self-identity in the organization. It helps individuals to recognize their value to the organization that enhances individuals' willingness to bond with the organization (Meyer & Herscovich, 2001; Pierce, Gardner, Cummings, & Dunham, 1989). From either the social exchange or self-identity perspective, thus, income influences how affectively committed employees are to their working organizations (Ogba, 2008, Lee & Bruvold, 2003). In fact, the extant compensation literature has also revealed that income can be an important determinant of employees' affective commitment (Angle & Lawson, 1993; Gardner et al., 2004; Kuvaas, 2006; Mottaz, 1988; Witt & Wilson, 1990).

H2a: Higher levels of income lead to higher levels of affective commitment.

Affective commitment levels impacts income levels. Affective commitment captures opinions and beliefs, which can, in turn, lead to behavior that benefits the organization

(Chelte & Tausky, 1986; Mowday et al. 1982). These behavioral implications of affective commitment have been shown for a set of relevant outcomes, such as increased organizational citizenship behavior, increased job involvement, reduced absenteeism, and increased productivity (Bateman & Strasser, 1984; Dodd-McCue & Wright, 1996; Fedor et al., 2006; McElroy, 2001). Hence, individuals with high affective commitment express their affection and attachment to the organization by taking up responsibilities in both in-role and extra-role behaviors at the workplace (Mathieu & Zajac, 1990; McElroy, 2001; Neiniger et al., 2010). Consequently, more affective commitment may lead to better job performance (Cohen, 1991; Riketta, 2008). Based on meta-analytic findings, Meyer et al. (2002) found that affective commitment shows a positive relationship with both supervisor- and self-rating of performance. To encourage employees to be more productive and efficient, performance evaluations are used as a basis for compensation decisions, such as bonuses or merit pay (Beer & Cannon, 2004; Jenkins, Gupta, Mitra, & Shaw, 1998; Kuvaas, 2006). We thus propose that affective commitment positively impacts employees' compensation.

H2b: Higher levels of affective commitment lead to higher levels of income.

3.2.3 Reciprocity between Affective Commitment and Income Changes

The aforementioned static approach did not take into account the effect of changes over time. Only when both state and transition are considered, we can depict a comprehensive within-person trajectory (Beck & Wilson, 2001). Hence, we now elaborate on the mutual relationship of changes in income and affective commitment.

Income changes impact changes in affective commitment. Experiences are the most important determinants of changes in individuals' attitudes and behaviors (Baltes & Schaie, 2013; Beck & Wilson, 2001). Based on the review of commitment antecedents, Meyer and Allen (1997) concluded that changes of affective commitment mainly respond to positive working experiences, which enable individuals to generate their personal fulfillment and satisfy their personal needs. Thereby, positive at-work experiences make individuals feel like more committed to the organization (Meyer & Allen, 1991, 1997; Gardner et al., 2004; Meyer et al., 1991; Simosi, 2013). Unlike the absolute level of income, increase in income is generally considered as a positive working experience (Gardner et al., 2004). Grusky (1966) has characterized reward changes as work experiences that exert an important influence on the extent to which employees feel attached to their organization. Increase in income enhances individuals' purchasing power

and fulfills more general needs for economic and physical security (Inglehart, 1999), and consequently leads to an increase in individuals' affective commitment to organizations (Andolsek & Stebe, 2004). Income growth also preserves post-materialistic values that relate to one's social and self-actualizing needs (Inglehart, 1999; Thierry, 2001; Mitchell & Mickel, 1999). For instance, an increase in income signals individuals that they become more important and valuable for their organizations (Gardner et al., 2004). These signals enhance the self-perceived status and organization-based self-esteem of the individual in the organization, which strengthens the bond between individuals and their organizations (Gardner et al., 2004, Pierce et al., 1989).

H3a: An increase (a decrease) in income leads to an increase (a decrease) in affective commitment.

Changes in affective commitment impact income changes. Changes in affective commitment represent a transition of one's attachment to an organization from one level to another. According to the behavioral implications of affective commitment, individuals who express stronger feelings of affiliation and loyalty are more diligent in their conventional role responsibility and hence enhance their job performance (Gardner et al., 2004). Meta-analytic findings showed, for instance, that higher affective commitment is associated with higher levels of both in-role and extra-role citizenship behaviors that are valued by the organization (cf. Meyer et al., 2002; Cooper-Hakim & Viswesveran, 2005). Organizations in turn reward these productive behaviors with promotions or higher bonuses to reinforce the high performance which is expected to be repeated in the future (Jenkins et al. 1998). As Eisenberger and colleagues (1990) noted, a stronger affective attachment to the organization produces higher promotion expectations. Moreover, Vandenberghe et al. (2014) recently found that increases in affective organizational commitment lead to increases in affective commitment to one's supervisor, which might have a positive impact on supervisory evaluations and hence pay. We thus hypothesize a positive impact of affective commitment changes on income changes.

H3b: An increase (a decrease) in affective commitment leads to an increase (a decrease) in income.

3.3 Method

3.3.1 Data

We used data from Korean Labor and Income Panel Study (KLIPS), a representative longitudinal survey covering a wide range of information from individuals and households.

The timespan of our study is from 2002 to 2007 during which time affective commitment was assessed every year with the same measure. We only included individuals with information on affective commitment for all six measurement points because of individuals' retirement or unemployment within the timespan. The sample was also restricted to individuals who had no job changes starting from 2001. In this way, individuals in the sample not only evaluated their commitment with the same organization during the whole timespan, but also stayed at least one year in that organization. The final sample consisted of 1,004 individuals; 72% (727) were male and 28% (277) were female. The average age in 2002 was 45.25 (SD = 9.645).

3.3.2 Measures

Affective commitment. Affective commitment was measured from 2002 to 2007 as a latent variable with five items in KLIPS. Individuals were asked to indicate the extent to which they agreed with five statements based on a 5-point Likert scale (from 1 = "strongly disagree" to 5 = "strongly agree"). The items included "This is a good company to work at", "I'm glad to have joined this company", "I would recommend joining this company to my friends who are searching for a job", "I take pride in being a part of this company", and "I hope to continue working at this company if other things remain the same". To examine the validity of commitment scale from KLIPS, we compared it with Allen and Meyer's (1990) original scale of affective commitment. Our objective was to examine the construct overlap between the KLIPS scale and the standard measure of affective commitment. We combined the 5 items from KLIPS with 24 items from the three-component commitment developed by Allen and Meyer (1990) and send it to employees from different organizations. The test resulted in a sample of 71 individuals with an average age of 29.06 (*SD* = 5.22).

We used exploratory factor analysis (EFA) with principal components and varimax rotation to categorize all 29 items. According to the eigenvalue criterion ($\lambda > 1.00$), all KLIPS items and all items from Allen and Meyer's affective commitment scale loaded on the same factor. The correlation between both scales was $r = .72$, which was higher than the split-half reliability of affective commitment by Allen and Meyer's original scale ($r = .69$). Additionally, this correlation was also close to the correlation between Allen and Meyer's affective comment and the organizational commitment questionnaire in many related studies ($r \geq 0.80$) (Meyer & Allen, 1991). Thus, we believe that the KLIPS scales can capture the essence of affective commitment.

In the original data set, the KLIPS scale of affective commitment yielded a one-factorial solution with one eigenvalue above 1.00 in a principal-components analysis (λ = 3.481 in 2002, 3.716 in 2003, 3.926 in 2004, 3.880 in 2005, 4.083 in 2006, and 4.294 in 2007). Cronbach's alpha for the scale was .89 in 2002, .91 in 2003, .93 in 2004, .93 in 2005, .94 in 2006, and .96 in 2007.

Income. KLIPS data contained individuals' average monthly income every year, which we used to compute the absolute and relative income from 2002 to 2007. Specifically, the logarithm of the monthly income served as the absolute income for the reciprocal relations between income and affective commitment at levels. Because changes in absolute income cannot be compared meaningfully between individuals, we further calculated the relative income by using individuals' monthly income in year 2001 as a base value.

Control variables. Prior meta-analytic studies have shown that several personal characteristics may cause varied changes of affective commitment among individuals (Mathieu & Zajac, 1990; Meyer et al., 2002; Cohen, 1992; Cohen, 1993); therefore, we included individuals' age, gender, education, school status and health as basic controls for personal characteristics. Age was measured as individuals' biological age. Gender was recorded as a dummy variable where female was measured as "0" and male as "1". Education was individuals' highest school attendance, ranging from "1" (no school education) to "9" (doctoral studies). School status indicated the status that individuals have finished their education each year from 2002 to 2007, such as "graduated with a degree" or "dropped out". We also controlled individuals' health in every year, which was a self-report ordinal variable for one's current health condition, evaluated as "1" for "excellent" to "5" for "very poor".

In addition, we controlled for job and organizational characteristics. Since many studies showed that tenure is positively related to organizational commitment and income (e.g. Cohen, 1993; Weng, et al., 2010), we included organizational tenure computed as the number of years individuals have worked in the organizations until 2007. Occupation and Industry were both included to control the general variations of income levels. Occupation was coded by the Korean Standard Classification of Occupation (KSCO-2000), ranging from legislators to armed forces. Industry was referred to Korean Standard Industry Classification (KSIC-2000) including sixty-three major categories. We also controlled for organizational size because it impacts employees' income (Ferrer & Lluis, 2008) and individuals' working attitudes (Mathieu & Zajac, 1990). Based on the number of

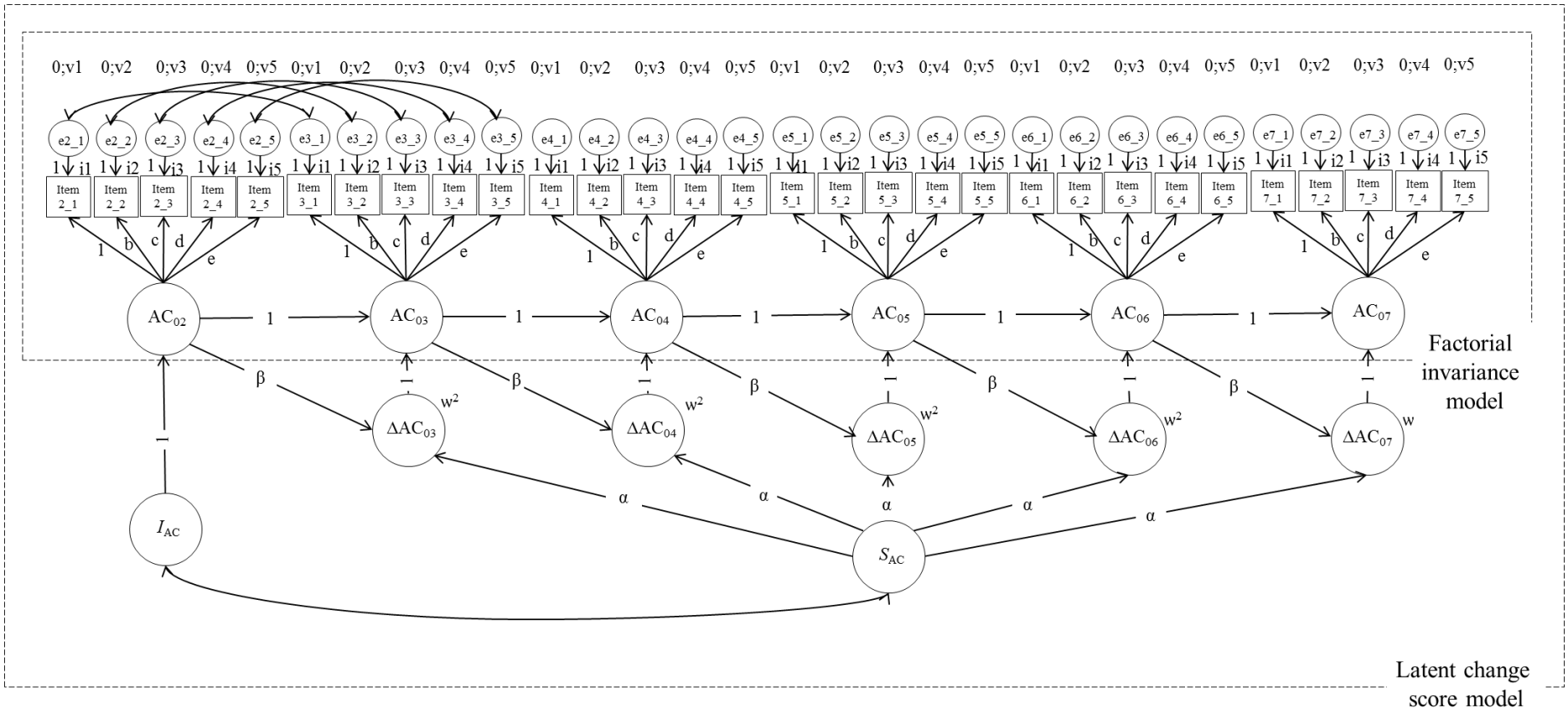
employees in the organizations, "1" indicated organizations with 1 to 4 employees, whereas "10" was used for more than 1000 employees. We further used dummy variables to control for individuals' pay scheme ("1" for use of performance pay) and work type ("0" for part-time and "1" for full-time).

3.3.3 Analyses

To analyze the development of affective commitment over time, we integrated a factorial invariance model into an auto-regressed latent change score model (LCS). Specifically, for the measurement model of affective commitment across six years, we applied a strict factorial invariance model so that we were able to measure changes of the latent construct over time rather than the variations of the metric structure (Collins & Sayer, 2002; Widaman, Ferrer, & Conger, 2010). Following the recommendations of Widaman and colleagues (2010), the strict factorial invariance model (see Figure 3.2) included six measures of the latent variable affective commitment ($AC_{02} - AC_{07}$), where latent affective commitment shared the same factor loadings, measurement intercepts, and factor variances across time. The errors of the same manifest indicators were also correlated.

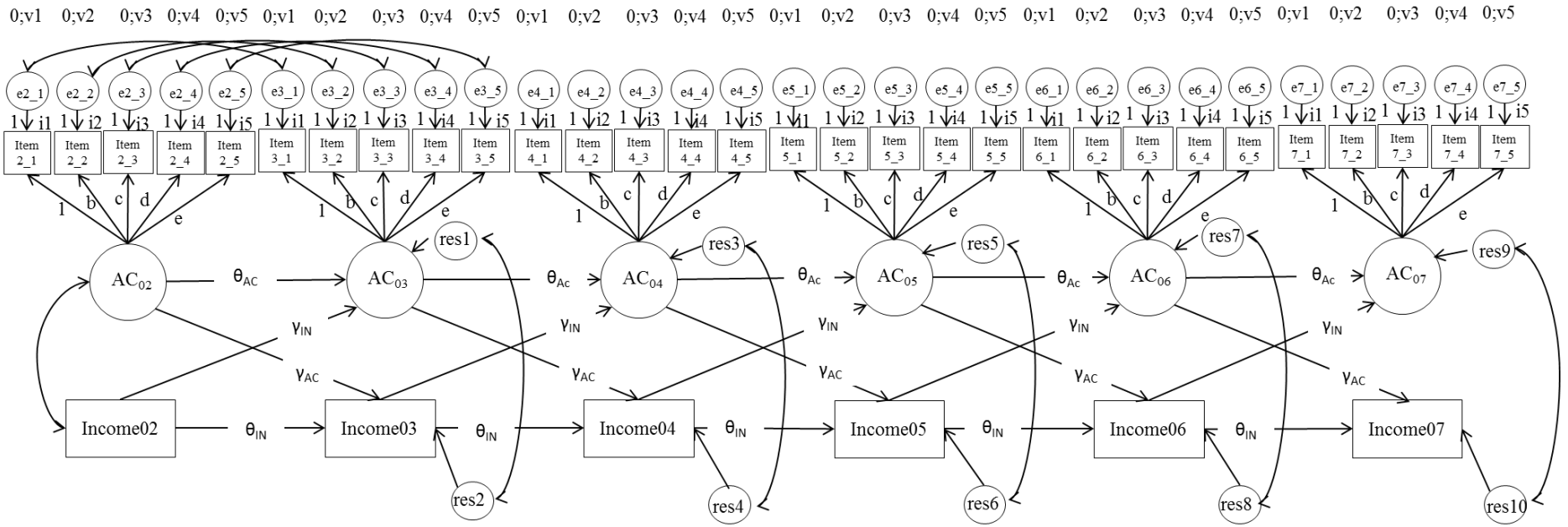
Based on the measurement model of affective commitment, the auto-regressed LCS aimed to show the multiple latent changes of affective commitment simultaneously (Nesselroade & Baltes, 1979). As indicated in Figure 3.2, ΔAC_{02} to ΔAC_{07} represent the latent change scores at each occasion (after the first time point). Following McArdle (2009), our LCS included the fixed unit coefficients (the loadings from $AC_{[t]}$ to $AC_{[t+1]}$ and $\Delta AC_{[t]}$ to $AC_{[t]}$ were set to 1), so that any changes that occurred earlier can be accumulated and expressed in the later stage. We also estimated the auto-regressions (β) for a proportion change and the slope coefficients (α) for a change in the linear slope. The invariant change coefficients (β, α) across the six time points showed a systematic accumulation of affective commitment over time (McArdle, 2009; Van Montfort, Oud, & Satorra, 2007). We applied cross-lagged factor regression models to analyze the reciprocal relations between affective commitment and income at levels (Figure 3.3) and in changes (Figure 3.4). The application of structural equation modeling (SEM) enables us to evaluate the mutual links in multiple occasions simultaneously (Graham, 2009). Compared to the model for levels in Figure 3.3, the latent change scores (ΔAC_t & ΔIN_t) were added in the model for changes (see Figure 3.4). Similar to our approach for the LCS, we assumed the constant lagged regressions (β) and crossed regressions (γ) because we assumed an identical pattern of causal influences within the equal time intervals (i.e. one year) (McArdle, 2009).

Figure 3.2: Latent Change Score Model of AC Development



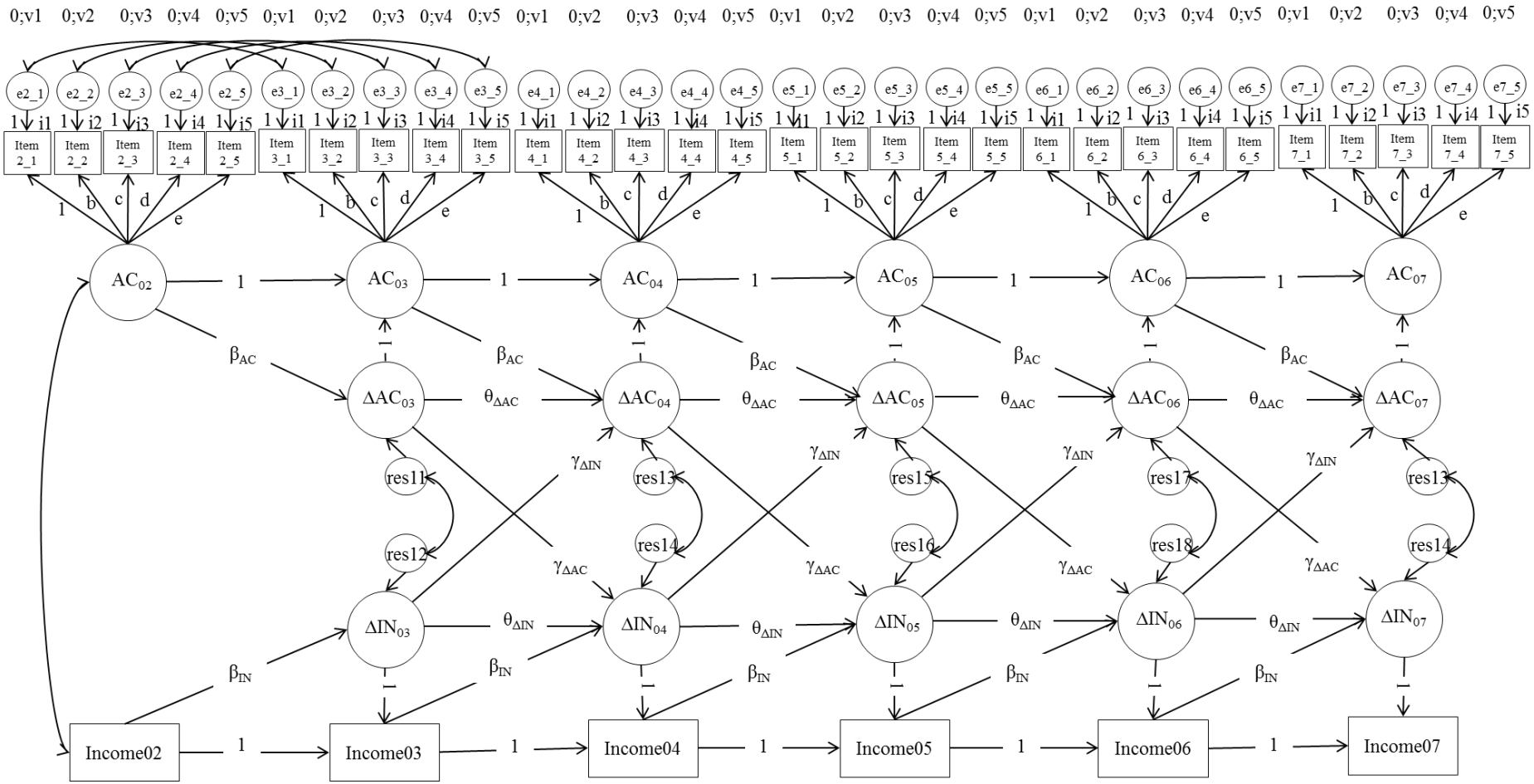
Note: Figure 3.2 illustrates the statistic model of affective commitment changes from 2002 to 2007. The (strict) factorial invariance model served as the measurement model of latent affective commitment (AC_t) across six years, namely AC_t shares the same factor loadings, measurement intercepts and factor variances across time. The errors of the same manifest indicators are correlated (the correlations of first two time points are shown as an example). The latent change score model examines the multiple latent changes of affective commitment (ΔAC_t). β represents a regression coefficient for a proportional change. α represents a change of the linear slope. The invariants (β, α) show a systematic accumulation in the affective commitment over time. AC= affective commitment. ΔAC = affective commitment change. I_{AC} = Initial level of affective commitment. S_{AC}= Slope coefficient of affective commitment in six years of investigation.

Figure 3.3: Cross-lagged Regression Model of AC and Income at Levels



Note: Figure 3.3 illustrates the statistic model of reciprocity between affective commitment and income at levels from 2002 to 2007. The measurement model of affective commitment (strict factorial invariance model) is identical as in Figure 3.2. Auto-regression coefficients (θ) and lagged-regression coefficients (γ) were set to be identical across equal distances of time for a systematic pattern of causal influences. AC = affective commitment.

Figure 3.4: Cross-lagged Regression Model of AC and Income in Changes



Note: Figure 3.4 illustrates the statistic model of reciprocity between affective commitment and income changes from 2002 to 2007. The measurement model of affective commitment (strict factorial invariance model) is identical to Figure 3.2. β indicates a regression coefficient for a proportional change. θ indicates an auto-regression coefficient. γ indicates a lagged-regression coefficient. The invariants (β, θ, γ) show a systematic change of affective commitment and identical pattern of causal influences over time. AC = affective commitment. ΔAC = affective commitment change. ΔIN = income change.

All models were evaluated with Mplus 7.11. Missing data were automatically imputed in Mplus by full-information maximum likelihood (FIML; e.g. the highest missing rate of income was 7% in 2003). To evaluate the model fit, we firstly applied the commonly used chi-squared test. Due to its sensitivity to sample size, however, chi-squared test mostly rejects the null hypothesis, resulting in significant results in large-sampled studies (Bentler & Bonnet, 1980). Therefore, we included a recommended combination of model fit indices, including *comparative fit index* (*CFI*), *root mean square error of approximation* (*RMSEA*) and *standardized root mean square residual* (*SRMR*). According to Hu and Bentler (1999), a good model fit should result in indices with $CFI \geq .90$, $RMSEA \leq .06$ and $SRMR \leq .08$. However, McArdle (2009) showed that the cross-lagged regression models (Figures 3.3 and 3.4) apply a very restricted covariance structure, which makes the common criteria of model fit indices too strict to follow. As recommended, therefore, we chose slightly relaxed criteria ($CFI \geq .90$, $RMSEA \leq .08$, and $SRMR \leq .10$), which can be a reliable indication of good model fit in complex models (De Vita, Verschaffel, & Elen, 2012; Hair, Black, Babin, & Anderson, 2010).

3.4 Results

Descriptive statistics and correlations of all variables are shown in Table 3.1. The correlations between affective commitment in consequent years ranged between $r = .51$ and $r = .61$, indicating a sufficient stability over time. Income across six years also remained relatively stable with correlations above $r = .80$ between consequent years. To discern changes in affective commitment, we start with the evaluation of the strict factorial invariance model, based on which the general change in affective commitment was tested in LCS model. We further present the results of the cross-lagged regressions between affective commitment and income at levels and in changes to disentangle their reciprocal relations.

Table 3.1: Mean, Standard Deviation and Pearson Correlation of All Variables

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1.AC_{02}	3.32	.64																				
2.AC_{03}	3.39	.67	.53	1																		
3.AC_{04}	3.41	.69	.53	.60	1																	
4.AC_{05}	3.48	.70	.50	.54	.61	1																
5.AC_{06}	3.45	.75	.46	.51	.57	.65	1															
6.AC_{07}	3.50	.89	.44	.50	.53	.59	.61	1														
7.$Income_{02}$	2.15	.24	.36	.35	.38	.34	.33	.36	1													
8.$Income_{03}$	2.20	.24	.38	.40	.42	.39	.37	.39	.85	1												
9.$Income_{04}$	2.24	.26	.38	.41	.46	.43	.41	.42	.84	.90	1											
10.$Income_{05}$	2.28	.27	.39	.43	.47	.45	.44	.46	.82	.88	.92	1										
11.$Income_{06}$	2.30	.27	.40	.43	.46	.44	.46	.46	.81	.88	.90	.93	1									
12.$Income_{07}$	2.33	.28	.40	.41	.47	.45	.45	.49	.80	.87	.89	.92	.92	1								
13.Gender	.72	.45	-.04	-.03	-.03	-.05	-.05	-.02	.39	.39	.39	.36	.37	.35	1							
14.Age	45.25	9.65	-.10	-.09	-.14	-.14	-.09	-.13	-.08	-.16	-.17	-.25	-.24	-.25	.09	1						
15.Education	5.54	1.44	.37	.42	.42	.39	.40	.41	.53	.58	.60	.61	.61	.62	.10	-.41	1					
16.Schoolstatus	1.20	.67	.00	-.02	-.02	.02	.00	.02	-.01	-.01	-.01	.00	-.00	.02	.02	-.03	.16	1				
17. Health	2.35	.67	-.10	-.11	-.15	-.14	-.16	-.19	-.17	-.19	-.20	-.22	-.22	-.25	-.07	.23	-.19	-.04	1			
18. Tenure	13.95	7.70	.17	.19	.18	.15	.19	.17	.42	.40	.40	.33	.36	.37	.16	.38	-.10	.01	.00	1		
19. Firm size	6.09	3.33	.27	.27	.32	.35	.35	.32	.41	.46	.49	.53	.52	.54	.15	-.23	-.36	.02	-.14	-.16	1	
20.Payscheme	.30	.46	.23	.21	.21	.24	.27	.26	.30	.32	.35	.37	.38	.41	.05	-.18	.27	.02	-.06	.16	.46	1
21. Work type	.98	.16	.12	.11	.14	.16	.09	.10	.24	.31	.30	.31	.31	.27	.19	.12	.13	.01	-.08	.04	.11	.09

Note: School status, Health, firm size, pay scheme and work type were controlled at yearly basis. For the simplicity, only the last year of these variables was included in the table. Income was the absolute level of income. The relative income was not listed in the correlation because it was only the basis to form the change of income in the structural equation model. Occupation and industry were not included because they were categorical variables and the correlations do not have interpretable meanings. AC = affective commitment. In two-tails tests, $0.05 < |r| \leq 0.08$ is $p<.05$; $0.08 < |r| \leq 0.10$ is $p<.01$; $0.10 < |r|$ is $p<.001$

3.4.1 Measurement Model of Affective Commitment

Despite the significant results of the chi-squared test (χ^2 (380) = 1338.060), the strict factorial invariance models showed a good model-fit (*CFI* = .965, *RMSEA* = .050, and *SRMR* = .038) and thus it can capture changes in latent affective commitment over time with good reliability (Widaman et al., 2010). The mean value of affective commitment presented an overall increase over the six years of investigation (AC_{02} = 3.317, $p \leq .001$; AC_{03} = 3.390, $p \leq .001$; AC_{04} = 3.407, $p \leq .001$; AC_{05} = 3.482, $p \leq .001$; AC_{06} = 3.454, $p \leq .001$; AC_{07} = 3.502, $p \leq .001$). Based on the first and the last study year, individuals demonstrated a significant increase in their mean-level affective commitment (d = 0.239, $p \leq .001$).

3.4.2 Latent Change Score Model of Affective Commitment

The LCS model was built on the strict factorial invariance model of affective commitment, capturing multiple changes in affective commitment (ΔAC_{03} - ΔAC_{07}) and a general change slope of affective commitment over time (S_{AC}). The proposed LCS model showed a good fit with the data (*CFI* = .965, *RMSEA* = .049, and *SRMR* = .044) in spite of a not satisfying chi-squared test (χ^2 (395) = 1366.452). Complementary to the results of the factorial invariance model, the mean of the general change slope of affective commitment remained positive (S_{AC} (m) = 2.828, $p \leq .001$), which supported H1 that individuals increase affective commitment to their organizations over time. Indicated in Table 3.2, earlier measures of affective commitment (AC_{t-1}) were positively associated with later measures (AC_t; *std.b* ranged from 0.831 to 0.930, $p \leq .001$), whereas the systematic proportional change of affective commitment was significantly negative ($\beta = -.832$, $p \leq .001$). Furthermore, the change slope showed a significant variance among individuals (S_{AC} (v) = .172, $p \leq .001$).

3.4.3 Cross-Lagged Regression Model of Levels

Although the chi-squared test showed to reject the model (χ^2 (1541) = 2739.671), the model fit indices asserted that the cross-lagged regression model of levels was well fitted to the data (*CFI* = .940, *RMSEA* = .036, and *SRMR* = .097). As can been seen in Table 3.3, the earlier income (t) was positively related to later affective commitment (t+1) (b = .397, $p < .001$), which supported H2a that individuals' levels of income positively impacts levels of affective commitment. Reciprocally, individuals' earlier affective commitment (t) was also positively associated with the later income (t+1) of (b = .007, $p < .05$), which

substantiated the reciprocal impact of affective commitment on income (H2b). However, the link from affective commitment to income (*std.b* ranged from .016 to .018, $p < .05$) was much weaker than the link in its reversed direction (*std.b* ranged from .146 to .163, $p < .001$).

Table 3.2: Summary of Path Coefficients in Latent Change Score Model

	ΔAC_{t+1} (β)		AC_{t+1}			S_{AC} (α)	
Path coefficient	*b*	*std.b*	*b*	*std.b*		*b*	*std.b*
AC_{02}	$-.832^{***}$	$-.857^{***}$	1	$.930^{***}$	ΔAC_{03}	1	$.667^{***}$
AC_{03}	$-.832^{***}$	$-.913^{***}$	1	$.993^{***}$	ΔAC_{04}	1.019^{***}	$.673^{***}$
AC_{04}	$-.832^{***}$	$-.928^{***}$	1	$.998^{***}$	ΔAC_{05}	1.019^{***}	$.679^{***}$
AC_{05}	$-.832^{***}$	$-.930^{***}$	1	$.940^{***}$	ΔAC_{06}	1.019^{***}	$.680^{***}$
AC_{06}	$-.832^{***}$	$-.938^{***}$	1	$.831^{***}$	ΔAC_{07}	1.019^{***}	$.645^{***}$

*Note: Path coefficients in the latent change score model. b = the unstandardized path coefficient. std.b = the standardized path coefficient. AC = affective commitment. ΔAC = affective commitment change. S_{AC}= slope coefficient of affective commitment in six years of investigation. The auto-regressions (β) and the slope coefficients (α) were set to be identical (invariant) across six years because we assumed a systematic accumulation in the affective commitment over time. * p<.05; ** p<.01; *** p<.001.*

Table 3.3: Summary of Path Coefficients in Cross-Lagged Regression Model of Levels

	AC_{t+1}		$Income_{t+1}$	
Predictors	*b*	*std.b*	*b*	*std.b*
AC_{02}	(θ_{AC}) $.437^{***}$	$.438^{***}$	(γ_{AC}) $.007^{*}$	$.018^{*}$
AC_{03}	(θ_{AC}) $.437^{***}$	$.414^{***}$	(γ_{AC}) $.007^{*}$	$.017^{*}$
AC_{04}	(θ_{AC}) $.437^{***}$	$.444^{***}$	(γ_{AC}) $.007^{*}$	$.017^{*}$
AC_{05}	(θ_{AC}) $.437^{***}$	$.437^{***}$	(γ_{AC}) $.007^{*}$	$.016^{*}$
AC_{06}	(θ_{AC}) $.437^{***}$	$.431^{***}$	(γ_{AC}) $.007^{*}$	$.018^{*}$
$Income_{02}$	(γ_{IN}) $.397^{***}$	$.160^{***}$	(θ_{IN}) $.728^{***}$	$.760^{***}$
$Income_{03}$	(γ_{IN}) $.397^{***}$	$.146^{***}$	(θ_{IN}) $.728^{***}$	$.703^{***}$
$Income_{04}$	(γ_{IN}) $.397^{***}$	$.153^{***}$	(θ_{IN}) $.728^{***}$	$.705^{***}$
$Income_{05}$	(γ_{IN}) $.397^{***}$	$.158^{***}$	(θ_{IN}) $.728^{***}$	$.699^{***}$
$Income_{06}$	(γ_{IN}) $.397^{***}$	$.163^{***}$	(θ_{IN}) $.728^{***}$	$.785^{***}$

*Note: b = unstandardized path coefficient. std.b = the standardized path coefficient. AC = affective commitment. All control variables were included for each year. For simplicity, results from control variables at yearly basis were not included. * p<.05; ** p<.01; *** p<.001.*

3.4.4 Cross-Lagged Regression Model of Changes

Combining the latent change score of affective commitment and income, the cross-lagged regression model of changes satisfied the criterions for good model fit (*CFI* = .965, *RMSEA* = .026, and *SRMR* = .050) except the rejection by the chi-square test (χ^2 (1490) =

2075.253). As shown in Table 3.4, earlier income increase (t) had a positive relationship with later increases of affective commitment (t+1) (b = .100, p < .001), substantiating H3a. However, the reciprocal link from increases of affective commitment to increases of income was not significant (b = .009, p = .660), which did not support H3b.

Table 3.4: Summary of Path Coefficients in Cross-Lagged Regression Model of Changes

	ΔAC_{t+1}			$\Delta Income_{t+1}$	
Predictors	*b*	*std.b*	Predictors	*b*	*std.b*
ΔAC_{03}	(θ_{AC}) -.247***	-.235***	ΔAC_{03}	(γ_{AC}) .009	.012
ΔAC_{04}	(θ_{AC}) -.247***	-.260***	ΔAC_{04}	(γ_{AC}) .009	.013
ΔAC_{05}	(θ_{AC}) -.247***	-.245***	ΔAC_{05}	(γ_{AC}) .009	.011
ΔAC_{06}	(θ_{AC}) -.247***	-.244***	ΔAC_{06}	(γ_{AC}) .009	.010
$\Delta Income_{03}$	(γ_{IN}) .100***	.065***	$\Delta Income_{03}$	(θ_{IN}) -.554**	-.554**
$\Delta Income_{04}$	(γ_{IN}) .100***	.069***	$\Delta Income_{04}$	(θ_{IN}) -.554**	-.556**
$\Delta Income_{05}$	(γ_{IN}) .100***	.068***	$\Delta Income_{05}$	(θ_{IN}) -.554**	-.505**
$\Delta Income_{06}$	(γ_{IN}) .100***	.073***	$\Delta Income_{06}$	(θ_{IN}) -.554**	-.488**
AC_{02}	(β_{AC}) -.361***	-.390***	$Income_{02}$	(β_{IN}) -.002	-.002
AC_{03}	(β_{AC}) -.361***	-.377***	$Income_{03}$	(β_{IN}) -.002	-.003
AC_{04}	(β_{AC}) -.361***	-.422***	$Income_{04}$	(β_{IN}) -.002	-.004
AC_{05}	(β_{AC}) -.361***	-.405***	$Income_{05}$	(β_{IN}) -.002	-.003
AC_{06}	(β_{AC}) -.361***	-.410***	$Income_{06}$	(β_{IN}) -.002	-.004

*Note: b = the unstandardized path coefficient. std.b = the standardized path coefficient. AC = affective commitment. ΔAC = affective commitment change. ΔIN = income change. All control variables were included for each year. For simplicity, the results of the control variables at yearly basis were not included. * p<.05; ** p<.01; *** p<.001.*

3.4.5 Post Hoc Analyses

Although our study utilized a longitudinal design, there is still an issue of causal ambiguity. The expectation of close future income (level or increase) instead of factual income, per se, may play a role in determining the current affective commitment. That is, individuals' affective commitment might increase, because they expect a (signalized) increase in income, which might then appear in the data as an effect of affective commitment on later income increases. To hedge against this causal ambiguity, we revised our cross-lagged regression models by examining whether later income (as the expectation in t+1) affected earlier affective commitment (t). Results showed that both the future income level (b = -.022, p = .797) and change (b = .030, p = .253) did not significantly impact the level and change of earlier affective commitment. This further supports our hypotheses on the causal links between income and affective commitment.

3.5 Discussion

This study aimed to explore changes in affective commitment and its interdependence with individuals' income over time. Results showed that individuals' affective commitment increases over time, but there is significant variance in this development among individuals. Furthermore, individuals' income impacts the later level and change of affective commitment. We found that a higher level of income leads to a higher level of affective commitment, whereas an increase in income predicts higher increases in affective commitment. Affective commitment, in turn, only relates to later income levels, so that individuals with higher affective commitment are likely to obtain higher levels of income.

3.5.1 Intra-Individual Development of Affective Commitment

Despite the voluminous research on organizational commitment, little has historically been done to explore the fundamental issue of its change over time (Simosi, 2013). Jaros (2009) highlighted the need for research that investigates the temporal stability (or lack thereof) of commitment, and recent research is moving in this direction. For example, Kam et al. (2013) found that profiles of different types of commitment, including affective organizational commitment, fluctuate somewhat in response to the implementation of strategic change initiatives, and Vandenberghe et al. (2014) found that longitudinal change in affective organizational commitment results in temporal change in affective commitment to one's supervisor. Our research adds to this nascent body of literature by linking employee experience of affective commitment over time to changes in a fundamental aspect of the employment relationship, income.

Over the study period of six years, we found a steady, although small, increase within individuals who have stayed in their organization more than one year. This finding differs from studies which showed a decrease of affective commitment in early stages of employment (Ostroff & Kozlowski, 1992; Meyer et al., 1991; Vandenberg & Self, 1993), and found that affective commitment increases during longer times of organizational tenure (Beck & Wilson, 2000). While both previous studies used samples from police departments (Beck & Wilson, 2001; Van Mannen, 1975), our data contained individuals from a large variety of organizational backgrounds in an extended period of time. Our results thus indicate that affective commitment varies not only during the first phase after entering organization, but also in more experienced employees (Meyer et al., 1991; Mowday et al., 1982).

By specifically disentangling the growth patterns of affective commitment, we found two aspects of development which constitute the individual's trajectory of affective commitment over time. First, we discovered a positive trend for affective commitment with increasing tenure. Second, although the change in affective commitment over time remained positive (the mean of ΔAC), the strength of this effect decreased with tenure. Thus, it seems that affective commitment is monotonically increasing, but this increase is diminishing with tenure. The combination shed light on a phenomenon of diminishing returns of affective commitment, for which more research is needed to substantiate these findings.

3.5.2 The Impact of Income on the Development of Affective Commitment

As Meyer and Herscovitch (2001) described, affective commitment is a mindset that evolves within individuals through social exchange processes, reflecting "a self-reinforcing cycle of attitudes and behaviors on the job" (Mowday et al., 1982, p. 47). Thus, individuals develop their affective commitment by responding to unique working experiences in the job, which fulfill their personal needs or values, so that they feel more committed to their organization (Meyer & Allen, 1991, 1997; Simosi, 2013). In alignment with prior cross-sectional studies regarding the positive correlation between income and affective commitment (Brief & Aldag, 1980; Steers, 1977, Ogba, 2008), our study explicitly unveiled the causal link from income to affective commitment, where not only a higher income level led individuals to experience higher affective commitment, but also an income increase enhanced the individuals' affective commitment as well. As both Thierry (2001) and Mitchell and Mickel (1999) suggested, money has a much broader meaning than only materialistic benefits. Income provides individuals with valuable attributes, such as status, respect, relative positions and autonomy. Through the approach of experiences in reciprocation (Andolsek & Stebe, 2004), income enables individuals to assess their overall value for the organization (Meyer & Herscovich, 2001), which might then impact the degree to which they identify themselves with the organizations (Mottaz, 1988; Ogba, 2008).

It is important to point out this duality of level and change of income, as the mechanisms differ through which they impact affective commitment. High income level provides a constant factor which enables affective commitment to systematically transform into later years and remain at a certain state over time. Income increases, however,

represent inconsistencies, which can positively impact the transition of affective commitment.

3.5.3 The Impact of Affective Commitment on Income

Income is mostly treated as a driver for a variety of desirable behaviors in organizations (Gardner et al., 2004; Kuvaas, 2006). But it can also be an outcome when it represents organizational compensation that rewards for individuals' performance. We found that when individuals were highly committed to their organization, they were more likely to receive higher pay from the organization. This can possibly be explained by the social exchange relationships which creates a sustained bond between organizations and employees (Ogba, 2008; Meyer & Allen, 1991). Specifically, employees with a higher affective commitment tend to behave pro-actively and beneficially towards their organizations (Riketta, 2008; McElroy, 2001; Mathieu & Zajac, 1990). In return, organizations may reward (Ogba, 2008; Boulding, 1950) and reinforce this desired behavior via pay increases for those employees (Jenkins et al. 1998). Other than social exchange, the implicit behavioral implication of affective commitment can also imply a high level of income because of potential high performance effectiveness (Bateman & Strasser, 1984) or high productivity (Dodd-McCue & Wright, 1996).

Compared with the effect of income on affective commitment, the reciprocal impact of affective commitment on income was shown to be less substantial and less consistent with regard to levels or changes. This finding highlights that there is a broader and probably stronger array of factors which impact income than that impact affective organizational commitment. As Meyer and colleagues (2001) reviewed, affective commitment is primarily influenced by at-work experiences, for which the satisfaction of income can function as a proxy to a certain extent. Besides individuals' performance and productivity, however, income takes a wider range of information into account, which may include organizational pay policy, economic conditions and political regulations (Noe, Hollenbeck, Gerhart, & Wright, 2014; Jensen & Murphy, 1990). For organizations, thus, the design of income can play an informational role in guiding the development of desirable employees' work attitudes.

3.5.4 Practical Implications

The study of how and why affective commitment develops over time can help managers to optimize affective commitment of their employees for better performance, higher job satisfaction and lower turnover (Riketta, 2008; Bateman & Strasser, 1984; Fedor et al.,

2006). Our findings indicated that when individuals pass the initial employment stage, they often feel increasingly more committed to their working organization. However, the marginal increase of affective commitment is declining and individuals also differ in their developmental patterns, which might be an indicator that the management of longer-tenured employees' affective commitment trajectories is still necessary (Beck & Wilson, 2000).

As the findings showed that both pay level and pay change are positively associated with individuals' affective commitment, employers can design and apply incentive schemes which enable a wider pay range. This is because the pay range provides the flexibility for organizations to adjust the income level and income changes for individuals without major changes in the organizational structures (Angle & Lawson, 1993; Noe et al., 2014). In addition, organizations should also pay more attention to the basic needs of employees' satisfaction at work, especially their considerations of their value to the organizations.

Our study also expand on Kam et al.'s (2013) finding that the stability of commitment during change initiatives is influenced by the perceived trustworthiness of firm management. Changes in pay under both dynamic and stable organizational strategies are likely to be regarded as an indicator of how trustworthy management (and the organization) is, particularly if employees believe that changes in pay are consonant or dissonant with principles of procedural justice (cf. Folger & Kanovsky, 1989). Thus, our finding that affective commitment is sensitive to income changes means that managers should be attentive to justice issues, such as providing feedback about pay decisions and having policies that allow employees to appeal adverse pay decisions, in organizational compensation policy not only while organizational change but also during more stable organizational times.

Since we adopted a broader meaning of income in our study, it is reasonable to extend the positive effect of income to other HR practices which can attach to the non-materialistic functions of income, such as job autonomy, occupational prestige and status, and empowerment (Mitchell & Mickel, 1999; Thierry, 2001). Employers, thus, can extend their managerial tools to enhance employees' perceptions regarding their organization-based self-esteem (Gardner et al., 2004; Pierce et al., 1989) so as to fulfill employees' personal needs and increase their affective commitment in the long term.

3.5.5 Limitations and Future Research

This study is subject to some limitations that, at the same time, reveal fruitful avenues for future research. First, the negative correlation between affective commitment and turnover (e.g. Payne & Huffman, 2005; Somers, 1995; Meyer et al., 2002) may result in a potential selection effect which can bias the results of commitment changes. To control this self-selection effect, we only used individuals that remained in the same organization for the complete study period. However, this approach cannot completely avoid a selection bias, as only survivors are studied (Farrington, 1991). To complete the picture, future research might investigate development trends of those employees that later decide to leave the organization.

A second limitation is the lack of measures for intermediate processes in our research model that might explain the implicit behavioral implications of affective commitment. For instance, the effect of affective commitment on income might result from improved performance. These finer-grained explanations require additional investigation of the intermediate process between affective commitment and income.

Lastly, while it can be argued that the development of individuals' attitudes (affective commitment) and situational characteristics (income) needs time, the interval of one year between measurement points is arbitrary in our study. Future research might therefore employ different time intervals for potentially different change patterns in the mutual relations.

3.6 Conclusion

This study provided a comprehensive examination of affective commitment changes over an extended period of time as it relates to levels and changes in a fundamental aspect of the employment relationship, income. The general increase of affective commitment of established employees substantiated the theoretical proposition that employees' feelings of attachment to the organizations over time was closely related to employees' at-work experiences, i.e. income conditions. Both the consistent state and temporary transition of affective commitment constitute the intra-individual trajectory of work attitudes over time.

CHAPTER 4

EXPLORING THE EFFECTS OF INTERNAL CSR ON WORK ATTITUDES AND BEHAVIORS OF BLUE-COLLAR WORKERS: A COMBINATION OF A CROSS-SECTIONAL STUDY AND A FIELD EXPERIMENT*

4.1 Introduction

Since both managers and researchers widely agree on the notion that "CSR is here to stay", the importance of Corporate Social Responsibility (CSR) in management practice continues to increase (Vlachos, Panagopoulos, & Rapp, 2013: 577). In a very general sense, CSR is about firms' contribution to the well-being of stakeholders and society as a whole (e.g., Davis & Blomstrom, 1975; Kok et al., 2001). Studies in several research domains have demonstrated a positive impact of CSR on various outcomes. Marketing scholars, for instance, found a positive relationship between consumers' perception of CSR and consumer loyalty (Lee et al., 2012), research in strategic management demonstrated the contribution of CSR to corporate reputation (Fombrun & Shanley, 1990), and HR researchers showed a positive effect of social responsibility on
employer attractiveness (Turban & Greening, 1997). Since the intellectual roots of CSR lie in the Western world (Lorenzo-Molo & Udani, 2013), the majority of existing studies in this field focuses on Western businesses (Xu & Yang, 2010). In consequence, research on CSR in emerging and developing countries is relatively scarce (Yin & Zhang, 2012). However, as CSR is a global idea (Gjølberg, 2009), there is a substantial research gap which needs to be filled by investigating the effects and relevance of CSR outside the Western world. In particular, scholars have called for CSR research in China (e.g., Kolk, Hong, & van Dolen, 2010; Moon & Shen, 2010; Ramasamy, Yeung, & Chen, 2013; Raynard, Lounsbury, & Greenwood, 2013). Since China is currently the second largest economy in the world and is likely to take over the first place in the near future, it appears to be fruitful to shed further light on the relevance of CSR for Chinese firms. Investigating

* This chapter is based on a paper co-authored with Nick Lin-Hi (co-first author) and Torsten Biemann.

the effects of social responsibility for Chinese firms is particularly important given that the relevance of CSR for corporate practice is closely tied to its potentially positive business outcomes (Burke & Logsdon, 1996). As the outcomes of CSR are largely shaped by cultural, political, and economic conditions, it cannot be taken for granted that social responsibility holds the same relevance in China as in the Western world (Yin & Zhang, 2012).

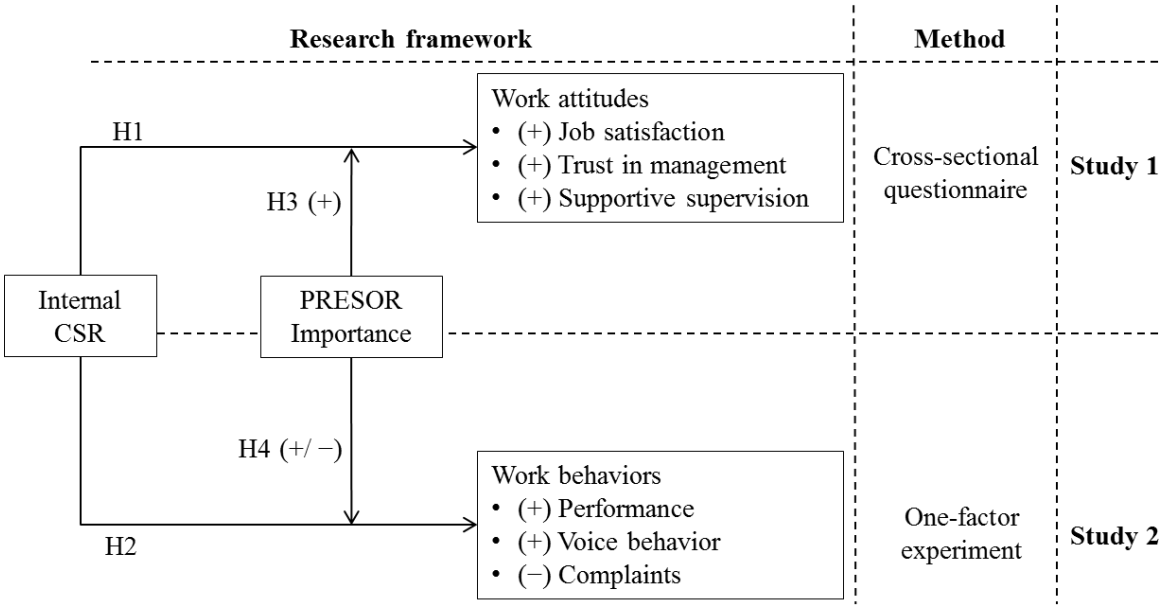
Therefore, we firstly aim to contribute to a better understanding of CSR's economic value for Chinese businesses. For this purpose, we analyze the effects of internal CSR, i.e. activities that serve the well-being of employees (Shen & Zhu, 2011; Skudiene & Auruskeviciene, 2012), on work attitudes and behaviors of blue-collar workers. We focus on internal CSR because it is an important facet of effective CSR management in the HR domain as suggested by existing findings (e.g., De Roeck et al., 2014; Farooq, Payaud, Merunka, & Valette-Florence, 2014). Accordingly, it can be expected that internal CSR is the first lever of an employee-focused CSR strategy in the Chinese context.

We further assume that the impact of CSR in China is also affected by how workers value CSR. This is because research has shown that individual differences in their attitudes towards social responsibility can influence their reactions to the organization's CSR efforts (Basil & Weber, 2006; Peterson, 2004). When workers value the importance of social responsibility, they tend to believe that the efforts of social responsibility are "right" due to normative perspectives as well as "effective" because of instrumental considerations (Etheredge, 1999). In this respect, workers who value social responsibility are likely to be more attracted by and identified with those organizations that conduct CSR initiatives (Elias, 2004; Wurtmann, 2013). To uncover the role of individual differences in the effectiveness of CSR, we focus on workers' attitudes towards the importance of social responsibility. An interaction between workers' attitudes to social responsibility and internal CSR can help to enhance our understanding of the link between CSR and its work-related outcomes.

The hypothesized relationships of the present article are shown in Figure 4.1. Specifically, we conduct two studies in a garment factory in Guangdong province, China. In a survey study, we investigate the link between blue-collar workers' perceptions of internal CSR and their work attitudes. The second study is a field experiment to evaluate the effects of CSR information on work behaviors. In both studies, we analyze whether individuals' attitudes towards social responsibility moderate the relationships between CSR and relevant outcomes.

The rest of the paper proceeds as follows. First, we elaborate on the main ideas behind CSR and discuss its relevance for Chinese businesses. Subsequently, we explain the theoretical framework of the study and develop our hypotheses. We then present the two studies that examined the effects of CSR on work attitudes and work behaviors. Finally, we discuss the studies' findings and limitations.

Figure 4.1: Research Framework and Study Designs



Note: CSR = corporate social responsibility. PRESOR = perceived role of ethics and social responsibility

4.2 Corporate Social Responsibility

To contribute to the welfare of stakeholders and society as a whole, corporations embrace their social responsibility through internal and external CSR activities (e.g., Brammer, Millington, & Rayton, 2007; De Roeck et al., 2014). Internal CSR focuses on the welfare of internal stakeholders, particularly employees, and encompasses issues such as diversity management, fair and respectful treatment of employees, grievance mechanisms, sports and leisure activities, training and education, work-life balance policies, and workplace safety measures (Gond et al., 2011; Shen & Zhu, 2011). In this sense, internal CSR has a partial overlap with high performance work practices. In contrast, external CSR aims to improve the well-being of external stakeholders, such as consumers, the local community, the environment, and society at large (Brammer, Millington, & Rayton, 2007).

The current discussion of CSR frequently holds that a main advantage of internal and external CSR is rooted in its positive effects on corporations' relationships with their

stakeholders (e.g., Fombrun, Gardberg, & Barnett, 2000; Jones, 1995). The underlying rationale suggests that stakeholders reward CSR in terms of forming favorable attitudes and enhancing their support for respective organizations (Bhattacharya, Korschun, & Sen, 2009; Du, Bhattacharya, & Sen, 2010). In line with the resource dependence theory (Pfeffer & Salancik, 1978), the logic applies that enhanced support from stakeholders improves the access to critical resources which, in turn, allow organizations to build a competitive advantage through CSR (Maignan & Ferrell, 2004). Indeed, several empirical findings support the view that CSR is of strategic value for organizations (e.g., Du, Bhattacharya, & Sen, 2011; Fombrun & Shanley, 1990; Greening & Turban, 2000).

Despite the fact that social responsibility is of increasing relevance in China (e.g., Graafland & Zhang, 2014; Yin & Zhang, 2012; Weber, 2013), still little is known about the value of CSR for Chinese business organizations. The increasing expectations of CSR in the Chinese economy mainly emanate from different but interrelated social forces, including the improved standards of living (Ramasamy & Yeung, 2009), changes in social values (Leung, 2008), increased ecological awareness (Kuhn & Zhang, 2014), enhanced sensitivity to socially irresponsible behavior of organizations (Ramasamy, Yeung, & Chen, 2013), and the growing power of private Chinese firms (Sarkis, Ni, & Zhu, 2011). Therefore, the Chinese public also promotes contributions of business organizations to the society's welfare (Goodman & Wang, 2007; Tang, 2012; Wang & Chaudhri, 2009). In consequence, Chinese firms can no longer fulfill existing societal expectations by simply maximizing profits. Social and institutional pressure might thus render CSR to be an important factor for Chinese firms to secure their social license (Xu & Yang, 2010). Should this be the case, an important precondition for a broad spill-over of CSR practices to China can be met.

In fact, empirical evidence indicates that Chinese stakeholders put firms under increasing pressure to devote more attention to CSR. For example, according to Cone Communications and Echo (2013), 97% of Chinese consumers desire to hear how companies support social and environmental issues and 80%/83% consider social/environmental issues in their decisions about where to work and where to shop. Ramasamy and Yeung (2009) found that Chinese consumers may even support CSR more than their Western counterparts. Additionally, the Chinese government has taken an active role in promoting CSR through legal initiatives, including the 2006 resolution on "Building a Harmonious Society" (Warner & Zhu, 2010) or the New Labor Contract Law from

2007/2008. Finally, the media draws more attention to CSR-related issues and tends to support the idea of CSR in China (Liu, Jia, & Li, 2011).

Altogether, there are both theoretical and empirical indications that CSR is an issue of increasing appeal to stakeholders in China. Accordingly, it can be expected that CSR is also gaining relevance for Chinese employees. The next section considers our hypothesized effects of internal CSR on Chinese blue-collar workers' attitudes and behaviors.

4.3 Theory and Hypotheses

We firstly draw on perspectives of social identity (Ashforth & Mael, 1989; Tajfel & Turner, 1986) and social exchange (Blau, 1964) to elaborate on the direct link between internal CSR and related outcomes, i.e. work attitudes and behaviors. As an important extension to previous research, we furthermore address the moderating effect of workers' attitudes towards social responsibility based on the theory of personal-environment fit (Kristof, 1996). Although the link from CSR to work attitudes and behaviors has been primarily investigated for white collar employees (e.g., Mueller et al., 2012; Vlachos, Theotokis, & Panagopoulos, 2010; Valentine & Fleischman, 2008), we expect that the relation also exists for blue-collar workers. This is because internal CSR contributes to fulfilling some basic physiological and psychological needs of employees, such as security, belongingness, justice, and workplace safety and status (Baumann & Skitka, 2012; Farooq, Payaud, Merunka, & Valette-Florence, 2014; Rupp et al., 2006). These needs are frequently not the major goals of Chinese firms, especially in the labor intensive industries. Furthermore, Chinese workers are usually not well informed about their rights and have limited power to claim these rights vis-à-vis their employers due to their low level of education attainment. Thus, internal CSR might be especially relevant for workers in China regarding their experiences of a fair and thoughtful treatment in their organization.

4.3.1 Internal CSR and Work Attitudes

According to the social identity theory, people tend to classify themselves in relation to their group membership such as organizations they work for, and also try to enhance their self-concept through group membership with perceived positive and prestigious characteristics. Since caring for the well-being of stakeholders improves an organization's external image (Pfau et al., 2008), CSR should positively affect employees' self-concept (Dutton, Dukerich, & Harquail, 1994; Maignan & Ferrell, 2001). Indeed, empirical findings indicated that the link between CSR and work attitudes is mediated by processes of social identification (e.g., De Roeck et al., 2014; Jones, 2010). Alternatively, research

on social exchange theory suggested that the workplace relationships can be improved through an exchange of material and immaterial resources between employers and employees, indicating a "norm of reciprocity" (Cropanzano & Mitchell, 2005; Gouldner, 1960). Accordingly, employees who receive benefits from their organization are assumed to react in a do ut des manner and reward their employers (Eisenberger et al., 2001). Since internal CSR directly contributes to the well-being of employees, it is expected to positively affect work attitudes through favorable exchange relationships (Bauman & Skitka, 2012; Gond et al., 2010; Rhoades & Eisenberger, 2002). Based on aspects of both social identity and social exchange, the following section focuses on three common work attitudes: job satisfaction, trust in management, and supportive supervision to examine the effects of internal CSR on workers' attitudes. Since the three attitudes are related with different levels of the organization (i.e. organization, top management, and direct supervisor), we believe that the examination of them can cover a relatively broad spectrum of attitudinal outcomes.

Internal CSR and job satisfaction. The relationship between CSR and job satisfaction is a topic that has been frequently investigated in the HR domain. Several empirical studies provided evidence for a positive link between the two concepts. Valentine and Fleischman (2008) for instance reported a positive relationship between internal CSR activities and job satisfaction for business managers in the U.S. De Roeck and colleagues (2014) found that job satisfaction is positively correlated with Belgian employees' perception of external and internal CSR. In addition, Wu and Chaturvedi (2009) established a positive link from internal CSR-related HR practices, such as comprehensive training, internal career opportunities, and empowerment, to employees' job satisfaction in China, Singapore, and Taiwan. Drawing on such strong empirical evidence, we expect to also replicate existing findings for blue-collar workers.

H1a. Internal CSR is positively related to job satisfaction.

Internal CSR and trust in management. Trust in management is an important outcome of effective HR management (e.g., Dirks & Ferrin, 2002). There are indications that HR practices which intersect with internal CSR have the potential to positively affect managerial trustworthiness. For example, Brown, Treviño, and Harrison (2005) demonstrated that ethical leadership, i.e., a leadership style which is based on honesty, altruism, and care, is positively related to affective trust in leaders. Additionally, Zacharatos, Barling, and Iverson (2005) found that high performance work practices, such

as extensive training and rewards for safe performance, predict employees' trust in management. In a Chinese context, Wong (2012) also showed that internal CSR in terms of job security and procedural justice is positively related to trust in management.

H1b. Internal CSR is positively related to trust in management.

Internal CSR and supportive supervision. Employees tend to anthropomorphize their organizations (Levinson, 1965) and to regard the actions of their supervisors as being representative of the organization itself (e.g., Eisenberger et al., 2010). On the other hand, organizational activities can also influence how employees perceive their supervisors. Since supervisors are a connecting link between organizations and employees, employees might attribute characteristics to their supervisor which they infer from the organization. Thus, it seems reasonable to assume that an organization's internal CSR, such as availability of work-life programs (McCarthy et al., 2013), contributes to the level of supervisory support that workers perceive. In addition, it seems plausible to assume that internal CSR affects the actual behavior of supervisors which, in turn, makes them more likely to care about the well-being of their subordinates. The existence of such a "trickle-down" effect has been described in the context of ethical leadership and justice perceptions (Aryee et al., 2007; Mayer et al., 2009). Altogether, it can be argued that internal CSR enhances the degree of the perceived supervisor support by increasing both the actual level of supervisor support and employees' expectation of supervisor support.

H1c. Internal CSR is positively related to supportive supervision.

4.3.2 Internal CSR and Work Behaviors

Both social identity theory and social exchange theory can also be applied to explain the relationships between internal CSR and work behaviors. A positive connection between internal CSR and work behaviors is plausible because research showed that internal CSR increases employees' identification with their organizations (Brammer, Millington, & Rayton, 2007; Jones, 2010). Indeed, studies drawing on social identity theory demonstrated that high employee identification with their organization results in beneficial work outcomes, including organizational citizenship behavior (Van Dick et al., 2006), performance effectiveness (Efraty & Wolfe, 1988), and reduced turnover rate (O'Reilly & Chatman, 1986). Complementarily, social exchange can also facilitate the relationship between CSR and employees' behaviors (e.g., Story & Neves, 2015; Vlachos, Panagopoulos, & Rapp, 2014). In particular, employees are likely to repay an organization's internal CSR efforts with in-role and extra-role behaviors (Abdullah &

Rashid, 2012; Farooq, Farooq, & Jasimuddin, 2014). To further explicate the relationships between internal CSR and work behaviors, thus, we specify the behaviors as performance, voice behavior and complaints, which are closely linked to the aforementioned work attitudes (Judge et al., 2001; LePine & Van Dyne, 1998; Wahlstedt & Edling, 1997).

Internal CSR and performance. We believe that internal CSR activities can strengthen employees' feelings of reciprocal obligation to the organization (e.g., Abdullah & Rashid, 2012; Farooq, Farooq, & Jasimuddin, 2014), which may lead to an increase in employees' task and contextual performance. This view receives indirect empirical support from studies which established a positive relationship between perceived organizational support and job performance (e.g., Chen et al., 2009; Eisenberger et al., 2001). In addition, several studies showed that employees, who exhibit a high level of organizational identification and commitment to their organizations, tend to exert extra efforts to promote the organizational development through enhanced performance (e.g., Van Dick et al., 2006; O'Reilly & Chatman, 1986).

H2a. Internal CSR positively affects performance.

Internal CSR and voice behavior. According to LePine and Van Dyne (1998), voice behavior is a form of discretionary workplace behavior through which employees make constructive suggestions for organizational improvements. Due to the increased self-identification and the manner of reciprocation, research has shown that the improvement of well-being positively affects employees' extra-role behaviors (Fuller et al., 2006; Liu, Zhu, & Yang, 2010). Therefore, we expect that internal CSR should also enhance voice behavior. Yet, employees are often reluctant to speak up because they are afraid that voice behavior may arouse negativity in the organization and hence damage their internal status (Milliken, Morrison, & Hewlin, 2003). Consequently, employees' willingness to engage in voice behavior can be increased by the feeling of psychological safety, which can be generated by a trusting and supportive organizational climate (Detert & Burris, 2007; Liang, Farh, & Farh, 2012). Since internal CSR contributes to an ethical climate in which employees perceive to be treated fairly (Chun et al., 2013), it can enhance employees' feelings of psychological safety and increase their engagement in voice behavior.

H2b. Internal CSR positively affects voice behavior.

Internal CSR and complaint behavior. Complaints, as a form of criticism behavior, are fundamentally distinct from voice behavior (LePine & Van Dyne, 1998). Kowalski (1996) for instance noted that complaints focus on prohibitive actions that express dissatisfaction

and the intention to stop certain activities, rather than initiating improvement. If an organization fails to safeguard the well-being of its employees, it can be expected that employees will feel unjustly treated. In consequence, organizational identification and job satisfaction should decrease (Gibney et al., 2011; Schmitt & Dörfel, 1999) and this, in turn, is likely to result in even more complaints (Kowalski, 1996). In addition, employees who encounter injustice might be motivated to "repay" the unfair treatment of the organization in terms of complaining (Youngblood, Trevino, & Favla, 1992). Since internal CSR enhances organizational identification and job satisfaction and, based on the do ut des logic, strengthens employees' obligations towards their organizations, internal CSR should be negatively related to complaints.

H2c. Internal CSR negatively affects complaint behavior.

4.3.3 Moderation of Perceived Role of Ethical and Social Responsibility

Values are central to an individual's self-concept, as they guide decisions and behaviors based on what is considered to be personally rewarding or not rewarding (e.g., Locke, 1997). The main effects of CSR on work attitudes and behaviors might therefore vary between individuals depending on how important they believe CSR is (Evans, Davis, & Frink, 2011; Turker, 2009). According to person-organization fit theory (Kristof, 1996), there must be a congruence between the values of employees and the values of the organization so that employees can appreciate an organization's decisions (e.g., CSR activities) and accordingly act in favor of the organization (Chatman, 1989; Cable & Judge, 1996). Indeed, many studies have demonstrated that person-organization fit can improve employees' work attitudes and behaviors (Ambrose, Arnaud, & Schminke, 2008; Lauver & Kristof-Brown, 2001; Vancouver & Schmitt, 1991). Hence, it is expected that the effects of CSR on attitudes and behaviors are intensified or mitigated by individual values in terms of the importance of social responsibility.

To address this issue, we focus on the importance of individuals' perceived role of ethical and social responsibility (PRESOR Importance) (Singhapakdi et al., 1996). By assuming that social responsibility is crucial for organizational growth and survival (Etheredge, 1999; Vlachos, Panagopoulos, & Rapp, 2013), individuals with attitudes of PRESOR Importance put more weight on the significance of CSR in business. Focusing on norms of justice, many studies in business ethics also showed that individuals with higher PRESOR Importance exhibit a higher appreciation of internal CSR because they believe that CSR can be a morally "right" action conducted by organizations (Cropanzano,

Goldman, & Folger, 2003; Rupp, 2011). Hence, PRESOR Importance indicates individuals' beliefs in CSR in the relevance of both its instrumental function to the organizational development and ethical norms of justice (Cropanzano, Goldman, & Folger, 2003; Rupp, 2011).

Based on the perspective of person-organization fit, the organizational participation in internal CSR thus offers opportunities for employees to express and support their values on PRESOR Importance as stakeholders (Basil & Weber, 2006). This fit between employees' values and firms' strategies can lead to intensified work attitudes which reflect the attachment and satisfaction with the organization (Greening & Turban, 2000; Folger et al., 2005). Consequently, the consistency in the ethical values between employees and organizations enables employees to build more trust into the top management and to perceive stronger support from organizations or supervisors. The fitted values between employees and organizations can further increase individuals' identification with the organization, which promotes individuals' willingness and commitment to act in favor of the organization (Maignan & Ferrell, 2010). Van Knippenberg and Sleebos (2006) for instance found that a stronger identification increases employees' tendency to help organizations in reaching their goals. This indicates an enhancement of efforts and performance (Dutton & Dukerich 1991). Identification also promotes citizenship behavior (Collier & Esteban, 2007; Riketta, 2005; Smith, Carroll, & Ashford, 1995; Tyler & Blader, 2000) and emotional connections to an organization (Mael & Ashforth, 1992), which can motivate employees to voice out potential improvements for the organization. Contrarily, the lack of congruency between employees' PRESOR Importance and organizations' social performance violates one's ethical values, leading to an increase in employees' punitive behaviors, such as complaining (Gond et al., 2010; Murphy, 1993; Schlenker, 1980).

H3. PRESOR Importance positively moderates the relationship between internal CSR and (H3a) job satisfaction, (H3b) trust in management, and (H3c) supportive supervision.

H4. PRESOR Importance positively moderates the relationship between internal CSR and (H4a) performance, (H4b) voice behavior, and (H4c) negatively moderates the relationship between internal CSR and complaint behavior.

4.4 Study 1

Study 1 is designed to test the relationship between internal CSR and work attitudes (H1a – c), which is assumed to be moderated by individuals' PRESOR Importance (H3a – c). The proposed relationships are empirically tested based on data from a cross-sectional survey.

4.4.1 Sample and Procedure

The data was collected from Chinese production workers in a large garment factory located in China. The factory management recruited participants according to the guidelines given by the researchers. Participation was voluntary and the survey took place outside of regular working hours. To increase the response rate, participants were paid for an extra half hour. In total, 930 blue-collar workers filled out the questionnaire. The participants, among which 23.7% were male and 76.3% were female, had an average age of 32 (*SD* = 8.92).

Although participation was voluntarily, some respondents exhibited problematic behavior during the completion of the questionnaire. For instance, some workers used the same response category repeatedly or responded randomly without reading the items. Such answering behavior might have been the result of comparatively low education and a general lack of experience with surveys. Hence workers might not have understood the item meanings and consequently, presented an uncharacteristically positive or negative opinion (Johnson, 2005). To detect careless and inconsistent responses, we followed a semantic antonym approach suggested by Goldberg et al. (1985; 1999). Specifically, the 30 item pairs which showed the largest negative correlations were selected as the psychometric antonyms (e.g. in our study, #114 "I intend to remain with this company indefinitely" and #115 "I often think about quitting my job at this company"). The individual's Goldberg's coefficient was computed as within person correlation across these thirty pairs. Subsequently, the frequency curve was used to identify inappropriate answering behaviors. The average of Goldberg's coefficient for all participants, with reversed sign, was .34 (range = -1 to 1; *SD* = .34). Based on a similar coefficient distribution, we followed Johnson's (2005) recommendation and used the slightly stricter exclusion criterion of .00 for the antonym coefficient. Consequently, 763 respondents remained with an exclusion rate of 17.9%. In the reduced sample, the average age of workers was 31.87 (*SD* = 8.79) with 24.6% male and 75.4% female. We elaborate on the results of the original data in the post hoc analyses.

4.4.2 Measures

Internal CSR. The construct "internal CSR" was measured on an individual level. The construct reflects how responsibly the organization acts toward its employees in the eyes of the participants. In order to measure internal CSR for Chinese blue-collar workers, we constructed a scale based on Turker (2009). Due to workers' limited education, we put particular emphasis on formulating the items as comprehensively as possible (see Appendix A.1 for the wording of the items). We measured internal CSR using five items based on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The scale had a high internal consistency (Cronbach's α = .84), whereby the higher values reflect a higher perceived organization performance in terms of internal CSR.

PRESOR Importance. We adapted the standard five items of PRESOR Importance from Etheredge (1999) to measure the degree that individuals consider CSR to be important, per se, and for achieving organizational effectiveness. Based on a 7-point Likert-scale, PRESOR Importance in our study presented a high internal consistency with Cronbach's alpha of .80.

Job satisfaction. To measure job satisfaction, we drew upon Zhou and George (2001) who reduced the Michigan Organizational Assessment Questionnaire measure (Seashore et al., 1982) down to three-items and applied the aforementioned 7-point Likert scale. The job satisfaction scale with one reverse-coded item yielded a Cronbach's alpha of .61, which presented a moderate internal consistency in the context of Chinese blue-collar workers.

Trust in management. Trust in management was measured with seventeen items based on a 7-point Likert-scale, evaluating the three dimensions of ability, benevolence, and integrity (Mayer & Davis, 1999). All dimensions presented a high internal consistency (α = .86 for ability, α = .78 for benevolence, and α = .72 for integrity). As a second-level latent variable, trust in management also showed a good model fit ($\chi^2(116) = 488.807$, $p < .001$; *CFI* = .92; *RMSEA* = .07; *SRMR* = .04).

Supportive supervision. We used eight items to evaluate the degree to which workers felt supported by their supervisors. The items were adapted from Oldham and Cummings (1996). Internal consistency for this scale was .82. All items were rated on a Likert-scale from 1 (strongly disagree) to 7 (strongly agree).

Control variables. Social-cognitive research indicates that individuals' perceptions and attitudes are closely related to personal and situational factors (e.g., Kenrick & Funder, 1988; Trevino, 1986). Therefore, we tried to cover a wide range of individual differences,

including: (1) demographics, i.e. age, gender (dummy variable with "0" as female), family status (categorical variable with "single", "married" and "divorced"), children status (dummy variable with "0" as no child), and ethnicity (dummy variable with "0" as no Han nationality), as well as (2) occupation-related factors such as education (ordinal variable ranging from "no education" to "university degree"), organizational tenure, job change frequency (number of organizations changed) and years of work experience.

4.4.3 Analyses and Results

Table 4.1 shows the means, standard deviations, and zero-order correlations between all study variables. Internal CSR is significantly and positively related with all three investigated work attitudes (ranging from .36 to .44).

For hypothesis testing, we applied multiple linear regressions based on an Ordinary Least Squared (OLS) estimator. Results of Model 2 in Table 4.2 showed the relationship between internal CSR and different work attitudes. Specifically, internal CSR had a significantly positive relationship with job satisfaction (b = .38, p < .001) (H1a), trust in management (b = .45, p < .001) (H1b), and supportive supervision (b = .49, p < .001) (H1c). Thus, the findings supported H1a-c that Internal CSR is positively related to job satisfaction, trust in management, and supportive supervision.

The moderation of PRESOR Importance presented varied influence on different links between internal CSR and work attitudes. As shown in Model 3 from Table 4.2, PRESOR Importance strengthened the link between internal CSR and job satisfaction (b = .11, p < .01) (H3a) and the link between internal CSR and perceived supportive supervision (b = .12, p < .01) (H3c). PRESOR Importance, however, only moderated the relationship between internal CSR and trust in management (b = .08, p < .1) (H3b) at a 10% significance level. Thus, the results only fully supported the moderation effect of PRESOR Importance in H3a and H3c.

Table 4.1: Means, Standard Deviations and Correlations of All Variables in Study 1

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Internal CSR	4.26	1.32	(.84)												
2. PRESOR Importance	5.64	0.93	.14***	(.80)											
3. Trust in Management	3.99	0.98	.44***	.20***	—										
4. Supportive Supervision	4.71	1.17	.43***	.12**	.56***	(.82)									
5. Job Satisfaction	4.60	1.41	.36***	.20**	.38***	-.54***	(.61)								
6. Age	31.87	8.79	.08	.01	.08†	-.22***	.14***	—							
7. Gender	0.25	0.43	-.03	-.02	-.03	.09*	-.05	-.10*	—						
8. Family status	1.80	0.43	.05	.02	.04	-.13***	.13***	.58***	-.12**	—					
9. Children status	0.75	0.43	.04	-.01	.05	-.16***	.13***	.59***	-.08*	.81***	—				
10. Education	3.10	0.63	-.07	.14**	.01	.12**	-.07	-.18***	.13***	-.21***	-,22**	—			
11. Tenure	5.78	6.82	-.04	-.05	-.03	-.09*	.08*	.44***	-.10*	.20***	.22**	-.04	—		
12. Job Change Frequency	3.22	3.26	.02	.02	.02	.02	.05	.11*	.13**	.07	.05	-.00	-.06	—	
13. Work experience	11.6	7.73	.07	.06	.01	-.19***	.10**	.66***	-.07	.38***	.42**	-.16***	.46***	.08*	—
14. Ethnicity	0.17	0.37	.06	-.04	.07	.01	.06	-.15***	.06	-.03	-.04	.02	-.16**	.01	-.16***

*Note: Diagonal line shows Cronbach's alpha (if applicable). CSR = corporate social responsibility. PRESOR = perceived role of ethics and social responsibility. † p<.1. * p<.05. ** p<.01. *** p<.001*

Table 4.2: Results of Multiple Regressions in Study 1

	Job Satisfaction			Trust in Management			Supportive Supervision		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Internal CSR		.38***	.35***		.45***	.43***		.49***	.48***
PRESOR Importance			.20***			.15**			.06
Internal CSR * PRESOR Importance			.11**			.08†			.12**
Age	-.00	.00	.01	.00	.02	.00	.02*	.02*	.02
Gender	-.06	-.02	-.02	.02	.02	.04	-.03	-.01	.01
Family	.15	.14	.03	.03	.02	-.04	.12	.08	.07
Children	.15	.19	.21	.25	.27	.30	-.10	-.04	-.02
Education	-.01	.03	.01	.16†	.21*	.18*	.14	.20*	.19*
Tenure	.02†	.02**	.03***	.00	.01	.02†	-.01	-.00	-.00
Job change frequency	.01	.01	.00	.01	.01	.02	.02	.01	.01
Working years	-.00	-.01†	-.02*	-.00	-.01	-.02†	-.01	-.02†	-.02†
Ethnic	.26	.13	.17	.10	.02	.06	.19	.14	.12
R^2	.04	.20	.24	.02	.23	.25	.03	.23	.25
Adj. R^2	.02	.17	.22	-.00	.20	.22	.00	.21	.22
R^2 Change	—	.15***	.05***	—	.20***	.02**	—	.21***	.02*

*Note: Coefficients are not standardized. CSR= corporate social responsibility. PRESOR = perceived role of ethics and social responsibility. R^2 Change is the comparison between nested models. † p<.1. * p<.05. ** p<.01. *** p<.001*

4.4.4 Post Hoc Analyses

Despite our intention to avoid inattentiveness and careless answering behaviors of blue-collar workers, the consistency in the results between the original and the reduced data should be further tested to substantiate our findings. Hence, we conducted the same regression analysis with the original dataset, and the results remained consistent. Specifically, internal CSR was positively associated with all three dimensions of work attitudes (job satisfaction: $b = .35$, $p < .001$; trust in management: $b = .43$, $p < .001$; supportive supervision: $b = .48$, $p < .001$) as proposed in H1. In addition, the moderation of PRESOR Importance (H3) was significant for the relationship between internal CSR and job satisfaction ($b = .13$, $p < .01$), trust in management ($b = .11$, $p < .05$), and perceived supportive supervision ($b = .13$, $p < .01$).

4.5 Study 2

Study 2 is designed to test the effect of internal CSR on work behaviors (H2), which is assumed to be moderated by PRESOR Importance (H4) in an experimental setting.

4.5.1 Sample and Procedure

The field experiment was conducted in the same garment factory based on a similar recruitment procedure. Participants were randomly assigned to either the experimental group or the control group and the experiment was conducted in small groups (around 20 – 25 participants) over five days. All participants completed the experiment in their off-work time and received overtime payment. Four groups were in the experimental condition and four groups were in the control condition. Due to external circumstances, the appointment for one experimental group needed to be changed at short notice which might have generated some irritations. Thus, we had to exclude this experimental group in order to warrant unbiased results. In total, we had 160 participants, among which 68 workers received a treatment (42.5%) and 92 workers had no treatment (57.5%). The average age of the entire sample was 34 ($SD = 10.35$). 89.9% of participants were female and 10.1% were male.

We used a one-factor experimental design and manipulated parts of the firm's internal CSR (see Treatment section below). Participants in the experimental group were provided with real information about internal CSR activities in the factory, while the control group did not get any information regarding CSR activities. All participants were asked to work on two tasks and fill out a survey.

4.5.2 CSR Treatment

For the experimental group, we designed an interactive presentation held by a Chinese employee from the HR department of the firm. The Chinese presenter was trained by one of the authors to properly carry out the CSR treatment.

The presentation covered a broad range of internal CSR activities that the factory had implemented, including occupational health and safety measures, social audits, provision of additional non-financial benefits, leisure activities, and a grievance mechanism. Within the presentation, the firm's CSR tools were explained to employees (e.g., how to use the web-based grievance mechanism) and employees were shown how to participate in CSR activities (e.g., meeting places and times for sport activities, registration procedures for the factory's shuttle service to join the family in the 2015 Chinese New Year). During the presentation, workers had the opportunity to link their personal experiences to the internal CSR activities and they gained insights into the financial costs of implementing internal CSR measures. To strengthen the treatment, we additionally included a short video from an external expert who had recently personally visited the factory and spoken with employees. In this video, the expert gave a very positive evaluation of the factory's internal CSR activities. In addition, the presentation showed that the factory has a strong reputation for internal CSR as reported by external assessors and the media.

4.5.3 Measures

Internal CSR. We used the same measurement of internal CSR as in study 1. The five items were rated on a scale from 1 (strongly disagree) to 7 (strongly agree). This scale yielded a high internal reliability (α = .83) and resulted in a one-factor solution (λ = 3.006 for 60.13% variance) in an exploratory analysis.

Performance. Adapted from the slider task, which was used to measure productivity in economic studies (e.g. Gill & Prowse, 2012; Gill, Prowse, & Vlassopoulos, 2012), we designed a "stamp task" to assess blue-collar workers' performance. The participants were given sheets of paper and a stamp with the company logo. Each sheet of paper contained 24 boxes and each box consisted of an outer frame and an inner frame (see Appendix A.2). Participants were told that this stamp task has been frequently applied by the researchers to assess the productivity of employees in various organizations. Participants were also informed that this was the first time that this assessment was being carried out in a factory and that the workers' company was highly interested in a strong performance of their

employees for reputational reasons. Accordingly, the participants were asked to complete as many stamps as possible. To refine the task, we further emphasized that the stamp can only be counted as valid when the company logo fell into the designed inner box. Hence, it was possible to measure workers' performance from two perspectives: (1) quantity, captured by the total number of stamps (*Stamp all*), and (2) quality, which was assessed by the ratio between the number of valid stamps and the total stamps (*Stamp rate*).

Voice behavior and complaints. Participants were asked to voluntarily write down comments and suggestions for their company in an open section at the end of the experiment. We developed a coding scheme based on the operationalization of voice and complaints recommended in prior research (LePine & Van Dyne, 2001; Kowalski, 1996; Whitey & Cooper, 1989). Specifically, voice behavior includes change-oriented and constructive suggestions (LePine & Van Dyne, 2001), which aim to improve the organization's policy, procedures, or actions. Thus, voice behavior is mostly expressed with words such as "wish", "hope", or "suggest". Examples of comments voiced include: "I hope that the company can increase workers' benefits by increasing transportation subsidies for workers who do not live in the factory because the living expenses have increased a lot over the past decades" or "I suggest that the cafeteria should distribute the food as a whole set menu to workers because there might be safety issues when workers are trying to get each individual course themselves within a big crowd". Complaints, on the other hand, are related to negative affection (Watson & Pennebaker, 1989) and reflect simple expressions of dissatisfaction or discontent (Kowalski, 1996). Thus, complaints do not include any change-related suggestions. A complaint example is: "The boiled tea-egg in the cafeteria is so disgusting" or "The plates used in the cafeteria are always dirty". After agreeing on the coding scheme, two Chinese researchers coded the voice comments and complaints independently. Inter-rater reliability was high (interclass correlation coefficient $ICC(2,2)_{voices}$ = .86; $ICC(2,2)_{complaints}$ = .98). We used the average score from the two raters as measures of voice and complaints.

PRESOR Importance. Similar to study 1, we applied the five-item scale of PRESOR importance from Etheredge (1999). This measurement showed a high internal consistency among Chinese blue-collar workers (α = .81) and can also be constructed as one latent variable (λ = 2.864 for 57.29% variance).

Control variables. Despite the experimental setting, we aimed to control for several factors that might impact individuals' behaviors. Firstly, we considered organizational

tenure to be crucial because longer tenure may lead to more affection to the factory and performance efficiency (Beck & Wilson, 2000; Gregersen, 1993), which can be more valid than a simple chronological age indicator. The level of education can also be expected to make a difference in Chinese blue-collar workers' behaviors, especially in terms of written communication. In addition, the job change frequency indicated the availability of the alternative job opportunities to the workers, which can be expected to influence their behaviors in the current manufactory (Meyer et al., 1989; Shore & Wayne, 1993). Lastly, we also controlled for gender as a basic difference in demographics because research showed that females are more likely to get involved with and support organizational CSR activities, either internal (e.g. Bernardi, Bean, & Weippert, 2006; Johnson & Greening, 1999) or external (e.g. Bear Rahman, & Post, 2010; Williams, 2003).

4.5.4 Analyses and Results

Table 4.3 presents the means, standard deviations, and correlations of all variables. The internal CSR treatment is significantly related with workers' internal CSR (r = .21).

We firstly applied an independent-samples t-test to compare the group means and calculated mean difference intervals based on bootstrapping of 1,000 samples to provide robust results for the causal relationship between CSR and work behaviors. The multiple regression analyses were additionally conducted to further test the direct impact of internal CSR and the moderation of PRESOR Importance when the important control variables are included.

As shown in Table 4.4, there were no significant differences in the control variables and thus, the groups with and without CSR treatment did not differ in their demographics or occupation-related factors. Next, we conducted a manipulation check by comparing the differences in perceptions of internal CSR between the treatment group and the control group. The negative mean differences showed that CSR (M = 5.13, SD = .87) and no CSR (M = 4.74, SD = 1.05) differed significantly with regard to their levels of internal CSR perception (t (158) = -2.50, p<.05). The bootstrapping at a 95% significance level further yielded a negative confidence interval of the mean differences. Additionally, the regression results in Model 2 from Table 4.5 showed a significantly positive relationship between CSR treatment and internal CSR perceptions (b = .53, p <.001). Thus, the CSR treatment results in higher perceptions of internal CSR, which served as a manipulation check and evidenced the effectiveness of the treatment.

Table 4.3: Means, Standard Deviations and Correlations of All variables in Study 2

	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. CSR treatment	—	—	—									
2. Internal CSR	4.91	1.09	.21**	(.83)								
3. Stamp all	42.39	17.74	.18*	.13	—							
4. Stamp rate	0.64	0.28	-.21**	-.17*	-.51***	—						
5. Voice behavior	0.15	0.41	-.09	-.18 *	.09	.02	—					
6. Complaints	0.40	0.87	-.15 †	-.15 †	.02	-.01	.30***	—				
7. PRESOR Importance	5.82	0.82	.06	.45***	-.10	.13	-.05	.01	(.81)			
8. Gender	0.10	0.30	-.07	-.00	.09	.08	.21**	-.05	.14	—		
9. Education	3.04	0.49	-.04	-.02	-.07	.11	.10	-.01	.05	.06	—	
10. Tenure	6.42	6.53	.02	.26***	.25***	-.22**	-.11	-,08	.01	-.16 †	-.09	—
11. Job change frequency	2.66	2.32	.07	-.16	-.15	-.16*	.03	-.05	.11	.03	-.02	-.09

*Note: Diagonal line shows Cronbach's alpha (if applicable). CSR= corporate social responsibility. PRESOR = perceived role of ethics and social responsibility. † <.1. * p<.05. ** p<.01. *** p<.001*

Table 4.4: Summary of T-Test of Mean Differences between Groups in Study 2[a]

	Control group (without CSR)		Experimental Group (with CSR)		*t* (*df*)	*p*	Mean differences
	M	SD	M	SD			
Internal CSR	4.74	1.05	5.13	0.87	-2.50 (158)	.013	-.39 (-.70, -.08)
Stamp all	39.72	16.27	46.01	19.08	-2.24 (158)	.026	-6.29 (-12.06, -.89)
Stamp rate	0.69	0.26	0.57	0.29	2.69 (158)	.008	.12 (.03, .20)
Voice behavior	0.17	0.44	0.10	0.38	1.15 (158)	.250	.08 (-.05, .20)
Complaints[b]	0.51	1.02	0.24	0.58	2.10 (148)	.037	.27 (.02, .54)
Education	3.06	0.44	3.02	0.54	0.53 (150)	.591	.04 (-.10, .19)
Tenure	6.31	7.01	6.58	5.82	-0.24 (153)	.804	-.26 (-.25, 1.72)
Job change frequency	2.52	1.87	2.86	2.81	0.89 (149)	.372	-.34 (-1.18, .38)

Notes: Confidence intervals from bootstrapping with 1000 sample sizes at a 95% significance level are shown in parentheses in the last column.

[a] The group difference in gender was tested with a Chi Square Test for Independence because of its binary nature. The cross tabulation for CSR and gender was control group (female: 81; male: 11) versus experimental group (female: 61; male: 5). χ^2 *(1) = 810; p = .368.*

[b] Group variances were not equal for complaints. The assumption of unequal variances was drawn from Levene's test for equality of variances (F = 11.996, p < .001).

Regarding performance, results indicated a significant difference (t (158) = -2.24, p < .05) in Stamp all (i.e. the total number of stamps) for CSR (M = 46.01, SD = 19.08) and no CSR (M = 39.72, SD = 16.27). Additionally, CSR was positively related to Stamp all (b = 5.64, p = .054) when all control variables were included, thus marginally supporting H2a. In terms of performance quality, Stamp rate (i.e. the rate of valid stamps) also differed significantly (t (158) = 2.69, p < .01) between the CSR (M = .57, SD = .29) and no CSR (M = .69, SD = .26) groups. However, the stamp rate was negatively associated with internal CSR (b = -.10, p < .05), which contradicted what we suggested in H2a.

There was also a significant difference (t (148) = 2.10, p < .05) in complaint behaviors between the CSR treatment group (M = .24, SD = .58) and the group without CSR treatment (M = .51, SD = 1.02). Regression results from Model 2 in Table 4.5 also marginally supported the negative association between CSR and complaint behaviors (b = -.24, p = .099). Therefore, findings regarding complaint behavior lent support for H2c. However, neither the t-test (t (158) = 1.15, p = .250) nor the regression results (b = -.06, p = .389) provided evidence for differences in voice behavior. Accordingly, the hypothesized relationship between CSR and voice behavior (H2b) was not supported.

Table 4.5: Results of Multiple Linear Regressions in Study 2

	Internal CSR			Performance					
				Stamp All			Stamp Rate		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
CSR treatment		.53***	.49**		5.64†	5.46†		-.10*	-.12*
PRESOR Importance			.43***			-1.47			.03
CSR treatment * PRESOR Importance			.04			.91			-.00
Gender	.02	.05	-.17	10.24*	10.03*	11.12*	-.01	.00	-.03
Education	-.01	-.05	-.07	-1.80	-1.62	-1.72	.05	.05	.05
Tenure	.03*	.03*	.02†	.76**	.68**	.72**	-.01*	-.01**	-.01*
Job change frequency	-.09	-.10†	-.13*	-1.15†	-1.21†	-1.28†	-.02†	-.02*	-.02
R^2	.09	.16	.33	.12	.14	.15	.07	.11	.12
Adj. R^2	.06	.12	.29	.09	.11	.10	.04	.07	.07
R^2 Change	—	.07**	.17***	—	.02†	.01	—	.04*	.01

*Note: Coefficients are non-standardized. CSR treatment (0=no CSR; 1= CSR). CSR= corporate social responsibility. PRESOR = perceived role of ethics and social responsibility. R^2 Change is the comparison between nested models. † <.1. * p<.05. ** p<.01. *** p<.001*

Table 4.5: Results of Multiple Linear Regressions in Study 2 (continued)

	Voice behavior			Complaints		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
CSR treatment		-.06	-.06		-.24 †	-.24
PRESOR Importance			-.06			.02
CSR treatment * PRESOR Importance			.09*			.08
Gender	.35**	.32**	.37**	-.12	-.14	-.14
Education	.06	.07	.06	-.08	-.06	-.08
Tenure	-.01	-.00	-.01	-.01	-.01	-.01
Job change frequency	.00	.00	-.00	-.03	-.02	-.02
R^2	.07	.08	.12	.01	.03	.04
Adj. R^2	.04	.04	.07	-.02	-.01	-.02
R^2 Change	—	.01	.05*	—	.02	.01

*Note: Coefficients are non-standardized. CSR treatment (0=no CSR; 1= CSR). CSR= corporate social responsibility. PRESOR = perceived role of ethics and social responsibility. R^2 Change is the comparison between nested models. † <.1. * p<.05. ** p<.01. *** p<.001*

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As indicated in Model 3 (see Table 4.5), the moderation effect of PRESOR on the link between CSR and work behaviors (H4) was only significant for voice behavior (H4b), but not for performance (H4a) and complaint behaviors (H4c).

4.6 Discussion

In the present study, we investigate the effects of internal CSR on the attitudes and behaviors of blue-collar workers in China. We further look at the role of individuals' attitudes toward CSR (PRESOR Importance) as a moderator of these relationships. For these purposes, we have conducted a survey and a field experiment in a Chinese garment factory.

In the survey study, we found a positive link between internal CSR and work attitudes. Specifically, workers who perceive higher internal CSR are more satisfied with their jobs, have more trust in management, and report that they receive more support from their supervisors. The field experiment revealed that internal CSR also affects work behaviors. We observed that workers increase their quantitative performance and reduce their complaints when they receive information about an organization's internal CSR. In the same setting, however, internal CSR decreases workers' qualitative performance and does not yield any differences in workers' voice behavior.

The results of the two studies demonstrated that individuals' attitudes towards CSR can affect the effectiveness of internal CSR. In particular, PRESOR Importance intensifies the relationship between internal CSR and job satisfaction, trust in management, and perceived supervisor support. In terms of work behaviors, PRESOR Importance was found to significantly affect voice behavior in the way that workers who perceive social responsibility to be important, exhibit more voice behavior and offer more constructive suggestions when exposed to internal CSR activities.

4.6.1 Theoretical Contribution

The findings of this paper contribute to our extant knowledge about the outcomes and relevance of internal CSR in the HR domain for China. In line with the few existing findings of positive CSR outcomes such as organizational commitment (Shen & Zhu, 2011), turnover intention (Wong, 2012), as well as task performance and extra-role behavior (Shen & Benson, 2014), this study provides further support for the notion that CSR engenders positive effects on employees' attitudes in China. The findings have illustrated that positive CSR outcomes also exist for Chinese blue-collar workers, who have received very little attention so far. According to the best of our knowledge, this

study is the first one showing that internal CSR can have positive effects on work behaviors of Chinese blue-collar workers.

Current research on CSR has been limited to cross-sectional research designs which cannot prove a causality between employees' CSR perceptions and attitudes (e.g., Evans, Davis, & Frink, 2011; Moon et al., 2014; Mueller et al., 2012). Due to common method bias, for instance, CSR perceptions might also be affected by employees' job satisfaction since employees who are more satisfied are also more likely to evaluate the social responsibility of their employer more positively. In this respect, our second study can examine the direct causal influence of internal CSR on work behavior based on a natural intervention. In consequence, the CSR treatment group clearly exhibits more contributive behavior (i.e. performance) and fewer complaints than employees who do not receive the CSR treatment.

Interestingly, we did not find a positive relationship between internal CSR and performance in quality. Such counter-intuitive effect might be the result of a trade-off between speed and accuracy of the performance task in our experiment (Howell & Kreidler, 1963; Wickens, 1984). Considering the time pressure respondents might have felt during our experiment, it seems to be possible that workers favored a faster reaction time over result accuracy with the intention to contribute to the overall firm success (Howell & Kreidler, 1963). Accordingly, some studies showed that contributive work attitudes are consistently related to performance quantity, but not necessarily to performance quality (Gilliland & Landis, 1992; Jenkins et al., 1998; Podsakoff, Ahearne, & MacKenzie, 1997). In sum, although internal CSR had contradictory effects on performance quality and performance quantity, we feel confident to argue that the findings support a positive link between internal CSR and performance.

The moderating effect of PRESOR Importance on some of the relationships between internal CSR and outcomes underlines the importance of taking the individual level into account when investigating the general effects of CSR. In this way, we respond to the call for more research on individual values in order to enhance our understanding of when and how CSR leads to beneficial effects for organizations (e.g., Evans, Davis, & Frink, 2011; Groves, 2013).

4.6.2 Practical Implications

A first practical implication of this paper relates to the positive outcomes of internal CSR in China. The findings indicate that internal CSR also matters for Chinese businesses and

has the potential to positively affect work attitudes and work behavior. This implies that improving the well-being of workers could be a sound managerial approach to enhance the efficiency of the workforce. Therefore, we agree with researchers who believe in the beneficial effects of CSR for contemporary Chinese companies and advocate for a stronger incorporation of CSR into their HR strategy (e.g., Hofman & Newman, 2014; Shen & Zhu, 2011). Hence, it might be a valuable investment for Chinese firms to build up the managerial competencies necessary for this task.

Second, internal CSR can also be a valuable approach for Chinese factories to tackle some of their current challenges. In particular, Chinese factories are increasingly struggling to recruit and retain workers. In this respect, our findings support the argument that internal CSR is a valid approach to respond to the shortage of blue-collar workers in Chinese manufactories. This is because positive attitudes, such as job satisfaction and trust in management are able to reduce turnover intention (Arnold & Feldman, 1982; Spreitzer & Mishra, 2002). Given that managers in Chinese factories often neglect the well-being of their employees and rather practice an authoritarian and oppressive leadership style which frequently leads to abuses of workers' rights (Ip, 2009; Peng et al., 2001), internal CSR can be seen as an innovative leadership style approach in Chinese factories.

Based on the finding that PRESOR Importance positively moderates the link between CSR and outcomes, we expect that CSR will gain increasing relevance for Chinese HR management in the future. This is because the younger, better-educated generation of Chinese employees has higher job expectations in terms of both extrinsic and intrinsic work values (To & Tam, 2014; Zhao & Chen, 2011). In light of the growing labor shortage and the associated rise in Chinese workers' bargaining power, social responsibility may allow Chinese businesses to better meet the changing demands of their workers in the future. In this sense, internal CSR can be seen as an opportunity to adapt to ongoing changes in the Chinese labor market.

Finally, the findings also highlight the value of communicating internal CSR activities to employees effectively. In other words, it might not be enough to simply contribute to the well-being of employees in order to generate positive CSR outcomes in the HR domain. Since blue-collar workers have little information about their company, the internal communication of what the company is doing in the CSR domain is of particular relevance. As many internal CSR measures are experience goods however, it is crucial that communication on the topic always reflects reality.

4.6.3 Limitations and Further Research

As with all studies, the present contribution has limitations. First, data was collected in only one factory which limits the robustness and generalizability of our findings. However, obtaining access to reliable data in China is difficult in general and for Chinese factories in particular (To & Tam 2014). Hence, the entire dataset for this study can be unique not only in regard to its nature, but also because it was collected under the adherence to strict scientific rules, such as randomization, assurance of anonymity, and non-interference of the employer. In light of the restricted access to data from Chinese factories, we consider ourselves to be fortunate to have obtained this dataset. Nonetheless, we acknowledge that a more representative sample would be beneficial for the verification of our results, and we encourage researchers to make attempts to investigate work behaviors of lower educated workers.

Second, the positive effects of internal CSR on work behaviors (performance and complaints) are only significant on a 10% confidence interval. In addition, the measure of performance (stamp task) was not directly related to workers' daily job tasks, i.e. sewing clothes. We used this measure as it was not possible to measure outcomes of daily job tasks without disturbing the production process and endangering anonymity. Accordingly, future research is needed to analyze the effects of internal CSR on job performance.

Third, despite using a standard measure of job satisfaction, we obtained a relatively low internal consistency for Chinese blue-color workers. To check the robustness of the results, we conducted additional tests with a single item measurement of job satisfaction (r = .87 between single measure and scaled measure) (Wanous, Reichers, & Hudy, 1997). When the single-item measure was employed, the results remained consistent with our multi-item measure of job satisfaction. Nevertheless, a revised measure of job satisfaction of Chinese blue-collar workers should be tested in future research.

Fourth, since China is a culturally and economically highly heterogeneous country (Ip, 2009; Kwon, 2010; Raynard, Lounsbury & Greenwood, 2013), the relationships between internal CSR and work attitudes and behaviors might differ across regions. Accordingly, future research should test and compare the outcomes of CSR for different regions in China.

4.7 Conclusion

Our findings indicate that internal CSR can be an important HR instrument in Chinese factories. Internal CSR seems to have various positive effects on work attitudes and

behaviors and, hence, has the power to generate a competitive advantage. The findings thus highlight the notion that internal CSR is also a valuable HR instrument in China. Since the existence of beneficial business outcomes promotes the diffusion of social responsibility in practice, it is plausible to assume that CSR has the chance to splash over to China in the long-run.

CHAPTER 5

CONCLUSION

In this dissertation, three essays address different aspects of the causal relationships between people and work, and enrich our understanding on how individuals develop in the workplace over time. Chapter 2 focuses on the functions of individuals' personality and disentangles the causal relations between personality and job characteristics. Based on a longitudinal study over six years, the results substantiate the reciprocal link between how individuals select jobs and how occupations change individuals. Thus, individuals who are more internally oriented tend to work in a more autonomous job and also increase their job autonomy at a faster pace. While investing in the work roles of highly autonomous positions, individuals can in turn become even more internally oriented over time. Chapter 3 draws attention to individuals' attitudes and explores the causal relations between work attitudes and work conditions through a behavioral implication of commitment. The findings from the six-wave longitudinal design assert the notion that work conditions impact individuals' attitudes, through which individuals are able to influence their consequential work conditions. Specifically, individuals' income conditions can be a prominent indicator of individuals' effective commitment to their organizations. With a strong feeling of commitment, individuals tend to put more efforts into their work-related behaviors, which can result in an even higher level of income during employment. With a framework of CSR, Chapter 4 investigates the relationship between people and work in a different way and unveils

the causal impact of firm's policy on individuals' work attitudes and behaviors. The combination of a cross-sectional survey and a field experiment provides evidence for the effectiveness of CSR on Chinese blue-collar workers' contributive work attitudes and behaviors. Additionally, the individuals' attitudes towards the importance of ethics and social responsibility generate variations in the general effect of CSR on individuals.

Although each research study has its own focus, the three individual essays complement each other by incorporating several overlapping theoretical foundations and analytical approaches, the integration of which is able to provide more valuable insights for research development, methodological applications and managerial practices.

5.1 Theoretical Implications

The dissertation contributes to the emerging research that focuses on the reciprocal relationship between people and work. Combining numerous theories and research from psychology and organizational behavior, researchers start to draw more attention to the active side of people's behavior and development at work (Frese et al., 2007; Morrison, 1993). That is, besides the adaption and investment in the work environment by which individuals can be motivated, socialized and managed (Hackman & Oldman, 1976; Rothbard & Edwards, 2003; Dickie, 2003), individuals can also select and develop behaviors that shape their work experiences (Hoare, 2006; Frese et al., 2007). Hence, the studies on the workforce should take an integrated and dynamic approach so that a good work environment should be a catalyst of individual development, which in turn satisfies the corporate needs over time. In line with recent research that aims at disentangling the reciprocal relations between people and work (e.g. Sonnentag et al., 2012; Meier & Spector, 2013; Xanthopoulou et al., 2009; De Lange et al., 2004), findings from Chapter 2 and Chapter 3 affirm the significant, mutual impact between people and work by adding insights into two important aspects of people, personality and work attitudes. The longitudinal setting and objective work conditions in the dissertation provide a rigorous research design that further unveils the causality between people and work, despite of relatively small effects. By uncovering the individual mechanisms affecting and being affected by work conditions, this dissertation can contribute to the understanding of the "black box" underlying the individual human resource management process (Messersmith, Patel, Lepak, Gould-Williams, 2011; Jiang, Takeuchi, & Lepak, 2013).

Additionally, the longitudinal studies in the dissertation shed light on the stability within individuals' traits and attitudes over time. Specifically, the results of changes in individuals' LOC in Chapter 2 add to the current discussion regarding the potential changes in personalities that are not limited to one's early childhood (Roberts et al., 2006; Wille & De Fruyt, 2014). Chapter 3 provides evidence on the increase in individuals' affective commitment to their organization even though they have stayed in organization for a relatively long time. The dynamism uncovered in the dissertation provides opportunities to further understand the socio-psycho-economic development inherent in individual behavior over time (Rajulton, 2001). Thus, the insights regarding the individual dynamism enables the advance of theories or paradigms in psychology and organizational

research that strive to explain the developmental changes observed in individuals (Willekens, 2001, Burch, 2001).

Furthermore, the dissertation extends the research on personal-environment fit by presenting new evidence on the ethical issues in China and offering an extension to the dynamic fit in a changing context. Although this interactionist perspective has been prevalent in the management literature for a long time (e.g. Parsons, 1909; Lewin, 1935), this line of research is faced with several challenges. First, there is increasing awareness that the positive outcomes of PE fit, such as job satisfaction and performance, might not be valid universally but rather contingent on specific contexts (Arthur, Bell, Villado, & Doverspike, 2006). For instance, the effectiveness of PE fit depends on individuals' attention to their fit in the organization (Kristof-Brown, Jansen, & Colbert, 2002). Also, PE fit seems to be unimportant when employees maintain a generally good relationship with their supervisor (Erdogan, Kraimer, & Liden, 2004). To increase the usefulness of PE fit, studies need to provide a specific context so that PE fit can become more explanatory. Due to the attitudinal and behavioral implications of PE fit shown in prior studies (Bretz & Judge, 1994; Kieffer, Schinka, & Curtiss, 2004; Kristof-Brown et al., 2005), Chapter 4 extends the PE fit to explain the variations in the effectiveness of CSR in Chinese factories. The findings substantiate the functions of PE fit so that blue-collar workers who value the importance of ethical and social responsibility tend to react more positively to the implementations of CSR in a factory setting. Second, this dissertation draws attention to a dynamic approach in the PE fit research and thus pacifies the general criticism of its static feature (Patton & McMahon, 2006). With the changes in both personal attributes and job characteristics, the presented results of dynamic reciprocity between people and work in Chapter 2 are consonant with the corresponsive mechanisms reflected in recent studies (e.g. Robert et al., 2003). Thus, people can strengthen their own traits by continuously fitting to their changing work environment. Consequently, the tendency of fit between people and environment, even when both parties are subject to changes, provides the empirical evidence for a further theoretical development of PE fit in a dynamic context.

Besides the aforementioned established research fields, this dissertation also enriches the understanding of the link between individuals' attitudes and behaviors. Following the common assumption that behavior is the consequence of attitudes (e.g. Aryee et al., 2002; Bateman & Organ, 1983; Cropanzano, Rupp, & Byrne, 2003; Judge et al., 2001), Chapter 4 links CSR firstly to attitudinal factors and secondly to behavioral indicators. The findings obtained from Chapter 4 show that behavior is not always

influenced by CSR even though significant results for the relationships between work attitudes and CSR prevail. Thus, even job satisfaction, one important and powerful attitude, may not be related to some specific work behaviors. This should encourage researchers to specify the attitude-behavior link, especially when research has a special interest in a certain behavior.

Additionally, the behavioral implications of commitment in Chapter 3 implicitly indicate a reciprocal relationship between attitudes and behaviors where the correspondence between attitudes and behaviors can occur when individuals have engaged in behaviors that are consonant with their current attitudes. Besides the direct impact of past behaviors on attitudes through behavior recalls (e.g. Ross, McFarland, Conway, & Zanna, 1983; Rothbart, Fulero, Jesen, Howard, & Birreell, 1978), Chapter 3 outlines an alternative mechanism of attitude change through behavior outcomes. That is, an individual's attitude can be further strengthened by behaviors because they lead to desirable outcomes, such as income level and change, which validate the previous behaviors. Hence, the reciprocal impact of behaviors on attitudes as shown in Chapter 3 is able to maintain a persistent shift in attitudes, although attitudes are commonly assumed to change in a temporary fashion (Festinger, 1964; Cook & Flay, 1978).

5.2 Methodological Implications

The application of various methods, i.e. longitudinal studies, field experiments and cross-sectional surveys, in the dissertation shed light on the nature of multi-methods in management and organization research. As Thorpe and Hold (2008) noted, management and organization research can benefit most from mixed methods because it tends to ask a wide range of questions, applies cross-disciplinary theories and analyzes at different levels. The multi-methodological design therefore enables research to allocate the appropriate methodological approach to investigate the different elements of relationships, the combination of which contributes to an overall picture of the research field, and accordingly theoretical development. As shown in the dissertation, the individual processes in the organization can be dynamic as well as reciprocal, while the theoretical foundations consist of personality and psychology theories as well as business paradigms.

Therefore, a single methodology cannot be sufficient to disentangle the complex relationships between people and work in all occasions. With the aim of disentangling the casual effects, the dissertation mainly focuses on a longitudinal design and a field experiment. These results provide comprehensive evidence that uncovers more aspects of

individual differences in the workplace. For instance, longitudinal designs allow the dissertation to investigate the individual trajectories over time while the field experiment enables to observe the functions of individual differences in the specific CSR context. Furthermore, the application of more than one method enables the dissertation to draw on the mutually complementary strengthens (Erzberger & Kelle, 2003). While longitudinal designs minimize measurement errors and present a large representative sample, field experiments provide natural interventions and obtain a high external validity. Consequently, the usage of different methods constitutes a rigorous research design and satisfies different stakeholders who have various methodological preferences and understandings (Bartunik, Rynes, & Ireland, 2006).

Although multi-methodological designs can contribute to theory validation and development, the use of different methods should depend on distinct research contexts and objectives. In contrast to cross-sectional information, the longitudinal designs are concerned with progress and change in status (Rajulton, 2001). With the objectives of detecting changes in individual development status, Chapter 2 and Chapter 3 are better suited for a longitudinal design because the longitudinal information denotes repeated measurements of individuals over time that can reveal the nature of growth (Smith & Torrey, 1996) and generate strong causal interpretations (Frese et al., 2007; Demerouti et al., 2004). Without the emphasis on individual transitions and development, field experiments are more compatible with Chapter 4 rather than longitudinal designs because that study examines the interventions of CSR in the real world and observes the outcomes of behavior changes in a natural setting, leading to a higher external validity (Bandiera, Barankay, & Rasul, 2011). Although a multi-methodological design is increasingly considered to advance the management and organization research (Azorín & Cameron, 2010; Bazeley 2008), it can also be particularly required by increasingly complex social processes inherent in research. The reciprocal impacts between the methods and theories indicate that researchers should not only broaden the horizon of the organizational methods, but also promote the development of analytical methods and organizational theories simultaneously.

The dissertation further contributes to the analysis of longitudinal data by extending SEM for dynamic changes. Despite emerging attention to the accuracy of the repeated latent variables in personality psychology (e.g. Specht et al., 2011), the majority of management studies still rely on the traditional approach (e.g. principal-component factor analysis) to independently evaluate the latent constructs in multiple waves (e.g. Roberts et

al., 2003, Bleidorn, 2012; Wu & Griffin, 2012). Drawing on the practices in psychology, this dissertation firstly introduces a modified measurement model by incorporating factorial invariance model into management research, aiming to minimize the measurement errors inherent in time and structure metrics (Widaman et al., 2010). Second, the dissertation innovatively integrates various dynamic models, including the latent growth model, latent change score model and cross-lagged regression model, into the general framework of SEM to uncover the complex individual dynamism imbedded in the longitudinal information.

This usage of SEM is consonant with earlier criticisms of the traditional techniques like multiple regression and path analysis in terms of their static nature for multiple-wave studies (Rogosa, 1995; Rajulton, 2001). The practical development and application of SEM in the dissertation provides a general framework and highlights the usability of SEM for future longitudinal analyses of transitional processes. Since the dissertation mainly focuses on the individual dynamism, more research is needed to explore the compatibility of the developed SEM at different levels of analysis, such as teams or organizations. Based on the framework Generalized Linear Latent and Mixed Modeling (Rabe-Hesketh, Skrondal, & Zheng, 2007), for instance, the developed SEM for transitions can be incorporated as changes in different levels, which reveals the impact of dynamic changes across levels.

5.3 Practical Implications

The transitional view taken in the dissertation implies a changing work environment where both people and work conditions present a continuous tendency of development over time. To facilitate desirable organizational outcomes, managers may have to break the vicious circle that restrains either employee growth or work characteristics (Frese et al., 2007). Probably the best strategy is to simultaneously monitor the changes in employees (such as individuals' LOC and affective commitment) and accordingly adjust the work characteristics (such as job autonomy and income). Especially in the case of personality changes, organizations can take initiatives by offering trainings that enable employees to develop regarding the work-related traits (Neck & Manz, 1996). Complementarily, managers should also select the most suitable staff based on their trait-related behaviors in the past. The integrated approach consisting of selecting, training and adjusting is able to capture the essence of the dynamic workplace and ensure a continuous fit between people and environment.

The reciprocal models analyzed indicate that organizations can mostly benefit from human capital when different human resource practices aim in the same direction. Some companies, for instance, offer employee development to increase employees' self-initiative at work, although they keep a strict, hierarchical structure for their organization and maintain a less empowered job design. Thus, employees are encouraged to increase their sense of mastery at work, while the work itself does not change. The investment in employee development may even be detrimental to organizations because self-initiated employees may choose to leave the company due to unsatisfying work conditions. Others remaining at the company may not have the willingness or capabilities to be in charge of their work. Thus, HR management can fulfill the strategic function in the organization by integrating different drivers of HR practices for the same strategic direction (Nishii & Wright, 2007).

For the quantitative analysis, the dissertation incorporates not only public data, i.e. national household panel studies, but also the internal data from a private company. Moreover, the dissertation applies various methods, such as longitudinal and experimental designs, with advanced analytical tools to reveal the distinct causal relationships in the HR research. The availability of different data sources and the development of statistic approaches indicate an age of analytics, with which HR management can increase their accountability to impact the organizational development in the same way as marketing or product management does (Mondore et al., 2011). The analytics in HR management, however, is much more than big data and statistical tools. Instead, HR specialists should combine data and business, and transfer relevant findings into strategic initiatives to drive business changes (Felleta, 2008). Based on HR intelligence, organizations can decide whether to direct money to employee initiatives, such as internal CSR, to enhance employee satisfaction. Consequently, the investment in the internal CSR can help organizations obtain tangible results including increased employee performance and fewer complaints. To facilitate the evidence-based management in HR management, HR specialists should strive to proactively combine multiple data sources and establish business-oriented employee information systems. Additionally, organizations should also select and invest in HR specialists to obtain necessary analytical skills (Rousseau & Barends, 2011).

5.4 Limitations and Future Research

Despite its various strengths, this dissertation is still subject to some limitations that could offer fruitful avenues for future research. The first limitation shows that the dissertation lacks a link to organizational outcomes, which restricts the implicational power of the analytical results. Chapter 2, for instance, emphasizes the dynamic fit between individuals' personalities and work characteristics. However, the study does not explicitly examine the benefits of a dynamic fit and its uniqueness compared to the traditional static fit for organizations. Although Chapter 3 involves an indicator of an individual outcome, i.e. income, it does not provide many insights about how that helps to create organizational values. Despite increasing research about the organizational outcomes of CSR (e.g. Ali, Rehman, Ali, Yousaf, & Zia 2010; Carmeli, Gilat, & Waldman, 2007), Chapter 4 is still limited to individual attitudes and behaviors, which should be further extended to include changes at the organizational level, such as turnover or performance. As many scholars call for more scientific approaches to transform HR intelligence into predictions of business and organizational outcomes (Boudreau & Ramstad, 2011; Falletta, 2008; Pfeffer & Sutton, 2006), the ultimate link to organizational changes should be increasingly incorporated into future research so that more implications for decision making and strategic execution for organizations can be unveiled. One promising development of dynamic PE fit, for instance, can be based on career development research since the transitional view of the fit perspective plays an important role during one's whole career (e.g. Judge, 1994; Ballout, 2007; Erdogan & Bauer, 2005). As shown in many studies, career change and success can have a direct impact on individual and organizational performance (Lent, Brown, & Hackett, 1994; Noe, 1996; Greenhaus & Parasuraman, 1993) through which the effect of dynamic PE fit on organizations can also be further explored.

Related to the aforementioned limitation, the dissertation highlights the situational consequences that individuals encounter, but diverts the focus from the underlying behavior processes that lead to those situations. To explain the consequential level and increase of job autonomy, for instance, Chapter 2 addresses the impact of internal orientation rather than the intermediate process during which individuals change their job autonomy, such as promotions or job transfers. Chapter 3 affirms the positive effect of affective commitment on individuals' income level but leaves the behavioral process, such as longer working hours or higher task complexity, untouched. The dissertation can thus

serve as the basis for future research to explore the behavior processes between people and work to add more insights into the functions of HR practices at the individual level. With the relatively easy framework as people – behaviors – outcomes, more challenges are associated with the appropriate methodological approaches. Since people themselves cannot be easily manipulated in the experiment, disentangling the meditational process must rely on extensive information and dynamic models from panel data as shown in the dissertation.

Another limitation involves the potential attrition or selection effect of dropouts in the longitudinal dataset. Although missing values are unavoidable particularly in a longitudinal context (Farrington, 1991), the dropouts can weaken the robustness of the results. For instance, individuals who have higher job autonomy are more likely to remain in the household panel because they have more flexibility with their work schedule and are more likely to find the time to take the interviews (Karasek & Theorell, 1990). Employees who are more attached to their organization are more likely to fill in the commitment questionnaire because they tend to show their appreciation of the company (Allen & Meyer, 1990). The underlying reasons that people drop out from the longitudinal study can distort the true picture and provide a false indication of the relationships (Miller & Hollist, 2007). Despite the efforts in this dissertation to avoid the biased results, the future studies with longitudinal analysis should pay a special attention to dropouts and, if possible, fully evaluate the decisions of participants to leave the study.

Lastly, future research can further investigate people at work by focusing on cross-country comparisons. One distinct feature of the dissertation is that each essay was based on samples from different countries. Chapter 2 used SOEP from Germany, Chapter 3 applied KLIPS from South Korea, and Chapter 4 collected data from China. With the exception of Chapter 4, there is an implicit assumption that the mutual effect between people and work is universal and thus no considerations of national influences have been made. This assumption, however, does not exclude the possibility that the intensity and formality of the relationship between people and work can vary among countries due to different cultures, economic systems, labor policies or educations (e.g. Allen & De Weert, 2007; Baker, Glyn, Howell, & Schmitt, 2004; Kristensen & Johansson, 2008). Thus, based on the established research schemes and methods in the dissertation, the reciprocal relationships between people and work can be further explored in different national contexts.

Regarding the reciprocal relations between personality traits and job characteristics for example, one potential cross-country research topic is the impact of cultures. Cultural aspects like individualism emphasize emotions, which provide direct feedback about the fit between what people are (e.g. personalities) and the actual state of life/work (e.g. job characteristics) (Lazarus, 1991; Reisenzein & Spielhofer, 1994; Schimmack, Radhakrishnan, Oishi, Dzokoto, & Ahadi 2002). The self-fulfillment with positive emotions, thus, drive individuals to pay more attention to the fit issues that might vary the reciprocal effects of people and work. Additionally, the direct impact of culture on personality traits (e.g. Church, 2000; Church & Lonner, 1998) and job characteristics (e.g. Bigoness & Blakely, 1996; Robert, Probst, Martocchio, Drasgow, & Lawler, 2000) can bring more complexity to the direct relation between people and work. Therefore, future cross-country studies can not only provide more practical implications for organizations with multinational units around the world, but also substantiate the universal results regarding the significant association between people and work. With the support of existing household panels, such as the cross-national equivalent file that contains a longitudinal household economic survey from eight different countries, cross-country comparisons can be further implemented.

To sum up, the dissertation draws on the mechanisms of personal traits and individual attitudes at work so as to optimize the job designs and organizational policies. The emphasis on the methodologies and statistic tools shed light on the development of HR management in terms of analytical orientations. As a result, the understanding of both the individual differences at work and the analytical developments is able to increase the strategic leverage of HR management in organizational developments.

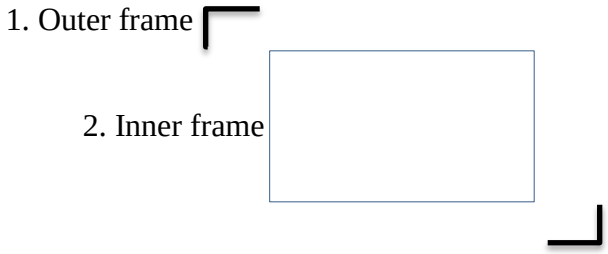
APPENDIX A

APPENDIX TO CHAPTER 4

A.1 Measurement Items of Internal Corporate Social Responsibility

1	This company takes the need of its employees into account
2	This company is doing business in line with labor law
3	This company provides a wide range of direct and indirect benefits to improve employees' well-being
4	This company assumes responsibility for its employees
5	This company provides a safe and healthy working environment to all its employees

A.2 Illustration of Stamp Task

Stamp box	
Performance measurement	• **Performance quantity**: the total number of stamps • **Performance quality**: the total number of valid stamps / the total number of stamps • **Valid stamps**: stamps for which the company logo fell into the inner frame of the stamp box

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