**How long are newcomers new? A review of the organizational socialization literature**

The time when an employee begins in a new organization or new job is particularly relevant to organizational socialization, the process through which individuals acquire the skills, knowledge, behaviors, and attitudes required of the new role (Wanberg, 2012). As the number of jobs people hold over the course of their careers increases (Lyons, Schweitzer, & Ng, 2015), individuals and organizations face an increasing number of socialization encounters.

As a change process, organizational socialization research depends on understanding the time frame, or duration, from which the newcomer begins the process of adjustment until the newcomer ends the process. Yet, the duration of any socialization process is a matter of socially constructed, rather than objective time (Zaheer, Albert, & Zaheer, 1999). This makes pinpointing the timeframe even more challenging.

Despite calls for greater attention to time in organizational research (Shipp & Fried, 2014), progress toward increasing the rigor around methods used in organizational socialization research has lagged. In this paper, we review recommendations of time scholars and organizational socialization scholars to specify time in research, and then compare these recommendations to how empirical studies are actually conducted. Finally, we discuss the implications, particularly for managers working in multicultural environments.

**Evolution of organizational socialization research**

Early organizational socialization studies sought to establish the stages newcomers pass through—anticipation of the new job, first encounters on the job, changing and adaptation (e.g., Feldman, 1976; Schein 1978). In the 1980s, many scholars shifted focus to the practices in which organizations engaged to socialize new employees (e.g., Van Maanen & Schein,1977; Jones, 1986). In the 1990s, studies demonstrated that just as important as what organizations were doing during the socialization process, was what new employees were doing, such as feedback-seeking and relationship building (Ashford & Black, 1996; Morrison, 1993). More recent research often takes a person-situation interactionist perspective, highlighting the interactive effects of the newcomer and the organization during socialization (e.g., Kim, Cable, & Kim, 2005; Harris, Li, Boswell, Zhang, & Xie, 2014).

As the study of organizational socialization has become more nuanced and the research questions more complex, the research designs have also become more sophisticated. The more recent studies in this review include designs using repeated measures (e.g., Jokisaari & Nurmi, 2009), multisource data (e.g., Chen, 2005), and randomized experiments, (e.g., Chen, Lu, Tjosvold & Lin, 2008). Much of the socialization research conducted today involves collection of data at multiple time points. This raises the related methodological questions of 1) who should be included in a study of newcomers—that is, how are newcomers defined as newcomers? and 2) at what time points should we collect data on the variables of interest?

**Implications of time**

One of the central concepts in the study of time is *duration*, “the extent of the temporal interval that characterizes some event” (Kelly & McGrath, 1988, p. 132). Duration is an important concept in many areas of organizational research. The duration of a relationship between an employee and a job is non-monotonic such that the likelihood of quitting a job is low at the beginning, rises steeply, and then declines slowly (Fichman, M., & Levinthal, D. A. (1991). Duration of employee absences is associated with job demands and burnout (Bakker, Demerouti, De Boer, & Schaufeli, 2003).

McGrath and Kelly (1986) warn of the serious interpretive errors that may take place if the duration of time is incorrectly specified. If the interval is too short, the cause may not have had enough time to produce the hypothesized effect. If the interval is too long, the effects may have come and gone, and sometimes the effect is “wearing off.” Furthermore, if the cause-effect relationship is cyclic, specifying the correct timing is even more critical (McGrath & Kelly, 1986).

To avoid such errors, it is important that scholars specify a theory of change by identifying the specific form and duration of change as well as the predictors of change (Ployhart & Vandenberg, 2010). For organizational socialization research, a key concept, therefore, is the duration of the socialization period, or how long the newcomer is new.

**Recommendations regarding time in socialization research**

Socialization is a dynamic process in which organizations and individuals change over a period of time, and yet many studies fail to handle the time dimension appropriately (Fisher, 1986). Shipp and Fried (2014) have observed that despite repeated calls for greater attention to time in management research, actual attention to time has been minimal. They suggest that one reason for the gap is because time scholars tend to write more about broad overviews of temporal options and less about specific suggestions for a particular research stream such as organizational socialization. Fortunately, this is changing. In this section, we review time-relevant recommendations, which scholars have made specifically regarding organizational socialization research.

***1. Distinguishing newcomer time***

When the amount of conscious information processing is high, time appears to slow down (protracted duration) and when information processing is low, time appears to speed up (temporal compression) (Bluedorn, 2002). Conscious information processing includes a variety of cognitive activities including the level of cognitive involvement with the self and the situation, and the person’s emotional activation and involvement, particularly regarding his/her ability to deal with the situation. Newcomers are processing a tremendous amount of new information while simultaneously trying to make a good first impression – there is a great deal of cognitive information processing. This is why newcomers experience the first day as protracted duration. It is important for organizational socialization research to explicitly describe why the relationships being studied are particularly important to someone starting a new job and not just to all employees (Wanberg & Choi, 2012). For example, one construct frequently examined in organizational socialization research is role clarity. However, role clarity is important to all employees (Pearce, 1981). Thus, it falls to the researchers to make clear what is unique to newcomers in the relationships being studied, in order to advance the field of organizational socialization (Wanberg and Choi, 2012).

***2. Temporal separation of measures***

Two meta-analyses of organizational socialization studies reported that relationships were stronger in cross-sectional than in time-lagged studies. (Bauer, Bodner, Erdogan, Truxillo, & Tucker, 2007; Saks, Uggerslev, Fassina, 2007). In the first meta-analysis, some indicators of socialization were more susceptible to differences in the timing of measurements (Bauer et al., 2007). For example, role clarity was more positively related to intentions to remain, job satisfaction, and organizational commitment when measured at the same time as opposed to different time points. The authors of the meta-analysis suggest that gathering data on role clarity at the same time as attitudinal outcomes may inflate the relationship more severely than for other types of adjustment (Bauer et al., 2007). The second meta-analysis looked at relationships between institutionalized socialization tactics (VanMaanen and Schein, 1977) and various outcomes including perceived fit, organizational commitment and job satisfaction. The authors speculate the stronger relationships in cross-sectional designs may be due to inflation resulting from common method variance. They also found that cross sectional studies using newcomers with less than 6 months tenure reported stronger relationships than studies using newcomers with greater than 6 months tenure, suggesting that newcomers with less tenure are more receptive to institutionalized socialization tactics (Saks, Uggerslev, & Fassina, 2007).

***3. Timing of data collection***

In order to establish a causal relationship between a hypothesized cause and effect, a time lag between the first event (Variable X) and the second event (Variable Y) is introduced. The problem researchers face when introducing a time lag is that the correct length of time between the two events is seldom known a priori (Chan, 2014). Therefore, measuring the effect at the “correct” time may necessitate multiple time points. In one study, unmet expectations regarding participation in decision making were unrelated to satisfaction after one month on the job but were related after five months on the job. Apparently, employees were not initially disappointed by unmet expectations for participation, but, upon gaining experience and competence, unmet expectations for participation in decision-making became salient and were associated with dissatisfaction (Toffler, 1981).

As with most areas of research, organizational socialization research frequently examines a set of constructs. For example, frequently studied indicators of organizational socialization are role clarity, self-efficacy, and social acceptance, and frequently studied outcomes of organizational socialization are job satisfaction, organizational commitment, job performance, intentions to remain, and turnover (Bauer et al, 2007). Underlying this research is the premise that organizational socialization is a process of learning (Ostroff & Kozlowski, 1992). It is important to recognize, therefore, that learning may occur at different rates. “Even when all types of learning are occurring simultaneously, they may not proceed at the same rate” (Fisher, 1986, p.108). For example, Feldman (1977) found that hospital employees recalled feeling accepted socially after an average of 2.7 months, but did not feel competent in their job tasks until roughly 6 months. Thus, if this group had been surveyed at 3 months tenure, it is likely that results would indicate they felt social acceptance, but not self-efficacy. Differences such as these highlight the importance of matching the timing of data collection to the specific constructs of interest.

***4. Attrition during the study period***

Regardless of study design—cross-sectional, time-lagged, or longitudinal—studies of newcomers all face the issue of attrition. Cross-sectional studies of newcomers omit responses from the “worst failures of socialization, as most of these individuals will have left the organization before the survey could occur” (Fisher, 1986, p.103). Furthermore, cross-sectional studies comparing cohorts—e.g., comparing the attitudes of first, second, and third year apprentices in a training program—may find differences between the cohorts. However, it is impossible to know whether the differences are due to socialization processes or merely to individuals with incompatible values dropping out (Fisher, 1986).

Studies using two or more data collection timepoints face similar challenges with drop out of participants between the first and subsequent time periods. When researchers study only the newcomers who remain (after a period when other newcomers have left the organization), outcomes such as commitment, satisfaction, and anxiety are likely to suffer from range restriction, resulting in misleading results (Bauer, Morrison, & Callister, 1998). Bauer and Green (1998) shed some light on the attrition issue by comparing newcomers who completed three surveys to those who had completed only two. Those that completed all three surveys were better liked by their managers, had higher role clarity, and reported their managers were more supportive than those who did not complete the third survey. They speculate that employees who did not complete the third survey may have felt embarrassed, stressed, may have quit, or may have been fired.

Next, we review the empirical newcomer socialization literature, focusing on some of the temporal decisions scholars make in designing their studies.

**Methods**

**Inclusion Criteria and Literature Search**

In selecting studies for this empirical review of newcomer socialization literature, we first obtained all the studies that were included in Bauer et al. (2007) meta-analysis of the newcomer socialization literature. Next, using the same search criteria as Bauer and colleagues (2007), we obtained both published and unpublished empirical studies on newcomer socialization from January 2006 to January 2018 through a computerized search on PsycINFO using the key words “newcomers” “newcomer socialization”, “organizational socialization” “employee socialization” along with “information seeking” and “feedback seeking”. We also searched through the databases of the Society for Industrial and Organizational Psychology and Academy of Management conference proceedings for any articles and papers on “newcomers” or “socialization”. We identified 152 studies in our literature search, out of these, 32 studies were excluded because they did not include any codable data or they were not necessarily organizational employees (e.g., study was about immigrant newcomers, sex workers, etc.). The full reference list of articles included in the review is available from the first and second authors.

**Article Coding**

 Article coding criteria were developed by the first and second authors. All articles were coded on the following dimensions: definition of newcomers, justification for the definition of newcomers, the time points when data was collected, justification for those time points, average attrition rates between time points during which data was collected from newcomers, and sample composition in terms of the occupation(s) or student status of the participants.

*Definition of newcomers* was coded according to how the authors included/excluded study participants. For instance, a paper that stated, *“We invited all employees with twelve or fewer months experience to participate in the study,”* would be coded as twelve months for the definition of newcomer because employees with greater than twelve months experience were excluded from the study. The inference we can make in this scenario is that the authors defined employees within their first twelve months to be newcomers, and employees with greater tenure *not* to be newcomers.

*Justification for the definition of newcomers* was coded into five categories: *1)* *none, 2) based on prior research, 3) linked to onboarding process, 4) based on sample-specific information, or 5) multiple justifications*. “None” means that no justification was given in the article as to how a particular cut-off was decided. “Based on prior research” means that the authors cite or mention a prior study or theoretical paper as their justification. “Linked to onboarding process” means the authors describe an organizational onboarding process and when in that process the participants completed a survey. “Based on sample-specific information” means the authors describe how they learned about the particular sample and how long they are considered newcomers in that context. Finally, “Multiple justifications” means that two or more of the previously described categories were mentioned in the paper.

*Time points when data was collected* was coded as the days, weeks or months at which data was collected. *Justification for the time points* was coded into the same five categories as for the justification for definition of newcomers. *Attrition between time points* was coded as the number of participants that dropped out of the study between Time 1 and subsequent time points.

 Each study was coded by two graduate students who were trained by the first and second authors on the coding criteria. A subset of the articles was coded by the second author to check for accuracy. Intercoder agreement between the two coders for the information taken from the studies exceeded 90% for all variables. Any disagreement was resolved by subsequent discussion, and complete agreement was reached in all cases. Disagreements in some studies was due to misreading of some information by one coder, and not due to two different judgments regarding the information that was to be coded. Thus, we believe that the studies were coded accurately.

**Sample Description**

 Our review is based on 125 unique samples that met our inclusion criteria. Out of the 125 studies, 66.40% were longitudinal, 31.20% were cross-sectional, 1.60% used a mix of longitudinal and cross-sectional approach and .80% were review studies. Of the longitudinal studies, 43.75% collected data from newcomers at two time points, 48.75% collected data at three time points and 7.50% of the studies collected data at four time points. Participants were almost evenly split by gender with 53% males and 47% females. Average age of the participants across the studies was approximately 28.09 years (*SD*=5.77).

**Results**

Our primary goal in this empirical literature review was to identify the timeline that is considered for an employee to be categorized as a newcomer and to review the justification provided by authors regarding their choice of a specific timeline for data collection from newcomers regarding socialization variables. As indicated in Table 1, in the majority of the studies (58.4%) authors did not provide any justification for the definition of newcomer adopted in the study, whereas 15.43% of the authors defined a newcomer based on prior research. For example, many of these studies chose the socialization period to be less than six months (e.g, Choi, 2014; Hart & Miller, 2004) based on Brett (1984), who define organizational entry periods to range from one week to six months. On the other hand, seven studies defined participants as newcomers based on the onboarding process, which ranged from four weeks to fourteen weeks depending on the type of occupation. For example, for U.S. Army recruits the onboarding process included a 14-week residential training program (Schaubroek, Peng & Hannah (2013), whereas for insurance agents, the timeline was a three-month orientation period (Chen & Eldrige, 2011). In addition, eleven studies defined newcomers based on the sample specific information i.e. the justification was based on the type of employees and occupation. For example, Nifadkar & Bauer (2016), defined the midpoint of the probation period as the timeline for identifying newcomers as appropriate for information technology workers in a technology company. Lastly, there were seven studies that relied on multiple criteria for defining newcomer timeline and used a combination of justifications. For example, Boswell, Shipp, Payne & Culbertson (2009) collected data from newcomers on Day 1, 3 months, 6 months, and 1 year based on prior empirical research (e.g., Bauer et al., 2007) but also suggestions from the organizational members regarding critical time points for data collection.

In examining the subset of studies that used a longitudinal design, 35 studies collected data at two time points, 29 studies collected data at three time points and five studies collected data at four or more time points. In the following sections we discuss each of these subsets of studies with respect to the justification criteria provided for data collection.

For the 35 studies that collected data at only two time points, 19 studies provided no justification for the definition of a newcomer, 8 studies defined a newcomer based on prior research. For example, Cooper, VanVianen and Anderson (2004) chose to collect data from newcomers at a gap of only four months citing prior socialization research by Bauer, Morrison and Callister (1998), which suggests that three to four months is the ideal timeline for collecting data from newcomers. Further, only 2 studies defined newcomers based on onboarding processes. For example, Lee (2011) and Sluss and Thomson (2012) collected time 1 data from newcomers at the beginning of the organizational training program. Additionally, four studies defined newcomers based on sample specific information, such as Wang, Zhan, Mccune, and Truxillo (2011), who collected Time 2 data at the time of organizational performance review to easily collect newcomer information. Lastly, two studies provided multiple justifications for newcomer timeline. For example, Delobbe, Cooper-Thomas & De Hoe (2015) based on the onboarding process for military personnel; collected data from newcomers at two times, on the first day of enrollment in training and 8 weeks later, on the last day of the military instruction period. But also provide justification that this time interval was chosen because it was in accordance with socialization literature, which suggests that changes in the psychological contract occur rapidly, during the first few months of employment (De Vos & Freese, 2011, Thomas & Anderson, 1998).

Longitudinal studies that collected data from newcomers from three points in time showed similar pattern: 22 studies did not provide any justification for defining a newcomer, 8 studies provided justification based on prior research. For example, Nelson, Quick, and Eakin (1988) state that “these measurement points reflect the approximate duration such stage as described in previous literature although there is not complete agreement among researchers on the duration of each stage”. One study by Schaubroek, Peng & Hannah (2013) provided justification based on the organizational on boarding process describing that they separated the measurement of the variables by periods of either six or seven weeks as these intervals were associated with meaningful junctures in the organizational training and allowed sufficient time for functional relationships to evolve. Further, three studies used sample specific information to justify their timeline for data collection. For example, Chen and Klimoski (2003) indicated that socialization period of newcomers in IT project teams normally lasted about two to three months and therefore they collected data within the first 2-3 months to capture the three phases of newcomer integration (anticipation, encounter, and adjustment). Lastly, five studies provided multiple justifications for defining newcomers. For example, Harrison, Sluss, & Ashforth, (2011) described that the timing of their surveys was based upon theory regarding newcomer adaptation but also state that in the telemarketing industry, monitoring and feedback are cycled on a weekly basis and therefore the timing of their surveys would allow participants to have sufficient time to adapt and receive multiple cycles of performance feedback.

There were only five studies which collected data from newcomers at five points in time. Four of these studies did not provide any justification for the definition of a newcomer or explanation for their data collection timeline. One study by Zhu, Tatachari & Chattopadhyay (2017) provided justification based on prior research and described that they used four measurement points according to the milestones of newcomer experience as recommended by Ployhart & Ward (2011).

In looking at the overall sample of studies on newcomer socialization, it appears that over time there has been an increase in longitudinal studies. For example, from 1980-1990 our sample included 9 longitudinal studies, from 1991-2000 the number of longitudinal studies increased to 20, from 2001-2010 there were 22 longitudinal studies reported, with the largest number of longitudinal studies reported between 2011-2018 that included a total of 32 studies. Furthermore, we examined the attrition rates for the longitudinal studies between the first and last data collection time points. Attrition rates varied widely from as little as 1% to a high of 94%.

**Discussion**

Multicultural environments. We set out to better understand how organizational socialization scholars answer the question, “How long are newcomers new?” by reviewing the literature and specifically looking for the justifications given in terms of who is included and when data is collected in empirical studies. In doing so, we have discovered a gap between what is recommended by time scholars and how research is actually conducted. Here we discuss three highlights from the results of our review: 1) trend toward longitudinal designs, 2) theoretical justification of study design decisions, and 3) the issue of attrition in longitudinal studies.

The increasing number of longitudinal studies in organizational socialization is a positive trend. Longitudinal designs help to combat problems of common method bias inherent in cross-sectional designs (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). In addition, longitudinal designs allow scholars to test whether change takes place over time (Ployhart & Vandenberg, 2010). Change processes are the theoretical foundation of organizational socialization, and so it is promising that the field is moving in this direction.

In the majority of studies included in this review, the authors did not make time-related decisions based on the context, as time scholars recommend. For instance, in one study, the only mention of the decision regarding which employees to include in a study of salespeople was “For our purposes, we define newcomers as those who have been with their current organizations for two years or less.” This does not indicate how the authors decided on two years as a cutoff point for which employees qualify to participate in newcomer research. However, there are notable exceptions that could be considered exemplars. In Morrison (2002), a cohort of new accountants was surveyed in May. Morrison chose to survey all accountants hired in the 1998 cohort (most accountants begin shortly after college graduation) and decided to collect data in May based on interviews with company representatives who indicated that “learning and assimilation process for new staff accountants is lengthy and is generally not viewed as complete until newcomers have survived the industry’s “busy season”, which ends in mid-April. Thus, Morrison’s study design decisions were based on information specific to the context of the study.

Furthermore, scholars using longitudinal designs are beginning to make decisions regarding the timing of data collection based on context-specific information. For instance, Chen and Klimoski (2003) studied information technology (IT) teams, and describe their decision process regarding data collection as follows: “Responses to this question indicated that the socialization period of newcomers in IT project teams normally lasts about two to three months. Therefore, we employed three data collection points to capture the three phases of newcomer integration (anticipation, encounter, and adjustment) within the first two to three months following newcomer entry to a team.”

Whereas longitudinal studies provide benefits over cross-sectional studies, participant attrition in longitudinal studies is a serious concern. Most of the studies in this review had attrition rates above 20%. Many organizational socialization studies are examining relationships between a socialization indicator, e.g., role clarity, and a socialization outcome, e.g., organizational commitment. Range restriction becomes an important consideration when participants have left the study. Consider how many employees in a newcomer study quit or get fired between the first and last data collection time points, partially due to lack of role clarity and/or organizational commitment. For a three-time point study, the final sample is more likely to include employees who have high role clarity and organizational commitment, because those with low role clarity, and organizational commitment are more likely to leave the organization before T3.

Our findings raise the question of whether there are significant differences in the duration of “new” status for employees in various contexts? For instance, there may be important cultural differences across countries. It is plausible that in contexts of high turnover, new employees would need to get “up to speed” quickly, as they become the senior employees in a high-turnover group very quickly. In contrast, in contexts with low turnover, a new employee with several years of tenure may still be considered the “rookie” if everyone else in the group has been with the organization longer. Therefore, in countries with relatively low turnover such as Japan and Spain (Sousa-Posa & Henneberger, 2004), new employees should be considered newcomers for a longer period of time. Likewise, there may be significant occupational differences in newcomer status duration. For relatively simple jobs, it is likely that newcomer status would be shorter than for complex jobs requiring many months, or even years, of training. Future research should examine the importance of context in determining the duration of newcomer status.

**Limitations and Conclusion**

Our review of the temporal decisions made in study design within the organizational socialization literature should be viewed in light of its limitations. First, the studies included in this review are published in journals, dissertations or conference proceedings, and we acknowledge that there are likely a large number of unpublished studies which may have yielded different overall patterns of findings. Second, our coding system does not reflect the actual decisions made by scholars, but rather, what is reported in the final publications. It is sometimes the case that details regarding methodological decisions are cut in the revision process either at the request of reviewers or to reduce page length. Finally, we do not have complete information from all studies on the attrition rates, because some studies reported only the sample size at the final time point.

The small number of studies which conform to the recommendations of temporal scholars may at first seem discouraging. However, as a whole, we observe progress in the field of organizational socialization in terms of the care with which temporal issues are handled. It is clear from the exemplar studies that an increasing number of scholars are taking context into account by gathering preliminary information about their samples and basing temporal research design decisions on evidence rather than simply pulling numbers “out of thin air.” This progress in the field is slow, and we hope this review brings greater attention to the important methodological decisions which organizational socialization scholars make.

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Table 1.

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| **Justification for definition of newcomer** |
| **Justification** | **Number of studies** |  |
| **Sample justification from studies** |
| None | 73 | We have defined newcomers as someone who has been with their organization for two years or less, (Menguc, Han, & Auh, 2016)All participants had been with the company at least 6 months and none had been employed with this company longer than 18 months, (Korte, 2013) |
| Based on prior research | 27 | Organizational entry periods generally range from 1 week through 6 months (Brett, 1984), (Hart & Miller, 2004) |
| Given the limited availability of empirical studies on social network development, I relied on previous studies showing that it takes about six months to see social network changes: Sasovova (2010) and Shah (2000) found significant changes or recovery in social networks in a six-month time frame. Thus, I chose approximately the first half year after organizational entry to capture changes in newcomer socialization and social networks (Choi, 2014) |
| Linked to onboarding process | 7 | We recruited participants from a U.S. Army training program for new enlistees. During this 14-week residential program, trainees completed both basic and advanced infantry training, consecutively, (Schaubroek, Peng & Hannah, 2013)The data for the quantitative analysis relies on the survey administered in Korean to 100 trainees (75 men and 25 women) from 4 teams at the K-Co's newcomer training program in 2009. To identify the changes that occurred during the 4-week training period, two surveys were conducted longitudinally: on the first day of the training program the survey for Time 1 was administered to 100 trainees, and on the last day of the training program (after 4 weeks) the survey for Time 2 was given to the same 100 trainees, Lee (2011) |
| Based on sample-specific information | 11 | The organization advised us to use the six-month period as a typical socialization period for this type of job, (Finkelstein, Kulas & Dages, 2003)Given the apparent tension between adjusting to a new organization and becoming a permanent employee by performing well and frequent conflict among coworkers for a variety of reasons, we believed that this was an appropriate setting for this study and that midpoint in the probation period was a reasonable and meaningful time to collect data. (Nifadkar & Bauer, 2016) |
| Based on multiple justification | 7 | While socialization periods vary by person and context (Ashforth, 2012), consistent with other socialization studies (e.g., Bauer & Erdogan, 2011), we defined this period as covering 6 months from job entry (the same as the firm’s newcomer probation period), (Bamberger, Geller & Doveh, 2017)We chose these four measurement time points (Day 1, 3 months, 6 months, and 1 year) in part on the basis of previous empirical research on newcomer transitions and socialization (e.g., DeVos et al., 2003; Nelson & Sutton, 1990), which has shown these as frequently used and relevant intervals for data collection (Bauer et al., 2007). Our decision was also influenced by what management at the host organization deemed a reasonable demand on study participants’ time as well as the insight of the organization’s director and human resources manager as to critical points to capture attitudinal patterns given the timing of socialization experiences and role transitions at this organization (e.g., performance expectations), (Boswell, Shipp, Payne & Culbertson, 2009) |

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| **Table 2.****Justification for data collection timepoints** |
| **# of time periods** | **Justification** | **# of studies** | **Sample justification from manuscript** |
| 2 | None | 19 | The length of time of 12 weeks between both surveys was chosen so as to have a reasonable amount of temporal precedence between assessments of PE fit (time 1) and subsequent proactive behaviors and newcomer socialization outcomes (time 2). (Yu & Davis, 2015)"We administered the first survey to employees within 6 months of them joining the organization. Participants completed the Time 2 survey 6 months after the first survey. This time lag enabled us to model intraindividual (rather than interindividual) change over time; it was also this specific time lag and the change that took place over this time period (rather than the absolute time of measurement) that was of interest." - (Smith, Amiot, Smith, Callan & Terry, 2013) |
| Based on prior research | 8 | A gap of only four months was chosen since this is similar to past socialization research which typically uses periods of three or four months (Bauer, Morrison & Callister, 1998; Fisher, 1986). (Cooper, VanVianen, Anderson, 2004)At T1, according to the Amiot et al. (2007) model of identity development, newcomers were in the anticipatory categorization phase, whereby they had foreseen and anticipated their entry into the organization (see also Dutton, Roberts, & Bednar, 2010). This anticipation should trigger cognitions such as injunctive logics. Six weeks later, at T2, newcomers had some initial experience of the organization and were still in the honeymoon phase (Solinger, van Olffen, Roe, & Hofmans, 2013). Over those six weeks, the newcomers were confronted with the realities of their new roles and the workplace. Discrepancies emerge at this stage as discrepancies between injunctive beliefs and the realities become more concrete and salient. Our longitudinal design enabled comparisons between these pre-entry beliefs and their actual experiences. Thus, we modelled variance in participants' scores over the first six weeks of employment and hence captured critical intrapersonal changes during this period. In doing so, we captured employees' organizational identification, POT and SE at a time when these processes were still under development rather than fully complete (Amiot et al., 2007)". (Smith, Gillespie, Callan, Fitzsimmons & Paulsen, 2017) |
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| Linked to onboarding process  | 2 | The first survey, two (2) weeks after formal training, consisted of measures that assessed supervisory socialization tactics, newcomer LMX, and contextual socialization tactics. The second survey, eight (8) weeks after formal training, assessed occupational identification, perceived PO fit, job satisfaction, and newcomer learning. (Sluss and Thompson, 2012)The time 1 data gathered at the beginning of the training program is particularly important because it rules out the possibility of self-selection bias-some individuals may have been eager for being part of K-Co that holds a prestigious and powerful image in Korea, thus already have high organizational identification at the beginning… Data on trainees' perceptions of what they have experienced during the training program is collected at Time 2. (Lee, 2011) |
| Based on sample-specific information | 4 | We wanted our average participant to have been at his or her new job for approximately 3 months when the Time 2 survey was completed. Because our sample consisted of unemployed individuals finding jobs at different times, we studied state unemployment statistics to calculate when the Time 2 survey would need to be mailed if we wanted to meet this goal. After much examination of this issue, we determined that the appropriate strategy would be to send one mailing of our Time 2 survey at 5 months after Time 1, then another mailing of the Time 2 survey at 9 months for individuals still unemployed at the 5-month mailing. (Wanberg and Mueller, 2000) |
|  |   |   | Further, we timed our Time 2 data collection with the corporation’s official evaluation for the newcomers so that we could more easily collect our supervisor-rated job performance data as a part of the evaluation. This did yield a 100% supervisor response rate for each participant. (Wang, Zhan, Mccune, and Truxillo, 2011) |
|  | Based on multiple justifications | 2 | Data were collected at two times, on the first day of enrolment in training and 8 weeks later, on the last day of the military instruction period. This time interval is in accordance with socialization literature, which suggests that changes in the psychological contract occur rapidly, during the first few months of employment (De Vos & Freese, 2011, Thomas & Anderson, 1998). The two surveys were administered during work time as mandatory activities included in the timetable. (Delobbe, Cooper-Thomas & De Hoe, 2015)While socialization periods vary by person and context (Ashforth, 2012), consistent with other socialization studies (e.g., Bauer & Erdogan, 2011), we defined this period as covering 6 months from job entry (the same as the firm’s newcomer probation period). Accordingly, using a time-lagged study design, data were collected twice: 4 weeks after job entry (T1; n \_ 227, response rate \_ 72%), and again 5 months later (T2; n \_ 185, retention rate \_ 82%). (Bamberger, Geller & Doveh, 2017) |
| 3 | None | 22 |   |
| Based on prior research | 8 | These measurement points reflect the approximate duration such stage as described in previous literature although there is not complete agreement among researchers on the duration of each stage. (Nelson, Quick, & Eakin, 1988)In addition, no specific guidance is available on the optimal schedule for capturing patterns of newcomer social networks, and empirical research on newcomer networks has been extremely limited (except Morrison, 2002; Jokisaari, 2013). Thus, we based the timing of our data collection, especially the second and third surveys, on the precedent of previous socialization studies and a broader perspective from the organizational literature on the matter of when to measure X and Y (cf. Mitchell & James, 2001). (Fang, Mcallister, and Duffy, 2017) |
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| Linked to onboarding process | 1 | We separated the measurement of the variables by periods of either six or seven weeks. These intervals demarcate meaningful junctures in the training and allow sufficient time for functional relationships to evolve between cognition-based trust and affect-based trust (Hypothesis 1) and between affect-based trust and organizational identification (Hypothesis 3) and role-related performance (Hypothesis 4). The intervals also reduce the likelihood of potential sources of common method variance. (Schaubroek, Peng, Hannah, 2013) |
| Based on sample-specific information | 3 | Responses to this question indicated that the socialization period of newcomers in IT project teams normally lasts about two to three months. Therefore, we employed three data collection points to capture the three phases of newcomer integration (anticipation,encounter, and adjustment) within the first two to three months following newcomer entry to a team. (Chen & Klimoski, 2003)Time 1 (T1) data were collected within the employee’s first month of employment. Time 2 (T2) and Time 3 (T3) data were collected 3 and 8 months after T1 (i.e., the end of the new hire’s first semester and the end of the academic year, respectively). (Takleab, Orvis, Taylor, 2012) |
|  | Based on multiple justifications  | 5 | The timing of the surveys was based upon theory regarding newcomer adaptation (cf. Mitchell & James, 2001). Newcomer adaptation often aligns with major task cycles (Morrison, 2002b). In the telemarketing industry, monitoring and feedback are cycled on a weekly basis. Hence, participants (given survey timing) would have had sufficient time to adapt and receive multiple cycles of performance feedback. (Harrison, Sluss, & Ashforth, 2011)We chose these four measurement time points (Day 1, 3 months,6 months, and 1 year) in part on the basis of previous empirical research on newcomer transitions and socialization (e.g., DeVos et al., 2003; Nelson & Sutton, 1990), which has shown these as frequently used and relevant intervals for data collection (Bauer et al., 2007, 1998). Our decision was also influenced by what management at the host organization deemed a reasonable demand on study participants’ time as well as the insight of the organization’s director and human resources manager as to critical points to capture attitudinal patterns given the timing of socialization experiences and role transitions at this organization (e.g., performance expectations). Most importantly, the timing and frequency of the measurement periods allow for precision in understanding the temporal pattern of job satisfaction consistent with the expected rate of a newcomer’s attitudinal change from organizational entry through the 1st year of employment. Thus, whereas an individual should react positively toward the new job the first few months (captured here at 3 months), by 6 months we would expect to see a tapering off in satisfaction levels. "Given evidence that socialization typically occurs within the first few months of employment, and consistent with prior socialization research (Bauer et al., 1998, 2007), this measure was administered at the 3-month anniversary date (T1). (Boswell, Shipp, Payne & Culbertson, 2009) |
| 4 | None | 4 |   |
| Based on prior research | 1 | We determined these four measurement points according to the milestones of newcomer experience rather than arbitrary equal spacing, a strategy recommended by Ployhart and Ward (2011). (Zhu, Tatachari, Chattopadhyay, 2017) |
| Linked to onboarding process |   |  None |
| Based on sample-specific information |   |  None |
|   | Based on multiple justifications  |   |  None |