



Sensemaking during organizational entry: Changes in newcomer information seeking and the relationship with psychological contract fulfilment

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In this study, insight is given into the temporal nature of psychological contract-related information seeking during organizational entry, by examining how the frequency of information seeking changes across the first year of employment for a sample of 280 newcomers. We examined the pattern of changes in the frequency of information seeking from four sources (supervisor, co-workers, mentors, and other newcomers) and about two content dimensions of the psychological contract (organizational inducements and employee contributions). We also investigated if information-seeking behaviours were related to the evaluation of the psychological contract and whether these relationships changed over time. The data were analysed using Latent Growth Modelling. The results indicated that information seeking about the psychological contract decreases significantly over the first year of employment, with the exception of information seeking from supervisors, indicating that for different targets of information different information seeking patterns exist. Employees seek more information on organizational inducements than on employee contributions. We found a positive association between information seeking during the initial weeks after entry and evaluations of psychological contract fulfilment after 3 months, but changes in information seeking after this initial period were not associated with changes in psychological contract fulfilment. Finally, we found that younger newcomers engaged more frequently in information seeking from co-workers and other new hires compared to older newcomers. Implications for theories on psychological contract formation and future research are discussed.

In the study of long-term intra-individual changes, the organizational entry phase is a key transition period (Cooper-Thomas & Anderson, 2005; Kammeyer-Mueller & Wanberg, 2003). Organizational entry has been described as an anxiety-producing experience characterized by changes, contrasts, and surprise (Louis, 1980; Saks, 1994),

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and newcomers' experiences during this entry process are presumed to have long-lasting effects on their job attitudes and behaviours (Jokisaari & Nurmi, 2009). Newcomers are unfamiliar with their new role and with the organization, and their insecurity may cause adverse reactions like higher turnover rates among newcomers than their more experienced co-workers (Griffeth & Horn, 2001; Jokisaari & Nurmi, 2009). The uncertainty newcomers experience can be reduced through information provided by various sources of information, mainly by social interactions with supervisors and peers (Saks & Ashforth, 1997a). Newcomer adjustment refers to the process of reinterpreting and revising the perceptions of one's role and functioning within the organization (Lance & Vandenberg, 2000). It is conceived as a sense-making process, taking place during the first months after entry and, in case of positive adjustment, resulting in a strengthened linkage between the newcomer and the organization (Bauer, Morrison, & Callister, 1998; De Vos, Buyens, & Schalk, 2005; Saks & Ashforth, 1997a; Wolfe Morrison, 1993a, 1993b). Outcomes of newcomer adjustment include performance, job satisfaction, organizational commitment, intentions to remain, role ambiguity, self-efficacy, perceived social support, and turnover (Bauer, Bodner, Erdogan, Truxillo, & Tucker, 2007).

An important finding from studies on newcomer adjustment is that, in addition to investigating organizational socialization policies, it is essential to include the proactive role of the newcomer during the socialization process (Chan & Schmitt, 2000; Saks & Ashforth, 1997b; Wolfe Morrison, 1993a, 1993b). The interactionist approach (Bauer *et al.*, 2007) to newcomer adjustment has indeed shown that information-seeking behaviours mediate the relationship between organizational socialization policies and distal newcomer adjustment outcomes, such as job satisfaction (Mignery, Rubin, & Gorden, 1995; Saks & Ashforth, 1997b). Cooper-Thomas and Anderson (2002) explain this mediating relationship by referring to the socialization process as a learning experience.

Information-seeking behaviour has been studied from different perspectives such as the content of the information needed (Wolfe Morrison, 1993b), the sources newcomers turn to (Settoon & Adkins, 1997; Wolfe Morrison, 1993b), and the frequency with which they consult these sources (Ashford, 1986; Bauer *et al.*, 1998; Chan & Schmitt, 2000; Wolfe Morrison, 1993a). A considerable body of research has demonstrated the beneficial effects of information seeking from various sources on traditional socialization content domains such as task mastery and social integration (e.g., Chan & Schmitt, 2000; Wolfe Morrison, 1993a).

One element of the socialization process that has been relatively understudied is information seeking related to the psychological contract. Psychological contract researchers consider the socialization period as a crucial phase in the development of a mutually beneficial psychological contract (McFarlane Shore & Tetrick, 1994; Rousseau, 2001). To date, only a few empirical studies on the process of psychological contract development have been published. Although some of them mentioned the role of newcomer information seeking in this process, the direct relationship has not been studied yet (De Vos, Buyens, & Schalk, 2003; Robinson, Kraatz, & Rousseau, 1994; Thomas & Anderson, 1998).

At the theoretical level, Rousseau (2001) describes the early socialization phase as a continual exchange of promises by means of active information-seeking behaviours by newcomers aimed at multiple information sources to form their psychological contract. Over time the psychological contract takes form of a mental model, which is relatively stable and durable (Rousseau, 2001). However, in the early beginnings of the employment relationship, new recruits have incomplete information on the nature of

their employment relationship, and information-seeking behaviours serve a sense-making purpose. Information seeking on the content of the psychological contract is expected to decrease over time, but empirical evidence supporting this assumption is lacking.

Moreover, previous studies have concluded that, due to self-serving biases and instrumentality, newcomers take a different stance towards the contributions they owe the organization compared to the inducements the organization owes them (Robinson *et al.*, 1994). However, this assumption has not been tested empirically yet. It is therefore a first goal of this study to empirically verify the nature of intra-individual change that occurs over time in the frequency of newcomer information seeking from different information targets and about different content domains of the psychological contract.

Newcomers are expected to change their beliefs about the terms of their employment deal as a function of the way they interpret and make sense of the exchange processes they encounter (McFarlane Shore & Tetrick, 1994; Rousseau, 1995, 2001). Their experiences during the first months after entry affect their early evaluations of their psychological contract (Sutton & Griffin, 2004). In turn, these evaluations affect newcomer attitudes and behaviours, such as intentions to quit (Coyle-Shapiro & Kessler, 2000; Takleab, Takeuchi, & Taylor, 2005; Turnley & Feldman, 2000), extra-role behaviour (Turnley & Feldman, 2000), and actual turnover (Bunderson, 2001), which are viewed as indicators of newcomer adjustment (Lance & Vandenberg, 2000). The evaluation of the psychological contract during the initial employment stage is thus a critical indicator of the way the relationship between the newcomer and the organization evolves over time, thereby reflecting a process of positive or negative adjustment (Lance & Vandenberg, 2000). However, there is a lack of knowledge on the relationship between newcomer information seeking and psychological contract fulfilment over time. It is therefore a second goal of this study to relate information seeking to newcomers' evaluations of psychological contract fulfilment.

This study also makes a methodological contribution. The central interest in the newcomer adjustment process is the intra-individual change that occurs over time during organizational entry (Chan & Schmitt, 2000). The study of this type of longitudinal change requires the assessment of change at the intra-individual level (Chan & Schmitt, 2000; Lance & Vandenberg, 2000). However, despite the fact that many researchers call for appropriate longitudinal research models to examine the process of newcomer adjustment, only a few studies have used an appropriate analytical technique (Bauer *et al.*, 2007; Chan & Schmitt, 2000; Lance & Vandenberg, 2000). In their meta-analysis on socialization, Bauer *et al.* (2007) address this issue. They state that, although there are more longitudinal studies on socialization, in their meta-analysis, they were unable to 'examine the trajectories of individuals because of the global nature of the data' (p.718). Therefore, they recommend that 'future researchers use alternative data approaches like hierarchical linear modelling to examine the role of time since entry. Such research will allow us to make more specific recommendations regarding what matters most at different points in the adjustment process' (p. 718). The third purpose of this study is therefore to explicitly model the nature of intra-individual changes in newcomers' information-seeking behaviours over time, in relationship with evaluations of psychological contract fulfilment, using Latent Growth Modelling (LGM). LGM is a powerful approach to the description, measurement, and analysis of longitudinal change (Chan & Schmitt, 2000; Lance & Vandenberg, 2000). In this study, we cover the complete first year of employment and we investigate changes in information-seeking behaviour using four time intervals of 3 and 6 months (entry, 3 months, 6 months, and 1 year following entry). The changes in information-seeking behaviour from different

sources and about different content domains during this period will shed light on when newcomers seek which kind of information from whom and how this is related to the perceived fulfilment of the psychological contract over time.

Theory

Frequency of information-seeking behaviour and the psychological contract

Socialization studies on newcomer adjustment have conceptualized the newcomer as an agent who actively engages in an adaptation process characterized by information-seeking behaviours (Chan & Schmitt, 2000; Ostroff & Kozlowski, 1992; Wolfe Morrison, 1993b). Information-seeking behaviour reflects newcomers' attempts to make sense of their new work environment and to facilitate adjustment during the transition period (Louis, 1980). Socialization researchers generally agree that information seeking is important in that it enables newcomers to reduce uncertainty and to adjust to their new environment (Chan & Schmitt, 2000). The psychological contract is conceived as a schema individuals hold about their employment exchange relationship (Rousseau, 2001). This schema helps an individual to define what the employment relationship entails, and it guides the interpretation and recollection of promises exchanged during the employment relationship. The psychological contract is important in that it provides individuals and organizations with a more secure view of what they can expect of each other and makes future exchanges more predictable (McFarlane Shore & Tetrick, 1994). Psychological contracts develop through an interactive process that begins during recruitment. Newcomers are often naive when entering the organization (Cooper-Thomas & Anderson, 2002). Theoretical models on the psychological contract build on the central proposition that newcomers enter the employment relationship with only a rudimentary psychological contract schema, which is further elaborated and adapted after entry through interaction with organizational representatives (McFarlane Shore & Tetrick, 1994; Rousseau, 1995; Sutton & Griffin, 2004). We expect that employees seek information on the content of the psychological contract more frequently in the beginning of the employment relationship to reduce uncertainty. This is in line with socialization literature arguing that the overall frequency of newcomer information seeking decreases over time (Ashford, 1986; Bauer *et al.*, 1998; Wolfe Morrison, 1993a). Research has shown that newcomers adjust quickly to their new organizational context, typically during the first months after entry (Cooper-Thomas & Anderson, 2002). Once these basic terms are established within the psychological contract schema, information processing becomes more automatic, implying that the frequency of information seeking will decrease. We therefore assume that in general information-seeking behaviours decrease over time, as the needs for sense making decrease when the psychological contract is formed into a more stable mental model over time (Rousseau, 2001).

Hypothesis 1: During the first year of employment, the frequency of information seeking about the psychological contract will decrease.

The content of information-seeking behaviour

The content of information seeking has been categorized into different types of information by various researchers. Miller and Jablin (1991) define appraisal (feedback on performance), referent (requirements to do the job well), and relational (the nature of relationships with other organizational members) information. Ostroff and Kozlowski (1992) described four content domains: task, role, group, and organization. According

to Wolfe Morrison (1993b), information-seeking behaviours focus on five aspects: technical, referent, normative, social, and performance feedback. Chao, O'Leary-Kelly, Wolf, Klein, and Gardner (1994) developed the most extensive list of content items: performance, people politics, language, organizational goals, values, and history. Also, in the socialization literature, information content issues can be found in the measures, such as in the task socialization scale of Haueter, Hoff Macan, and Winter (2003), Taormina's (2004) understanding scale, and Thomas and Anderson's (1998) measure, which includes social, role, interpersonal resources, and organization socialization knowledge. These scales mainly focus on job performance and inducements offered by the organization aimed at successful socialization (such as providing training and support). However, the employment relationship includes many more contributions the employee expects from the organization and the more intangible contributions that are expected from the employee, that is, the content of the psychological contract. The psychological contract refers to an individual's beliefs regarding the terms and conditions of the exchange agreement between themselves and their employing organization (Rousseau, 1995). This exchange agreement encompasses both employer inducements (e.g., job content, career advancement, training, work-life balance, and rewards) and employee contributions (e.g., performance, flexibility, extra role behaviour, loyalty, and employability) (De Vos *et al.*, 2003; Freese & Schalk, 2008; Robinson & Rousseau, 1994; Rousseau, 1990). These content domains are distinct from the more traditional socialization content domains, as they reflect the broader mental agreement newcomers believe that they have with their new organization. Although reciprocity between inducements and contributions is considered as a defining element of the psychological contract (Rousseau, 1995), most research has focused exclusively on employer inducements. Taking into account, information seeking about both content domains of the psychological contract makes it possible to examine how the pattern of (changes in) information seeking differs for both domains. Newcomers are concerned with the inducements they can expect from their organization in return for the contributions they make (Robinson *et al.*, 1994). Thereby, newcomers often start off with unrealistically high expectations about these inducements and information seeking is needed to adapt their expectations to reality (Rousseau, 1995). Due to self-serving perceptual biases and a need to clarify what they can expect from the organization in return for their continued membership (Robinson *et al.*, 1994), they will probably be more concerned with obtaining information about the inducements they can expect from their organization, that is, the other party to the employment relationship, compared to information on the organization's expectations about their contributions. Studies by Robinson *et al.* (1994) and Thomas and Anderson (1998) demonstrated that employees feel that the obligations of the organization towards them increase over time, whilst their own obligations decrease. We therefore assume that there will be more information seeking on organizational inducements as compared to employee contributions.

Hypothesis 2: With regard to the content of the psychological contract, newcomers will more frequently seek for information on organizational inducements as compared to employee contributions.

Newcomer information-seeking behaviour and sources

Information can be sought in a number of ways, such as directly asking someone for information, observing others, or reading documents. This study focuses on the inquiry mode of information seeking (Chan & Schmitt, 2000), that is, directly asking

another person for information. Newcomers may turn to a number of *sources* to acquire information, ranging from official messages from management, members of newcomers' immediate role set (co-workers, supervisors, and subordinates), to other organizational members and extra-organizational sources (clients), and finally from the task itself (Miller & Jablin, 1991). Intra-organizational members are frequently consulted, as they meet criteria such as accessibility, credibility, expertise, power, and familiarity with the newcomer's role (Settoon & Adkins, 1997). These intra-organizational members are also viewed as important agents, so-called 'human contract makers' (Rousseau, 1995) within the psychological contract literature. Information seeking from these human contract makers is proposed to affect newcomers' early psychological contract perceptions and evaluations. According to Rousseau (1995), each contract maker has a specific role in shaping the psychological contract. For instance, the interaction between supervisor and employee is a central building block in the employment relationship for all kinds of information and support. Mentors can help newcomers to adapt to the organization's culture during the initial months, whereas co-workers and other newcomers are assumed to play an important informational role, since these are the employees with whom the focal employee interacts most frequently. Although each of these organizational agents is proposed to affect employees' psychological contracts, to date, only little empirical evidence exists that supports these relationships. Kammeyer-Mueller and Wanberg (2003) remark that only a few studies on newcomer socialization have incorporated multiple targets of information-seeking behaviours. However, they warn not to amalgamate all the different sources of information into one socialization construct, as different targets of information-seeking behaviours may reveal different change patterns and may relate differently to adjustment. Surprisingly, despite the fact that seeking information from various organizational agents is considered to be a key element in psychological contract formation, no studies have empirically verified psychological contract-related information seeking from various sources. To address this gap in this study, we will assess (changes in) psychological contract-related information seeking from supervisors, mentors, co-workers, and other newcomers. We expect that supervisors and co-workers over time become more important sources of information compared to mentors and other newcomers, as when trust is built, the required information concerns more specific task or workgroup information. Mentors are expected to become less important than the other information sources over time, as mentors primarily play a role during the first months of employment to help the newcomer adapt to the new working environment. We also expect other new hires to become relatively less important over time, as they might be most salient to exchange information with during the initial months when talking about the psychological contract with colleagues who are going through the same induction process is more likely. This assumption is in line with research of Callister, Kramer, and Turban (1999) who found in their longitudinal study of newcomers that inquiry for supervisors remained constant over time, but that inquiry from peers declined. This leads to the following hypothesis:

Hypothesis 3: During the first year of employment, there will be different patterns of changes in information seeking from different sources. There will be a stronger decrease in information seeking from other newcomers and mentors, compared to information seeking from supervisors and co-workers.

Information-seeking behaviour and evaluation of psychological contract fulfilment

By evaluation of psychological contract fulfilment, we are referring to newcomers' assessment of the extent to which their employer is realizing the promises about organizational inducements they believe were conveyed to them (Robinson *et al.*, 1994; Rousseau, 1995; Sutton & Griffin, 2004). This evaluation of organizational promises during the socialization period can be considered as an indicator of newcomer adjustment that has not been studied in relationship with newcomer information seeking to date. Earlier studies have provided evidence for a positive relationship between the frequency of newcomer information seeking and indicators of adjustment such as job satisfaction (Ostroff & Kozlowski, 1992; Saks & Ashforth, 1997b; Wolfe Morrison, 1993a), performance (Saks & Ashforth, 1997b; Wolfe Morrison, 1993a), and commitment (Ostroff & Kozlowski, 1992; Saks & Ashforth, 1997b). The frequency of information seeking and intentions to turnover and actual turnover are negatively related (Ostroff & Kozlowski, 1992; Saks & Ashforth, 1997b; Wolfe Morrison, 1993a). At the theoretical level, psychological contract researchers have proposed that information seeking about the psychological contract should have a comparable beneficial impact on attitudinal and behavioural outcomes (De Vos *et al.*, 2005; McFarlane Shore & Tetrick, 1994; Rousseau, 1995).

It can be argued that being informed on the actual delivery of promises could equally likely lead to psychological contract fulfilment as to psychological breach, depending on the outcome of the inquiries. However, we believe that the outcome of the inquiry process would more likely result in psychological contract fulfilment, because it facilitates congruence between both parties' perceptions of promises made. In their model on psychological contract violation, Morrison and Robinson (1997) consider incongruence to be a factor causing psychological contract breach. They view communication as a means to reduce incongruence in perceived promises. As they state, in the case of newcomers, there usually is a large time lag after the promise has been made (and typically promised by another agent during the recruitment phase) and the fulfilment of the promise. In the meanwhile, promises may be overlooked, forgotten, or distorted. Communication at the beginning of the employment relationship is crucial to reduce incongruence and this in turn reduces psychological contract breach. Furthermore, Morrison and Robinson (1997) also stress that factors facilitating ongoing communication, like high leader-member exchange will minimize possible incongruence. Finally, a study by Freese (2007) shows that employees who had clear information about an organizational change, which was generally viewed as negative, was related to more fulfilment of the psychological contract. This leads to the assumption that by exchanging information more frequently, mechanisms such as clarification, bringing promises back to memory, understanding the reason for (possible) breach, or feelings of inclusion, will decrease the likelihood of psychological contract breach. Based on the arguments presented above, we assume that employees will perceive that the organization is fulfilling its promises to them to a greater extent, if they seek more frequently for information about the inducements they can expect.

Hypothesis 4a: During the first year of employment, there will be a positive association between the frequency of information seeking about the psychological contract and psychological contract fulfilment.

As psychological contracts are rudimentary at the beginning of the employment relationship, and contract making (promises made) is most salient at that time, we expect

the relationship between information seeking and psychological contract fulfilment to be stronger in the first months of employment.

Hypothesis 4b: The relationship between information-seeking behaviour and psychological contract fulfilment will become weaker over time.

As suggested by Kammeyer-Mueller and Wanberg (2003), different information sources may relate differently to newcomer adjustment. In this study, we expect a differential effect of information seeking from the different sources on changes in psychological contract fulfilment. Supervisors and co-workers are a more credible and powerful source than other newcomers and mentors (Louis, Posner, & Powell, 1983; Settoon & Adkins, 1997). Credible sources are important in promoting active information processing of new information (Rousseau, 2001). Supervisors are considered to be the central contract maker that employees tend to hold responsible for realizing promised organizational inducements (Rousseau, 1995), whilst the information from co-workers can be expected to have an impact on newcomers' early psychological contract evaluations, because they can share their personal experiences with the newcomer regarding the fit between organizational promises and actual inducements (Ho & Levesque, 2005). We therefore assume that supervisors and co-workers will have a greater effect on changes in psychological contract fulfilment than mentors and other new hires.

Hypothesis 5: Information seeking from supervisors and co-workers will be associated more strongly with changes in psychological contract fulfilment than information seeking from other new hires or mentors.

The role of age and prior work experience

As people switch jobs more often, newcomers are not necessarily young employees (Finkelstein, Kulas, & Dages, 2003). There are reasons to believe that information-seeking behaviours of older versus younger newcomers will be different. Information-seeking behaviours are not exclusively beneficial but may involve the social costs of seeming unknowledgeable (Callister *et al.*, 1999). According to Ashford (1986), the social costs of information seeking increase with tenure because seeking information undermines the standing of the newcomer as confident and self-assured. These effects may be stronger for older workers than for younger workers (Finkelstein *et al.*, 2003). Older newcomers are more likely to have prior work experience and hence might be expected to start off with a clearer view on the terms of the employment relationship.

Hypothesis 6a: During the first year of employment, the frequency of information seeking will be higher for younger newcomers than for older newcomers.

Moreover, because of their prior experiences, the initial psychological contract schema of older and more experienced newcomers might already be more established, including less uncertainty that leads them to engage less actively in information seeking. Because younger newcomers will have more incomplete mental schemas with regard to the employment relationship, we assume their information-seeking behaviours will be at a higher level for a longer time as compared to older newcomers.

Hypothesis 6b: The rate of decrease in information seeking during the first year of employment will be stronger for older newcomers compared to younger newcomers.

Method

Sample and procedures

Hypotheses were tested using longitudinal data from 280 newly hired employees of the Belgian subsidiaries of four international companies (one telecommunication firm, one advisory company, and two firms operating in the electronics sector). The data reported here form part of a large-scale longitudinal study on newcomer psychological contract development. Other data resulting from this study have been published earlier (*reference available from the Editor*). Each of the participating companies had an official newcomer introduction program. All newcomers entering the company during the period November 2000–May 2001 were contacted for participation in the study on their first working day. During the introduction session organized by the company, they were informed that they would receive four surveys during their first year of employment: within the first 2 weeks after entry (T1), after 3 months (T2), after 6 months (T3), and after 12 months (T4). The questionnaires were sent directly to the newcomers' residential address. Questionnaires were always accompanied by a cover letter explaining the objectives of the study and guaranteeing confidential treatment of responses. Participants were instructed to return the completed survey directly to the authors using the pre-stamped, pre-addressed return envelope included. At every measurement occasion, 2 weeks after delivery of the questionnaire follow-up e-mails were sent to non-compliant newcomers stressing the value of the study and the importance of their participation. All surveys were assigned a code in order to match participants' answers to the four surveys.

In total 845 newcomers were invited to participate in the study. Of those, 607 participated in the T1 survey, representing a 72% response rate. A total of 461 of the T1 respondents completed the T2 survey (76%). At T3, 365 of the T2 respondents completed their questionnaire (79%) and 280 of the T3 respondents completed their questionnaire at T4 (77%). The final sample thus consisted of 280 participants who had participated in each of the four surveys. These represent 33% of the originally contacted sample and 46% of the respondents at T1. Mean age of the newcomers in the final sample was 27.17 years ($SD = 5.63$) and 32% were female. For 38.6% of the participants, this was their first job, whilst 61.4% already had professional experience. The average working experience of the latter group was 6.35 years ($SD = 5.66$). Participants came from four organizations as follows: 62 (22.1%) were employed in Advisory, 76 in Electronics (23.9%), 90 in Telecom 1 (32.1%), and 61 in Telecom 2 (21.8%).

To detect whether subject attrition produced any systematic distortion in our data due to demographic differences or different response patterns, we followed the procedures proposed by Lance and Vandenberg (2000) and Little, Lindenberger, and Maier (2000) and Vandenberg and Self (1993). First, a participation profile was calculated for each respondent based on their participation (1) versus nonparticipation (0) at each of the four data collection waves. Based on these profiles, four groups were created. We conducted four waves of multivariate analyses of variance (MANOVA), to test whether there were significant differences between respondents on demographics and study variables as a function of subject dropout. With respect to demographic characteristics, no significant differences in age, gender, and prior work experience were found between

the four groups. With respect to the study, variables the MANOVAs were nonsignificant. Together these analyses suggest that there is no systematic effect of subject attrition on the study variables.

Measures

Information seeking was assessed at T1, T2, T3, and T4. Evaluations of psychological contract fulfilment were assessed at T2, T3, and T4. Commensurate measures were used for information seeking about organizational inducements and evaluations of psychological contract fulfilment. The T1 questionnaire also contained biographical questions about the participants' gender, age, whether they had been employed in other jobs prior to this new employment and if so, for how many years.

Information seeking

The assessment of information seeking was based upon existing scales developed within the socialization literature (Ashford, 1986; Chan & Schmitt, 2000; Ostroff & Kozlowski, 1992; Wolfe Morrison, 1993a, 1993b). Participants were provided with a list of 10 items referring to five types of employer inducements (challenging job, career advancement, training, work-life balance, and pay for performance) and five types of employee contributions (high level of performance, flexibility, prosocial behaviour, loyalty, and employability). For each of those 10 items, they were asked to indicate the frequency with which they had asked their direct supervisor, experienced co-workers, mentor, and other new hires for information about what they could expect regarding the inducements listed and what was expected from them regarding the contributions listed during the preceding 4-week period (at T1, reference was made to the preceding 2 weeks). The response format was as follows: 1 = *never*; 2 = *once or twice a month*; 3 = *once a week*; 4 = *a few times a week*; 5 = *almost daily*. This objective response format has the advantage of providing information about the actual frequency with which information is sought and of giving standardized responses across individuals, compared to the typical scale ranging from 1 = *promise not at all fulfilled* to 5 = *promise completely fulfilled, very infrequently to very frequently* (Chan & Schmitt, 2000; Wolfe Morrison, 1993a, 1993b). The list of inducements and contributions was selected based upon existing psychological contract scales (De Vos *et al.*, 2003, 2005). The information sources were selected based on previous work by Ashford (1986), Chan and Schmitt (2000), and Wolfe Morrison (1993b). For each of the four information sources, two subscales of information seeking were constructed, the first including the five employer inducements and the second including the five employee contributions. Both scales showed good Cronbach's alpha reliabilities at each data collection wave, alpha's ranged from .73 to .92 across waves, and are presented in Table 1.

Psychological contract fulfilment was measured using five items referring to the same five employer inducements used to assess information seeking. Participants had to indicate the extent to which their employer had fulfilled the promises made to them - implicitly or explicitly - about each of the organizational inducements listed using a 5-point Likert scale ranging from 'promise not at all fulfilled' to 'promise completely fulfilled'. Because we were interested in the effects of information seeking on the attitude towards the organization, in this study, we only tested the relationships between information-seeking behaviours and the perceived fulfilment of organizational inducements. The scale had good reliability; alphas were .80, .75, and .76 at T2, T3, and T4, respectively.

Table 1. Descriptives: Mean scores and standard deviations for study variables at each data collection wave

	Mean scores and standard deviations			
	T1	T2	T3	T4
IS supervisor OI	2.17 (.67)	2.12 (.70)	2.12 (.69)	2.10 (.73)
IS supervisor EC	2.09 (.75)	2.06 (.72)	2.02 (.70)	2.03 (.73)
IS mentor OI	2.25 (.88)	2.03 (.84)	1.93 (.81)	1.71 (.79)
IS mentor EC	2.09 (.89)	1.94 (.87)	1.84 (.81)	1.60 (.76)
IS co-workers OI	2.79 (.71)	2.53 (.73)	2.41 (.74)	2.40 (.78)
IS co-workers EC	2.34 (.79)	2.22 (.75)	2.13 (.76)	2.11 (.78)
IS new hires OI	2.48 (.98)	2.26 (.89)	2.11 (.82)	1.95 (.82)
IS new hires EC	2.04 (.88)	1.94 (.81)	1.84 (.76)	1.72 (.74)
IS OI	2.43 (.54)	2.24 (.59)	2.15 (.57)	2.05 (.61)
IS EC	2.25 (.59)	2.04 (.61)	1.96 (.59)	1.87 (.59)
PC fulfilment		3.28 (.68)	3.28 (.67)	3.17 (.65)

Note. IS, information seeking; OI, organizational inducements; EC, employee contributions; PC, psychological contract.

Statistical analyses

Measurement invariance

We analysed our data using AMOS 17.0 (Arbuckle, 2008). Before testing our hypotheses, we empirically verified the assumption of measurement equivalence across measurement occasions. This is a necessary first step to ensure that the same construct is being measured and measured with the same precision, which in turn allows meaningful direct interpretations of changes over time (Chan, 1998; Vandenberg & Lance, 2000). A series of Confirmatory Factor Analysis (CFA) nested model comparisons were conducted in order to evaluate various aspects of measurement equivalence, following the procedure proposed by Chan (1998), Lance *et al.* (2000), and Vandenberg and Lance (2000). This was done for each of the time-variant measures, that is, information seeking and evaluation of psychological contract fulfilment. For each of these variables, a CFA model was developed in which the factors corresponded with measurement occasions. Two models were successively tested. The first model assessed configural invariance by testing, if the unidimensional structure of the measure generalized over time. In this model, the items were constrained to load only on the respective measurement occasion factor. The second model tested for factorial invariance by constraining like items' factor loadings as invariant across measurement occasions. A non-significant reduction in fit from the first to the second model was taken as evidence of measurement invariance (Chan, 1998). In case, the $\chi^2_{\text{difference}}$ test indicated a significant decrease in model fit for the second model compared to the first model there was evidence of noninvariance. If this was the case, subsequent tests for *partial invariance* were conducted following the procedure proposed by Byrne (2001) and Cheung and Rensvold (1999) in which invariance was first assessed for each pair of data collection waves. In a second step, loadings were tested for equivalence one at a time, and invariant loadings were constrained as invariant in each subsequent test for other loadings. At least one factor loading per factor should be invariant to conclude that a reasonable degree of equivalence between factors and measures is achieved (Chan, 1998). Due to

space constraints, we only report the major findings from these tests. Detailed results are available from the first author upon request. All configural invariance tests showed good model fit. If the factorial invariance constraints were imposed to these models, for most measures, this did not result in significant decreases in model fit, supporting the assumption of factorial invariance. For only a few measures, some constraints had to be released in order to obtain sufficient model fit. In specific, the item 'information seeking about financial rewards' was freely estimated at T2, T3, and T4 for each of the four sources, and the item 'information seeking about work-life balance' was freely estimated at T1 for each of the four sources. Since *at least* partial measurement invariance has to be obtained in order to proceed with longitudinal analyses (Chan, 1998), the results of these measurement invariance tests suggested that we could be confident continuing with assessing changes in information seeking and psychological contract fulfilment over time and with examining structural relationships among these constructs. Moreover, these invariance tests provided additional support for the validity of the scales used in this study.

LGM analyses

We used LGM to test our hypotheses. LGM has gained widespread acceptance as a potentially powerful approach to the description, measurement, and analysis of longitudinal data, also in the area of industrial and organizational psychology (Chan, 1998; Chan & Schmitt, 2000; Lance & Vandenberg, 2000). Latent growth analysis involves identifying an appropriate growth curve form that accurately and parsimoniously describes intra-individual change over time (at the aggregate level of analysis) and allows the examination of inter-individual differences in the parameters (intercept and shape) that control the pattern of intra-individual change over time (at the individual level of analysis) (Chan & Schmitt, 2000). An elaborate description of the procedure for conducting LGM analyses can be found in Chan (1998), Chan and Schmitt (2000), and Lance and Vandenberg (2000).

The two important attributes of an individual's change trajectory or growth curve are the intercept factor and the shape factor. The intercept factor mean corresponds to the initial status of the variable. It estimates the outcome variable when the change trend is equal to zero. The variance of the intercept factor represents inter-individual differences in initial status. The shape factor corresponds to the rate of change (increase or decrease) in the focal variable over time. The mean of the shape factor represents the mean rate of change in the focal variable, whilst the variance of the shape factor represents inter-individual differences in this rate of change (Chan, 1998; Chan & Schmitt, 2000).

All latent growth models were fitted through structural equation modelling. Based on the recommendations formulated by Vandenberg and Lance (2000) to assess model fit, we used three indices in addition to the χ^2 and χ^2/df (degrees of freedom) statistics fit because of the sensitivity of the χ^2 statistic to departures from normality and sample size which often result in a significant χ^2 (Byrne, 2001; Kline, 1998): (1) root mean square error of approximation (RMSEA); (2) Bentler's (1990) comparative fit index (CFI); and (3) Tucker-Lewis index (TLI). The RMSEA values lower than 0.08 were taken to indicate good fit. For CFI and TLI, values of .90 were viewed as a lower bound of good fit with values above .95 as an indication of good fit (Vandenberg & Lance, 2000).

In a first step, we investigated the form of univariate growth trajectories for information seeking and psychological contract fulfilment by estimating both linear and non-linear models. In a second step, we assessed cross-domain associations between

each of the information seeking scales and psychological contract fulfilment by fitting a multivariate latent growth model. In a third step, we assessed the influence of age by fitting a respecified univariate growth model of the information seeking variables that included age.

Results

The descriptive statistics for information seeking and evaluation of psychological contract fulfilment at each measurement occasion are presented in Table 1. The correlations between all variables included in the study, together with Cronbach's alpha reliabilities, are presented in Table 2. As can be seen from this table, the correlation between age and years of prior work experience was very high. We therefore decided only to investigate age as a predictor of the information seeking variables and to exclude prior work experience from these analyses.

Changes in information seeking

To test Hypothesis 1, we carried out separate univariate LGM analyses for information seeking about organizational inducements and employee contributions from the four sources. In addition, for inducements and contributions separately, we aggregated the information seeking scales referring to the four sources to estimate the growth components of information seeking about inducements versus contributions over time across different sources.

We always estimated and compared two growth models, that is, a linear and a non-linear model. In the linear growth model, the loadings from the shape factor to information seeking from time 1 to time 4 were set to 0, 1, 2, and 3 to specify a straight-line growth over the four time points. The non-linear or optimal growth model was examined by relaxing the constraints on the slope factor for information seeking at time 3 and time 4 (Chan, 1998). We retained our models based on the criteria of model fit and parsimony (Chan & Schmitt, 2000). We used the $\chi^2_{\text{difference}}$ test to assess whether the less restricted optimal model lead to a significant increase in model fit compared with the linear model. If this was the case, the optimal model was retained for further analyses. In case, the increase in model fit was not significant, or in case of a significant decrease in model fit, the linear model was retained (Chan, 1998). All models were estimated using the composite scales, whereby error variances were constrained to be equal over time.

In Table 3, the model fit indices for the alternative growth models (linear and optimal growth) are summarized for each of the information seeking variables. For *information seeking from supervisor, mentor, and other new hires*, the $\chi^2_{\text{difference}}$ test indicated that the linear growth model fitted the data well. For *information seeking from co-workers* about organizational inducements, the optimal growth model was retained based on the model comparisons. For the *aggregated information seeking scales about organizational inducements and employee contributions*, the linear growth models were retained, as the optimal model did not result in a significant improvement of model fit. Although the χ^2 statistic was statistically significant for some of the retained growth models, the χ^2/df ratio was always within the range of $\leq 2-5$ (Kline, 1998), and the other practical fit indices (RMSEA, CFI, TLI) were within acceptable ranges, indicating acceptable model fit for the retained models.

The growth parameters for the retained models are presented in Table 4. For *information seeking from the supervisor*, the shape factor means were negative but

Table 2. Correlations over four data collection waves and reliabilities of the scales

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1. Age	n.a.																								
2. Gender	.09	n.a.																							
3. Prior experience	.93**	.12*	n.a.																						
4. T1 IS SUP-OI	-.02	-.01	-.05	.73																					
5. T1 IS SUP-EC	-.03	.00	-.04	.74**	.82																				
6. T1 IS COL-OI	-.15*	.00	-.12*	.38**	.33**	.73																			
7. T1 IS COL-EC	-.08	.01	-.05	.36**	.58**	.68**	.81																		
8. T1 IS NEW-OI	-.33**	-.13*	-.36**	.15**	.13*	.38**	.28**	.83																	
9. T1 IS NEW-EC	-.27**	-.07	-.29**	.18**	.29**	.36**	.52**	.78**	.86																
10. T1 IS MEN-OI	-.10	.08	-.08	.29**	.28**	.41**	.30**	.05	.07	.83															
11. T1 IS MEN-EC	-.03	.10	-.01	.23**	.39**	.34**	.44**	.02	.16**	.84**	.87														
12. T1 IS-OI	-.24**	-.03	-.24**	.62**	.51**	.78**	.58**	.65**	.56**	.65**	.53**	.84													
13. T1 IS-EC	-.18**	-.01	-.18**	.52**	.73**	.62**	.81**	.57**	.66**	.53**	.66**	.84**	.89												
14. T2 IS SUP-OI	-.09	-.06	-.08	.48**	.46**	.29**	.28**	.15**	.19**	.23**	.20**	.41**	.39**	.77											
15. T2 IS SUP-EC	-.08	.05	-.07	.48**	.61**	.30**	.44**	.12*	.25**	.32**	.37**	.44**	.54**	.72**	.81										
16. T2 IS COL-OI	-.20**	-.08	-.16**	.26**	.27**	.57**	.51**	.25**	.31**	.34**	.32**	.51**	.48**	.53**	.37**	.74									
17. T2 IS COL-EC	-.18**	-.05	-.15*	.27**	.38**	.55**	.66**	.24**	.36**	.37**	.43**	.52**	.61**	.35**	.53**	.72**	.83								
18. T2 IS NEW-OI	-.26**	-.07	-.24**	.11	.12*	.35**	.30**	.56**	.53**	.11	.15*	.45**	.43**	.32**	.22**	.55**	.48**	.85							
19. T2 IS NEW-EC	-.20**	-.03	-.18**	.18**	.23**	.39**	.43**	.48**	.55**	.19**	.27**	.48**	.53**	.28**	.34**	.50**	.62**	.80**	.88						
20. T2 IS MEN-OI	-.07	.02	-.03	.16**	.17**	.24**	.22**	.02	.03	.62**	.59**	.38**	.36**	.35**	.29**	.48**	.42**	.28**	.29**	.86					
21. T2 IS MEN-EC	-.09	.07	-.06	.18**	.26**	.25**	.31**	.02	.11	.61**	.67**	.39**	.45**	.23**	.38**	.38**	.51**	.28**	.38**	.86**	.90				
22. T2 IS-OI	-.21**	-.06	-.17**	.32**	.33**	.48**	.44**	.34**	.37**	.43**	.42**	.58**	.56**	.70**	.51**	.85**	.65**	.74**	.64**	.71**	.59**	.89			
23. T2 IS-EC	-.18**	.01	-.15*	.34**	.47**	.48**	.59**	.28**	.41**	.49**	.58**	.59**	.69**	.50**	.71**	.64**	.86**	.58**	.76**	.62**	.76**	.78**	.91		
24. T2 PC FF	-.04	.06	-.02	.10	.14**	.11	.14*	.06	.10	.15*	.19**	.16**	.19**	.15**	.11	.13*	.13*	.04	-.01	.09	.10	.14*	.10	.80	
25. T3 IS SUP-OI	-.09	.00	-.06	.39**	.37**	.30**	.26**	.06	.06	.26**	.25**	.35**	.32**	.53**	.47**	.39**	.36**	.14*	.17**	.28**	.27**	.42**	.40**	.04	
26. T3 IS SUP-EC	-.07	.03	-.03	.41**	.46**	.27**	.34**	.06	.10	.25**	.30**	.34**	.40**	.49**	.57**	.32**	.36**	.09	.13*	.24**	.28**	.36**	.42**	.06	
27. T3 IS COL-OI	-.20**	-.01	-.16**	.24**	.32**	.49**	.51**	.23**	.27**	.27**	.30**	.45**	.48**	.39**	.41**	.62**	.59**	.35**	.37**	.35**	.36**	.57**	.56**	.11	
28. T3 IS COL-EC	-.13*	.05	-.10	.30**	.40**	.48**	.58**	.23**	.31**	.32**	.38**	.48**	.56**	.69**	.52**	.57**	.65**	.32**	.43**	.32**	.39**	.54**	.64**	.08	
29. T3 IS NEW-OI	-.32**	-.01	-.30**	.19**	.17**	.38**	.29**	.53**	.47**	.11	.10	.47**	.42**	.27**	.25**	.43**	.42**	.65**	.62**	.13*	.16**	.51**	.47**	-.04	
30. T3 IS NEW-EC	-.23**	.04	-.20**	.29**	.33**	.39**	.43**	.43**	.48**	.18**	.23**	.48**	.52**	.32**	.40**	.43**	.50**	.53**	.60**	.16**	.23**	.49**	.56**	.06	
31. T3 IS MEN-OI	-.03	.08	.02	.12*	.18**	.16**	.17**	.02	.03	.45**	.48**	.28**	.30**	.27**	.30**	.34**	.36**	.21**	.23**	.65**	.67**	.49**	.51**	.05	
32. T3 IS MEN-EC	.00	.08	.04	.15*	.24**	.19**	.28**	.04	.07	.41**	.50**	.29**	.37**	.28**	.34**	.36**	.44**	.26**	.31**	.59**	.67**	.50**	.58**	.08	
33. T3 IS-OI	-.22**	.07	-.18**	.31**	.35**	.45**	.42**	.30**	.29**	.36**	.38**	.52**	.52**	.48**	.48**	.59**	.59**	.47**	.48**	.46**	.48**	.66**	.65**	.05	
34. T3 IS-EC	-.14*	.02	-.10	.36**	.46**	.42**	.53**	.24**	.31**	.37**	.45**	.51**	.60**	.48**	.59**	.54**	.63**	.39**	.48**	.42**	.50**	.61**	.71**	.05	
35. T3 PC FF	-.03	.05	-.02	.10	.15*	.14*	.15*	.12*	.10	.17**	.19**	.20**	.22**	.11	.09	.10	.13*	.03	.01	.08	.10	.11	.11	.50**	
36. T4 IS SUP-OI	-.12*	.02	-.08	.25**	.34**	.24**	.27**	.08	.08	.30**	.33**	.31**	.36**	.40**	.49**	.36**	.40**	.15*	.18**	.32**	.35**	.40**	.45**	.08	

Continued.

Table 2. (Continued)

37. T4 IS SUP-EC	-.10	.01	-.05	.26**	.38**	.23**	.32**	.08	.13*	.27**	.34**	.30**	.39**	.42**	.51**	.35**	.38**	.13*	.16**	.28**	.31**	.35**	.38**	.43**	.134*
38. T4 IS COL-OI	-.18**	-.02	-.13*	.14**	.22**	.41**	.34**	.18**	.18**	.28**	.28**	.37**	.36**	.31**	.37**	.51**	.53**	.32**	.31**	.35**	.35**	.49**	.50**	.50**	.05
39. T4 IS COL-EC	-.13*	-.01	-.07	.17**	.30**	.41**	.46**	.14**	.21**	.29**	.35**	.36**	.44**	.31**	.40**	.46**	.54**	.24**	.28**	.26**	.34**	.41**	.50**	.14*	
40. T4 IS NEW-OI	-.30**	.01	-.26**	.12*	.15*	.38**	.31**	.35**	.36**	.14*	.13*	.38**	.34**	.26**	.28**	.42**	.40**	.47**	.42**	.21**	.23**	.46**	.43**	.05	
41. T4 IS NEW-EC	-.28**	.06	-.25**	.17**	.21**	.39**	.34**	.33**	.36**	.15*	.15*	.39**	.38**	.27**	.31**	.37**	.41**	.41**	.40**	.16**	.21**	.41**	.43**	.01	
42. T4 IS MEN-OI	-.07	.03	-.05	.15*	.13*	.17**	.14**	.06	.06	.34**	.35**	.26**	.24**	.23**	.20**	.30**	.32**	.23**	.25**	.51**	.56**	.42**	.44**	.04	
43. T4 IS MEN-EC	-.05	-.01	-.02	.14**	.18**	.16**	.21**	.03	.09	.32**	.39**	.23**	.29**	.24**	.26**	.31**	.36**	.23**	.28**	.48**	.56**	.42**	.47**	.03	
44. T4 IS OI	-.22**	.01	-.18**	.22**	.27**	.40**	.35**	.23**	.23**	.34**	.35**	.43**	.43**	.39**	.44**	.52**	.54**	.38**	.38**	.44**	.47**	.57**	.59**	.07	
45. T4 IS EC	-.18**	.02	-.13*	.24**	.35**	.38**	.43**	.19**	.25**	.33**	.39**	.41**	.48**	.40**	.48**	.48**	.54**	.32**	.36**	.37**	.45**	.52**	.59**	.10	
46. T4 PC FF	.00	.10	.00	.16**	.15*	.13*	.09	.01	.00	.22**	.17**	.18**	.14*	.145*	.16**	.08	.06	-.02	-.02	.09	.09	.09	.09	.45**	
25. T3 IS SUP-OI	.79																								
26. T3 IS SUP-EC	.79**	.82																							
27. T3 IS COL-OI	.54**	.46**	.78																						
28. T3 IS COL-EC	.47**	.61**	.77**	.85																					
29. T3 IS NEW-OI	.29**	.20**	.53**	.44**	.86																				
30. T3 IS NEW-EC	.30**	.40**	.51**	.63**	.78**	.87																			
31. T3 IS MEN-OI	.39**	.31**	.42**	.34**	.24**	.24**	.87																		
32. T3 IS MEN-EC	.34**	.36**	.41**	.49**	.25**	.35**	.86**	.89																	
33. T3 IS OI	.73**	.58**	.83**	.67**	.72**	.63**	.70**	.64**	.89																
34. T3 IS EC	.60**	.75**	.69**	.88**	.54**	.77**	.58**	.72**	.80**	.92															
35. T3 PC FF	.10	.04	.08	.08	.01	.00	.14*	.13*	.11	.09	.75														
36. T4 IS SUP-OI	.54**	.49**	.45**	.44**	.21**	.25**	.38**	.37**	.52**	.49**	.14*	.80													
37. T4 IS SUP-EC	.49**	.54**	.44**	.50**	.18**	.24**	.30**	.35**	.46**	.52**	.14*	.82**	.82												
38. T4 IS COL-OI	.44**	.41**	.62**	.57**	.38**	.37**	.34**	.34**	.59**	.54**	.11	.67**	.60**	.80											
39. T4 IS COL-EC	.42**	.45**	.62**	.61**	.33**	.37**	.29**	.34**	.55**	.57**	.14*	.59**	.73**	.78**	.86										
40. T4 IS NEW-OI	.26**	.21**	.43**	.38**	.58**	.48**	.23**	.21**	.51**	.42**	.05	.42**	.33**	.59**	.45**	.86									
41. T4 IS NEW-EC	.28**	.26**	.42**	.40**	.57**	.53**	.19**	.19**	.50**	.45**	.09	.39**	.42**	.53**	.58**	.83**	.88								
42. T4 IS MEN-OI	.27**	.18**	.33**	.30**	.23**	.20**	.62**	.58**	.48**	.41**	.11	.36**	.29**	.42**	.32**	.27**	.23**	.89							
43. T4 IS MEN-EC	.33**	.24**	.35**	.34**	.24**	.24**	.59**	.59**	.50**	.45**	.13*	.39**	.41**	.45**	.44**	.25**	.27**	.89**	.91						
44. T4 IS OI	.49**	.42**	.60**	.55**	.46**	.42**	.50**	.48**	.68**	.60**	.13*	.79**	.65**	.87**	.70**	.75**	.65**	.67**	.64**	.91					
45. T4 IS EC	.49**	.48**	.59**	.59**	.42**	.44**	.43**	.46**	.64**	.63**	.16**	.70**	.82**	.76**	.89**	.89**	.73**	.56**	.68**	.84**	.92				
46. T4 PC FF	.07	.03	.01	.05	-.03	-.03	.04	.05	.03	.03	.53**	.12	.19**	.07	.09	.05	.04	.03	.01	.09	.11	.76			

Note. Correlations greater than .12 are significant at $p < .05$.

Entries in the diagonal are Cronbach alpha reliabilities.

n.a., not applicable; IS, information seeking; SUP, supervisor; MEN, mentor; COL, colleagues; NEW, newcomers; OI, organizational inducements; EC, employee contributions; PC, psychological contract; FF fulfillment.

Table 3. Univariate Latent Growth Models: Tests of alternative model specifications

	χ^2	df	χ^2/df	Model comparison	$\Delta\chi^2$	Δdf	TLI	CFI	RMSEA
IS supervisor – organizational inducements									
M1: optimal growth ^a									
M2: linear growth	6.48	8	.81				1.00	1.00	.00
IS supervisor – employee contributions									
M1: optimal growth ^a									
M2: linear growth	4.14	8	.52				1.00	1.00	.00
IS mentor – organizational inducements									
M1: optimal growth	127.02*	6	21.17				.50	.70	.27
M2: linear growth	17.62*	8	2.20	2 versus 1	-109.40*	2	.97	.98	.06
IS mentor – employee contributions									
M1: optimal growth	42.68*	6	7.11				.86	.92	.15
M2: linear growth	22.20*	8	2.78	2 versus 1	-20.48*	2	.96	.97	.08
IS co-workers – organizational inducements									
M1: optimal growth	13.77*	6	2.29				.98	.98	.06
M2: linear growth	26.19*	8	3.27	2 versus 1	12.42*	2	.97	.96	.09
IS co-workers – employee contributions									
M1: optimal growth	49.95*	6	8.16				.91	.91	.16
M2: linear growth	6.49	8	.81	2 versus 1	-42.46*	2	1.00	1.00	.00
IS new hires – organizational inducements									
M1: optimal growth	54.15*	6	9.02				.88	.88	.17
M2: linear growth	17.45*	8	2.18	2 versus 1	-36.69*	2	.98	.98	.06
IS new hires – employee contributions									
M1: optimal growth	24.49*	6	4.08				.94	.94	.11
M2: linear growth	13.10	8	1.64	2 versus 1	-11.39*	2	.99	.99	.05
IS aggregated – organizational inducements									
M1: optimal growth	10.78	6	1.80				.99	.99	.05
M2: linear growth	16.95*	8	2.12	2 versus 1	6.17	2	.99	.98	.06
IS aggregated – employee contributions									
M1: optimal growth	16.55*	6	2.76				.98	.98	.08
M2: linear growth	22.50*	8	2.81	2 versus 1	5.95	2	.98	.97	.08

Note. $n = 280$.

^aModel failed to converge to a proper solution.

IS, information seeking; PC, psychological contract.

* $p < .05$.

not statistically significant, indicating that information seeking from this source remained stable within the first year of employment. As a consequence, a no-growth model that specified that no growth occurred at all over the four time points (i.e., a horizontal trajectory) was used for subsequent latent growth analyses including information seeking from supervisor (Chan & Schmitt, 2000). For *information seeking from mentor, co-workers, and other new hires*, the shape factor mean was significant and negative. This means that over time there was a significant decrease in the frequency with which newcomers searched for information from these sources. The shape factor variances were also significant, suggesting that inter-individual differences existed with respect to the rate of decrease in newcomer information seeking over time. As shown by the statistically significant negative covariances between the intercept and the shape factors,

Table 4. Parameter estimates for the retained growth models

	Growth model	Mean intercept	Mean shape	Variance intercept	Variance shape	Covariance I-S
IS supervisor – OI	Linear	2.16*	-.02	.26*	.03*	-.04*
IS supervisor – EC	Linear	2.09*	-.02	.37*	.03*	-.05*
IS mentor – OI	Linear	2.23*	-.17*	.56*	.05*	-.10*
IS mentor – EC	Linear	2.10*	-.16*	.61*	.04*	-.10*
IS co-workers – OI	Optimal	2.78*	-.22*	.32*	.06*	-.04*
IS co-workers – EC	Linear	2.31*	-.08*	.43*	.03*	-.05*
IS new hires – OI	Linear	2.46*	-.17*	.64*	.05*	-.11*
IS new hires – EC	Linear	2.05*	-.11*	.49*	.04*	-.08*
IS OI	Linear	2.40*	-.12*	.20*	.02*	-.01
IS EC	Linear	2.21*	-.12*	.26*	.02*	-.03*

Note. IS, information seeking; OI, organizational inducements; EC, employee contributions; PC, psychological contract.

* $p < .05$.

those newcomers who started off with higher mean levels of information seeking tend to decrease their information seeking at a much faster rate than those who started off with lower mean levels of information seeking.

The growth parameters for the *aggregate information seeking scale about organizational inducements* also indicated a significant decrease in information seeking over time, and individuals differed significantly in the extent to which they decreased their information-seeking behaviours. For *information seeking about employee contributions*, the same pattern of change was observed. Hypothesis 1, stating that the frequency of information seeking about the psychological contract decreases during the first year of employment is hence supported, with the exception of information seeking from supervisors, which remained at the same level over time.

To test Hypothesis 2, we conducted a series of paired comparison tests to examine possible significant differences in the frequency of information seeking about both content domains of the psychological contract at each time point. The results support our hypothesis: at each time point, the mean level of information seeking about organizational inducements was higher than the mean level of information seeking about employee contributions (T1: $t = 8.99$, $p < .001$; T2: $t = 8.21$, $p < .001$; T3: $t = 8.59$, $p < .001$; T4: $t = 8.71$, $p < .001$).

Hypothesis 3 stated that there will be different patterns of change in information seeking from different sources. Inspection of the shape factors in Table 4 revealed that the change pattern for information seeking from supervisor, that is, no significant decrease or increase over time, differed from the significant decrease in information seeking from the other three sources. To further explore possible significant differences in the frequency with which different sources were consulted at each time point, we conducted paired comparisons tests at each data collection wave (Wolfe Morrison, 1993b). For each source, we thereby aggregated information seeking about organizational inducements and employee contributions. The results from these tests indicate that at T1, co-workers are the most frequently consulted source of information. They are consulted significantly more frequently than supervisors ($t = 10.64$, $p < .001$), other newcomers ($t = 6.09$, $p < .001$), and mentors ($t = 7.77$, $p < .001$). Other newcomers are consulted significantly

more frequently than supervisors ($t = 2.02, p < .05$). Supervisors and mentors are the two sources that are consulted least frequent, both do not significantly differ from each other. At T2, this pattern changes. Co-workers are still the most frequently consulted information source; they are consulted significantly more frequently than supervisors ($t = 7.09, p < .001$), newcomers ($t = 7.09, p < .001$), and mentors ($t = 8.36, p < .001$), but the extent to which the three latter sources are consulted do no longer differ significantly from one another. At T3, co-workers are still consulted most frequently, but supervisors are consulted significantly more frequently than newcomers ($t = 2.03, p < .05$), and mentors ($t = 3.70, p < .001$), indicating that on average supervisors have become a more important information source to the newcomers involved in our study. There is no significant difference in the extent to which other newcomers and mentors are consulted. Finally, at T4, co-workers are still consulted most frequently, and that supervisors are consulted significantly more frequently than newcomers and mentors. Moreover, at this time point, mentors are consulted significantly less frequently than newcomers ($t = -3.17, p < .001$), making them the least frequently consulted source of information. Together these results indicate that at each time point co-workers were the most frequently consulted source but the supervisor gradually became more important, whilst the mentor became the least important source over time. Relating this finding to the fitted univariate growth curves, even though the decrease in information seeking from co-workers was significant, it remained above supervisor level, whilst the significant decrease in information seeking from newcomers and mentor made both become the least frequently consulted sources over time. Together these findings support Hypothesis 3.

Associations between information seeking and evaluation of psychological contract fulfilment

Hypothesis 4a predicted that information seeking would be positively associated with perceived psychological contract fulfilment. To test this hypothesis, we first fitted the univariate growth curve for perceived psychological contract fulfilment. The linear model fitted the data well ($\chi^2(3) = 1.27, p > .05$, TLI = .99, CFI = .99, RMSEA = .03). The growth parameters indicate that there was a significant decrease in the evaluation of psychological contract fulfilment but that there were no inter-individual differences in the rate of decrease (Mean Intercept = 3.30, $p < .05$; Mean Shape = $-.06, p < .05$; Variance Intercept = .25, $p < .05$; Variance Shape = .02, $p > .05$; Covariance Intercept - Shape = $-.02, p > .05$).

In a second step, a multivariate latent growth analysis was performed in order to explore cross-domain associations between the growth parameters of information seeking and of perceived psychological contract fulfilment. First, we tested the *association between the aggregate scale for information seeking about organizational inducements and psychological contract fulfilment*. We simultaneously fitted the change trajectory of information seeking and the change trajectory of perceived psychological contract fulfilment and we assessed the relationship between both variables' intercept and shape factors. The multivariate model showed a good fit with the data ($\chi^2(22) = 34.56, p > .05$, TLI = .97, CFI = .98, RMSEA = .04). Inspection of growth parameters shows that the initial status of information seeking was significantly and positively associated with the initial status of psychological contract fulfilment ($\rho = .26, p < .05$). This means that more frequent information seeking during the initial weeks of organizational entry was related to perceived psychological contract fulfilment after 3 months of employment. However, as indicated by the non-significant associations between shape factors

Table 5. Latent intercorrelations among growth parameters of the information seeking dimensions and psychological contract fulfilment in a multivariate LGM model

	1	2	3	4	5	6	7	8
1. Intercept – IS supervisor	-							
2. Intercept – IS mentor	.44*	-						
3. Shape – IS mentor	-.08	-.57*	-					
4. Intercept – IS co-workers	.55*	.47*	-.20 ⁺	-				
5. Shape- IS co-workers	.25 ⁺	-.00	.26	-.30 ⁺	-			
6. Intercept – IS new hires	.19*	.08	.04	.45*	-.11	-		
7. Shape – IS new hires	.21*	.10	.13	.09	.18	-.63*	-	
8. Intercept – IS PC fulfilment	.19*	.19*	-.09	.20*	-.04	.12	-.13	-
9. Shape – IS PC fulfilment	.09	.15	-.26	-.02	-.21	-.18	.29	-.34

Note. IS, information seeking; PC, psychological contract.

* $p < .05$; ⁺ $p < .10$.

($\rho = .05$, $p > .05$), changes in information seeking were not significantly associated with changes in psychological contract fulfilment. Together these findings provide partial support for Hypothesis 4a. Since there was only a significant association between the intercept factors for information seeking at T1 and psychological contract fulfilment at T3 Hypothesis 4b, stating that the relationship between information seeking and psychological contract fulfilment becomes weaker over time, is supported.

Next, to examine possible differential relationships between *information seeking from various sources and psychological contract fulfilment* (Hypothesis 5), we examined the associations between information seeking from each of the four sources and psychological contract fulfilment together in a single multivariate latent growth model. As the shape factor for information seeking from supervisors was not significant, this factor was set to zero in the multivariate growth models. This multivariate model showed a good fit with the data ($\chi^2(117) = 171.91$, $p < .01$, TLI = .96, CFI = .98, RMSEA = .04). The latent correlations between growth factors are presented in Table 5. The initial status of information seeking from supervisor, co-workers, and mentor was significantly and positively associated with the initial status of psychological contract fulfilment (supervisor: $\rho = .19$, $p < .05$; co-workers: $\rho = .20$, $p < .05$; mentor: $\rho = .19$, $p < .05$), suggesting that more frequent information seeking from these three sources during the initial weeks after entry was related to perceived psychological contract fulfilment after 3 months. For other newcomers, the associations between growth parameters of information seeking and psychological contract fulfilment were not significant. Hypothesis 5 is thus partly confirmed for information seeking from supervisor and co-workers and contrary to what we expected also information seeking from mentor was related to initial psychological contract fulfilment.

Influence of age

First, to examine the association between age and growth parameters of information seeking variables, each univariate latent growth model that best described the focal variable was respecified to include age as a predictor variable. In these respecified growth models, the structural parameters corresponding to the direct effects from age

Table 6. Structural effects of age on growth parameters of information seeking

s	Intercept	Slope
	β	β
IS supervisor – OI	–.04	–.13
IS supervisor – EC	–.04	–.09
IS mentor – OI	–.11	.08
IS mentor – EC	–.06	.03
IS Co-workers – OI	–.20*	–.08
IS Co-workers – EC	–.14*	–.07
IS new hires – OI	–.37*	.10
IS new hires – EC	–.30*	.04
IS aggregated – OI	–.29*	–.01
IS aggregated – EC	–.21*	.02

Note. IS, information seeking; OI, organizational inducements; EC, employee contributions; PC, psychological contract.

* $p < .05$.

to the intercept and shape factor provide evidence for the extent to which age affects information seeking over time. The respecified univariate growth models continued to provide good fit for each of the information seeking variables¹. Table 6 presents, for each information seeking variable, the standardized structural parameter estimates of the direct effects from age to growth factors (Chan & Schmitt, 2000). There was a significant effect of age on the intercept factor of information seeking from co-workers (organizational inducements: $\rho = -.20$, $p < .05$, employee contributions: $\rho = -.14$, $p < .05$) and from other new hires (organizational inducements: $\rho = -.37$, $p < .05$, employee contributions: $\rho = -.30$, $p < .05$), suggesting that older employees sought less frequently for information about their psychological contract from these sources. For information seeking from supervisor and mentor, the two more formal information sources, there was no significant effect of age. Hypothesis 6a stating that the frequency of information seeking will be higher for younger newcomers is thus only supported for seeking information from co-workers and other new hires. There were no significant effects of age on the shape factors, indicating that age was not associated with the rate of change in information seeking. Hypothesis 6b is thus rejected.

Discussion

Several studies in the socialization literature have shown the importance of information seeking in explaining newcomer adjustment. Within the psychological contract literature, scholars stress the importance of this socialization period for the formation and initial evaluation of the psychological contract, and it is assumed that information

¹ The model fit indices for the respecified models were as follows: IS from supervisor about employer inducements $\chi^2(10) = 6.99$, $p > .05$, TLI = 1.02, CFI = 1.00, RMSEA = .00; IS from supervisor about employee contributions $\chi^2(10) = 4.35$, $p > .05$, TLI = .94, CFI = .97, RMSEA = .00; IS from mentor about employer inducements $\chi^2(10) = 19.39$, $p < .05$, TLI = .97, CFI = .98, RMSEA = .06; IS from mentor about employee contributions $\chi^2(10) = 27.11$, $p < .05$, TLI = .94, CFI = .96, RMSEA = .07; IS from co-workers about employer inducements $\chi^2(8) = 13.91$, $p > .05$, TLI = .98, CFI = .99, RMSEA = .05; IS from co-workers about employee contributions $\chi^2(10) = 9.99$, $p > .05$, TLI = 1.00, CFI = 1.00, RMSEA = .00; IS from new hires about employer inducements $\chi^2(10) = 21.22$, $p < .05$, TLI = .97, CFI = .97, RMSEA = .06; IS from new hires about employee contributions $\chi^2(10) = 17.27$, $p > .05$, TLI = .98, CFI = .98, RMSEA = .06 (IS = information seeking).

seeking affects this process, but empirical studies are virtually nonexistent. The present study contributes to the literature on psychological contract development by providing more insight into the process of changes in information seeking about the psychological contract during the socialization process in relationship with newcomers' evaluations of psychological contract fulfilment over time. We evaluated our hypotheses using LGM. Existing longitudinal studies on psychological contracts (Robinson & Rousseau, 1994; Thomas & Anderson, 1998), as well as most longitudinal studies on newcomer socialization (Ostroff & Kozlowski, 1992; Saks & Ashforth, 1997b; Wolfe Morrison, 1993a) have examined change at the aggregate level. This type of analysis provides information on the amount of change for a group of newcomers, but it does not provide an adequate conceptualization and analysis of intra-individual changes over time. In other words, it cannot answer questions concerning the form of the intra-individual change trajectory or about inter-individual differences at initial status and in the rate of intra-individual change (Chan & Schmitt, 2000). With this study, we addressed Bauer *et al.*'s (2007) recommendation that individual change trajectories need to be examined.

We added to research on newcomer socialization and psychological contract development in several ways. First, building on Chan and Schmitt's (2000) modelling of newcomer information seeking and adaptation during organizational socialization, we investigated univariate changes in newcomers' information-seeking behaviours during the first year of employment. The univariate growth models indicate that during the first year of the employment relationship, newcomers decrease the frequency of psychological contract-related information seeking. This finding is a first empirical confirmation of one aspect of the theories on psychological contract development proposed by Rousseau (1995) and McFarlane Shore and Tetrick (1994). These authors argue that information seeking is most frequent during the initial months after entry, and becoming more automatic over time. They also correspond to previous findings on changes in the mean level of information seeking reported in the socialization literature (Ashford, 1986; Bauer *et al.*, 1998; Ostroff & Kozlowski, 1992; Wolfe Morrison, 1993a).

Second, we have shown that not all information-seeking behaviours decrease over time and that it is important to distinguish between different sources. Our results shed new light on Rousseau's (1995) assumption that supervisors as contract makers are the building block of psychological contract formation. Supervisors become increasingly important as a source of information on the psychological contract over time. However, co-workers, despite the fact that they are not 'official' organizational agents, are the most important information sources during the first year of employment.

With respect to changes in information seeking frequencies over time, the pattern of information seeking from supervisors differs from the other sources. Whilst information seeking from co-workers, mentors, and other newcomers decreases, newcomers continue to seek information from their supervisors with the same frequency over time. Compared to the other sources, supervisors become an increasingly important source of information. These findings are in line with the results of the study by Callister *et al.* (1999), who found that inquiry from supervisors remained constant over time, whereas inquiry from peers decreased over time.

Third, our findings advance psychological contract research by demonstrating that the frequency of information seeking is contingent on the domain of promises (organizational inducements vs. employee contributions). At each time point, newcomers seek significantly more frequently for information on organizational inducements compared to employee contributions, suggesting that processes such as self-serving biases and

concerns for equity in the exchange relationship play a role in psychological contract-related information seeking (Robinson *et al.*, 1994). One implication of this finding is that for organizations it is important to actively engage in information sharing about both content domains, as information about employee contributions might be important in order to ensure that newcomers have correct views on what is required from them as part of the exchange agreement.

Fourth, this is the first study to empirically address the relationship between information seeking and psychological contract evaluations. A central assumption in the socialization literature is that information seeking about different socialization aspects enhances newcomer adjustment (Bauer *et al.*, 2007; Kammeyer-Mueller & Wanberg, 2003). Evaluations of psychological contract fulfilment can be regarded as one indicator of this adjustment process. We found that information seeking during the first 2 weeks after entry affects the evaluation of the psychological contract after 3 months. When information seeking from different sources is taken into consideration, it appears that information seeking from co-workers, supervisor, and mentor during the first weeks has a significant effect on psychological contract evaluation after 3 months.

Whilst earlier studies have shown that supervisor support impacts newcomers' evaluations of their psychological contract (Sutton & Griffin, 2004) and that the quality of the leader-member exchange relationship affects perceived breach among experienced employees (e.g., Dulac, Coyle-Shapiro, Henderson, & Wayne, 2008), this study breaks new ground by empirically supporting the idea that during the socialization process not only supervisors are central contract makers for newcomers, as was posited by Rousseau (1995). Co-workers were the most frequented information source on the psychological contract, and information seeking from supervisors, co-workers, and also mentors (although they were consulted less frequently) was systematically related to psychological contract fulfilment during the first 3 months of employment. As such, co-workers and mentors also seem to be important organizational agents affecting psychological contract evaluation.

As demonstrated by Lester, Turnley, Bloodgood, and Bolino (2002), supervisor and subordinate perceptions of and attributions for psychological contract breach tend to differ, and a more continuous information exchange between both parties from the initial stage of the employment relationship may help to overcome possible deviations in perceptions of the psychological contract. Mentors might play a role in facilitating this information exchange process. The fact that co-workers remain the most frequently consulted information source over time extends earlier work by Ho and Levesque (2005), who found that employees' social networks with co-workers affect their psychological contract beliefs and their evaluations of promise fulfilment.

No significant relationships were found between changes in information seeking and psychological contract fulfilment during the later stages of the socialization period. This suggests that not the initial months but the initial weeks are crucial for newcomer sensemaking, as suggested by earlier studies using a different timing of data collections (Thomas & Anderson, 1998; Wolfe Morrison, 1993b). One implication of this finding is that the first weeks of employment are crucial in engaging in information exchange with newcomers. During this initial period, newcomers socially construct their evaluations of inducements by relying on the information they obtain from organizational insiders. These early levels of information seeking, rather than changes in information seeking occurring over time, are important in determining psychological contract evaluations. Information seeking decreases during the socialization process; however, this does not seem to have negative effects on psychological contract evaluations in a later stage of

the socialization process. This finding also sheds new light on the debate on which intervals of data collection researchers should choose in socialization research (Bauer *et al.*, 2007). It was revealed that it is essential to include a measure earlier than the first 3 months of employment, as at least in our study, at later time points weaker, or no relationships were found. On the other hand, future research is needed to further explore how information seeking and psychological contract fulfilment might be related over larger time spans. It is possible that the relationship between both variables cannot be conceptualized as a series of lockstep stages but rather as a continuous process that occurs gradually as the employment relationship continues, whereby the accumulation of information seeking over time could affect broad changes in employees' evaluations of promises.

Age does matter in newcomer information seeking, supporting the idea that finding information on the terms of the exchange agreement will be of more explicit concern for younger newcomers who lack previous transition experiences and who have to construct more actively their mental model of the employment relationship, as they have little or no previous experiences to rely upon (Rousseau, 1995, 2001). However, this impact of age is only supported for seeking information from co-workers and other new hires. A possible explanation is that more experienced employees already filter that sources might provide them with the most valid or reliable information (Settoon & Adkins, 1997) about the psychological contract, that is, the more formal organizational representatives.

Our results indicate that there are differences in individual change trajectories of information-seeking behaviour. Our hypothesis that age would be related to these differences was rejected. This leads to a possible future research direction of investigating whether the quality of the information the different sources provide could be different, which leads to a different rate of changes in information-seeking behaviour. Another research avenue would be studying how leader-member exchange is related to information-seeking behaviour. Longitudinal research by Jokisaari and Nurmi (2009) shows that changes in the relationship with the supervisor are related to individual changes in job satisfaction, indicating that the quality of the relationship with the supervisor is worth taking into account when investigating individual changes in behaviour and attitudes.

Limitations

When interpreting our results, a number of limitations should be kept in mind, which need further attention in future research. First, despite its many advantages, we are aware that a longitudinal research design is not without problems such as testing effects, selection, and dropout of subjects (Cook & Campbell, 1979). For example, it is possible that over time respondents became weary of completing multiple surveys or that their responses became biased by communicating about the survey topics with other respondents. Our analyses are only based on those respondents who participated in the full study, and, by implication, those who stayed with the organization during the study period. This limits the generalizability of our findings. Second, the results of our study should be considered in view of the characteristics of our research sample. This consisted of well-educated, relatively young, and inexperienced newcomers from four large profit firms. Although exploratory analyses showed no significant impact of age, experience, hierarchical level, and organizational membership, cross-validation of our findings is important in order to assess whether the relationships we have found also hold within different research populations. Third, in our study, we only focused

on newcomers, without considering the organizational viewpoint. Newcomers in each of the four organizations involved went through a formal introduction process, but in order to more fully understand changes in psychological contract perceptions, it is necessary for future research to include the employer perspective and to assess possible interaction effects with organizational socialization tactics. Related to this is the use of self-reports for assessing both dependent and independent variables. Since we were primarily interested in newcomers' perceptions and subjective evaluations of their employment relationship, the use of self-report data is justified. However, this justification does not eliminate the problems of common method variance due to single-source bias, which might have inflated or attenuated the magnitude of the relationships found (Newman, 2009). Although the likelihood of common method bias was somewhat reduced by measuring independent and dependent variables at different points in time and by focusing only on the change portions of psychological contract evaluations, future research should supplement self-report measures with data from supervisors, peers, or both. The use of self-report measures might have caused socially desirable responses. However, the fact that repeated measures were used might have helped to overcome the impact of this bias on our findings, as their patterns of response are unlikely to change over time. Fourth, future research should complement the current findings by assessing more objective factors contributing to changes in newcomers' psychological contract perceptions. Examples are a change of supervisor or the type of introduction activities put in place by the organization. Finally, it is interesting for future research to include fulfilment of employees' contributions as part of the psychological contract, by relating newcomers' information-seeking behaviours to supervisors' (or other organizational agents') evaluations of newcomer psychological contract fulfilment. This would also offer the possibility to relate changes in both parties' evaluations of their psychological contract over time, in relationship with changes in information seeking.

Implications

With regard to the practical implications of this study, we first would recommend that employers attend to newcomers' information-seeking activities regarding their psychological contracts from the initial stage of the employment relationship onwards and that they engage in an active process of information exchange by complementing newcomer proactivity with the provision of information. This should encourage the development of a realistic and desirable psychological contract and thus reduce the likelihood of perceived breach of promises (Thomas & Anderson, 1998). Organizations should take the age of their newcomers into account in their socialization policies. Older employees do not use other newcomers as an information source as often as their younger counterparts. For socialization practices in organizations, this could mean that older newcomers might benefit less from special classes with other newcomers with regard to information seeking. Frequent communication about both employees' and employer's wants and offers is important and should receive permanent attention during the course of the employment relationship but is crucial during the first 3 months of employment. As the rate of newcomers' turnover is reaching a peak between 3 and six months after entry (Farber, 1994), organizations should be very active in managing the employment relationship during the first 3 months of employment. Information from supervisors is becoming increasingly important over the first year of employment. Preparing supervisors to not only talk with their new subordinates on task-related matters but also to pay attention to these newcomers' general concerns about the

terms of their employment deal are an important mechanism to enhance newcomer adjustment and to avoid possible feelings of psychological contract breach over time.

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Received 30 March 2010; revised version received 23 December 2010

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