Person or Job? Change in Person-Job Fit and Its Impact on Employee Work Attitudes over Time

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ABSTRACT   Fit is generally conceptualized as a dynamic construct, but most research on person-environment fit has focused on fit in the current moment. We addressed this oversight by examining the dynamic relationships among person-job (PJ) fit, demand-ability (DA) fit, need-supply (NS) fit, and employee work attitudes over time using a three-wave survey design over a 12-month period. Results from 168 employees revealed that change in PJ fit was significantly related to changes in job satisfaction and affective organizational commitment. In addition, DA and NS fit changes were significantly and indirectly associated with job satisfaction and commitment changes through PJ fit change. We also found that increases in job demands and employee abilities significantly decreased DA fit, and increases in employee needs significantly decreased NS fit whereas increases in job supplies significantly increased NS fit. Finally, we examined age as an important moderator for employees' reactions to PJ fit changes, and found that younger employees reacted more strongly to increases/decreases in PJ fit than did older employees.

Keywords: change in fit, job satisfaction, organizational commitment, person-environment fit, person-job fit

INTRODUCTION

Organizational scholars have long recognized person–environment (PE) fit (i.e., the degree of compatibility between the characteristics of employees and those of the work environment) as a dynamic process of adjustment between employees and their work environment (Caplan, 1983). Nevertheless, extant studies have largely treated PE fit as a 'static' phenomenon by assessing PE fit at only one point in time and linking it to

employee outcomes (Ostroff et al., 2002). As Kristof-Brown and Jansen (2007) noted, 'treating either the person or the environment as static is problematic for organizational fit research, yet this is inherently what we do' (p. 143).

The static approach to fit has several limitations. First, many elements within the job or the person change over time – e.g., job tasks and employee skills. Hence, a static approach is not only somewhat detached from organizational reality, it also cannot predict or examine how individuals or environments will react to these changes – e.g., whether and when changes in job demands will influence subsequent employee abilities (Dawis and Lofquist, 1984). Second, a static approach contains people's experiences of fit within a 'temporal vacuum' and ignores their previous experiences. This is problematic because it can result in inaccurate predictions of the fit phenomena (Jansen and Shipp, 2013). For example, two employees with the same capabilities and in the same job may perceive their situation differently – depending on their previous experiences of fit. Thus, changes in job and employee characteristics should be modelled to better understand the reality of individual reactions to fit over time.

In line with this temporal view of fit, several scholars (e.g., Cable and Parsons, 2001; Kammeyer-Mueller, 2007) have proposed and examined how PE fit changes over time and how these fit changes influence changes in employee outcomes. Recently, Jansen and Shipp (2013) proposed a temporal theory of fit and provided an interesting agenda for incorporating time in fit research. Specifically, they discussed how PE fit evolves over time and how the perception of past and future fit interacts with current fit to affect employee outcomes.

To extend this line of research, we theorize and test how person-job (PJ) fit develops over time, and how these changes are related to employee work attitudes. PJ fit describes the extent to which the characteristics of employees and those of a specific job are compatible (Edwards, 1991). Fit scholars identified two facets of PJ fit: demand-ability (DA) fit (i.e., the match between the capabilities of an employee and the requirements of a job) and need–supply (NS) fit (i.e., the match between the needs of an employee and the resources that are provided by a job (Caplan, 1983; Edwards, 1991). We focus on PJ fit because it is more likely to change over time than other types of PE fit, such as person-organization fit, due to training and accumulated job experience that produce learning and consequently alter employee capabilities and needs (DeRue and Morgeson, 2007).

Building on recent temporal theories of fit (Jansen and Shipp, 2013; Shipp and Jansen, 2011), we develop and test a model that specifies the dynamic mechanisms that link perceived changes in the person (employee abilities and needs) and/or in the job (job demands and supplies) to changes in perceived DA fit and perceived NS fit as well as perceived PJ fit. Although PJ fit involves the interplay of several components (i.e., employee abilities and needs as well as job demands and supplies, Caplan, 1987), extant research has frequently taken a broad perspective on PJ fit that relies on compounded measures of perceived DA and NS fit as well as PJ fit (i.e., a 'molar approach', Edwards et al., 2006). Yet, without understanding specific components of perceived PJ fit, 'the meaning and implications of PE fit will remain elusive' (Edwards, 2008, p. 221), thwarting further theoretical development. This issue is particularly important in examining changes in perceived PJ fit because changes in PJ fit can result from a variety of factors including perceived changes in DA and/or NS fit or, at a deeper level, from changes in perceived

employee abilities, job demands, employee needs, and/or job supplies (Caplan, 1987). In addition, to truly understand how PJ fit change occurs, we test how P influences J over time, and vice versa (Kristof-Brown and Guay, 2011), and whether P or J is more impactful in improving PJ fit. Ultimately, we demonstrate how these fit changes relate to changes in employee work attitudes (i.e., job satisfaction and affective organizational commitment; Edwards and Rothbard, 1999).

In this study, we will focus on employees' *perceptions* of PJ, NS, and DA fits (albeit, to improve readability, we will mainly use the shortened terms of PJ, NS, and DA fits). This focus allows us to delve into the very elements of employees' sense of fit, to discern their interrelations, and to address important questions that have largely remained unanswered. For example, is it largely perceptions of DA fit that contribute to perceived PJ fit or mainly the notion of NS fit? How will changes in perceived supplies influence NS fit? And do perceptions of demands influence subsequent changes in abilities? As noted by Edwards et al. (2006), examining such questions related to perceptions of the person and environment strikes at the very meaning of PE fit.

In line with our temporal focus, we also explore how age moderates the links between changes in PJ fit and work attitudes over time. As the average age and the age diversity of the work force are increasing, examining the effects of age on employees' responses to changes in PJ fit is important. Theoretically, it is possible to develop two competing arguments for the moderating effects of age. Younger employees, as compared to older ones, tend to focus more strongly on job- and career-related goals (Carstensen, 2006). Thus, younger employees may be more sensitive to changes in PJ fit as these directly foster or hinder goal-oriented striving. On the other hand, as individuals get older, motives of safety and security tend to gain importance and adaptation to changes becomes more difficult (Kanfer and Ackerman, 2004), and thus changes in PJ fit may have stronger effects for older than younger employees. Given these competing theoretical arguments, we regard this research question as an exploratory one.

In sum, our study contributes to the PE fit literature in several important ways. First, we provide critical insights into the dynamic nature of PJ fit by theorizing and testing the specific processes through which changes in employees and jobs affect PJ fit change. In addition, by examining the effects of PJ fit change on employee attitudes over time, we validate the value of a temporal PE fit perspective that emphasizes the complex dynamics of fit (Kristof-Brown and Jansen, 2007; Shipp and Jansen, 2011). Finally, our study contributes to further refinements of a temporal PE fit perspective and extends the nomological net surrounding the PJ fit-employee attitudes change relationship by theorizing and testing the moderating effects of age. Figure 1 depicts our conceptual model, which we will discuss in the next sections.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

A Temporal Perspective on PJ Fit

While extant research has enhanced our understanding of PJ fit, one important question that is still open for further investigation regards the conceptualization of PJ fit. A
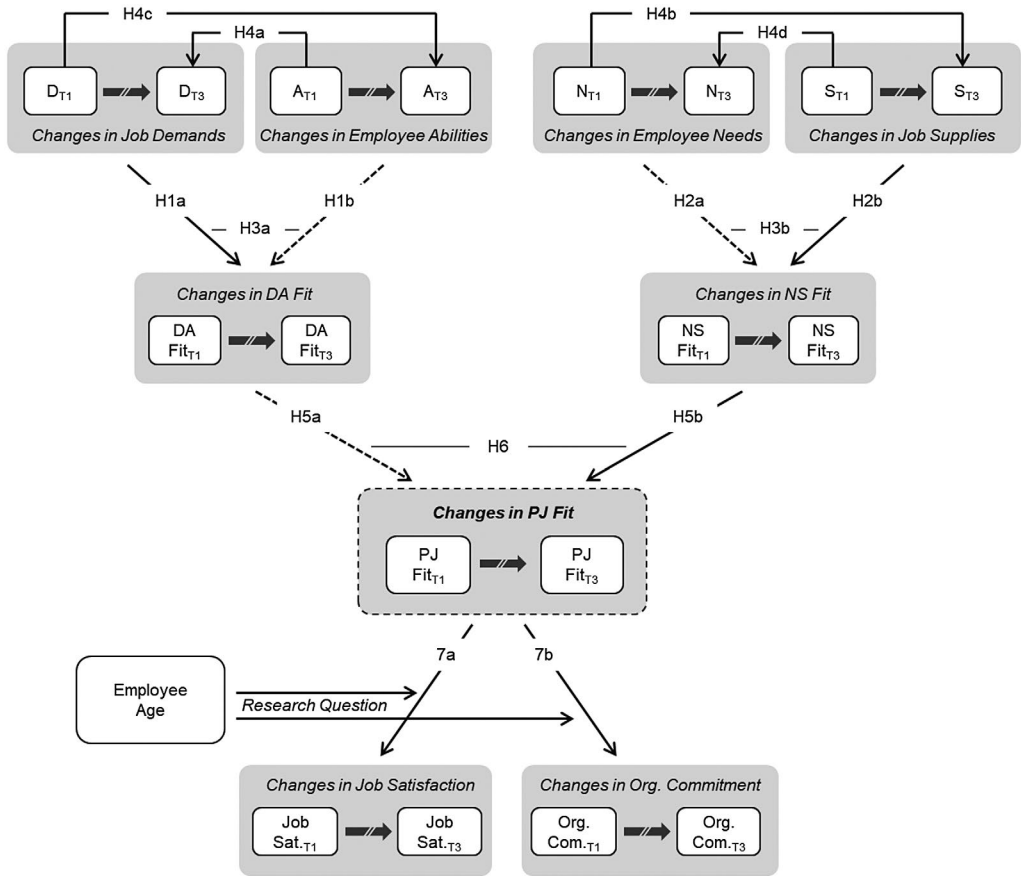
Figure 1. Hypothesized Model of Temporal Changes in PJ Fit *Note:* Solid lines indicate that the shown relationship is proposed to be stronger than the relationship specified by the adjacent dashed lines (H3a, H3b, H6).

review of the literature suggests that research on PJ fit has been somewhat inconsistent in operationalizing and measuring PJ fit. Some studies combined employees' perceptions of DA fit and NS fit into a single measure, resulting in rather generic indicators of PJ fit (e.g., Sortheix et al., 2015). Other studies only measured certain facets of PJ fit (i.e., DA fit or NS fit) and neglected others, thus yielding a somewhat incomplete representation of what PJ fit actually is (e.g., Greguras and Diefendorff, 2009). Still other studies measured both DA fit and NS fit as separate concepts of PJ fit (e.g., Cable and DeRue, 2002).

The use of such different approaches is problematic. First, it indicates a lack of consensus among researchers about the conceptualization of PJ fit. Is PJ fit a general perception about the compatibility between the characteristics of employees and those of a specific job? Does PJ fit rest on a specific match between perceived demand and abilities, a congruence between personal needs and supplies, or both? Achieving a consensus on these questions is important because it is the basis for integrating previous research findings and for further theoretical development. Second, given the various approaches to

conceptualize PJ fit, we still lack a thorough understanding of how employees' perceptions of PJ fit actually emerge. In other words, how do DA fit, NS fit, and PJ fit relate to each other? Even though, conceptually speaking, DA fit and NS fit may be facets of employees' overall sense of PJ fit, these three forms of PJ fit have never been studied together. Hence, we still know little about the structure and psychology of employees' sense of fit with their job. Third, given the link between PJ fit and important work outcomes, organizations have long sought to increase employees' fit with their job, but little is known about the relative importance of different facets of PJ fit in forming overall PJ fit. Understanding this question is crucial because it would inform important practical and managerial interventions.

In the present study, we seek to address these points by taking a dynamic perspective of fit. Specifically, we theorize and test the specific processes by which changes in actual employee abilities and job demands affect DA fit change, changes in employee needs and job supplies relate to NS fit change, changes in DA fit and NS fit influence PJ fit change, and PJ fit change affect changes in employee work attitudes.

Sources of DA and NS Fit Change: Demands, Abilities, Needs, and Supplies

Organizational life is not static, and characteristics of the work environment and employees change. For instance, dimensions of DA fit tend to focus on progression – e.g., as employees receive tasks with more responsibilities or as they attend programmes that enhance their capabilities (Jansen and Shipp, 2013). In addition, over the past years, increases in job demands have become increasingly common for employees at all levels of the organization – largely due to fast-paced technological changes (Fernández-Aráoz, 2014). Consequently, employees are more and more likely to face new demands that subsequently require them to enhance their capabilities.

We expect that such changes may, at least temporarily, unsettle the equilibrium between demands and abilities and hence reduce DA fit. For example, as the theory of work adjustment proposes (Dawis and Lofquist, 1984), an increase in employee abilities through a training program may be followed by a temporarily lagged change in job demands (e.g., after employees have negotiated and crafted their jobs according to their new skills). Similarly, an increase in job demands may not immediately be met by equally high employee capabilities. Employees may need some time to develop the new required capabilities (i.e., after employees have 'grown into' their new tasks and responsibilities). Accordingly, increases in job demands or employee abilities may not be fully synchronous, but temporarily shifted and changes in job demands or employee abilities may, temporarily, result in lower DA fit. Evidence for this idea can be found in the literature on socialization, which shows that after employees have moved into a new position, they need some time to grow their capabilities to match the new job demands (Kammeyer-Mueller, 2007). Although managers may provide new tasks particularly to those employees who show promising potential and performance, previous studies suggest that even for these employees new tasks and assignments go along with significant learning as the new demands tend to exceed current levels of abilities (Campion et al., 1994). In summary, we hypothesize:

Hypothesis 1a: With the initial level of job demands held constant, an increase in job demands is associated with a decline in DA fit.

Hypothesis 1b: With the initial level of employee abilities held constant, an increase in employee abilities is associated with a decline in DA fit.

Besides job demands and employee abilities, employee needs and job supplies tend to change over time (Jansen and Shipp, 2013). For example, over the course of their career, employees expect higher pay and increasing autonomy. Common notions of PE fit theory suggest that changes in employee needs and job supplies may follow a similar pattern to that of changes in job demands and employee abilities. However, as Edwards et al. (2006) pointed out, NS fit may deviate from a strictly congruence-based view of PE fit. Indeed, the majority of dimensions of NS fit is normatively desirable and tends to be seen as rewarding (e.g., autonomy, pay, variety; Edwards, 2008). Hence, excess in these supplies may not necessarily have undesirable effects. In line with this view, recent research points toward the possibility that excess in job supplies may in fact *improve* employee sentiments, even increase perceptions of NS fit (e.g., Edwards et al., 2006). Building on this logic, we expect that an increase in job supplies can be associated with an increase in NS fit while an increase in employee needs should decrease NS fit until the needs are met.

Hypothesis 2a: With the initial level of employee needs held constant, an increase in employee needs is associated with a decline in NS fit.

Hypothesis 2b: With the initial level of job supplies held constant, an increase in job supplies is associated with an increase in NS fit.

Taking a temporal view of the conditions producing PE fit perceptions can provide insight into whether person or environment (job) changes have a stronger impact on PJ fit. This question was discussed in early work on PE fit (e.g., Caplan, 1983), but since then has been largely neglected. Caplan (1983, 1987) posited that environmental changes may have stronger effects on employee perceptions of DA and NS fit. For example, he noted that 'it may be natural for most employees, from executives to line workers, to prefer to attain their own PE fit by having the environment change (essentially, "let them change, not me")' (Caplan, 1987, p. 258). Recently, Wheeler et al. (2013) reinforced this view by noting that it may be especially environmental factors that trigger assessment of PE fit. Indeed, developments in one's environment such as receiving new tasks from one's supervisor are less predictable and controllable than personal changes (e.g., the intention to take a training course). They thus attract particular attention and generate re-evaluations about one's situation (e.g., 'Why did I receive this challenging assignment from my supervisor and do I have the capabilities to complete this new task?'), leading to subsequent reassessments of the match between personal characteristics and those of the job. A greater emphasis on environmental changes than personal changes in assessing and reassigning DA and NS fit is consistent with attribution models that purport that uncontrollable events attract particular attention, and thus have stronger effects on

subsequent attitudes and behaviours (Wong and Weiner, 1981). Based on this logic, we hypothesize:

Hypothesis 3a: Job demands change is more strongly related to DA fit change than employee abilities change.

Hypothesis 3b: Job supplies change is more strongly related to NS fit change than employee needs change.

Dynamics between Job Demands/Employee Abilities and between Employee Needs/Job Supplies

A temporal perspective also helps address the questions of how job demands and employee abilities influence each other and whether there are links between employee needs and job supplies over time. Employees and organizations may mutually adjust to each other over the course of time (Dawis and Lofquist, 1984). According to job crafting theory (Wrzesniewski and Dutton, 2001) and work adjustment theory (Dawis and Lofquist, 1984), employees' abilities and needs can shape subsequent levels of job demands and supplies. Indeed, for employees it is a central ambition to make best use of their possibilities and potential (Deci and Ryan, 2000), and thus they tend to craft their jobs according to their abilities and needs (Wrzesniewski and Dutton, 2001). To maximize their outcomes, employees with higher abilities and higher needs should more likely try to change their environment than employees with lower abilities and needs. Relatedly, organizations seek to achieve optimal performance from their employees. Hence, organizations should be inclined to give more challenging jobs to employees who show high capabilities, and thus have the potential to fulfil these new tasks and learn from them (Ortega, 2001). At the same time, organizations seek to motivate and retain capable employees, but their resources are limited, and thus they tend to provide more supplies to employees who show high needs in the first place (Lyness and Heilman, 2006). Taken together, this reasoning suggests that employees' abilities and needs should influence subsequent job demands and supplies.

Alternatively, individuals also adjust to their environment. Theories of organizational socialization suggest that the organizational environment has a strong impact on employees (Kammeyer-Mueller, 2007). These theories posit that employees need to adjust to the demands of their job (e.g., new tasks) and to the general context of their work (e.g., aspects of tasks variety and autonomy). For example, high job demands require employees to acquire new abilities to perform their tasks effectively (Campion et al., 1994; Follmer et al., 2017) whereas low demands tend to go along with unlearning and atrophy of skills (Karasek and Theorell, 1990). Relatedly, high levels of supplies such as pay, and prestige will likely be followed by higher needs as employees get used to these levels and desire more (Brickman and Campbell, 1971). On the other hand, low supplies, over time, may go along with lower needs, partly because lower needs and expectations offer employees a way to cope with their aversive situation (Diener et al., 2006). In summary, we hypothesize:

Hypothesis 4a: Initial employee abilities are positively related to subsequent job demands.

Hypothesis 4b: Initial employee needs are positively related to subsequent job supplies.

Hypothesis 4c: Initial job demands are positively related to subsequent employee abilities.

Hypothesis 4d: Initial job supplies are positively related to subsequent employee needs.

Changes in DA Fit, NS Fit, and PJ Fit and Employee Work Attitudes over Time

A more detailed understanding of the hypothesized relationships can be achieved by examining the central drivers of PJ fit perceptions. Indeed, prior studies, albeit focusing on a static perception of fit, suggest that both DA and NS fit are important antecedents of PJ fit because they both relate to job satisfaction and organizational commitment (Edwards, 1991; Kristof-Brown et al., 2005). Little research, however, has addressed how they work together to create the overall perception of PJ fit. A temporal perspective on PJ fit can complement this view, suggesting that employees engage in comparisons of current DA and NS fit to past levels of DA and NS fit, respectively (Jansen and Shipp, 2013). Thus, analogous to our reasoning above, increases in DA and NS fit should represent desired changes in jobs, which should then relate to increases in PJ fit; decreases in DA and NS fit should reflect less positive changes in their compatibility with their jobs, and thus decrease perceived overall PJ fit. Hence, we predict that:

Hypothesis 5a: With the initial level of DA fit held constant, increases in DA fit are positively related to increases in overall perceived PJ fit.

Hypothesis 5b: With the initial level of NS fit held constant, increases in NS fit are positively related to increases in overall perceived PJ fit.

If PJ fit change can be triggered by changes in either DA or NS fit, the next logical question is which of these two factors has a stronger impact. Indeed, several fit scholars (e.g., Caplan, 1987; Cable and DeRue, 2002) have called attention to the fact that DA and NS fit may not be equally important – even though most studies implicitly treat them as equal aspects of PJ fit perceptions.

One framework that explains the relative importance of DA vs. NS fit can be found in needs-based theories, which suggest that PJ fit addresses fundamental employee needs (Greguras and Diefendorff, 2009). From this perspective, NS fit can be seen as highly synergistic as it reflects the simultaneously addressing of various employee needs (Harrison, 1978). For example, an increase in pay relative to one's expectations can satisfy material needs (e.g., for shelter) as well as psychological needs (e.g., self-esteem). Similarly, an increase in autonomy can address needs for self-determination but often also goes along with an increase in prestige (which addresses a desire for status; Blader and Chen, 2012). In contrast, DA fit is rather narrow in scope and less synergistic; increases in DA

fit largely address employees' needs for competence but have lower carryover effects on other needs (Greguras and Diefendorff, 2009). Thus, NS fit may play a more important role in forming employees' perceived PJ fit.

Hypothesis 6: Increases in NS fit are more strongly related to increases in PJ fit than are increases in DA fit.

In a next step, we expect that the changes in PJ fit will be associated with changes in important employee attitudes – i.e., job satisfaction and affective organizational commitment. Across a wide range of life domains, it has been found that individuals react to fluctuations in their situations. Normatively positive changes in one's situation, such as marriage, promotion, or pay rises tend to go along with increases in satisfaction (Diener et al., 2006). In contrast, negative events such as losing one's job or a divorce tend to go along with stronger negative sentiments. In a similar vein, we expect that employees will react to perceived changes in PJ fit. They are aware that PJ fit has changed as compared to a past reference point (Shipp and Jansen, 2011) and, as such, heightened PJ should relate to positive changes in employees' satisfaction and commitment ('things are getting better'). In summary, we hypothesize:

Hypothesis 7a: With the initial level of overall perceived PJ fit held constant, increases in PJ fit are positively related to increases in job satisfaction.

Hypothesis 7b: With the initial level of overall perceived PJ fit held constant, increases in PJ fit are positively related to increases in affective organizational commitment.

Moderating Effects of Age on the Change Effects

The strength and vulnerability theory (Charles and Carstensen, 2010) suggests two competing tendencies associated with ageing. First, it describes that people, over the course of their lives, increasingly adopt goals and competencies that help them cope with changes. In contrast, the theory also notes that individuals become more vulnerable as they grow older due to declining cognitive and social resources. Given these diverging tendencies, we developed two competing arguments on how changes in PJ fit may affect reaction of employees at different ages.

On the one hand, it can be argued that younger employees are more sensitive to changes in PJ fit. Job- and career-related goals tend to be particularly important for young people (Carstensen, 2006). In earlier career stages, individuals focus more strongly on finding the right job and on professional development. These tendencies tend to decline with age (Maurer et al., 2003). Increasing PJ fit indicates that individuals are approximating their job-related goals, which should trigger positive responses in terms of job satisfaction and affective organizational commitment particularly among younger employees.

On the other hand, older employees have stronger motives for stability and safety, and may thus be particularly sensitive to work-related changes (Charles and Carstensen, 2010). This is partly because adaptation can become more effortful with increasing age

– e.g., as cognitive responses to changes become more difficult (Zimprich and Martin, 2002). Accordingly, negative changes in PJ fit may be more costly and threatening for older employees. As positive changes in PJ fit enhance people's sense of safety, security, and esteem – and thus directly address relatedness motives – such positive changes may enhance job satisfaction and commitment particularly for older employees. Given these competing arguments and in view of the increasing importance of age in the workplace, we sought to explore the following research question:

> Research Question: Does age enhance or mitigate the relationship between changes in PJ fit and changes in job satisfaction and affective organizational commitment?

METHODS

Sample and General Procedure

We tested our hypotheses in a sample of 168 full-time employees from various organizational and occupational backgrounds. Data were collected from part-time undergraduate and postgraduate students in a university in Hong Kong who were working as a full-time employee. We collected data in three phases. At Time 1, we distributed surveys to 346 employees. We designed an online survey and asked the participants to assess their job demands, employee abilities, employee needs, job supplies, DA fit, NS fit, PJ fit, job satisfaction, and affective organizational commitment. A total of 287 questionnaires were returned (82.9 per cent response rate). At Time 2, approximately six months later, the second survey was posted on the online server and asked those who responded to the first survey to fill in the online survey that contained the same measures as at Time 1. Of the 287 participants who completed the first survey, 226 returned the second survey (78.70 per cent response rate). Seven cases were dropped because the participants had changed the employer. At Time 3, approximately another six months later, we asked those who responded to both the first and second survey to fill in the third survey with the same measures as at Time 1 and Time 2. Of the 217 participants who completed the second survey without chaining the employer, 168 returned this last survey (77.4 per cent response rate). We used code numbers to match Time 1, Time 2, and Time 3 surveys, and to assure the confidentiality of participant responses.

Following this procedure, in total, 168 employees completed all three waves of the survey. Fifty-eight per cent were female, their average age was 31.5 years ($SD = 6.5$), and their average length of organizational tenure was 5.0 years ($SD = 4.4$). Their average job level (i.e., the levels below the CEO on the organization chart) was 5.1 ($SD = 2.6$).

Measures

The surveys were initially written in English and then translated into Chinese, following Brislin's (1986) back-translation procedure. All the translators were blind to the study's hypotheses. All variables in this study were assessed on a seven-point Likert-type scale

(1 = 'Strongly disagree' to 7 = 'Strongly agree') except for job demands and employee abilities (1 = 'Low level' to 7 = 'High level'), and employee needs and job supplies (1 = 'None at all' to 7 = 'To a great amount').

Job demands and employee abilities. To assess job demands and abilities, we adopted the Occupational Information Network (O * NET) Generalized Work Activities (GWAs). O * NET GWAs represent the job demands and activities required in various occupations and levels in the organization. O * NET GWAs have been used in previous studies (e.g., Lapolice et al., 2008). Among the original nine O * NET GWAs dimensions, we deleted two dimensions: 'Performing physical and manual work activities' and 'Performing complex/technical activities' because they are not generally required to do by our target sample. Example O * NET GWAs dimensions include 'Looking for and receiving job-related information (e.g., Getting information needed to do the job")' and 'Reasoning/decision-making (e.g., "Making decisions and solving problems")'. For job demands, we asked the respondents to assess the level of skill required for each work activity. For job abilities, we asked the respondents to assess their own level of skill and abilities regarding each work activity.

Employee needs and job supplies. Needs and supplies were assessed in reference to seven job dimensions: pay, span of control, travel, vacation time, autonomy, prestige, and variety following Edwards et al. (2006). Among the original eight job dimensions, we excluded 'closeness of supervision' after the interviews with focus groups (e.g., 'A supervisor who keeps close track of my work'). Specifically, the focus group participants reacted negatively to this dimension stating that closeness of supervision is very common in societies with high power distance such as China, and thus it is not something employees need to get at work. For employee needs, we asked the respondents to assess how much of each job characteristic they personally feel is an adequate (or desired) amount. For job supplies, we asked the respondents to assess how much of each job characteristic is present in their job.

DA fit. We assessed DA fit using Cable and DeRue's (2002) scales to measure DA fit (e.g., 'The match is very good between the demands of my job and my personal skills').

NS fit. To assess the participants' NS fit, we adopted Cable and DeRue's (2002) scales to measure NS fit (e.g., 'There is a good fit between what my job offers me and what I am looking for in a job').

PJ fit. To measure perceptions of overall PJ fit, we developed a four-item measure based on the existing items to assess overall PJ fit (Brkich et al., 2002; Saks and Ashforth, 1997; Singh and Greenhaus, 2004). The four items are 'There is a good fit between my job and me', 'I have a good fit with my job', 'All things considered, this job suits me', and 'My job is a good match for me'.

Job satisfaction. We used Edwards and Rothbard's (1999) three-item measure to assess job satisfaction. The items were 'All in all, the job I have is great,' 'In general, I am satisfied with my job,' and 'My job is very enjoyable'.

Affective organizational commitment. To assess affective organizational commitment, we used Clugston et al. (2000) five-item scale to measure affective organizational commitment adopted from Allen and Meyer (1990). This five-item scale has shown a high reliability in previous studies (e.g., Kim et al., 2015). Sample items are 'This organization has a great deal of personal meaning for me' and 'I feel emotionally attached to this organization'.

Control variables. To better estimate the effect sizes of the hypothesized relationships, we controlled for age, sex, educational level, job level, and organizational tenure of the participants in our analysis. Besides, when we modelled the change score of focal variable as predictor, we included its initial level value as control consistent with other scholars who tested changes (e.g., Swider et al., 2015).

Analysis. Given that our hypotheses focus on temporal changes, we first calculated temporal change for our measures as a slope across the three measurement times. Specifically, we generated each individual's slope value using Bayes slope estimate drawn from mixed-effects growth models (Bliese and Ployhart, 2002). More positive values indicate greater increase while more negative values indicate greater decrease in the focal variable across the three time intervals. Bayes slope estimates can take overall sample information into account when calculating each individual's change score, and thus are more precise than the values estimated from the ordinary least squares approach (Bliese and Ployhart, 2002). Bayes slope estimates has been used in person-environment fit research (Swider et al., 2015) as well as other management research (Liu et al., 2012) to represent the dynamic nature of study variables. In addition, to test the moderating effects of age on the relationship between PJ fit change and changes work attitudes, we used hierarchical multiple regression analyses with mean-centring for age and PJ fit change scales (Aiken and West, 1991).

RESULTS

We conducted confirmatory factor analysis to examine whether DA, NS, PJ fit, job satisfaction, and organizational commitment scales measured distinct constructs. To assess the model with the appropriate parameter-to-sample size ratio, we used three-item parcels for PJ fit and organizational commitment (Beauducel and Wittmann, 2005). For each wave of data, we fitted the five-factor model and a three-factor model combining DA, NS, and PJ fit. For all three time points, the five-factor model exhibited better fit than the three-factor model (e.g., Time 1: χ^2 (80, $N = 168$) = 165.87, root mean square error of approximation (RMSEA) = 0.08 vs. 0.13, comparative fit index (CFI) = 0.97 vs. 0.89, and Tucker–Lewis index (TLI) = 0.96 vs. 0.87).

Table I reports the descriptive statistics of the study variables. As can be seen, all reliability estimates are high (i.e., >0.70). As expected, initial levels of DA fit and NS fit are positively correlated to initial level of PJ fit ($r = 0.40$, $p < 0.01$; $r = 0.83$, $p < 0.01$, respectively).

Table II shows the results for the hierarchal regression analyses based on Bayes Slope estimates. Hypotheses 1a and 1b proposed that job demands (and employee abilities)

change would be negatively related to DA fit change after controlling for the initial level of job demands (and employee abilities) during a given period. As can be seen in Models 1 and 2 in Table II, both job demands change ($\beta = -1.23$, $p < 0.01$) and job abilities change ($\beta = -0.62$, $p < 0.01$) were negatively associated with DA fit change, supporting Hypotheses 1a and 1b.

Hypothesis 2a and 2b stated that employee needs (and job supplies) change would be significantly related to NS fit change after taking the initial level of employee needs (and job supplies) during a given period into account. Consistent with these hypotheses, the results in Models 4 and 5 in Table II show that employee needs change ($\beta = -0.18$, $p < 0.05$) was negatively associated with NS fit change whereas job supplies change ($\beta = 0.17$, $p < 0.05$) was positively associated with NS fit change. These results support our related hypotheses.

We also conducted the analyses for specific dimensions for demands/abilities and needs/supplies with the same control variables and reported the results in Table III. As can be seen in Table III, for NS fit, only increases in job supplies on prestige resulted in increased NS fit over time ($\beta = 0.22$, $p < 0.01$). For DA fit, increases in job demands on 'information/data processing', 'reasoning/decision-making', and 'coordinating/developing/managing/advising others' decreased DA fit over time ($\beta = -0.63$, $p < 0.01$; $\beta = -0.93$, $p < 0.01$; $\beta = -0.79$, $p < 0.01$, respectively). On the other hand, increases in employee abilities on 'reasoning/decision-making' and 'coordinating/developing/managing/advising others' decreased DA fit over time ($\beta = -0.59$, $p < 0.05$; $\beta = -0.58$, $p < 0.01$, respectively) while increases in employee abilities on 'communicating/interacting' increased DA fit over time ($\beta = 0.23$, $p < 0.01$).

Hypotheses 3a and 3b proposed that job demands change would be more strongly related to DA fit change than employee abilities change and job supplies change would be more strongly related to NS fit change than employee needs change. The results in Model 3 in Table II show that job demands change was negatively and significantly related to DA fit change ($\beta = -1.67$, $p < 0.01$) while employee abilities change was not significantly related to DA fit ($\beta = 0.54$, $n.s.$) when both were entered in the regression equation, supporting Hypothesis 3a. Moreover, the results in Model 6 in Table II show that job supplies change was negatively and significantly related to NS fit change ($\beta = 0.15$, $p < 0.05$) while employee needs change was not significantly related to NS fit ($\beta = -0.15$, $n.s.$) when both were entered in the regression equation, supporting Hypothesis 3b.

In a next step, we examined how job demands influence employee abilities over time, and vice versa and how employee needs influence job supplies over time, and vice versa. Table IV shows the correlations among job demands, employee abilities, employee needs, and job supplies for each time. In addition, in support of Hypothesis 4a, the regression analyses results show that employee abilities positively and significantly influenced job demands both from Time 1 to Time 2 ($\beta = 0.31$, $p < 0.01$) and from Time 2 and Time 3 ($\beta = 0.35$, $p < 0.01$; as shown in Figure 2). The regression analyses results also show that job demands positively and significantly influenced employee abilities both from Time 1 to Time 2 ($\beta = 0.37$, $p < 0.01$) and from Time 2 and Time 3 ($\beta = 0.41$, $p < 0.01$; as shown in Figure 2), consistent with Hypothesis 4c. We found essentially the same results for all individual dimensions of demands and abilities, with positive and significant

Table I. Means, Standard Deviations, and Correlations Among Studied Variables

Variable	Mean	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. Age	31.54	6.48	—																						
2. Sex	0.58	0.50	−0.14	—																					
3. E1	0.44	0.50	−0.32	0.01	—																				
4. E2	0.37	0.48	0.08	−0.10	−0.67	—																			
5. Job tenure	9.71	6.87	0.94	−0.07	−0.32	−0.01	—																		
6. Organization tenure	5.02	4.42	0.60	−0.10	−0.17	0.03	0.63	—																	
7. Level under CEO	5.13	2.62	−0.13	0.04	0.16	−0.12	−0.15	−0.05	—																
8. Initial level of demand	3.72	1.12	0.02	−0.15	−0.05	0.21	−0.08	−0.08	−0.06	(0.86)															
9. Initial level of ability	3.86	1.18	−0.06	−0.12	−0.02	0.16	−0.16	−0.17	−0.01	0.83	(0.90)														
10. Initial level of supply	3.61	0.73	0.02	−0.10	−0.04	0.14	−0.02	0.13	−0.06	0.50	0.40	(0.72)													
11. Initial level of need	4.54	0.81	−0.16	0.08	−0.01	0.23	−0.23	−0.13	0.02	0.26	0.28	0.23	(0.80)												
12. Initial level of DA fit	5.08	0.88	0.02	−0.05	−0.05	0.19	−0.05	−0.04	−0.03	0.19	0.19	0.32	0.25	(0.71)											
13. Initial level of NS fit	4.43	1.25	0.00	−0.13	−0.05	0.11	−0.04	−0.01	0.02	0.31	0.27	0.57	0.14	0.43	(0.93)										
14. Initial level of PJ fit	4.42	1.26	0.09	−0.16	−0.08	0.09	0.06	0.08	−0.05	0.31	0.22	0.53	0.14	0.40	0.83	(0.96)									
15. Demand change	0.00	0.04	−0.04	0.15	0.07	−0.21	0.04	0.06	0.10	−0.96	−0.80	−0.51	−0.26	−0.23	−0.33	−0.34	—								
16. Ability change	0.03	0.03	−0.01	0.15	0.05	−0.17	0.08	0.11	0.06	−0.79	−0.95	−0.40	−0.30	−0.21	−0.27	−0.26	0.83	—							
17. Supply change	−0.05	0.02	0.04	−0.02	−0.10	0.13	0.06	0.08	−0.09	0.02	−0.04	−0.18	−0.13	0.06	0.11	0.07	−0.56	0.00	—						
18. Need change	−0.08	0.03	0.09	0.04	0.11	−0.22	0.12	0.11	0.00	−0.08	−0.14	−0.09	−0.58	−0.18	−0.03	0.01	0.10	0.18	−0.04	—					
19. DA fit change	−0.05	0.06	0.01	−0.07	−0.04	0.17	−0.06	−0.02	−0.02	0.23	0.21	0.32	0.18	0.76	0.38	0.42	−0.31	−0.26	0.08	−0.15	—				
20. NS fit change	−0.03	0.10	0.01	0.12	−0.04	0.03	0.01	0.08	−0.08	−0.02	−0.03	−0.08	−0.05	−0.07	−0.43	−0.32	−0.01	−0.01	0.19	−0.07	0.10	—			
21. PJ fit change	−0.02	0.02	−0.05	0.09	0.00	0.03	−0.06	0.02	0.01	−0.09	−0.06	−0.16	−0.17	−0.07	−0.40	−0.59	0.08	0.06	0.14	−0.02	−0.07	0.72	—		
22. JS change	−0.11	0.13	−0.01	0.06	−0.10	0.08	0.02	0.09	−0.10	0.01	−0.02	−0.08	−0.17	−0.06	−0.20	−0.35	0.00	0.03	0.22	0.04	0.07	0.50	0.64	—	
23. OC change	−0.04	0.07	0.09	−0.05	−0.03	0.05	0.09	0.13	−0.06	0.22	0.09	0.31	−0.14	0.16	0.31	0.25	−0.25	−0.11	0.26	0.10	0.20	0.22	0.23	0.37	—

Note: (N = 168). For all correlation above $|0.16|$, $p \leq 0.05$; and above $|0.20|$, $p \leq 0.01$. E1 (0 = others, 1 = college), E2 (0 = others, 1 = master), JS = Job satisfaction; OC = Affective organizational commitment. Change refers to the Bayes slope estimates of the linear change from Time 1 to 3.

Table II. Results for the Effects of Fit Changes on Employee Outcomes

	DA fit change			NS fit change				PJ fit change		JS change	OC change
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11
Age	0.35	0.30	0.34	0.10	0.07	0.12	0.04	0.06	0.04	−0.25	−0.22
Sex	0.01	0.02	0.00	0.16*	0.13	0.15*	0.10	−0.01	−0.01	−0.01	0.00
E1 (0 = others, 1 = college)	0.16	0.16*	0.18*	−0.02	−0.06	−0.03	0.03	0.05	0.04	−0.10	0.15
E2 (0 = others, 1 = master)	0.23*	0.24*	0.25*	0.01	−0.04	−0.03	0.06	0.07	0.06	−0.02	0.11
Job tenure	−0.37	−0.31	−0.34	−0.21	−0.17	−0.23	−0.13	−0.10	−0.08	0.18	0.33
Organization tenure	0.03	0.01	0.04	0.16	0.14	0.16	0.08	−0.01	−0.01	0.09	0.02
Level under CEO	0.04	0.02	0.03	−0.09	−0.08	−0.08	−0.00	0.06	0.06	−0.10	−0.03
Initial level of demand	−1.02**		−1.46**								
Initial level of ability		−0.44*	0.55								
Initial level of need				−0.18*		−0.12					
Initial level of supply					−0.06	−0.05					
Initial level of DA fit							−0.31**		−0.04		
Initial level of NS fit								−0.14**	−0.17**		
Initial level of PJ fit										0.03	0.59**
Demand change	−1.23**		−1.67**								
Ability change		−0.62**	0.54								
Need change				−0.18*		−0.15					
Supply change					0.17*	0.15*					
DA fit change							0.31**	0.67**	0.10		
NS fit change								0.67**	0.64**		

Table II.   (*Continued*)

| | DA fit change | | | NS fit change | | | PJ fit change | | | JS change | OC change |
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11
PJ fit change											
R^2	0.20**	0.12**	0.21**	0.06	0.07	0.09	0.06	0.54**	0.54**	0.66**	0.57**
ΔR^2	0.13**	0.05**	0.15**	0.03*	0.04*	0.05*	0.05*	0.52**	0.53**	0.40**	0.29**

Note: (N = 168). The entries are standardized coefficients. JS = Job satisfaction; OC = Affective organizational commitment. Compared the model with control variables and predictors and the one with only control variables.
* $p < 0.05$, ** $p < 0.01$.

Table III. Results for the Specific Dimensions on Job and Employees Characteristics

Changes in demands and abilities	DA fit change		NS fit change	
	Demands	Abilities	Needs	Supplies
Looking for and receiving job-related information	−0.10	−0.24		
Identifying/evaluating job-relevant information	−0.24	0.00		
Information/data processing	−0.63**	0.30		
Reasoning/decision-making	−0.93**	−0.59		
Communicating/interacting	0.10	0.23**		
Coordinating/developing/ managing/advising others	−0.79**	−0.58**		
Administering	0.19	0.29		
Changes in needs and supplies				
Pay			0.06	0.18
Span of Control			−0.10	0.19
Travel			−0.05	0.09
Vacation			−0.13	−0.09
Autonomy			0.02	0.12
Prestige			0.06	0.22**
Variety			0.11	0.10

Note: (N = 168). The entries are standardized coefficients.
*p < 0.05, **p < 0.01.

links between abilities and subsequent demands and between demands and subsequent abilities.

Furthermore, in partial support of Hypothesis 4d, job supplies positively and significantly influenced employee needs from Time 1 to Time 2 ($\beta = 0.20$, $p < 0.05$), but not from Time 2 and Time 3 ($\beta = -0.04$, *n.s.*: see Figure 3). Similarly, for the individual dimensions, the results mainly showed positive links between supplies and subsequent needs, albeit most of the coefficients did not reach traditional significance levels. The results did not show any systematic differences between the supply dimensions that may be more desirable (e.g., autonomy and pay) versus those supplies where moderate levels may be seen as optimal (e.g., travel, span of control). Finally, the regression analyses results show that employee needs did not significantly relate to job supplies both from Time 1 to Time 2 ($\beta = 0.11$, *n.s.*) and from Time 2 and Time 3 ($\beta = 0.07$, *n.s.*; see Figure 3). Similarly, for the individual dimensions of needs and supplies, results largely show non-significant links between initial needs and subsequent supplies.

Hypothesis 5a and 5b proposed that increases in DA fit and NS fit would positively relate to increase in PJ fit. Consistent with these hypotheses, the results in Models 7 and

Table IV. Means, Standard Deviations, and Correlations Among the Original Variables

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Job demands, T1	3.72	1.12	(0.86)											
2. Job demands, T2	3.83	1.00	0.52	(0.88)										
3. Job demands, T3	3.71	1.03	0.57	0.57	(0.88)									
4. Employee abilities, T1	3.86	1.18	0.83	0.44	0.49	(0.90)								
5. Employee abilities, T2	3.92	1.07	0.45	0.80	0.49	0.53	(0.89)							
6. Employee abilities, T3	3.91	1.09	0.51	0.50	0.81	0.59	0.59	(0.91)						
7. Job supplies, T1	3.61	0.73	0.50	0.37	0.46	0.40	0.26	0.42	(0.72)					
8. Job supplies, T2	3.56	0.79	0.36	0.47	0.37	0.24	0.34	0.26	0.65	(0.77)				
9. Job supplies, T3	3.52	0.74	0.40	0.38	0.49	0.27	0.26	0.34	0.62	0.67	(0.76)			
10. Employee needs, T1	4.54	0.81	0.26	0.17	0.17	0.28	0.25	0.21	0.23	0.11	0.06	(0.80)		
11. Employee needs, T2	4.52	0.77	0.13	0.28	0.13	0.18	0.31	0.18	0.19	0.35	0.16	0.47	(0.86)	
12. Employee needs, T3	4.44	0.70	0.09	0.14	0.22	0.15	0.20	0.24	0.04	0.08	0.19	0.54	0.46	(0.82)

Note: (N = 168). Reliabilities are on the parenthesis. For all correlation above |0.16|, $p \leq 0.05$; and above |0.20|, $p \leq 0.01$. T1 = Time 1; T2 = Time 2; T3 = Time 3.
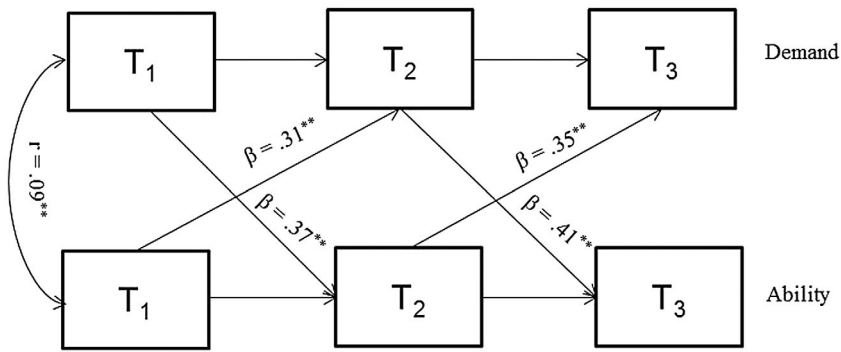
Figure 2. Links between Demands and Abilities over Time *Note:* The reported coefficients are beta weights of regression analyses.
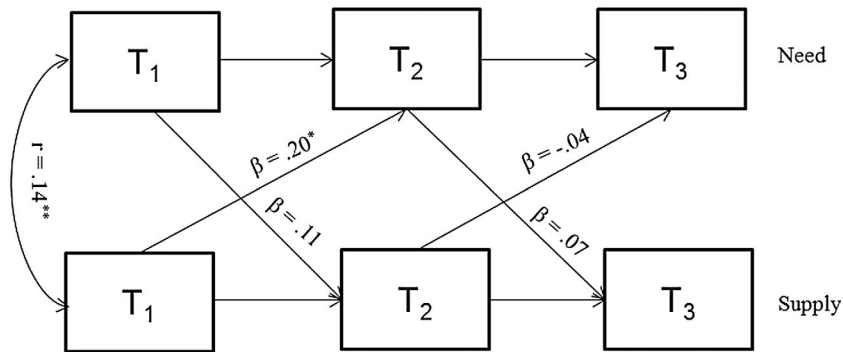*p < 0.05, **p < 0.01.

Figure 3. Links between Needs and Supplies over Time *Note:* The reported coefficients are beta weights of regression analyses.
*p < 0.05, **p < 0.01.

8 in Table II show that changes in DA and NS fit were positively associated with change in PJ fit ($\beta = 0.31$, $p < 0.01$; $\beta = 0.67$, $p < 0.01$, respectively).

Hypothesis 6 stated that NS fit change would be more strongly related to PJ fit change than DA fit. Consistent with Hypothesis 6, the results show that NS fit change was significantly related to PJ fit change ($\beta = 0.64$, $p < 0.01$) while DA fit change was not significantly related to PJ fit change ($\beta = 0.10$, *n.s.*) when both were entered the regression equation, as shown in Model 9 in Table II.

Hypothesis 7a and 7b proposed that with the initial level of PJ fit during a given period held constant, PJ fit change would positively relate to job satisfaction and affective organizational commitment change. As shown in Models 10 and 11 in Table II, PJ fit change was positively associated with change in both job satisfaction change ($\beta = 0.66$, $p < 0.01$) and affective organizational commitment change ($\beta = 0.57$, $p < 0.01$), supporting Hypothesis 7a and 7b.

Finally, we examined whether and how age would moderate the relationship between changes in PJ fit and changes in job satisfaction and affective organizational commitment.

As can be seen in Table V, results show that age mitigated the relationship between changes in PJ fit and changes in job satisfaction and affective organizational commitment, as evidenced by the negative sign of the interaction term (β = −0.17, p < 0.01; β = −0.15, p < 0.05, respectively). Subsequent simple slopes analyses indicated that the positive relationships between changes in PJ fit and changes in job satisfaction and affective organizational commitment were significant for older employees (simple slope = 0.47, p < 0.01; simple slope = 0.45, p < 0.01, respectively), but they became stronger for younger employees (simple slope = 0.85, p < 0.01; simple slope = 0.73, p < 0.01, respectively). These simple slopes are plotted in Figure 4a and 4b.

DISCUSSION

Theoretical Implications

Our findings show that changes in perceived PJ fit do matter and significantly enhance or decrease desirable employee outcomes. These results are important because they seal the gap between theoretical and empirical practices in extant fit research noted by several researches (Jansen and Shipp, 2013; Kristof-Brown and Guay, 2011) – by measuring PJ fit and employee work attitudes over time and by testing the changes and dynamics using the mixed effect growth modelling. Moreover, the present findings contribute to a developing research literature that reveals the important role of time for understanding

Table V. The Moderating Effects of Age on the Relationships between PJ fit change and Changes in Work Attitudes

	Job satisfaction change		Organizatinal commitment change	
	M1	M2	M3	M4
Sex	0.01	0.00	0.02	0.01
E1 (0 = others, 1 = college)	−0.13	−0.17	0.12	0.09
E2 (0 = others, 1 = Master)	−0.06	−0.06	0.07	0.07
Job tenure	−0.06	0.02	0.11	0.18
Organization tenure	0.09	0.13	0.02	0.06
Level under CEO	−0.09	−0.13*	−0.04	−0.06
Initial level of PJ fit	0.02	0.02	0.58**	0.58**
PJ fit change	0.65**	0.63**	0.57**	0.55**
Age		−0.17		−0.15
PJ fit change × Age		−0.17**		−0.15*
R^2	0.44**	0.47**	0.29**	0.31**
ΔR^2	0.40**a	0.03*	0.26**	0.03*

Notes: (N = 168). The entries are standardized coefficients.
Compared the model with control variables and predictors and the one with only control variables.
*p < 0.05, **p < 0.01.

the links among constructs in management research. Specifically, they showed that perceived PJ fit and its various elements including DA fit, NS fit, demands, abilities, needs, and supplies were not constant but did indeed vary as time went on. This challenges the common practice of cross-sectional studies on PJ fit that ignore these variations and may thus result in a somewhat incomplete understanding of fit (Caplan, 1987). More importantly, our results showed that these changes significantly affected employees' perceptions of fit over time. For example, we found that increases in perceived demands or abilities went along with a decrease in DA fit. These findings underscore the argument that experiences of PJ fit and its elements do not happen in a temporal vacuum and that ignoring employees' previous experiences will limit our understanding of PJ fit (Jansen and Shipp, 2013).

In addition, our results contribute to a deeper understanding of employees' *perceptions* of PJ fit. For example, the present results show that in forming employees' PJ fit perceptions, both NS fit and DA fit perception mattered, but that employees seem to put stronger emphasis on NS fit rather than DA fit. These findings are in line with the view that PJ fit may address fundamental employee needs (Greguras and Diefendorff, 2009), and that NS fit is more important and synergistic in fulfilling employee needs than DA fit. The results are important in view of the somewhat inconsistent operationalizations of PJ fit in previous studies (single measures of PJ fit, focus on only DA or NS fit). Moreover, by demonstrating the distinctive effects of perceived DA and NS fit on perceived PJ fit over time, our results complement and extend previous work which showed that NS fit was significantly related to job satisfaction and occupational commitment but that DA fit was not significantly related to these employee outcomes (Cable and DeRue, 2002; Kristof-Brown et al., 2005).

On a deeper level, and as noted above, we found that increases in perceived job demands *and* employee abilities decreased DA fit. In contrast, perceived NS fit increased as perceived job supplies increased but decreased as perceived employee needs increased. These findings support the important notion that molar approaches to perceived fit (focusing on general perceptions of PJ, NS, and DA fit) may be different from atomistic approaches to fit (measuring perceived person and environment separately; i.e., perceived demands, abilities, needs, supplies). Indeed, even though PE fit theory tends to treat these two approaches interchangeably, the present results suggest that the cognitive assessments and processes that underlie perceptions of fit are more complex. Hence, in line with the call by Edwards et al. (2006), our study provides initial but important insights into the elements and mechanisms of PJ fit.

As a case in point, we found that changes in perceived job demands more strongly affected changes in perceived DA fit than changes in perceived employee abilities. Relatedly, changes in perceived job supplies more strongly affected changes in perceived NS fit than changes in perceived employee needs. These findings are consistent with Caplan's (1987) argument that 'it may be natural for most employees to prefer to attain their own PE fit by having the environment change' (p. 258). The results also provide useful insights for developing and refining a temporal fit theory (Jansen and Shipp, 2013) by demonstrating the distinctive impacts of various components of person and job on changes in perceived DA and NS fit.

Besides linking general measures of needs and supplies to perceived NS fit, and sum-mary measures of demands and abilities to DA fit, our data allowed us to explore these links for individual dimensions of DA fit (e.g., decision-making, administering, commu-nicating) and NS fit (e.g., autonomy, pay, travel). Interestingly, the results for these spe-cific dimensions of the perceived employee and environmental variables were not very robust. It is possible that the range of the variance for individual dimensions is somewhat restricted – partially because it may not be practical for organizations to change each job characteristic frequently nor is it easy for employees to improve their abilities to do their jobs quickly. In addition, contrary to our expectation, increase in employee abilities on communicating/interacting positively related to increase in DA fit over time. However, it seems plausible that when employees have better skills in communicating and interact-ing with others, they may feel more competent to do their jobs, subsequently enhancing their perceived DA fit. Future research is needed to learn more about how and why the effects of changes in specific content of employee and job characteristics on DA and NS fit change can vary by specific dimensions of the characteristics.

In line with our temporal focus, another noteworthy and relevant finding is that the impact of fit on changes in work attitudes was not the same across employees. Instead, the results showed that it was contingent on employees' age. In particular, the relation-ship between changes in PJ fit and employee job satisfaction and organizational commit-ment was stronger for younger employees than for older ones. This finding is important because it lends support to Jansen and Shipp's (2013) notion that age affects employee responses to changes in their job features (and PJ fit). The results of the present study are consistent with the findings of Caldwell et al. (2004), which indicated that the relation-ship between change processes (e.g., management support) and changes in DA fit was stronger for younger than for older employees. Hence, together with Jansen and Shipp's arguments and Caldwell et al.'s findings, the present findings suggest that age may play a central role in a temporal theory of fit and should be examined further in future re-search, particularly in view of the growing age and age diversity in the work force one of the central changes and challenges in current work places (Kunze et al., 2013).

A final interesting aspect of our findings relates to DA fit, particularly to potential (mis-) fit triggered by heightened demands. Static approaches to fit have frequently treated low DA fit as an antecedent for negative outcomes, such as low job satisfaction, reduced performance, or turnover (Kristof-Brown et al., 2005). However, the present findings suggest that temporary misfit triggered by increased demands may also result in a spiral of growth and development, where employees seek to adjust by enhancing their abilities. This perspective and our findings are consistent with recent qualitative work by Follmer et al. (2017), who noted that DA misfit can trigger a virtuous cycle of development and learning for employees (p. 18). Moreover, our findings extend this perspective by showing that not only increases in demands are linked to increases in abilities, but this dynamic also works in the opposite direction, such that heightened abilities are linked to increased demands. These findings contribute to a developing research stream that considers the mutual adjustment between employees and their work environment over time (e.g., the-ory of work adjustment, Dawis and Lofquist, 1984), and the concept of job crafting

(Wrzesniewski and Dutton, 2001), which describe how employees take actions to shape their jobs to reflect their abilities.

Simultaneously, our findings also indicate that additional research is necessary to explore the dynamics between person and environment in further detail, particularly with regard to the components of NS fit. In our study, for example, job supplies are positively related to subsequent employee needs (at least from Time 1 to Time 2), whereas initial employee needs do not predict increases in subsequent job supplies. This finding is unexpected to a certain extent. With hindsight, however, employees may plausibly be able to change their needs more easily than organizations can adjust their supplies. Changes in organizational supplies frequently require adjustment and approval by multiple parties (e.g., changing organizational practices or policies) or changing organizational resources (e.g., budgets), which is a process that can require substantial time and tends to trigger significant resistance (Schein, 2016).

Practical Implications

Our study offers several practical implications for organizations and managers. First, organizations and supervisors who attempt to enhance employees' job satisfaction and organizational commitment need to increase employees' PJ fit, especially for younger employees. Specifically, they need to take actions to redesign, reassign, or rotate the jobs or provide training and education to improve employee abilities to increase PJ fit. In addition, given that NS fit change more strongly affects PJ fit change than does DA fit change, organizations and supervisors should pay more attention to whether assigned jobs offer what employees are looking for in their jobs in designing job characteristics to motivate employees effectively.

In addition, our findings suggest that organizations and supervisors who wish to enhance DA fit need to be careful when increasing job demands that can negatively affect DA fit, especially regarding sudden and substantial increases. If they need to increase job demands, organizations and supervisors can provide more advice, training, and resources to enhance employee abilities to meet the increased job demands. Furthermore, organizations can enhance NS fit by increasing job supplies, starting with non-monetary supplies (which are somewhat more manageable) such as job autonomy and skill variety.

Limitations and Future Research Opportunities

As with all investigations, our study has several limitations that should be noted and addressed in future research. First, we measured job demands and supplies and employee abilities and needs through how employees perceive them. Although it is important to examine 'the process relating perceptions of the person and environment to person-environment fit' (Edwards et al., 2006, p. 802), it is not clear from our findings whether actual changes in job demands led to changes in employee abilities, or vice versa. In addition, as Caplan (1987) suggested, tangible objective changes in organizations cannot be simply or accurately transmitted into a subjective world. Thus, we suggest future research consider examining how changes in objective job characteristics affect changes in subjective views and vice versa.
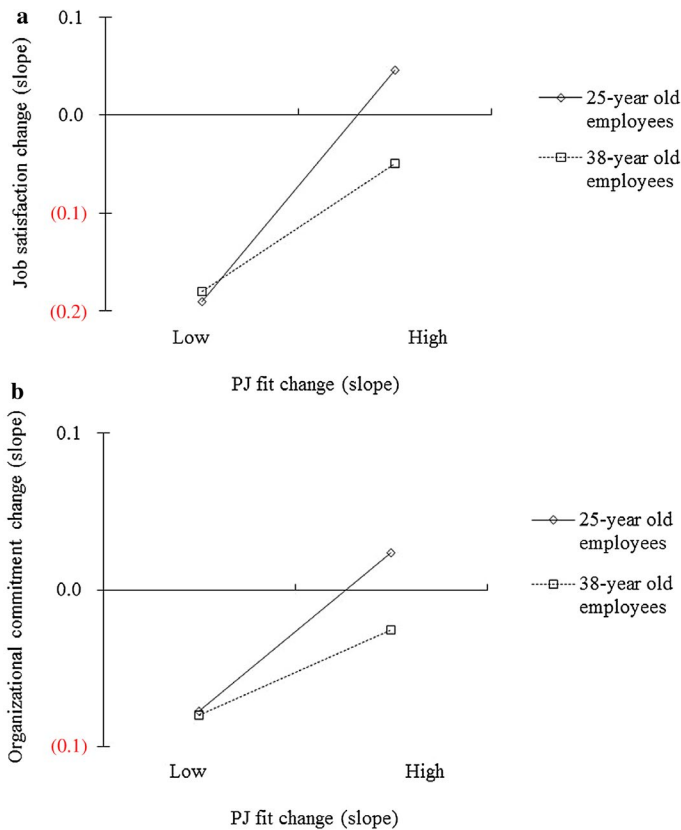
Figure 4. (a) Simple slopes of PJ Fit change on job satisfaction change at levels of age and (b) Simple slopes of PJ Fit change on organizational commitment change at levels of age [Colour figure can be viewed at wileyonlinelibrary.com]

Second, all the variables in our study were assessed from the same source, thereby raising potential concerns of common method variance (CMV). To address this point, we assessed the influence of CMV using Lindell and Whitney's (2001) marker variable approach. We adopted employees' counterproductive work behaviour towards individuals as the marker variable, which was measured using the scale of Yang and Diefendorff (2009) at Time 3 (e.g., 'verbally abuse someone at work,' $\alpha = 0.93$). This marker fulfilled the criteria proposed by Lindell and Whitney (2001) such that the marker was mostly unrelated to the variables in our model (the correlation with the key variables at Time 3 ranged from -0.16 to 0.05). The results showed that the corrected correlations among our model variables were nearly identical to the original ones (the maximum difference was 0.01). Moreover, all significant correlations remained significant after removing CMV from the data. In summary, these findings suggest that CMV may not be impactful in the present study.

In addition, the characteristics of our data may point to several potential limitations. First, the data were obtained from a convenience sample, which may not fully represent

the working population being studied. For example, because the respondents are full-time employees who were studying to enhance their abilities, they may more easily change their abilities to meet the increased job demands. However, given the increasing number of offline and online courses (e.g., MOOCs), for many employees it would be rather easy to also enhance their abilities to meet increasing job demands. Nevertheless, we encourage future research to validate the results of the linkage between demands and abilities over time with another sample. Second, the results of the effects of demand change and ability change on DA fit change in Model 3 (Table II) need to be interpreted with caution due to potential multicollinearity issues (VIF >10). Third, although we could assess a linear slope change over the three points in time, we could not assess curvilinear changes without a fourth wave of data (Ng et al., 2010). Lastly, the change variables have relatively small standard deviations compared to other studies that used Bayes slope estimates (Swider et al., 2015). The range restriction on these variables reduces the likelihood of the hypotheses on changes in one aspect of fit on changes in overall fit to be supported (Sackett and Yang, 2000). Thus, the supported hypotheses have indeed survived a conservative test.

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