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Chapter 3

EMPLOYABLE AND SATISFIED: ORGANIZATIONAL CONSEQUENCES OF EMPLOYEES' CAREER CAPITAL DEVELOPMENT⁷

Abstract

This paper presents a study of the relationship between employees' investments in their career capital development (conceptualized as knowing-why, knowing-how, and knowing-whom) and their contributions to their employing organizations, and the role career satisfaction plays in this relationship. With this focus, the paper aims to contribute to research on the consequences of employees' career self-management. Survey data were collected as part of a longitudinal investigation of career mobility and behaviors among alumni of a large public university in the Netherlands. The results reveal that by investing in their career capital, employees contribute to organizational core competencies, namely, organizational culture, capabilities, and connections. However, these contributions depend on the level of employees' perception of their career satisfaction. If employees are satisfied with their careers, they contribute more to organizational culture, capabilities, and connections. Interestingly, individual contributions to organizational culture through knowing-why are greater for employees with high career satisfaction than for employees with low career satisfaction.

Keywords: Career Satisfaction; Career Capital; Three Ways of Knowing; Career Self-Management; Organization Core Competencies.

⁷ An adapted version of this paper is currently under review in the special issue of *Career Development International*, "Beyond the Duality between Bounded and Boundaryless Careers: Moving the Research forward".

Introduction

Since the publication of Arthur and Rousseau's (1996b) book *The Boundaryless Career: A New Employment Principle for a New Organizational Era*, how career researchers conceptualize and study careers has changed considerably. Today, the discourse on careers is populated by concepts such as career self-management (Chiaburu et al., 2006; King, 2004; Sturges et al., 2010; Sturges, 2008), employability (Forrier & Sels, 2003; Fugate et al., 2004; Rothwell et al., 2009; Van der Heijde & Van der Heijden, 2006), and the "intelligent" career (Colakoglu, 2011; Kuijpers & Scheerens, 2006; P. Parker et al., 2009), among others. These 'new' concepts capture attributes of employees' careers that are unfolding in the contemporary - more diverse and dynamic - work environment (Sullivan & Baruch, 2009). The consequent research on these contemporary concepts has helped generate knowledge needed by both career researchers and practitioners about the implications of career attitudes and behaviors for individuals' career outcomes, including their mobility, satisfaction, and well-being (e.g., Clarke, 2009; De Cuyper et al., 2011; DiRenzo & Greenhaus, 2011; Donnelly, 2009; Eby et al., 2003; Kuijpers et al., 2011; McArdle et al., 2007, 2007; van Dam, 2004). Such research has also increased the visibility of career studies in the general management literature and highlighted the relevance of individual career trajectories for organizations (e.g., Barley & Kunda, 2004; K. H. Becker & Haunschild, 2003; Carr, Inkson, & Thorn, 2005; Dokko et al., 2009; Hoang & Gimeno, 2010; Lam, 2007; O'Mahony & Bechky, 2006; Rubery, Earnshaw, Marchington, Cooke, & Vincent, 2002).

However, despite a growing number of calls for more research examining the possibilities that boundaryless careers bear for organizations (Currie et al., 2006; Khapova et al., 2007; Lazarova & Taylor, 2009; Tams & Arthur, 2010), very few career researchers have addressed this topic. By contrast, researchers from other management fields continue to provide evidence on the organizational implications of employees' new career patterns. For

example, studies on employees' interorganizational mobility show how organizations benefit from such career moves in terms of firms' social capital (Somaya et al., 2008) and organizational outcomes (Dokko & Rosenkopf, 2010; Somaya et al., 2007). Furthermore, research on global careers and expatriation show that by investing in their career development, individuals transfer knowledge and learning within organizations (Furuya et al., 2009; Hocking et al., 2007). In this paper, we posit that joining this conversation is highly relevant for career researchers to increase the impact of career studies in the management literature. We contribute to this conversation by offering a longitudinal examination of the link between employees' career capital development and its consequences for organizations. Specifically, we address the question: *To what extent is there a positive relationship between employees' investments in their career development and their contributions to their employing organizations, and what role does career satisfaction play in this relationship?*

To conceptualize employees' investment in their careers, we draw on Arthur, Claman, and DeFillippi's (1995) framework of the three ways of knowing: knowing-why, knowing-how, and knowing-whom. Knowing-why captures the answer to the question, "*Why do I work?*" and refers to individuals' motivation and purpose in their careers. Knowing-how captures the answer to the question, "*How do I work?*" and refers to the knowledge and expertise that individuals accumulate throughout their careers. Finally, knowing-whom captures the answer to the question, "*With whom do I work?*" and refers to the network and relationships that people develop throughout their careers. The three ways of knowing has been popular in career studies to operationalize individual employability and career development during the past decade (e.g., Clarke, 2009; De Janasz & Sullivan, 2004; Dickmann & Mills, 2010; P. Parker, 2008; Singh et al., 2009; van den Born & van Witteloostuijn, 2013). It captures the idea that individual careers can be viewed as repositories of knowledge (Bird, 1996), involving career capital development, which

comprises the nonfinancial resources that individuals accumulate through their work experience over time (Inkson & Arthur, 2001). Additionally, the framework has become increasingly popular as a basis for capturing human capital for organizations (e.g., DiRenzo & Greenhaus, 2011; Kamoche et al., 2011). This increased popularity is not surprising given that the three ways of knowing was developed by Arthur et al. as a response to Quinn's (1992) work *Intelligent Enterprise*, which proposed that organizational core competencies constitute organizational culture, capabilities, and connections. While the two frameworks are often connected in the career literature, little empirical evidence exists to support the link between individual career capital development and organizational core competencies (Tams & Arthur, 2010).

We further suggest that career satisfaction, as one of the most central variables in career studies and organizational theory in general, plays an important role in defining the intensity of the link between individual career capital development and organizational core competencies. Career satisfaction is a psychological evaluation of one's individual career, as well as an important predictor of people's consequent behavior in their career and work (Greenhaus, Parasuraman, & Wormley, 1990; Heslin, 2005). Given the emphasis that employees place on satisfaction when making vocational decisions, organizations strive to achieve business success *through* career satisfaction by balancing business needs with employees' career goals (Arthur et al., 2005; Holland, 1997; Lips-Wiersma & Hall, 2007). We believe that employees who are satisfied in their careers are willing to invest more in them and thus contribute more to their organizations (Egan, Yang, & Bartlett, 2004). In this paper, we therefore suggest that career satisfaction plays an important moderating role in the relationship between individual career capital development and its consequent contributions to organizational core competencies. That is, the relationships between the separate ways of knowing and organizational core competencies are stronger for employees with higher career

satisfaction. We examine a moderated model describing these relationships with a sample of alumni from a large university in the Netherlands using a longitudinal design.

This study makes several important contributions to the literature on ‘new’ careers. First, we provide empirical evidence supporting the growing, yet limited, research on the link between individuals’ career self-management and organizational outcomes (e.g., Briscoe & Finkelstein, 2009; Briscoe et al., 2006). Specifically, we provide evidence for the potential impact of individuals’ career development on their employing organizations over time by employing a longitudinal design to identify causal inferences in this relationship. As time is a fundamental characteristic for the definition and study of careers (Parker et al., 2009), the effects of career capital investments, as well as individual contributions to organizational development, can only be observed over time. Second, this study draws researchers’ attention to mechanisms facilitating the relationship between individuals’ career self-management and organizational outcomes. Specifically, we test the role of career satisfaction in this relationship and thus answer calls in the literature for research to examine career satisfaction not only as a dependent variable but also as an instigator and/or intervening mechanism (Abele & Spurk, 2009a, 2009b; Nauta, van Vianen, Van der Heijden, van Dam, & Willemsen, 2009). Finally, our research contributes to the literature on strategic management and career theory by moving beyond the bounded and boundaryless metaphorical conceptions of careers (Currie et al., 2006; Inkson et al., 2012; Pringle & Mallon, 2003). The literature concerning career self-management has an exceedingly individualistic prejudice that neglects the complex reciprocity in the relationship between individuals and organizations. More specifically, we join recent conversations that call for research focusing on the interdependency between individuals and organizations and on how individuals affect their contextual environment, and vice versa (Arthur, 2008; Inkson & King, 2011; Tams & Arthur, 2010).

The link between employees' career development and organizational core competencies

The connection between individuals and organizations has long been the mainstay of sociologists and organizational scholars (E. C. Hughes, 1936; T. Parsons, 1951; Powell & DiMaggio, 1991; Zucker, 1977). Over the years, researchers have engaged in efforts to elucidate this link by employing various theoretical perspectives, such as structuration and institutional theories (Barley & Tolbert, 1997; Giddens, 1984; M. Lounsbury & Kaghan, 2001; Scott & Meyer, 1994; Scott, 2003). These studies provide ample insight into how individuals shape institutions and vice versa. In a similar vein, career scholars have gradually started to examine the link between people and organizations. An important foundation for this line of research was the emerging ideas about agency in career studies presented in the *Handbook of Career Theory* (Arthur et al., 1989). These studies suggested that rather than being submissive to external factors, individuals shape their own careers by taking control and responsibility (e.g., N. E. Bell & Staw, 1989; DeFillippi & Arthur, 1994; Hall & Mirvis, 1996). From the notion of agency, we can think of individuals as active agents who can eventually affect their work environments through their career choices and behavior (Khapova & Arthur, 2011). While very little theoretical or empirical work had linked careers and organizations at that time, the *Handbook's* original contributions became a catalyst for new theoretical and empirical efforts to elucidate “the link between structure and action” (Barley, 1989). However, two decades later, more remains unknown than is known about the way individuals, through their career behavior, affect organizations (for selected overview, see Arthur, 2008; Higgins & Dillon, 2007; Jones & Dunn, 2007; Peiperl, Arthur, & Anand, 2002; Tams & Arthur, 2010).

One theoretical framework that may guide the examination of how career development influences organizations is the “intelligent career” framework (Arthur et al.,

1995). At the center of the framework is the career actor who invests in his career by developing distinct career capital, or the so-called three ways of knowing (P. Parker et al., 2009). Such development broadly involves the development of one's motivation and identity (knowing-why), skills and expertise (knowing-how), and relationships and reputation (knowing-whom). This career capital is not only important for one's career success (e.g., Eby et al., 2003; Kuijpers et al., 2006) but also, as suggested by Arthur et al., may have consequences for organizational core competencies (Prahalad & Hamel, 1990; Quinn, 1992). Accordingly, individuals contribute to an organization's culture (i.e., sense of purpose, mission, and core values) through knowing-why, an organization's capabilities (i.e., the knowledge and skills embodied in organizational activities) through knowing-how, and an organization's connections (i.e., supplier, customer, alliance partner, and other external contacts) through knowing-whom by enacting their careers (DeFillippi et al., 2006). Thus, by investing in their careers across employment situations, people can contribute to organizational development as well (Arthur, DeFillippi, et al., 2001; Barrick, Mount, & Li, 2013). Although both strategy and management scholars have widely employed the core competencies framework (e.g., Dahl & Pedersen, 2004; Glynn, 1996; Gratton, 2007; Inkpen & Tsang, 2005; Nonaka & Toyama, 2005), the link between individuals' career capital development and organizational core competencies has never been studied empirically. We now suggest how each of the ways of knowing relates to the relevant core competencies and develop our first set of hypotheses.

Knowing-why and employees' contributions to organizational culture

As knowing-why refers to an individual's career motivation, proactive personality, personal meaning and values, and identity (DeFillippi & Arthur, 1996), it provides opportunities to understand oneself, explore different career possibilities, and adapt to a changing work environment (Inkson & Arthur, 2001). Since individuals often prefer careers in organizations

whose values are similar to their own (Schneider, 1987; Tinsley, 2000), we can view knowing-why as the extent to which employees identify with their organizations' culture (and thus organizations' overall mission and purpose) (Arthur, 1994; Ballout, 2007). People who see themselves as part of a firm are also capable of motivating and enabling others to contribute in strengthening corporate culture (Harvey, Heames, Richey, & Leonard, 2006; House et al., 2002). Guided by their own work values and career motivations, employees establish new ways of working and thinking in an organization (Gratton, 2007). They shape organizational culture by encouraging and enabling others to act differently (A. D. Brown & Toyoki, 2013; Colbert, Barrick, & Bradley, 2013; Nonaka, Toyama, & Nagata, 2000; Osterloh & Frey, 2000). Thus, by enacting their motivation and identities, employees help generate consensus on the relevance of particular values, norms, beliefs, and strategic actions. Accordingly, we propose our first hypothesis:

H1. A positive relationship exists between employees' investments in knowing-why and their individual contributions to organizational culture.

Knowing-how and employees' contributions to organizational capabilities

Knowing-how is linked to work-related skills and expertise, which are accumulated throughout one's career and are often defined by the term "human capital" (G. S. Becker, 1962; Inkson & Arthur, 2001). In the modern business environment, individuals may be obliged or willing to develop a broader set of skills than their current job position can provide by changing their work arrangements (P. Parker et al., 2009). Scholars have therefore recognized the important role that employees and managers play in developing dynamic organizational capabilities and formation of action in organizations (Dosi, Nelson, & Winter, 2000; Ouakouak, Ouedraogo, & Mbengue, 2014; Verona & Ravasi, 2003). Studies have shown that employees who invest in developing unique knowledge, skills, and abilities take

initiatives to change or improve current organizational operations and ways of working by identifying threats and opportunities both internally and externally (Hatch & Dyer, 2004; Lepak & Snell, 1999; Lopez-Cabrales, Valle, & Herrero, 2006; Shafer, Dyer, Kilty, Amos, & Ericksen, 2001). For example, Mohrman et al. (2003) found that at their workplace, scientists and engineers employ the expertise of their disciplines in order to take action and solve or improve problems they encounter, which consequently further contribute to an organization's overall know-how. On the basis of these findings, we propose the following hypothesis:

H2. A positive relationship exists between employees' investments in knowing-how and their individual contributions to organizational capabilities.

Knowing-whom and employees' contributions to organizational connections

Knowing-whom is broadly covered by the term "social capital" and closely relates to people's networking behavior (Burt, 1997, 2000; P. Parker et al., 2009; Simpson, 2002). This networking behavior provides new opportunities for developing one's reputation, and facilitates access to new learning sources inside and outside the work context (De Janasz & Sullivan, 2004). As such, knowing-whom can contribute to internal and external organizational networking activities organization (Inkson & Arthur, 2001). Researchers have found that newcomers bring with them their own network of relations and thus allow access to their extended social contacts (Dokko & Rosenkopf, 2010; Somaya et al., 2007, 2008). These networks can then provide further benefits to their employers in various ways, such as by acquiring knowledge, attracting both new employees and customers, and identifying entrepreneurial opportunities (Lazarova & Taylor, 2009; Nahapiet & Ghoshal, 1998; Raider & Burt, 1996a). Further evidence has shown that individuals regularly create intra- and interorganizational networks, increase the number of potential customers, and improve

supplier relations (e.g., Forret & Dougherty, 2001; Inkpen & Tsang, 2005; Knoke, 2001; Walker, Kogut, & Shan, 1997). We thus propose the following hypothesis:

H3. A positive relationship exists between employees' investments in knowing-whom and their individual contributions to organizational connections.

The role of career satisfaction in employees' contributions to their organizations

While most scholars have examined career satisfaction as a psychological outcome of an individual career, career satisfaction is also suggested to be an important predictor of people's consequent behaviors in their career and work (Arthur et al., 2005; Gunz & Heslin, 2005). Previous studies have suggested that career satisfaction is increasingly the primary motivation in individuals' career decision making (Frank, Carrera, Rao, & Anderson, 2008; Holland, 1997). Thus, subjective career success is as important, or even more important, than objective career success (Khapova et al., 2007). Scholars have found that satisfied employees have positive attitudes toward their employers as their expectations are met and, in turn, direct their efforts to perform better at work and contribute to organizational outcomes (Judge, Thoresen, Bono, & Patton, 2001; Koys, 2001; Macky & Boxall, 2007). On the basis of the reasoning above, we propose the following set of hypotheses, focusing on career satisfaction as a moderator. That is, employees' contributions to organizational core competencies are greater for individuals who invest more in the ways of knowing and who have higher career satisfaction.

Specifically, satisfied employees are more likely to take interest in their organizations, take charge, and promote organizational values and culture. This is consistent with a growing body of literature on the alignment of individuals' values and attitudes with organizational culture (e.g., Alvesson, 2001; Ballout, 2007; Carless, 2005; Ind, 2003; Tinsley, 2000). As person-organization fit is based on the perceptions of an organization's values and policies,

we propose that the interaction between satisfaction and fit congruence will lead to higher levels of employee involvement and dedication to a collective cause (K. Lee, Carswell, & Allen, 2000; Lok & Crawford, 1999; McDonald & Makin, 2000; McKinnon, Harrison, Chow, & Wu, 2003; Silverthorne, 2004), thus shaping organizational culture. We therefore expect that:

H4a. Career satisfaction moderates the relationship between employees' investments in knowing-why and their individual contributions to organizational culture in such a way that the relationship is stronger for employees with higher career satisfaction.

Next, research suggests that employees who are committed to a continuous search for new learning opportunities tend to be more satisfied with their careers (Eby et al., 2003) and, in turn, are more likely to deliver high-quality services to customers and be more engaged in their work environment (Loveman, 1998; Silvestro & Cross, 2000; Yoon & Suh, 2003; Yee, Yeung & Cheng, 2008). This is consistent with the literature concerning employees' involvement in organizations, which has showed that satisfied employees who engage in continuous learning contribute to organizational learning and outcomes (Bakker & Schaufeli, 2008; Boies & Rothstein, 2002; Egan et al., 2004; Lopez, Montes Peon, & Ordas, 2004). Thus, we expect that satisfied employees are more willing to use their skills to go the extra mile at work, thus further enhancing organizational capabilities. We propose that:

H4b. Career satisfaction moderates the relationship between employees' investments in knowing-how and their individual contributions to organizational capabilities in such a way that the relationship is stronger for employees with higher career satisfaction.

Further, research shows that satisfied employees are most likely to engage in social and boundary-spanning activities and to, in turn, facilitate a cooperative climate at work (e.g., Au & Fukuda, 2002; Flap & Völker, 2001). Satisfied employees also invest in building productive synergies with their coworkers and thus create useful networks at work (Takeuchi, Lepak, Wang, & Takeuchi, 2007). These strong supportive networks can assist them in sharing knowledge and making changes within organizations (Chow & Chan, 2008; Dickmann & Harris, 2005; Thompson, 2005). Thus, given the close relationship between networking behavior and career satisfaction (Ensher, Thomas, & Murphy, 2001; Higgins, Dobrow, & Chandler, 2008; Ng et al., 2005), we propose that satisfied employees who make better use of their social capital, in turn, contribute more to the development of organizational connections (Tymon & Stumpf, 2003). We therefore expect that:

H4c. Career satisfaction moderates the relationship between employees' investments in knowing-whom and their individual contributions to organizational connections in such a way that the relationship is stronger for employees with higher career satisfaction.

Methods

Sample and context

To examine the link between employees' career self-management (through career capital development) and organizations' core competencies, we conducted a study as part of a longitudinal research project among alumni of a large public university in the Netherlands. The study, which was initiated in 2011, is an ongoing initiative to record graduates' mobility and career behaviors annually. As a large-scale project, a total of 4,880 Business and Economics graduates were invited to participate in a web-based survey. The survey covered career-related concepts such as attitudes and conditions at work, as well as background

factors. The sample included alumni from both undergraduate and postgraduate programs from 1950 to 2012. To examine longitudinal trends, the data were collected in two phases: January 2011 and June 2012. Earlier studies on the length of time lags have suggested that a one-year lag is appropriate for examining employee behaviors in work contexts (de Lange, Taris, Kompier, Houtman, & Bongers, 2003; Koys, 2001). All variables, unless specified otherwise, were measured at each wave using five-point Likert scale (1 = totally disagree, 5 = totally agree).

Subjects

The response rate varied across the two phases (T1 = 28% and T2 = 12%) because of an increased number of potential participants in the follow-up study. Aside from normal attrition, the nonresponse analysis revealed that dropouts tended to be retirees who filled in the survey only in the first round. Our selected sample (n = 181; listwise deletion) focuses only on those persons who participated in both phases, who had graduated at least one year before the first phase, and who were employed at the time of the survey. The sample predominantly comprised Dutch individuals and included 77.3% males. The average age of the respondents was 37.7 years (median = 35) at T1 and 38.7 years (median = 36) at T2. Table 3.1 displays the main participant characteristics, including their job positions, job fields, and marital status.

Table 3.1 Demographic characteristics University graduates

Variables	T1	T2
Age	37.7 (9.51)	38.7 (9.51)
% Men	77%	77%
% Job positions [^]		
1: Senior vice president	48.1%	2.2%
2: Vice president	19.9%	1.1%
3: Director	10.5%	13.8%
4: Top-level executive	2.2%	5%
5: Manager	1.7%	17.1%
6: Professional	1.7%	51.4%
7: Administrative/Support	3.9%	3.3%
% Job fields ^{^*}		
1: Finance, banking, & insurance	29.3%	23.8%
2: Consulting	14.9%	17.7%
3: Business & professional services	8.3%	5.5%
4: Accounting	5%	9.4%
% Family situation [^]		
1: Married/Cohabiting with children	39.8%	45.3%
2: Married/Cohabiting without children	34.3%	33.1%
3: Single with no children	21.5%	18.8%
4: Single with children	1.7%	0.6%
5: Single and living with parents	2.2%	1.1%

Note: N = 181; means are presented with standard deviations in parentheses.

[^] Values do not added up to 100% because of missing values

* This is a selective list of the main job fields. The rest of the fields included health care, agriculture, architecture, utilities, nonprofit sectors, retail, transportation, telecommunications, research, education, Internet, government, wholesale, marketing, real estate, athletics, entertainment, and food services.

Measures

Career capital was measured using an adapted version of the Three Ways of Knowing scale (Khapova, Arthur, et al., 2009; Khapova, 2006). The multidimensional 12-item measure includes three subscales: (a) knowing-why (α , T1 & T2 = .60), four items (e.g., “I navigate my own career, based on my personal priorities, as opposed to my employer's priorities”); (b) knowing-how (α , T1 = .63; T2 = .66), four items (e.g., “I continuously invest in improving my professional skills”); and (c) knowing-whom (α , T1 & T2 = .80), four items (e.g., “I regularly network with individuals outside my organization”). Confirmatory factor analysis and reliability analysis were used to confirm the number of factors and loadings of the three measured subscales. While the cut-off point is typically $\alpha \geq .70$ (Cortina, 1993; Pallant, 2007), scholars have suggested that values near .60 can also be acceptable (Hair et al., 2006; Hatcher & Stepanski, 1994), particularly when the factors only have a few items. We therefore accept these subscales for our statistical consideration.

Individual contributions to organizational core competencies were measured using an adapted version of Khapova et al.'s multidimensional scale (2009; 2006), which includes the scales *individual contributions to organizational culture* (α , T1 = .77; T2 = .78), eight items (e.g., “I continuously seek to be innovative in the work I deliver”); *individual contributions to organizational capabilities* (α , T1 = .80; T2 = .86), eight items (e.g., “My expertise is applicable to other functional areas of my organization”); and *individual contributions to organizational connections* (α , T1 = .82; T2 = .83), eight items (e.g., “I look for professionals outside my organization who can be helpful in my work” and “I actively solicit information applicable to my work from my professional contacts”).

Career satisfaction was measured using an adapted version of Turban and Dougherty's (1994) four-item scale (e.g., “I am satisfied with the success I have achieved in my career thus far”). Cronbach's α scores were .82 (T1) and .86 (T2).

Control variables. In this study, we considered the impact of variables such as gender, age, education, organizational tenure, job type, work experience, and marital status, which may be related to individuals' investments in the three ways of knowing and have been employed in prior research (cf. Bakker et al., 2005, 2007; Eby et al., 2003; Terjesen, 2005). Educational differences were not controlled for, as all participants in our sample graduated from the same university and were highly educated. In selecting our control variables, we followed the strategy of other scholars (e.g., Singh et al., 2009) to ensure that the indicators correlated with the dependent variables and that they had relatively low intercorrelations. In our sample, only gender, age, and work experience correlated with our dependent variables. Since age and work experience were highly correlated with each other ($r = .96, p < .01$) and only gender had a low intercorrelation with age ($r = -.28, p < .01$) and work experience ($r = -.27, p < .01$), we controlled only for gender in all analyses.

Statistical analysis

To avoid any methodological issues, we first tested the measurement models for each variable. These analyses showed that the factor structures of the research variables were consistent across time ($\chi^2 = 3614.63$, NNFI, CFI ≥ 0.94 , and RMSEA $\leq .05$). This result further confirms that the indicators, namely, each of the three ways of knowing and career satisfaction, should be treated as separate variables in our model. To refine and understand the causal relationships among the core variables and to test for the moderator effects, we took several steps so appropriate conclusions could be drawn from the results.

First, in all the multiple regression analyses (ordinary least squares (OLS)), we ensured a precedence design control, meaning that the independent variables (i.e., three ways of knowing) preceded the observation of the dependent variable in time (Wu & Zumbo, 2008). Second, to have intervals of equal duration (we had only two waves of data), we calculated the mean of the moderator, career satisfaction, at T1 and T2 and used this

recomputed variable in the regression analyses. Analysis showed that although the measurements at the two times are intercorrelated ($r = .71, p < .01$), career satisfaction at T1 and T2 can be treated separately, suggesting that we should consider the change across time in the moderator. By doing so, we also increase the power of the measure, as we reduce the bias related to measurement errors to some extent (R. J. Carroll, Ruppert, Stefanski, & Crainiceanu, 2012).

Third, the predictor variables were mean centered prior to the analysis to allow for more rendered interpretation of the coefficients in the moderation regression models (Hayes, 2013). Nevertheless, to better illustrate the moderation effects, we used the original metric of the variables in the following graphs. Fourth, in each moderation test, we followed up the analysis with *probing interactions* to establish where the independent variables affect the dependent variables that are different from zero and where they do not in the distribution of the moderator (Holmbeck, 2002). We therefore conducted post-hoc analyses of significant interaction terms using the Johnson-Neyman technique (Spiller, Fitzsimons, Lynch Jr., & McClelland, 2013) to run inferential tests to identify at which point the value(s) of the moderator effect transitions between statistical significance and non-significance. In short, this technique shows the region of values in which the moderation effect becomes significant (at the .05 level).

Results

Table 3.2 displays the descriptive statistics and correlations among the study variables. As shown in the table, all the study variables were positively correlated with one another, except career satisfaction (T1 and T2) was not correlated with individual contributions to organizational culture (T1 and T2) or individual contributions to organizational capabilities (T1). The covariate gender was only negatively related to knowing-why (T2) ($r = -.17, p < .05$), knowing-whom (T2) ($r = -.15, p < .05$), contributions to organizational capabilities (T1)

($r = -.18, p < .05$), and contributions to organizational connections (T2) ($r = -.18, p < .05$), suggesting that men scored higher than women.

Testing direct links: Career capital and organizational core competencies

Table 3.3 shows the standardized coefficient results of the OLS regression analyses, which tests the direct relationships in the research model. The equations explained significant variance in individual contributions to organizational culture (T2) ($F = 4.82, R^2 = .23, p < .01$), individual contributions to organizational capabilities (T2) ($F = 15.40, R^2 = .38, p < .01$), and individual contributions to organizational connections (T2) ($F = 41.04, R^2 = .56, p < .01$). The standardized regression coefficients suggest that employees' knowing why (T1) positively predicted contributions to organizational culture (T2) ($b = .21, p < .01$), contributions to organizational capabilities (T2) ($b = .36, p < .01$), and contributions to organizational connections (T2) ($b = .54, p < .01$).

Table 3.2 Descriptive and correlations University graduates

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Gender	1.23	0.42	-													
2. Knowing-why T1	3.66	0.57	-.10	-												
3. Knowing-why T2	3.63	0.59	-.17*	.63**	-											
4. Knowing-how T1	3.82	0.56	-.07	.44**	.35**	-										
5. Knowing-how T2	3.82	0.57	-.04	.32**	.48**	.69**	-									
6. Knowing-whom T1	3.32	0.82	-.10	.42**	.29**	.40**	.34**	-								
7. Knowing-whom T2	3.32	0.83	-.15*	.38**	.46**	.36**	.48**	.73**	-							
8. Career satisfaction T1	3.74	0.64	-.10	.39**	.34**	.23**	.20**	.14	.18*	-						
9. Career satisfaction T2	3.71	0.69	-.02	.33**	.44**	.19*	.27**	.18*	.21**	.71**	-					
10. Contribution to org culture T1	3.74	0.53	-.11	.32*	.24**	.49**	.44**	.51**	.49**	.09	.11	-				
11. Contribution to org culture T2	3.81	0.55	-.08	.22**	.35**	.38**	.57**	.38**	.46**	.04	.15	.55**	-			
12. Contribution to org capabilities T1	3.87	0.46	-.18*	.43**	.45**	.54**	.51**	.52**	.57**	.28**	.24**	.74**	.54**	-		
13. Contribution to org capabilities T2	3.87	0.50	-.14	.27**	.43**	.37**	.57**	.38**	.51**	.11	.25**	.54**	.82**	.62**	-	
14. Contribution to org connections T1	3.43	0.73	-.11	.38**	.36**	.41**	.36**	.69**	.64**	.17*	.18*	.63**	.49**	.68**	.50**	-
15. Contribution to org connections T2	3.62	0.66	-.18*	.30**	.40**	.33**	.48**	.55**	.65**	.15*	.23**	.50**	.71**	.57**	.74**	.66**

Note: N = 181; Listwise deletion of missing values. The variable Gender is from T1.

* $p < 0.05$ (two-tailed).

** $p < 0.01$ (two-tailed).

Table3.3 Results of OLS regression analysis for direct relationships

	Contributions to org culture T2	Contributions to org capabilities T2	Contributions to org connections T2	Hypothesis confirmation
Hypotheses: 1, 2, 3				
Step 1:				
Gender	-.08	-.14	-.18*	
R²	.08	.14	.18	
Step 2:				
Gender	-.06	-.11	-.13*	
Knowing-why T1	.21**			<i>Full</i>
Knowing-how T1		.36**		<i>Full</i>
Knowing-whom T1			.54**	<i>Full</i>
R²	.23**	.38**	.56**	

Note: Values are based on the entry of all variables listed on that step. Regression coefficients are standardized values.

* $p < .05$.

** $p < .01$.

As further shown in table 3.3, the control variable gender had a significant effect only on the direct positive relationship between knowing-whom and contributions to organizational connections ($b = -.13, p < .05$), implying that this relationship was stronger for men. Considering these analyses together, these findings provide full support for hypotheses 1, 2, and 3.

Testing the moderation model: The interaction effect of career satisfaction on direct relationships

Table 3.4 shows the three moderation models and the results of the OLS regression analyses at a 90% confidence interval, including the moderator values defining the significance region (Johnson-Neyman probing technique). The table further displays the R^2 increase due to the interaction between the moderator and the independent variables, which is the proportion of the variance in the dependent variables that is uniquely attributed to the moderation of the independent variable effect by the moderator. Model 1 (H4a) shows that career satisfaction significantly moderates ($b_{interaction} = .28, p < .01, M_{career\ satisfaction} \geq 3.55$) the relationship between knowing-why (T1) and contributions to organizational culture (T2). The results of model 2 (H4b) show that career satisfaction significantly moderates ($b_{interaction} = .18, p < .05, M_{career\ satisfaction} \geq 3.06$) the relationship between knowing-how (T1) and contributions to organizational capabilities (T2). Finally, model 3 (H4c) shows that career satisfaction significantly moderates ($b_{interaction} = .14, p < .05, M_{career\ satisfaction} \geq 2.36$) the relationship between knowing-whom (T1) and contributions to organizational connections (T2).

Table 2.4 Results of OLS regression analysis for moderation effects

Hypotheses	Coefficients	SE	R^2 increase due to interaction	Johnson-Neyman technique	Hypothesis confirmation
<i>Hypothesis 4a</i>			.04 ($F = 7.75$)**	$M \geq 3.55$	Full confirmation at 90% confidence interval
Control: Gender	-.09	.09		Above these value(s)	
IV: Knowing-why T1	.20***	.07		define sig. region	
Moderator: Career satisfaction	.03	.07			
Interaction effect: Why \times Satisfaction	.28***	.10			
DV: Org Culture T2					
<i>Hypothesis 4b</i>			.02 ($F = 3.28$)^	$M \geq 3.06$	Full confirmation at 90% confidence interval
Control: Gender	-.14*	.08		Above these value(s)	
IV: Knowing-how T1	.30***	.06		define sig. region	
Moderator: Career satisfaction	.07	.06			
Interaction effect: How \times Satisfaction	.18*	.10			
DV: Org Capabilities T2					
<i>Hypothesis 4c</i>			.01 ($F = 3.40$)^	$M \geq 2.36$	Full confirmation at 90% confidence interval
Control: Gender	-.20*	.10		Above these value(s)	
IV: Knowing-whom T1	.42***	.05		define sig. region	
Moderator: Career satisfaction	.12*	.07			
Interaction effect: Whom \times Satisfaction	.14*	.08			
DV: Org Connections T2					

Note: The independent variable (IV) is from T1. The dependent variables (DV) are from T2. The moderator is the mean of T1 and T2. The coefficients are unstandardized B values.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Overall, the results provide full support for hypotheses 1, 2, and 3. The results also confirm the moderation effect of career satisfaction on the direct relationship between career capital development and contributions to organizational core competencies. The significant results for all three moderation models fully support hypotheses 4a-4c. Figures 3.1-3.3 show the visual representation of the main effects and crossover interaction, validating the findings from the moderation analyses and confirming hypotheses 4a-4c. Individuals with higher career satisfaction and investments in knowing-why, knowing-how, and knowing-whom, therefore, more strongly affect organizational culture, capabilities, and connections, respectively. The relationship is particularly strong between knowing-why and organizational culture, as opposite effects are observed between individuals with high career satisfaction and those with low career satisfaction (see figures 3.1).

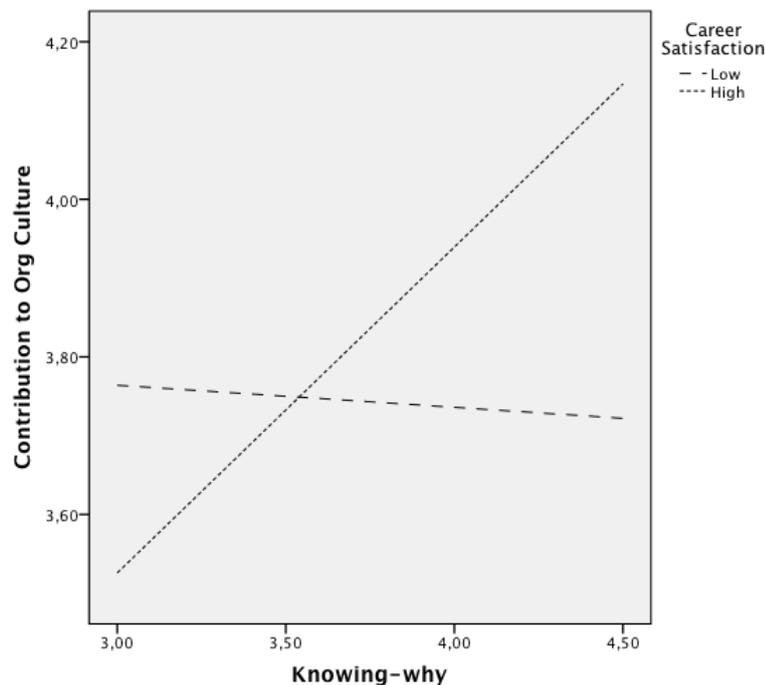


Figure 3.1 Moderation effects of knowing-why on contributions to organizational culture by career satisfaction

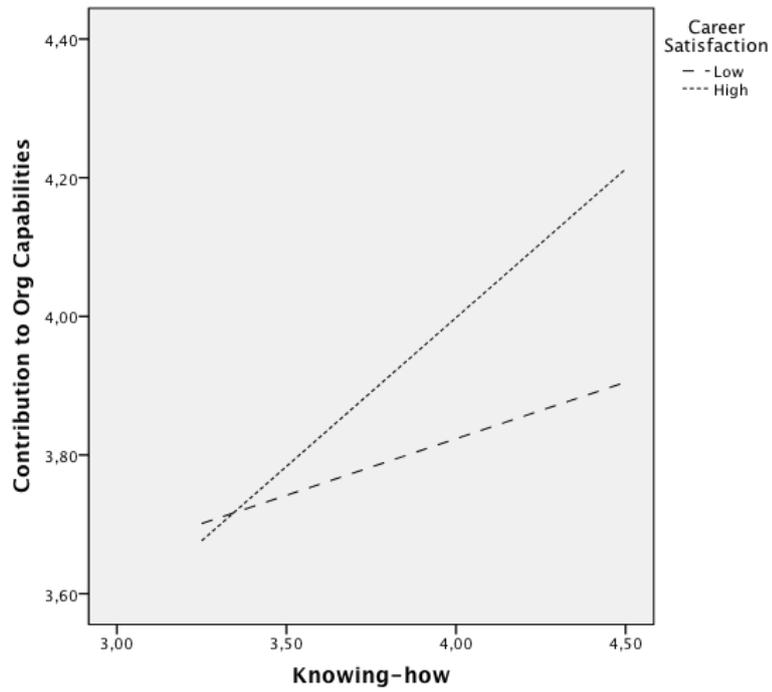


Figure 3.2 Moderation effects of knowing-how on contributions to organizational capabilities by career satisfaction

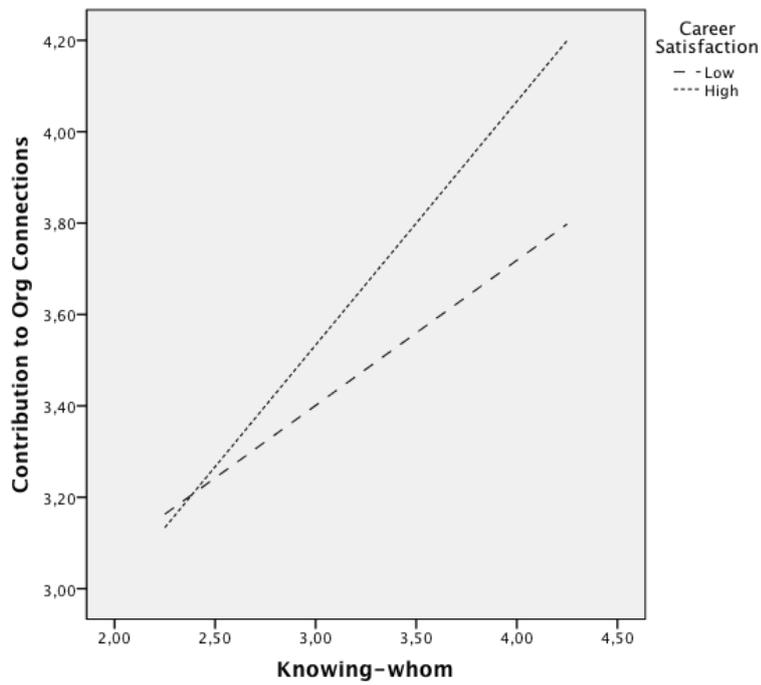


Figure 3.3 Moderation effects of knowing-whom on contributions to organizational connections by career satisfaction

Discussion

This study aimed to examine the organizational consequences of contemporary employees' career self-management. We conducted a two-wave longitudinal analysis among alumni of a large public university to investigate the relationship between employees' career capital development (operationalized as career investments in the three ways of knowing) and their individual contributions to organizational core competencies, namely, organizational culture, capabilities, and connections. We also proposed that employees' career satisfaction moderates this relationship. Our findings in the initial analysis show that individuals' career capital development is relevant for organizations. Specifically, the results show that a direct relationship exists between each of the three ways of knowing and the relevant category of organizational core competencies, namely, between knowing-why and organizational culture, knowing-how and organizational capabilities, and knowing-whom and organizational connections. However, we also found that these links depend on the level of employees' perception of their career satisfaction. If employees are satisfied with their careers, they contribute more to organizational culture, capabilities, and connections. Interestingly, individual contributions to organizational culture through knowing-why are greater for employees with high career satisfaction than for employees with low career satisfaction.

With these findings, we make several notable contributions to the extant literature on management, careers, and organizational behavior. First, the results of this study provide support for our key hypothesis that by developing their career capital, individuals contribute to their organizations in distinct ways. By employing a longitudinal design, this is the first study to show the causal relations between employees' investments in the three ways of knowing and their contributions to organizational core competencies. We thus contribute to scholarly debates regarding the potential negative consequences of contemporary employees' career self-management (e.g., DiRenzo & Greenhaus, 2011; Lazarova & Taylor, 2009).

Moreover, by employing both the intelligent career and the intelligent enterprise frameworks, our empirical evidence suggests that individuals' contributions may be identified over time. This finding is consistent with recent evidence showing that individuals' investments in their career development can also benefit organizations (e.g., Donnelly, 2009; Somaya et al., 2007, 2008). Our measurements of individual contributions to organizational core competencies provide novel tools to examine the extent to which employees transfer their values, motivations, contacts, and acquired skills to their employers. We therefore encourage future research to further explore and examine the contributions of individuals' career self-management to organizations and how organizations may facilitate this relationship. To increase the external validity of this study, future research is also advised to test these and related relationships in other contexts, preferably in an organizational setting.

Second, our study extends research on career outcomes, particularly research on the role of career satisfaction in shaping individuals' career capital development. Recognizing that certain factors may moderate or mediate the connection between individual careers and organizational outcomes (e.g., Weng, McElroy, Morrow, & Liu, 2010), this study is the first to examine career satisfaction as a moderator in the relationship between career capital development and organizational core competencies. Thus, contrary to previous studies that have examined career satisfaction mostly as an outcome, we offer a novel approach to employ the concept of career satisfaction as a predictive and intervening indicator. The results show that career satisfaction has a positive and significant effect on the relationship between individual investments in the three ways of knowing and their contributions to organizational core competencies. These findings contribute to a growing line of studies on the importance of developing networks, skills, and knowledge for one's career success, as well as for shaping organizational development (e.g., Friedman, Kane, & Cornfield, 1998;

Lankau & Scandura, 2002; van Emmerik, Euwema, Geschiere, & Schouten, 2006; Whiting & De Janasz, 2004).

Specifically, we found that individual contributions to culture through investments in knowing-why are greater for employees with higher career satisfaction. Given the important role of career success in shaping career development in this study, this finding may suggest that we should examine career success not only as an outcome of one's career development but also as an intervening mechanism. While earlier studies on found a positive association between the three ways of knowing and career satisfaction, these studies are based on cross-sectional, correlational research designs (e.g., Colakoglu, 2011; Eby et al., 2003). Consequently, this methodological limitation impedes the ability to draw conclusive causal inferences from the results of these studies. However, because of its longitudinal design, our study not only confirms that these links hold over time but also suggests that a dynamic relationship exists between individuals' career capital development and their career satisfaction.

We assert that, with time, career satisfaction will also increase the effects of the three ways of knowing. This assertion is consistent with the literature on positive psychology, which suggests that individuals' positive experiences drive the broadening of their mindset and the development of personal resources (e.g., intellectual, social and human capital) (Fredrickson & Branigan, 2005; Fredrickson, 2001). Thus, a satisfied person may feel more comfortable and confident in his or her career and work achievements (Abele & Spurk, 2009a) and will thus engage more in his or her organization. These findings are consistent with previous research that underlines the impact of individuals with proactive personalities on driving change and transforming their organizations (Callanan, 2003; Crant, 2000; Seibert et al., 1999). One important avenue for future research therefore concerns the dynamic interactions between the three ways of knowing (particularly as they relate to ambition and

proactivity) and career outcomes as predictors for contemporary employees' engagement, involvement at work and organizational outcomes.

Limitations and recommendations for future research

Like all empirical research, this study is not without limitations. We hope that by acknowledging them, these limitations could be further addressed in future research. First, as mentioned previously, we had only two waves of data, which could pose a challenge for an examination of moderation effects. Generally, the moderator should be observed prior to the independent variable (Kraemer, Kiernan, Essex, & Kupfer, 2008); however, such a research design generally used when a study involves an intervention or manipulation within an experiment (Rose, Holmbeck, Coakley, & Franks, 2004; Wu & Zumbo, 2008). While we observed our moderator at two time points, we minimized the measurement errors by studying the mean effect of career satisfaction in our moderation hypotheses (Spurk, Abele, & Volmer, 2011). Thus, we cannot rule out the possibility that our moderation results are the consequence of common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Researchers should pay careful attention to the design of future studies and preferably examine casual relations by observing the moderator at different points of time from the independent and dependent variables.

Second, our study heavily relies on self-reported data and may be subject to common method variance (Podsakoff et al., 2012; Spector, 2006). While such bias may result in inflated relationships, we minimized this risk by separating our predictors and outcomes in our direct relationships. Specifically, we used the measurements of the predictors in T1 and outcomes in T2, thus reducing the possibility for temporary mood effects on the studied relationships. This limitation calls for the use of more rigorous longitudinal designs in career studies. As career satisfaction is also an outcome of one's career behavior, scholars can employ other techniques, such as Structural Equation Modeling (Jöreskog & Sörbom, 1993),

which together with a longitudinal design would allow us to examine not only the relationship's evolution over time but also the influence on career satisfaction. While more longitudinal research is needed to replicate the findings presented here, we believe that this study will motivate researchers to investigate how individuals' perceived success influences the relationship between their career development and their consequent contributions to their employing organizations. In addition to career satisfaction, future research could examine other alternative moderation variables, such as job satisfaction, a psychological evaluation directed toward one's work environment (rather than one's career).

A third limitation of our study relates to our statistical analysis approach. Drawing inferences on interaction effects and particularly on moderation effects should be done with caution. Specifically, the magnitude of the discrepancy between patterns may be subject to sampling error at each value of the moderator (Hayes, 2013). However, to address this uncertainty, we engaged in additional inferential tests (probing interaction) to establish where in the distribution of career satisfaction the three ways of knowing affect individual contributions to organizational core competencies. While the most popular approach is the *pick-a-point approach* (Bauer & Curran, 2005), this approach requires an arbitrary selection of various values of the moderator, which, in some cases, can lead to different conclusions (Hayes, 2013). We therefore purposefully chose to use a more modern approach, namely, the Johnson-Neyman technique (Spiller et al., 2013), to avoid this randomness. This technique is growing in popularity and has been employed in many recent studies to probe interactions (e.g., Beach et al., 2012; Simons et al., 2012).

Implications for organizational practice

This study has several important implications for the management of contemporary employees' careers. First, the study highlights the importance of employees' investments in their careers for organizations. Knowledge and experience embedded in employees' careers

may provide a source of innovation and development within an organization. Thus, through recognizing individuals' interests, skills, and ways of building networks, organizations can design appropriate tools that inspire employees' investments in their employability. Creating a learning work environment could externally attract potential talent and internally focus employees' efforts in maintaining their employability through the development of career capital (Akgün, Byrne, Lynn, & Keskin, 2007; Milne, 2007). One way to create such an environment is to engage employees socially in a dialogue (with managers and colleagues, for example) so that they can reflect upon their experiences and future plans. By using such employment alternatives, organizations can generate both increased productivity and greater career satisfaction for the employees involved.

Our study further suggests that management should realize that individuals who are not satisfied with what they do in their work and the way that their career paths have developed will contribute less to overall organizational development. This lack of employee contribution can further decrease the success of retaining and attracting new talent. Therefore, organizations are advised to find ways to improve their employees' personal satisfaction. For example, organizations could provide personal incentives to take over new assignments so that employees acquire new skills and face new challenges. Applying job rotations could also be useful to expand employees' networks and familiarize them with different work aspects that might be more suitable for their personal career goals and expectations. As another example, organizations could encourage employees to participate in experiences outside their work environment, such as corporate volunteering programs. Such experiences would not only facilitate the development of employees' employability but also increase the commitment and pride that employees feel toward their organization.