Developmental mentoring, affective organizational commitment, and knowledge sharing in public accounting firms

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Abstract

Purpose – *This study aims to examine how public accounting firms can use developmental mentoring to increase knowledge sharing (KS) among employees directly and indirectly through affective organizational commitment.*

Design/methodology/approach – *This study uses a survey of public accounting professionals to elicit participants' demographics and their perceptions of KS, mentoring relationships and organizational commitment in their workplace.*

Findings – *The findings support that two categories of challenges found in developmental mentoring, demonstrating dedication and resilience and career goal and risk orientation, are directly associated with increased KS and they, along with a third, measuring up to mentor's standards, indirectly influence KS through their positive effect on organizational commitment. Applying social exchange theory, these challenges contribute to a reciprocal relationship between the protégé and mentor, which builds the relationship between the protégé and organization.*

Practical implications – *This study provides information about developmental mentoring that human resource professionals and managers in public accounting firms can use to address two persistent challenges facing them: increasing employees' organizational commitment and encouraging employees to share their knowledge with others at work.*

Originality/value – *This study examines the concept of developmental mentoring, adopting three categories of mentoring challenges and applying them in the context of public accounting to examine their effect on KS.*

Keywords Mentoring, Social exchange theory, Organizational commitment, Knowledge sharing, Public accounting, Mentoring relationship challenges

Paper type Research paper

Introduction

A persistent challenge facing organizations, especially public accounting firms[1], is encouraging employees to share their knowledge with others at work. Knowledge is a critical organizational resource (Wang and Noe, 2010, p. 115), which leads to "superior firm innovation capability" (Lin, 2007, p. 315), making it one of the most important resources for competitive advantage in organizations (Pan and Scarbrough, 1998). DeLong (2004) explains that knowledge lost due to an aging and more mobile workforce is a serious threat to knowledge-based organizations' continued success and sustainability, whereas the creation and application of new knowledge is also essential to the survival of almost all businesses (Gurteen, 1999). Knowledge sharing (KS), the willingness of individuals in an organization to share with others the knowledge they have acquired or created (Gibbert and Krause, 2002), has been proposed as a means for leveraging the skills, knowledge

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and best practices possessed by individuals across organizations and is especially important in accounting firms, as these service firms depend on the quality of services provided by their professionals to succeed.

Too often, people assume that knowledge[2] is free and can be captured and shared as a component of professionalism (Fernie et al., 2003). However, knowledge and expertise are distributed unevenly among employees, and individuals' knowledge does not transform automatically or easily into organizational knowledge. Thus, it must be willingly shared so that it becomes available to others. KS is defined here as the deliberate act in which knowledge is made reusable through its transfer from one party to another (Lee and Al-Hawamdeh, 2002). It is an enabler of organizational productivity and innovation and can help organizations leverage the skills, knowledge and best practices of their professional staff (Thatchenkery, 2005). This study focuses on knowledge that cannot be or has not become stored within a generally accessible organizational database, as it has been asserted that 90 per cent of the knowledge in any organization is embedded and synthesized in people's heads (Wah, 2000; Bonner, 2000).

Because KS is critical to public accounting firm success (Vera-Muñoz et al., 2006), this paper explores how firms can modify existing programs to increase the likelihood that employees will share their knowledge. DeLong's (2004, p. 48) "knowledge retention strategy" model proposes specific knowledge transfer practices (i.e. documentation, interviews and training) to reduce loss of existing knowledge. Successful knowledge transfer and retention ultimately depend on good relationships between experts and less-experienced employees; these relationships depend on good communication and the expert's (non-expert's) strong motivation to share (learn). Knowledge workers' career success is dependent "[. . .] on networking, and social structure to acquire, learn, coordinate, share, identify problems, help others, build awareness, produce, and verify their knowledge work" (El-Farr, 2009, p. 5). Mentoring programs[3], which are found in virtually all public accounting firms, provide a foundation for the development of these essential KS relationships. As an added benefit, mentors and protégés who were mentored are more willing to mentor others in the organization (Allen et al., 1997; Ragins and Cotton, 1993), thus increasing the sustainability of this approach.

Prior mentoring research finds that mentoring serves several important support functions, including career and psychosocial support (Siegel et al., 2001; Hall and Smith, 2009). Ensher and Murphy (2011) extend this research by identifying specific challenges given by mentors to their protégés. We examine whether and how these mentor challenges influence KS. Based on social exchange theory (SET), we propose that certain mentor challenges have a positive impact on affective organizational commitment, hereafter referred to as commitment, which then leads to increased KS. Positive attitudes (such as those arising from commitment) lead to positive outcomes, which often persist long after the initial positive emotion has vanished (Fredrickson, 2003), making this approach enduring.

Survey results from 135 public accounting professionals indicate that protégés' perceptions of two mentoring categories (i.e. demonstrating dedication and resilience[4], and career goal and risk orientation) are positively, directly associated with KS intentions, and all three mentor challenge categories (including measuring up to mentor's standards) have positive indirect effects on KS via commitment.

We add to the mentoring literature in two ways. First, we adopt from mentoring research a multi-dimensional developmental mentorship measure that includes a set of mentoring challenges posed by mentors to their protégés. Prior studies have not considered this mentoring relationship measure before in an accounting environment. Using a more nuanced measure of mentoring allows us to better understand exactly what mentoring components are effective. Second, we change the focus from mentoring's effect on *individual* benefits or outcomes (e.g. exit or satisfaction) (Payne and Huffman, 2005; Viator and Scandura, 1991;

Hall and Smith, 2009; Stallworth, 2003) to its effect on an intermediate outcome, KS by the protégée, with the understanding that this activity leads directly to positive organizational outcomes. We demonstrate that the relationship between mentor challenges and KS operates through commitment and identify that certain challenges may be ineffective in directly increasing KS. We contribute to the KS literature by demonstrating that mentoring, a facilitating factor not previously explored in this literature, can significantly increase employee willingness to engage in this positive organizational behavior. As such, we address Vera-Muñoz et al.'s (2006, p. 147) call for future research on KS in accounting: "We encourage research that empirically examines direct effects and moderating or mediating effects on knowledge sharing".

Literature review and hypothesis development

We begin by introducing a specific aspect of developmental mentoring, mentoring relationship challenges (MRC) (mentor challenge), used by mentors both to gauge and to develop a protégé's dedication to the mentoring relationship, to the profession and finally to the organization. We then use a SET to explain how these particular challenges encourage and facilitate protégés' affective organizational commitment or commitment. We then discuss how commitment, through SET, positively mediates the relationship between mentor challenges and protégés' KS behavior. Our proposed model appears in Figure 1.

Developmental mentoring and mentoring relationship challenges

Mentoring, both formal and informal, is a long-standing and effective management tool based on personal relationships between senior and subordinate employees. Many public accounting firms, particularly national and international firms, incorporate mentoring in their human resources' toolkit (Barker et al., 1999; Jenkins et al., 2008). Firms tout mentorship programs as a benefit to prospective recruits and, at times, engage in mentoring at the college level to recruit students to the profession and to their particular firms (Taylor and Curtis, 2016). Workplace mentoring serves two purposes. First, it increases the protégé's capabilities and contributions to the organization, which in turn lead to protégé's career success, often realized in the form of promotion or increased compensation. Second, it increases the protégé's job satisfaction, which leads to increased retention and engagement (Allen et al., 2004; Eby et al., 2008; Fagenson, 1989; Key, 2013; Tolar, 2012).

Mentoring studies generally focus on individual outcomes, primarily those related to satisfaction, turnover intentions and organizational commitment (Herbohn, 2004). Dirsmith and Covaleski (1985) find that mentoring is an important method of socialization and integration of new employees. A number of studies find an association between mentoring and reduction of turnover intentions (Stallworth, 2003; Viator and Scandura, 1991; Scandura and Viator, 1994). Viator (2001) finds that mentoring reduces role ambiguity (a positive outcome); however, it also leads to higher role conflict (a negative outcome).

Figure 1 Mediation model (Paths are depicted according to Baron and Kenny (1986))

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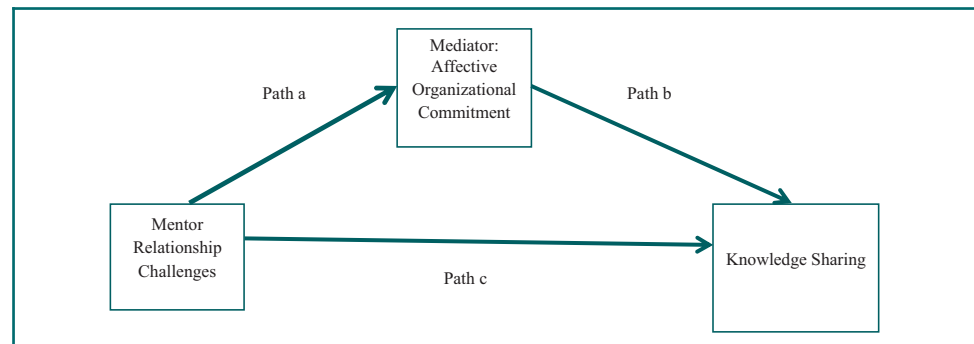
Traditional mentoring literature generally identifies two key support functions offered by mentors to their protégés (Siegel *et al.*, 2001). These include professional or career support (e.g. insights into organizational expectations and processes, information about resources and training, advice about task-related decisions) and personal or psychosocial support (e.g. career counseling, advice on work–life balance, personal decisions)[5]. These two types of support may lead to opposite outcomes. For example, Hall and Smith (2009) find that while psychosocial aspects of mentoring generally lead to lower turnover intentions, career development aspects of mentoring may increase turnover intention, as mentors help protégés recognize when their current job at the firm is a poor fit. Further, protégés with lower turnover intentions rate their mentors higher on coaching-type mentoring activities, indicating that a specific type of mentoring activity is associated with a decline in turnover intention (Stallworth, 2003).

In addition to providing career and psychosocial support functions, mentors might also take a *developmental* approach. Dow (2014) found that the greatest satisfaction with mentors arises when they help their protégées develop in ability in their jobs and Key (2013) found that providing effective developmental activities was a significant factor in participants' career progress. Mentoring relationships evolve through distinct phases, beginning with initiation, cultivation, separation and redefinition (Kram, 1983). Mentoring enactment theory (Kalbfleisch, 2002) suggests that mentors do not automatically accept protégés initially. Rather, through a series of challenges and interactions, mentors determine over time whether to commit the resources necessary to build and maintain (i.e. develop) the mentoring relationship.

Ensher and Murphy (2005) conducted interviews with mentor-protégé teams from media, technology and politics – all industries that require employees to work in teams on different projects and in which employees have high professional identity[6]. They find that some mentors pose particular types of developmental challenges to their protégés. From this data, they developed an MRC scale. They divide MRC into three categories: *demonstrating dedication and resilience, measuring up to mentor's standards* and *career goal and risk orientation.* In a subsequent study involving a broad array of industries, Ensher and Murphy (2011) find these challenges appear more commonly in traditional and step-ahead relationships than in peer-to-peer relationships. They further find that the presence of these challenges, after controlling for the two mentoring functions noted above (career and psychosocial support), have mixed results on protégé satisfaction with the mentoring relationship. For example, satisfaction was positively related to *demonstrating dedication and resilience* and negatively related to *measuring up to mentor's standards* (Ensher and Murphy, 2011).

Below we discuss the three categories of MRC in more detail and then propose KS as an alternate outcome measure beyond the previously considered ones. A list of the mentor challenges appears in Table I.

Demonstrating dedication and resilience. Ensher and Murphy (2005) find that mentors challenge their protégés' dedication and resilience, perhaps to both gauge and develop these behaviors. In the workplace, dedication relates to the protégé developing her dedication to career, setting forth specific goals and aspirations and understanding that achievement requires persistence. In the face of inevitable setbacks, resilience (an individual's ability to recover from difficulties or setbacks without giving up) becomes crucial. In the workplace, resilience includes being able to accept criticism without being defensive or giving up. A mentor may challenge his protégé to develop the resilience necessary to develop a professional mindset. For example, in public accounting, feedback in the form of review notes is ubiquitous. While intended to maintain professional quality and teach subordinates the necessary audit or tax preparation skills, review notes can be harshly critical. To be successful, a protégé must learn to accept this form of criticism and learn from it rather than become defensive.

Table I Scale questions and factor loadings

Variables Items	Tacit KS	Explicit KS	MentorDDR	MentorMU	MentorCGRO	Commit
			Loadings			
I share my expertise at the request of my coworkers	0.725					
I share my ideas about projects with my coworkers	0.833					
I talk about my tips on projects with my coworkers	0.805					
I share my experience on how to work with different managers in the firm with my co-workers	0.883					
I share my experience on how to navigate office politics with my co-workers	0.834					
I am willing to show others how to use equipment at work		0.858				
When I have a unique skill, I am glad to teach it to others		0.884				
If I know how to use a software package and my co-workers do not, I am glad to show them		0.893				
I share my explicit knowledge of how to perform certain tasks at work		0.773				
Challenges me to reach a difficult, specific goal			0.831			
Challenges me to think clearly about my career aspirations			0.800			
Makes it clear that I need to put in the work for my job rather than just expecting to take the easy road to advance my career			0.896			
Thinks it is important for me to be very dedicated to my job or my career			0.846			
Challenges me to think in ways I have never thought of before			0.803			
May give me critical feedback			0.836			
Expects me to take critical feedback without being defensive			0.817			
Put me under initial scrutiny				0.788		
Seems to be interested in whether I was a competent individual before investing a great deal of time in developing our relationship				0.727		
Strongly suggests I take his or her advice				0.794		
Feels it is important for me to see the world similarly to the way he or she sees it				0.845		
Tests me specifically on my skill level, and I felt if I did not have those skills I might upset my mentor				0.724		
Has suggested that I take risks in my career					0.726	
Asks me to get involved in additional projects that I would not normally do					0.681	
Waits for me to take the initiative to set up meetings					0.755	
Expects me to know what I need to do to accomplish my career goals					0.590	
I would be very happy to spend the rest of my career at this firm						0.856
I enjoy discussing my firm with people outside it						0.806
I really feel as if this firm's problems are my own						0.825
This firm has a great deal of personal meaning for me						0.896

Notes: Responses to scale questions were measured as 1 = strongly disagree to 7 = strongly agree; 1 = strongly disagree to 7 = strongly agree; Mentor = Mentoring relationship challenges (MentorDDR = Dedication and resilience; MentorMU = Measuring-up; Mentor CGRO = Career goals and risk orientation); KS = Knowledge sharing–These two combine to form the KS composite variable (TacitKS; Explicit KS); Commit = Affective organizational commitment, feeling of belonging to and identification with the firm is strong (1 = strongly disagree to 7 = strongly agree)

Measuring up to mentor's standards. Mentors also may challenge protégés to "measure up" to their standards. As professionals, accountants develop, enact and maintain the profession's standards and reputation. Professional accountants must pass licensing exams, earn continuing professional education credits and comply with special laws and rules. Specific challenges in this measuring up category relate to scrutinizing the protégé carefully, perhaps to assess continually whether the protégé has what it takes to be a public accountant and, particularly, a public accountant in this organization. This type of challenge also has the mentor requiring the protégé to prove his technical abilities and skills, expecting the protégé to see the world as the mentor sees it, and taking the mentor's advice when offered. By challenging the protégé this way, the mentor may believe he is fulfilling his responsibility to act as a gatekeeper for his firm and perhaps for the profession overall.

Career goal and risk orientation. The last category of challenges relates specifically to the protégé's current career. Here the mentor challenges the protégé to be proactive at work, take risks, volunteer for projects she would not normally do and take the initiative to set up meetings and independently find out what it takes to reach her career goals. A how-to guide on managing people suggests the same: "Fuel the high expectations of ambitious Millennials with special assignments that are outside of their job descriptions" and "Consider putting them on a task force to solve a problem [. . .]" (WSJ, 2009).

Social exchange theory

SET provides an appropriate explanation for how we believe mentor challenges influence KS, both directly and indirectly, through their effect on organizational commitment. SET is based on self-interest and interdependence (Lawler and Thye, 1999). This theory proposes that human behavior and decision-making are driven by an individual's expectations of costs and benefits arising from inter-personal exchanges (Blau, 1964); thus, the context of SET is in groups (as small as a dyad and as large as a society). Because SET focuses on interpersonal exchanges and their outcomes, and because reciprocal exchanges occur between a mentor and protégé, the mentoring relationship is an appropriate context in which to apply this theory.

Below, we briefly introduce affective organizational commitment, our proposed mediator. We then describe how the various aspects of SET predict how and why mentor challenges from the three categories influence commitment. We then link this mediator to KS, the desired organizational outcome.

Mentoring and affective organizational commitment. Organizational commitment refers to the alignment of an individual's beliefs and values with that of the organization (Cullen *et al.*, 2003). It includes three dimensions: affective commitment (emotional attachment to, identification with and involvement with the organization), continuance commitment (willingness to stay based on cost of leaving) and normative commitment (feelings of obligation to stay) (Allen and Meyer, 1990, p. 1). Because our focus is on an interpersonal relationship (mentor/protégé), affective organizational commitment, labeled commitment here, is the relevant dimension for this study.

Prior research has demonstrated a strong relationship between mentoring and the development of commitment (Chan *et al.*, 2008). In service firms in particular, mentoring is a significant antecedent of commitment (Stallworth, 2003). Hall and Smith (2009) explore this effect further, finding that the psychosocial support functions of mentoring (e.g. role modeling, counseling, friendship), in particular, lead to higher commitment among public accountants. Mentoring is the conduit through which mentors teach and initiate protégés into the organization. Commitment is a natural result of a developmental mentoring relationship, as it leads protégés to strongly identify with and work hard for the organization. SET suggests that when employees perceive that either an individual or an entity acts in good faith toward them, they reciprocate and return the sentiment (Burney *et al.*, 2009;

Lind and Tyler, 1988). Importantly, individual acts of justice or constructive interactions have been found to create positive attitudes and actions, often more positively toward the organization than the individual (Cohen-Charash and Spector, 2001; Colquitt, 2001; Burney *et al.*, 2009; Organ, 1990). Therefore, mentor interactions construed as beneficial to one's career should result in reciprocal positive feelings not only toward the individual with whom the interactions occur but also from the organization to which the mentor and protégé belong.

Mentoring relationship challenges and affective organizational commitment. All three mentor challenges categories include interactions that are likely to be positively associated with commitment. We begin with the challenges included in *demonstrating dedication and resilience.* Three challenges in this category build the protégé's expectations about the likely results (i.e. benefits) of his or her actions. Based on SET, these expectations will guide the protégé to make certain choices to maximize those benefits. Challenges in this category require the protégé to prioritize his career, (thinking about career aspirations and putting in work to succeed). These challenges call attention to the importance of prioritizing one's work life, which builds the protégé's involvement with the organization, a key determinant of commitment. These challenges also impress upon protégés that the mentor, and thus the organization, is dedicated to the employee for the long-term but only if the protégé is also dedicated to the organization. This exchange of dedication (a key aspect of SET) benefits both the mentor and the protégé and should build the protégé's organizational commitment. Also in this category are challenges related to resilience (receiving criticism without being defensive). These challenges help protégés learn how to behave through reinforcement, a relevant construct in SET. While protégés may view these challenges as a tough love approach (similar to a coach who is hard on his players), they act as an initiation to the organization and promise long-term membership if the protégé can overcome the inevitable challenges and criticism.

Based on the SET concepts of expectations and reinforcement, we propose that protégés will learn, through these demonstration challenges, that it is important to their success to develop commitment. This leads to our first hypothesis:

H1a. The developmental mentoring dimension labeled "demonstrating dedication and resilience" positively relates to affective organizational commitment.

We next consider the challenges related to "*measuring up to mentor's standards*". In these challenges, protégés observe how others above them behave and learn to behave similarly. There is some contradictory evidence regarding the outcome of this dimension of Ensher and Murphy's (2011) scale. For example, protégés may not feel positive about an organization where their mentor continuously tests them, especially if they have already demonstrated competence and skills on college and certification exams. As SET goes beyond rational cost/benefit measurements, and incorporates emotion as well, we recognize it is possible that some challenges within this category will be negatively associated with commitment. Challenges such as, "put me under initial scrutiny" and "seems to expect that I would overcome particular hurdles before he or she would establish our mentoring relationship", could create negative affect surrounding the mentor/protégé relationship, reducing the protégé's positive feelings for his mentor, and thus reducing the protégé's commitment. Thus, these challenges could discourage emotional attachment to, and identification and involvement with the organization, all components of commitment.

However, there are aspects of this dimension that could help to develop commitment to the organization. Two challenges in particular "feels it is important to see the world similarly to the way he or she sees it" and "strongly suggests I take his or her advice" likely develop the protégé's identification with the organization, one aspect of commitment. These challenges directly call on protégés to take on the views of the mentor. By responding to these challenges, protégés identify and internalize "[. . .] the opinion of an important referent as part of her own belief structure" (Lewis *et al.*, 2003, p. 662). In public accounting, this

means to "see the world as a public accountant sees the world" and to behave "the way a public accountant behaves".

Other challenges in this category speak to behavioral capability or having the knowledge and skills necessary to take action. Mentors who "make the protégé demonstrate competence and skills before investing time in the relationship" may or may not stimulate protégés' commitment. New and experienced public accountants are used to demonstrating skills and competence, as they spend significant time studying for certification exams, completing training and tracking CPE necessary for maintaining their licenses. Protégés who are challenged on these items may increase their identification with the firm, especially if the skills are firm specific (as in using a firm's proprietary auditing program).

Based on the above discussion and despite the possibility that protégés might not view all measuring up challenges positively, we propose an overall positive hypothesis for the relationship between this challenge category and commitment:

H1b. The developmental mentoring dimension labeled "measuring up to mentor's standards" positively relates to affective organizational commitment.

The challenge category, "career goal and risk orientation" includes four challenges that are likely to be positively associated with commitment. Protégés who heed a mentor's advice to "Take risks in my career" and "get involved in additional projects" likely benefit from increased involvement and identification with the organization. Mentors who "wait for protégés to take initiative to set up meetings" and "expect protégés to know what they need to do to accomplish their career goals" put the onus on the protégé to be actively and proactively involved in their own success at the firm. Leader member exchange (LMX) theory, based on SET, proposes "because of limited resources and lack of time to devote to each employee, the leader has an opportunity to develop a close social interaction or exchange with only a few essential subordinates (the in-group)" (Leow and Khong, 2009 p. 164). Thus, protégés who initiate meetings and take responsibility likely do so with the expectation that meeting these mentor challenges will result in additional resources and time from the mentor. LMX is consistently and positively associated with affective organizational commitment (Tyler, 1991; Leow and Khong, 2009). Thus, challenges that improve the LMX relationship likely lead to increased commitment. We therefore propose a positive relationship:

H1c. The developmental mentoring dimension labeled "career goal and risk orientation" positively relates to affective organizational commitment.

Next, we briefly introduce the concept of KS and then propose a positive relationship between commitment and KS, explained by concepts of SET.

Knowledge sharing

KS is the willingness of individuals in an organization to share with others the knowledge they have acquired or created (Gibbert and Krause, 2002). However, individuals' knowledge does not transform automatically or easily into organizational knowledge, even with the implementation of knowledge repositories. Individuals tend to hoard knowledge (Bock *et al.*, 2005, p. 87) rather than taking steps to convert their knowledge into a form that can be understood, absorbed and used by others (Ipe, 2003). Wang and Noe (2010) propose that interpersonal and team characteristics found in social networks are significant determinants of successful KS. Additionally, prior research demonstrates that the implicit motivation to share knowledge is more effective than are explicit organizational motivators such as rewards and punishments (Lin, 2007). KS therefore depends on the giver's willingness to share information (Brown and Duguid, 1991).

Sharing knowledge is an intangible activity that cannot be forced (Kim and Mauborgne, 1998); instead, KS happens only when people cooperate voluntarily. The most effective KS,

and the focus of our study, tends to occur informally, in unstructured day-to-day communication between two or more individuals (Reid, 2003). This type of KS, typified by positive interactions between individuals who possess diverse and different knowledge, enhances the organization's ability to innovate far beyond what any one individual can achieve (Cohen and Levinthal, 1990).

Affective organizational commitment and knowledge sharing. As noted above, KS is a voluntary activity but is not without cost. Thus, individuals are not likely to share knowledge without strong motivation to do so (DeLong, 2004; Ipe, 2003). One motivation arises from a belief that sharing knowledge is useful to the organization coupled with a desire to help the organization succeed (Hinds and Pfeffer, 2003). A high sense of felt commitment to an organization will result in voluntary cooperation, including the willing sharing of knowledge (Kim and Mauborgne, 1998). Another motivation derives from positive affect. The social formations approach, which relies on SET, proposes that when individuals in a group engage in similar or joint behaviors that generate positive emotions, the resulting positive affect leads them to continue to engage in those behaviors (Lawler and Thye, 1999). Identification with and commitment to one's organization creates these social ties between individuals and their direct superiors (Koriat and Gelbard, 2014). Such commitment has an effect on the workers' psychological mind-set and on their organizational outputs, including cooperation with other workers and organizational citizenship behavior, particularly KS. Van den Hooff and Van Weenen (2004) provide empirical support for the notion that commitment positively relates to KS, as do Kelloway and Barling (2000) and Van den Hooff and de Ridder (2004). A meta-analysis of the KS literature also finds that commitment is a significant determinant of KS, across a broad range of countries and occupations (Witherspoon *et al.*, 2013). Based on the above discussion, we propose the following hypothesis:

> *H2*. Developmental mentoring has an indirect effect on KS through affective organizational commitment.

Research design

The instrument was implemented as a Web-based, anonymous survey. We first elicited participants' commitment to their firm and then prompted them to recall and evaluate their most recent formal and informal mentoring relationships[7]. We next asked participants to select one mentor from their firm who had the most significant impact on their career, whether formal or informal (Viator, 1999), and elicited evaluative data on this selected mentoring relationship. Finally, we asked for participants' perceptions of their own KS activities and collected demographics.

Sample

Because mentoring is a common practice in public accounting, and KS is an important determinant of public accounting firm performance, we sought a sample of public accounting professionals. Participants were solicited from two sources. The first set was solicited via snowball sampling (Atkinson and Flint, 2016) by requesting advisory board members and former students of the researchers who are current public accountants to participate and to recruit other public accountants to participate. We e-mailed the individuals and included a request to complete and/or pass along the survey link. Of the 75 individuals from this subject pool who clicked the survey link, 19 either did not complete questions in the survey satisfactorily or had no mentor in their firm, resulting in a final sample of 56 from this source. This sample is 57 per cent female, averages (SD) 30.7 (7.4) years of age and has 6.6 (6.8) years in public accounting.

As this sample comprised primarily employees of Big-4 public accounting firms, we sought a secondary source for participants in an effort to broaden the representation of all types of public accounting firms in our results (Rogelberg *et al.*, 2009). For this purpose, we

contracted with SurveyMonkey to solicit currently employed public accountants from their subject pool. From the 168 individuals who clicked the survey link and met our screening requirements, 89 either did not complete questions in the survey satisfactorily or had no mentor in their firm, resulting in a final sample of 79 public accountants from this source[8]. This sample is 56 per cent female, averages (SD) 40.7 (11.7) years of age, and has worked for 11.1 (9.4) years in public accounting[9]. These two solicitation methods resulted in a combined sample of 135 public accountants that is 56 per cent female, averages (SD) 36.5 (11.2) years of age and has 9.2 (8.2) years public accounting experience.

Independent samples *t*-tests of each of our variables indicate that several of the demographic variables (including years in public accounting, years with current firm and age) differed significantly between sources. This further supports that our two samples allowed us to gather data from a much broader cross-section of our target population than either sample, individually, would represent. Inclusion of the source indicator did not change statistical inferences from analyses described below and therefore we do not include source as a covariate in our reported results. Given that none of our demographic variables is significantly correlated with *KS* (Table II), they are excluded from further consideration.

Selected mentor

After telling us about their mentors and evaluating their satisfaction with each, we asked participants, "Of the mentors included above, select the one EMPLOYED IN YOUR FIRM (formal or informal mentor) who has had the most SIGNIFICANT IMPACT on your career. If only one is employed in your firm, select that one". About two-thirds of participants chose their formal mentor. The time participants had known their mentor averaged 4.93 years for their formal mentor, 5.35 years for their informal mentor and 5.28 for their selected mentor. The average ages were also fairly similar, with formal mentors having an average of 44.75, informal with 42.93 and selected mentor with 44.57. Informal mentors were 58 per cent male, formal mentors were 65 per cent male and 63 per cent of selected mentors were male. Selected mentor and participant were of the same gender in two-thirds of the cases. On average, participants rated satisfaction with their informal mentors as 7.4 on a scale of 1-10, rated satisfaction with their formal mentors as 6.9, and as 7.6 for their selected mentors.

Variable definitions and descriptive statistics

Our independent, dependent and mediator measures (depicted in Table I) were derived from existing scales and were created by averaging the individual items within each scale.

Table II	Pearson correlations among variables							
Variables	KS	MentorDDR	MentorMU	MentorCGRO	Commit	Age	Gender	Mean (SD) range
KS	1.00							5.68 (1.09) 1-7
MentorDDR	0.558**							5.49 (1.13) 1-7
MentorMU	0.241**	0.368**						3.99 (1.51) 1-7
MentorCGRO	0.441**	0.431**	0.687**					4.35 (1.32) 1-7
Commit	0.568**	0.576**	0.342**	0.432**				5.05 (1.26) 1-7
Age	0.122	0.060	0.115	0.096	0.185*			36.56 (11.24) 22-67
Gender	0.059	0.133	0.319**	0.214*	0.177*	−0.124		0.44 (0.50) 0-1
YearsPA	0.111	0.058	0.127	0.173*	0.212*	0.670**	−0.026	9.21 (8.69) 0.5-48

Notes: **Correlation is significant at the 0.01 level (two-tailed); *correlation is significant at the 0.05 level (two-tailed); Mentor: Mentoring relationship challenges (1 = strongly disagree to 7 = strongly agree) (MentorDDR–Resilience; MentorMU–Measuring-up; Mentor CGRO–Career goals and risk orientation); KS = Knowledge sharing– combination of explicit and tacit knowledge (1 = strongly disagree to 7 = strongly agree); Commit: Affective organizational commitment, feeling of belonging to and identification with the firm is strong (1 = strongly disagree to 7 = strongly agree); Gender: 0 = female, 1 = male; YearsPA = Years in public accounting

Based on pilot testing, we refined the instrument and individual questions, including eliminating scale items with low reliability for parsimony purposes.

Knowledge sharing. Knowledge is commonly classified as explicit or tacit. *Explicit* knowledge has been labeled "know what", in that it is descriptive in nature and generally considered to be relatively easy to capture, disseminate and communicate (Vera-Muñoz *et al.*, 2006). *Tacit* knowledge is subconsciously understood and applied and resides in people's minds as intuitions, heuristics, insights, beliefs or values (Vera-Muñoz *et al.*, 2006). Much knowledge in organizations is tacit in nature – highly personal and difficult to reduce to written statements. When expressed, it typically takes the form of "analogies, metaphors, stories, or personal strategies that reveal insight into the 'how and why' underlying an employee's approach to tasks or problems". (Holste and Fields, 2010, p. 128).

We measure KS with a self-rated nine-item scale. Based on Bock *et al.* (2005), we measure both explicit knowledge sharing (*ExplicitKS*) and tacit knowledge sharing (*TacitKS*). Similar measures of KS have been used by Nonaka and von Krogh (2009), Lin (2007), Bock and Kim (2002) and Yang and Chen (2008), although we tailor our measures to KS found in professional accounting firms. Factor analysis confirms that the questions load on the two independent factors, and all loadings exceed 0.735, with Cronbach's alpha for the scales of 0.937 for *ExplicitKS* and 0.935 for *TacitKS*. However, as the two measures are highly correlated ($r = 0.699$, $p = 0.000$) and assessing the difference between the two types of KS is not an objective of our study, we test our hypotheses on a combined (averaged) measure of KS[10], which has a Cronbach's alpha of 0.944 and a mean of 5.68 on a scale of 1 = strongly disagree to 7 = strongly agree. We use a self-rating of KS because it was not possible to obtain supervisor ratings of accountants' performance as respondents are anonymous (Hall, 2011).

Mentoring. We use the MRC scale (Ensher and Murphy, 2005, 2011) to measure protégé perceptions of the presence of the three types of challenges by their mentors. Based on pilot testing, we initially included all seven dedication and resilience questions, six measuring-up questions and four career-goal and risk-orientation questions. Factor analysis confirms three distinct dimensions where the seven dedication and resilience questions (*MentorDDR*) load together with all loadings greater than 0.800, Cronbach's alpha of 0.941, and mean (SD) of the composite score of 5.49 (1.13) on a scale of 1 = strongly disagree to 7 = strongly agree; the four career-goal and risk-orientation questions (*MentorCGRO*) load together with loadings above 0.724, Cronbach's alpha of 0.0.817 and mean (SD) of the composite score of 3.98 (0.59); and five of the six measuring-up questions (*MentorMU*) load with all five loadings greater than 0.590, Cronbach's Alpha of 0.898, and mean (SD) of the composite score of 3.99 (1.51). We eliminated the sixth measuring-up question from further consideration.

Mediator. Based on prior research, we measure commitment (*Commit*) using six questions from the affective organizational commitment scale initially developed by Allen and Meyer (1990) and modified slightly by Stallworth (2003). Of the six items, the two reverse-coded items do not load with the other questions; once removed, factor analysis confirms a single dimension, with no factor loading below 0.81. Cronbach's alpha for the scale is 0.869 and mean (SD) of the composite score is 5.05 (1.26). Table I includes factor loadings for each construct and demonstrates the independence of the scales used as our independent variables, dependent variables and mediator[11].

Results

We test our hypotheses, depicted in Figure 1, with a combined measure of *KS*, using the Hayes (2016) Process model for direct and indirect effects[12]. These analyses include three covariates: age, gender and years, in public accounting; all findings of significance and statistical conclusions are the same when covariates are excluded.

H1a, H1b and *H1c* predict that *MentorDDR*, *MentorMU* and *MentorCGRO* are positively related to *Commit*. Correlation results reported in Table II indicate positive correlations with *Commit* for *MentorDDR* ($r = 0.576$, $p = 0.000$), *MentorCGRO* ($r = 0.432$, $p = 0.000$) and for *MentorMU* ($r = 0.342$, $p = 0.000$)[13]. Thus, the directionality of our proposed relationships is confirmed. Results from the process model, reported in Table III, support

Table III	Regression results for direct effects and mediation			
Variable	B	SE	t	p
Mentor Challenges Resilience (MentorDDR)				
DV: Affective commitment (Commit)				
Constant	1.06	0.53	2.01	0.047
MentorDDR	0.62	0.08	7.84	0.000
Age	0.01	0.01	0.85	0.399
Gender	0.30	0.18	1.67	0.097
YearsPA	0.02	0.01	1.39	0.166
DV: KS				
Constant	2.15	0.45	4.72	0.000
Commit	0.32	0.07	4.31	0.000
MentorDDR	0.34	0.08	4.19	0.001
Age	0.01	0.02	0.39	0.699
Gender	−0.11	0.15	−0.71	0.480
YearsPA	−0.01	0.01	−0.15	0.884
	Effect	SE	*t*	*p*
Bootstrap results for direct effect of *KS* on *MentorDDR* 0.33 0.08	0.34	0.08	4.19	0.001
	Effect	SE	LL 95% CI	UL 95% CI
Bootstrap results for indirect effect	0.20	0.07	0.08	0.34
Mentor Challenges MeasuringUp (MentorMU)				
DV: Affective commitment (Commit)				
Constant	3.48	0.45	7.67	0.000
MentorMU	0.24	0.07	3.31	0.001
Age	0.01	0.01	0.74	0.458
Gender	0.25	0.22	1.15	0.251
YearsPA	0.02	0.02	1.13	0.260
DV: Knowledge sharing (KS)				
Constant	3.04	0.42	7.17	0.000
Commit	0.48	0.07	7.09	0.000
MentorMU	0.05	0.06	0.88	0.381
Age	0.01	0.01	0.29	0.770
Gender	−0.13	0.17	−0.77	0.441
YearsPA	−0.01	0.01	−0.38	0.704
	Effect	SE	*t*	*p*
Bootstrap results for direct effect of KS on MentorMU 0.33 0.08	0.05	0.06	0.88	0.381
	Effect	*SE*	LL 95% CI	UL 95% CI
Bootstrap results for indirect effect	0.11	0.06	0.02	0.24
Mentor Challenges CareerGoal and RiskOrientation (MentorCGRO)				
DV: Affective commitment (commit)				
Constant	2.75	0.49	5.66	0.000
MentorCGRO	0.37	0.08	4.78	0.000
Age	0.01	0.01	1.08	0.284
Gender	0.28	0.20	1.38	0.170
YearsPA	0.01	0.02	0.69	0.495
DV: Knowledge sharing (KS)				
Constant	2.66	0.42	6.30	0.000
Commit	0.41	0.07	6.03	0.000
MentorCGRO	0.21	0.06	3.30	0.001
Age	0.01	0.01	0.48	0.635
Gender	−0.17	0.16	−1.07	0.287
YearsPA	−0.01	0.01	−0.71	0.480
	Effect	SE	*t*	*p*
Bootstrap results for direct effect of MentorCGRO on KS 0.33 0.08	0.21	0.06	3.30	0.001
	Effect	SE	LL 95% CI	UL 95% CI
Bootstrap results for indirect effect	0.15	0.06	0.05	0.29

Notes: Unstandardized regression coefficients are reported; bootstrap sample size = 1,000; LL = lower limit; CI = confidence interval; UL = upper limit; two-tailed tests at the 0.05 level are supported if the confidence interval does not contain zero

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these hypotheses. Specifically, *Commit* is significant when regressed on each of the three mentor challenge dimensions: *MentorDDR* ($t = 7.84$, $p = 0.000$), *MentorMU* ($t = 3.31$, $p = 0.001$) and *MentorCGRO* ($t = 4.78$, $p = 0.000$). Based on these results, *H1a*, *H1b* and *H1c* are supported and demonstrate support for Path *a* of the mediation model depicted in Figure 1.

H2 proposes that commitment mediates the relationship between mentor challenges and *KS*. Traditional Baron and Kenny's (1986) mediation analysis requires a direct effect of the independent variables on the dependent variable, *KS*. Correlation results reported in Table II indicate positive correlations with *KS* for *MentorDDR* ($r = 0.558$, $p = 0.000$), *MentorCGRO* ($r = 0.441$, $p = 0.000$) and for *MentorMU* ($r = 0.241$, $p = 0.005$). Direct effects, reported from the more complete process model in Table III, provide mixed support for these direct effects. Specifically, *MentorDDR* ($t = 4.19$, $p = 0.001$) and *MentorCGRO* ($t = 3.30$, $p = 0.001$) are significantly related to *KS*, and *MentorMU* ($t = 0.88$, $p = 0.381$) is not significantly related to *KS*.

However, Preacher and Hayes (2008) explain that significant direct effects are not necessary to demonstrate indirect effects (Hayes and Scharkow, 2013; Hayes, 2013). Preacher and Hayes (2004) assert the indirect effect is significant at $p < 0.05$, if the 95 per cent bootstrap confidence intervals (CIs) do not span or include zero. Using the Hayes (2016) process model, bootstrapping results demonstrate, for each independent variable, that the indirect effect is significantly different from zero given that the 95 per cent bootstrap CIs do not contain zero (Table III). Specifically, we find the following CIs: *MentorDDR* (CIs = 0.08-0.34), *MentorCGRO* (CIs = 0.05-0.29), and *MentorMU* (CIs = 0.02-0.24). These results support H2.

Supplemental analyses

One might wonder whether developmental mentoring, as measured by the Ensher and Murphy (2011) scale, is uniquely related to KS or whether other measures of mentoring would substitute for this measure. To address this question, in addition to mentor challenges, we also measured other perceptions of the mentor relationship. When added to the analysis presented above, conclusions do not change. For example, we assessed perceived mentor relationship quality for their selected mentor using the Ragins *et al.* (2000) perceived mentoring relationship quality (*MRQ*) scale[14]. When *MRQ* is added to our analyses as a covariate in the process model depicted in Table III, *MRQ* is significantly related to *Commit* in all cases, and to *KS* in the presence of *MentorCRGO* and *MentorMU*, but not in the presence of *MentorDDR* (untabulated). Hypothesized relationships depicted in Table III remain significant in the presence of this additional measure of mentor relationship satisfaction. We also assessed coaching (*Coach*) and social support mentor (*SocSup*) activities from Viator and Scandura (1991). *Coach* exhibited the same pattern of significance as that described for mentor relationship quality when included as a covariate, and again the hypothesized relationships depicted in Table III remain significant in the presence of this additional measure of mentor relationship satisfaction. When *SocSup* is used as a covariate in the process model depicted in Table III, *SocSup* is significantly related to *Commit* in the presence of *MentorCRGO* and *MentorMU*, but not in the presence of *MentorDDR*, and to *KS* in all cases (untabulated)[15]. As with the other mentor scales used as covariates, hypothesized relationships depicted in Table III remain significant in the presence of this additional measure of mentor relationship satisfaction. Therefore, we conclude that mentoring, in general, has a significant relationship on KS and that mentoring challenges measure unique aspects of the mentor relationship with KS.

To explore the reason for the lack of a direct effect of *MentorMU* on *KS*, we analyzed each of the *MentorMU* questions individually (untabulated). In correlation analyses, we find all five *MentorMU* questions are significantly, positively correlated with *Commit* ($r \geq 0.225$, $p \geq 0.010$), whereas only the first three *MentorMU* questions were positively correlated with

KS ($r = 0.212$, $p = 0.014$; $r = 332$, $p = 0.000$; $r = 0.272$, $p = 0.001$; $r = 0.135$, $p = 0.117$; $r = 0.076$, $p = 0.379$).

Finally, we also inquired as to whether their selected mentor was their supervisor. Adding this covariate to the analysis did not change the statistical significance of any of our tests.

Discussion and conclusion

Because professional service firms' value is in their ability to provide expert and comprehensive solutions, individual knowledge and the ability to leverage it are critical to their success. Innovative solutions transfer from one professional to another through active KS. Knowledge can be explicit or tacit. Explicit knowledge is objective, context-free and easy to encode and store, whereas tacit knowledge is personal, difficult to express with words, figures or formulas and is usually contextual in nature (Koriat and Gelbard, 2014). Collaborative behaviors, KS in particular, are among the mechanisms used to make this tacit knowledge surface, facilitate innovation and creativity, give the organization value and improve its performance (Choi and Lee, 2003). KS is a means for leveraging the skills, knowledge and best practices possessed by individuals across an organization. Therefore, firm management should take steps to identify and cultivate KS.

Mentoring (both formal and informal), present in many public accounting firms, may provide a way to increase KS. Mentoring programs are already in place in many professional service firms, recognizing increased KS as an additional benefit of mentoring and understanding how this phenomenon occurs is valuable. Our research provides this insight.

We explore whether and how developmental mentoring, in the form of specific categories of mentor challenges, leads to an increase in KS (both tacit and explicit). We find that mentor challenges (i.e. "demonstrating dedication and resilience", "measuring up" and "career goal and risk orientation") increase affective organizational commitment. Individuals who are part of a mentoring dyad develop strong interpersonal relationships, which help build a feeling of belonging. SET supports that the emotional aspects of a relationship are important components contributing to an individual's perception of costs and benefits of KS. We find that protégés with strong commitment for the organization are more willing to share their knowledge (both tacit and explicit) with others in the firm as a way to cooperate and help the firm succeed. We find "measuring up to mentor's standards" does not have a significant direct effect on KS, although it does have an indirect effect through commitment. Our findings suggest that researchers should investigate these challenges more deeply in future research.

Mentoring is not a new concept but is one that may have more benefits than researchers typically consider. Managers can use our findings to justify an increased focus on mentoring, whereas mentors and other supervisors can use this information to guide specific mentoring activities when they themselves interact with protégés. By improving our understanding of how mentoring works through specific challenges and commitment to increase KS, we can make more informed choices about supporting mentoring and using it to improve organizational performance.

This study has limitations. Our measure of KS is a first-person perception of the extent to which each individual engages in KS. This could explain the similarity in our results between the two KS measures (tacit and explicit), although the two scales loaded separately in factor analysis. We neither measured perceptions of KS by others in the organization nor were able to measure other members of the organization's perceptions of respondents' KS. Additionally, we drew our sample from two different sources, without randomization. Although this process is unconventional, we believe this led to a sample more representative of professionals as a whole, given that the samples differed in age and

years in public accounting. We acknowledge that lack of randomization limits the generalizability of our findings.

Our study implicitly assumes that accounting firms have positive and ethical environments. Certainly, studies and real-world examples (e.g. Andersen) indicate that not all public accounting firms should be characterized in this way. Our goal is to assess whether mentoring can be a means for improving the culture within an organization, and we neither address the negative impacts of other components of culture nor address the negative side effects of KS (Chua, 2009). There is a very small body of research on the dark side of KS, and we look forward to additions to this literature. Further, research in the management literature indicates that how individuals react to organizational environments depends on whether their personal values/norms match those of the organization. Person-organization fit is not an objective of this study, but we do believe this is fertile ground for future research. We also acknowledge that mentors are primarily gatekeepers for the firm but not necessarily for the profession as a whole. Thus, we do not make blanket claims about the effects of developmental mentoring on KS beyond the firm.

Future research may explore developmental mentorship, its antecedents and dependents. For instance, what specific mentoring challenges within each category are most effective in developing commitment and KS? Are there detrimental effects of the measuring up challenges; do those outweigh the benefits? Does public accounting have undiscovered MRC? Do mentoring effects persevere, and if so, for how long? Additionally, mentoring challenges probably have further positive effects on employee performance, beyond the effect on KS we have demonstrated. Future research can explore additional outcomes from this method of assessing the impact of mentoring. Finally, we wonder how organizations can use technology to develop quality mentoring relationships across distances? Research on innovative mentoring programs (e.g. WomenLEAD)[16] may yield important insights.

Notes

1. Public accounting firms are service companies whose mission is to provide tax, audit and consulting services to public, private and not-for-profit organizations and individuals.

2. Knowledge is the accumulated facts, skills and data that experts acquire through experience and learning and that they use to make judgments and decisions.

3. According to Kalbfleisch (2002, p. 63), "A mentoring relationship is a personal relationship between a more sophisticated mentor and a less advanced protégé. The mentor has achieved personal or professional success and is willing and able to share covert and overt practices that have assisted him or her in becoming successful. The protégé has the potential or desire to learn the methods used by the mentor in becoming personally or professionally successful".

4. Note: in the original literature, this dimension is titled "demonstrating commitment and resilience". For this paper, we change the title to "demonstrating dedication and resilience" to reduce confusion with the name of our mediating variable, organizational "commitment".

5. Some studies also identify a third function, role-modeling support.

6. These are also characteristics of public accounting firms.

7. Our instructions defined formal and informal mentor: "In the following boxes, please describe the mentor formally assigned to you by the firm, in the first row, and then any individuals with which you have a relationship that has helped your career and affected your mobility in your career (informal mentors, whether in this firm or not) in the following rows. If you have not had a formal mentor during your professional career, please leave that row blank. If you have fewer than 2 informal mentors, simply leave those boxes blank. If you have more than 2 informal mentors, please focus on the 2 that have the greatest current influence on your professional career".

8. Given that these individuals are from smaller public accounting firms, where mentoring is much less institutionalized, it is not surprising that a greater percentage of possible respondents had no mentor in their firm (Kaplan *et al.*, 2001; Viator, 1999).

9. The participants who did not complete the survey or whose responses were incomplete were randomly distributed throughout the sample and no pattern could be discerned.

10. Tests on the individual measures do not differ in statistical conclusions from the combined measure. We rule out common method bias in several ways, both through the design of the instrument and post hoc, through the Hansen single-factor test (Podsakoff *et al.*, 2003).

11. Common method bias was controlled for by our experimental design and ruled out using the Hansen single-factor test (Podsakoff *et al.*, 2003).

12. The PROCESS model is dedicated to the analytical integration of mediation and moderation using a data-analytical strategy Hayes terms conditional process modeling (Hayes, 2016, 2013; Hayes and Scharkow, 2013). The tool uses ordinary least squares (OLS) regression, with added bells and whistles. For example, it implements the Johnson–Neyman technique for probing interactions and generates bootstrap CIs for products of parameters.

13. All *p*-values reported are two-tail.

14. This scale includes question about the satisfaction, effectiveness and quality of the mentoring relationship from the protégé's point of view.

15. Both *MRQ* ($r = 0.772$, $p = 0.000$) and *SocSup* ($r = 0.625$, $p = 0.000$) are highly correlation with *MentorDDR*, with lower correlations for *MentorCRGO* and *MentorMU*, which may explain the lack of significance of the supplementary analyses when either *MRQ* or *SocSup* is considered in the presence of *MentorDDR.*

16. This program is a startup designed to encourage women to enter and remain in STEM fields by helping them develop mentoring relationships within their fields (Business Insider, 2014).

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