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Nurses' Early Career Organizational and Occupational Commitment Trajectories: A Dual Target Growth Mixture Investigation

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Abstract

This study was designed to document the development of nurses' affective commitment to their occupation and organization during the first five years of their career, as well as the connections between these two types of commitment trajectories. We also considered the associations between these early trajectories, nurses' levels of psychological need satisfaction, and the quality of their early socialization. We finally investigated the implications of these trajectories for nurses' work satisfaction, psychological distress, somatization, and patient care quality. Relying on a sample of 659 newly registered nurses (M_{age} = 26.8; 88% females) measured four times over a two-year period, we relied on growth mixture analyses to assess the shape of their commitment trajectories defined as a function of tenure. These analyses revealed four profiles, similar across targets of commitment: *High*, *Moderate*, *Low and Increasing*, and *Average/Low and Decreasing*. For both targets, higher levels of commitment were anchored in more stable trajectories, and with better functioning across outcomes. Need fulfilment and socialization experiences helped drive more desirable trajectories and provided short-term boosts in commitment. Overall, we found more similarities than differences between both forms of commitment, and noted that nurturing one type of commitment seemed to help develop the other.

Keywords. Affective occupational commitment, affective organizational commitment, trajectories, profiles, longitudinal, newcomers, socialization, basic need fulfilment, nurses.

Affective commitment entails the development and maintenance of an emotional bond to a specific target (Klein et al., 2012; Meyer & Herscovitch, 2001; Spurk et al., 2019). At work, this emotional bond represents a core component of one's professional identity (Meyer, 2016; Meyer et al., 2006) and a motivational mechanism underlying goal-driven behavior directed at the target of commitment (Meyer, 2016; Meyer et al., 2004). Initially proposed to explain individuals' intentions to stay in their organization or occupation (Meyer et al., 1993) affective commitment to one's organization or occupation has since been found to be associated with a wide range of desirable work-related attitudes and behaviours (Lee et al., 2000; Meyer & Maltin, 2010; Meyer et al., 2002; Spurk et al., 2019). Beyond its positive impact on functioning, affective commitment has also come to be recognized as a key indicator of the degree to which an individual has integrated the target of their commitment to their professional identity (Houle et al., 2022; Meyer et al., 2006; Spurk et al., 2019).

The ability to identify the mechanisms through which a target of commitment becomes internalized in one's professional identity and the implication of this internalization requires a longitudinal perspective and jointly considering multiple targets of commitment (Spurk et al., 2019; Houle et al., 2022). Yet, longitudinal investigations of commitment trajectories remain scarce, leaving room for speculation. The present study contributes to our understanding of how affective commitment to the organization and occupation co-develop during the first five years of the career among a sample of novice nurses followed for two years. To achieve this goal, we rely on a person-centered approach (Meyer & Morin, 2016; Morin et al., 2018) to identify profiles (i.e., sub-populations) of early career nurses following distinct trajectories of organizational and occupational commitment. To capture the evolution of commitment since nurses' entry in their occupation, we estimated these trajectories on the basis of nurses' occupational tenure (which ranged from 0 to 3 years at the start of the study) rather than as a function of the specific measurement points taken in this study.

Our focus on commitment to the organization and occupation is predicated on three considerations pertaining to our sample. First, the occupation represents a key target of commitment for highly educated public sector employees, such as nurses, who ideally remain in their occupation most of their careers, sometimes across multiple organizations (Houle et al., 2020, 2022; Spurk et al., 2019). As such, determining how occupational commitment evolves early in the career may provide actionable knowledge on how to improve work conditions to help nurses internalize and remain in their role. Second, the organization is by far the most studied target of commitment, presumably due to it high desirability from the perspective of the employer (Meyer et al., 2002). Focusing on the organization and occupation thus increases the likelihood that managers will capitalize on our results to improve nurses' occupational and organizational functioning, which should benefit patients' well-being and satisfaction. Third, we are interested in the possible compatibility and/or conflict between early career employees' affective commitment to these two targets (Meyer et al., 2021). Understanding how these commitments align or not among distinct profiles of nurses is likely to help healthcare organizations encourage nurses to remain in their occupation, without having to transfer to another organization.

Our focus on novice nurses provides an opportunity to monitor commitment trajectories early in the career to determine which factors, ideally controllable by the organization, are likely to contribute to the development of a strong affective commitment to both targets. To guide our hypotheses, we rely on Self-Regulation Theory (Carver & Scheier, 1998; Johnson et al., 2013) and Self-Determination Theory (Ryan & Deci, 2017). More precisely, we consider the dynamic role played by socialization experiences (i.e., task, social, organizational; Bauer et al., 2007; Perrot & Campoy, 2009) likely to help nurses achieve a more optimal self-regulation at work and, in turn, develop a stronger bond to their occupation and organization. We also consider psychological need satisfaction (i.e., autonomy, relatedness, competence; Ryan & Deci, 2017) to determine which needs contribute most to the internalization process whereby a target of commitment becomes part of one's professional identity (Houle et al., 2022; Meyer et al., 2006; Spurk et al., 2019).

Lastly, to determine which profiles, and combinations of profiles across targets, of commitment trajectories are most desirable we consider their dynamic associations with a series of outcomes relevant to employees (i.e., somatization, psychological distress) and organizations (i.e., work satisfaction, quality of care). We thus hope to provide guidance to healthcare organizations seeking to improve nurses' affective organizational and occupational commitment, and in doing so to maximise their contribution to the provision of quality healthcare to their patients.

The Evolution of Affective Commitment to the Occupation and Organization

To understand how a target of affective commitment becomes internalized within one's professional identity, we rely on the Organismic Integration component of Self-Determination Theory (SDT: Ryan & Deci, 2017). According to SDT, the process of internalization follows a continuum, where behaviors initially driven by external contingencies (e.g., having paycheck, not being fired) progressively come to be driven by internal (i.e., introjected) contingencies (e.g., seeking pride, avoiding guilt), before becoming aligned with one's personal values (i.e., identification), and finally becoming part of one's sense of identity (i.e., integration). As a long-term, continuously evolving, and self-defining emotional bond, affective commitment has been positioned as an indicator that the target of commitment has become internalized within one's sense of professional identity (Gagné & Howard, 2016; Houle et al., 2022; Meyer et al., 2006). With newcomers, the emergence of a strong sense of affective commitment to the occupation and organization also serves as an indicator of how well these newcomers have adapted to their new work life (Bauer et al., 2007; Solinger et al., 2013; Spurk et al., 2019).

Affective commitment is a dynamic construct (Klein et al., 2012, 2022), whose evolution depends on multiple professional (Sullivan & Baruch, 2009) and personal (Spurk et al., 2019) factors that come to influence, and be influenced by, employees' adaptation to their work. Accumulated evidence highlights the heterogeneity of affective commitment trajectories across diverse samples and targets of commitment (Houle et al., 2022; Salzmann et al., 2018; Solinger et al., 2013; Vandenberghe et al., 2011, 2017, 2021). Moreover, the evolution of commitment is theoretically assumed to be influenced by one's career stage, as well as by any other periods characterized by substantive changes to one's work conditions (e.g., Spurk et al., 2019). Arguably, the period of entry into a new occupation, when employees' transition from being "learners" to become "performers", is likely to represent a highly tumultuous period in the development of commitment (e.g., Solinger et al., 2013).

In the nursing occupation, affective commitment is likely to be substantially modified upon entry into the profession, when a key referent of commitment changes from an educational to a professional institution. Viewing commitment as a measure of internalization of a target into one's sense of identity implies that enough knowledge has been accumulated about that target to feel that it aligns with one's values (e.g., Houle et al., 2022; Meyer et al., 2006). Thus, initial levels of occupational commitment are likely to be indicative of the extent to which past socialization experiences were positive (e.g., learning and success in school), and anchored in at least some knowledge of the occupation (learned throughout one's studies, and including clinical practica and internships), although this prior knowledge may still undergo substantial changes upon entering a first professional nursing position. In contrast, early career nurses are likely to possess only minimal knowledge of their own specific organization upon entry, and this knowledge is unlikely to be anchored in more than hearsay, brief observations, and assumptions. In fact, research has often found that most pre-entry socialization factors have little effect on post-entry organizational commitment (for a review see: Morrow, 2010), and that those that do have an effect (e.g., career exploration, pre-entry knowledge about a job, career decisiveness) seem more strongly associated to occupational (vs organizational) commitment. We thus expect more within-profile variability (i.e., more within-person fluctuations over time) in organizational, relative to occupational, commitment.

Given that occupational commitment is likely to have undergone a more extensive development during schooling, nurses should display more differentiated initial levels (between-person differences) of affective commitment to the occupation relative to the organization upon entry into the workforce. It is, however, important to acknowledge that affective commitment is just one type of bond underpinning employees' intentions to adopt and maintain a course of action of relevance to a target (Meyer & Herscovitch, 2001; Meyer et al., 1991, 1993). Indeed, both continuance (i.e., the lack of alternatives or anticipated loss of investments when terminating the bond) and normative (i.e., a sense of obligation to maintain the current course of action) commitment could lead nursing students to remain in their occupation despite a lack of affective commitment. In fact, evidence exists documenting the emergence of profiles of employees with very low affective commitment but very high normative and continuance commitment to the organization (e.g., Meyer et al., 2012) and occupation (Houle et al., 2020). Thus, although some nurses may enter their occupation with a very high level of emotional attachment to it (i.e., affective commitment), others may enter it with little emotional attachment but a far stronger sense of continuance or normative commitment reflecting the time and resources invested in their education. This differentiation should not be as evident in terms of commitment to the organization, which remains an unknown entity for most nurses during their early educational years. The organization is thus unlikely

to become integrated within their professional identity prior to occupational entry (Houle et al., 2022), leading us to anticipate a higher initial level of between-profile variability for occupational commitment.

Research on employee socialization highlights how pre-entry socialization is likely to differ from actual work experiences and post-entry socialization experiences. Employee socialization is defined as a process through which employees acquire the social knowledge and skills needed to function in a new occupational or organizational role (Van Maanen & Schein, 1979) and come to internalize their new role within their professional identity (Perrot & Campoy, 2009). Socialization is expected to differ across employees (including nurses: Dinmohammadi et al., 2013) based on the extent to which the new role exceeds, matches, or fails to meet their expectations (Boswell et al., 2005; Solinger et al., 2013), which is inextricably tied to one's pre-entry socialization and expectations (i.e., anticipatory socialization). A review conducted by Morrow (2010) highlights how one of the strongest antecedents of commitment is newcomer socialization, concluding that the development of commitment is shaped by the extent to which newcomers' expectations and desired work experiences are met in early career.

Results reported by Solinger et al. (2013) showcased the emergence of distinct organizational commitment trajectories amongst recent Ph.D. graduates entering the workforce. Despite their limited focus on Ph.D. graduates' commitment to their organization, these different trajectories were strongly connected with a more generic theoretical perspective anchored in an integrative socialization theory (Fiss, 2011; McKinney, 1969; Solinger et al., 2013) developed to increase our knowledge of socialization as a process unfolding over time. Indeed, this is how socialization was initially conceptualized (i.e., as a process; Ashforth et al., 2014; Feldman, 1981; Louis, 1980; Van Maanen & Schein, 1979), and thus seem relevant to consider more broadly in relation to nurses' initial trajectories of occupational and organizational commitment. Supporting this generalization, Houle et al. (2022) reported similar occupational trajectories among a sample of more established school principals. First, initially cautious or concerned employees can progressively integrate their new occupation and/or organization to their identities through a smooth process of goal setting and attainment, corresponding to a *Learning to Love* socialization scenario (Solinger et al., 2013). Second, initially enthusiastic nurses may become increasingly disappointed when continuously failing to achieve their goals or meeting a work reality that do not match their expectations, corresponding to a *Honeymoon-Hangover* scenario. Importantly, these scenarios are more relevant to the description of the shape of the trajectories rather than of their starting point. For instance, an employee with a moderately high pre-entry commitment levels can still experience a *Learning to Love* scenario provided fulfilling post-entry experiences, or a *Honeymoon-Hangover* scenario provided problematic post-entry experiences (e.g., Houle et al., 2022). Interestingly, these trajectories were found to be characterized by far more limited changes among established employees (Houle et al., 2022) than among newcomers (Solinger et al., 2013). Finally, other nurses may experience, from the start, a strong match between their expectations and their new professional reality, corresponding to *High*, *Moderate*, or *Low Matching* scenarios (resulting in stable high, moderate, or low trajectories; e.g., Houle et al., 2022; Solinger et al., 2013). Such scenarios are hypothesized to emerge from self-regulated processes in which employees set self-defining goals that are consistently (i.e., *High*), partly (*Moderate*), or rarely (i.e., *Low*) attained. We hypothesize that similar processes will generalize to newcomers in general, as socialization theory underscores the heterogeneity of employees' adaptation based on their unique pre-and post-entry experiences (Van Maanen & Schein, 1979).

It is also possible that changes in levels of occupational commitment may not be as pronounced as those observed for organizational commitment levels due to the underlying expectations associated with each commitment target. This notion has been raised in relation to commitment mindsets by Bentein et al. (2005) and seem equally relevant to commitment targets. That is, employees are likely to have different expectations from their organization than from their occupation, with occupational expectations often being satisfied through social exchanges with other commitment targets such as the organization, the patients, or the work team (Houle et al., 2020; Morin et al., 2011a; Perreira et al., 2018). Thus, nurses' adaptation to their occupation will undeniably be influenced by what happens in their organization (i.e., within which their occupational role will unfold), whereas the opposite is less likely as the occupation remains a target of commitment that could in theory be enacted within different organizations. This should lead to more pronounced changes in organizational commitment trajectories than in occupational commitment trajectories among newcomers.

In this sense, adopting a dual growth mixture approach to investigate the heterogeneity of early career nurses' organizational and occupational commitment trajectories should support three major contributions to our understanding of commitment. This approach will allow us to (1) document the extent to which initial levels of organizational and occupational commitment differ upon occupational entry, (2) determine whether different initial levels lead to more or less pronounced changes in organizational or occupational commitment over time, and (3) identify whether organizational or occupational commitment is more malleable over time. Should one target display more pronounced changes, it may indicate that the emotional attachment to that target is more reactive to socio-emotional work-related factors (Bentein et al., 2005). In this sense, this target may be a better avenue for interventions seeking to improve commitment in early career. Conversely, observing trajectories displaying little growth or decline over time may indicate that intervention aimed at improving affective commitment may have a greater impact prior to, or immediately upon, occupational entry (e.g., during school). This is especially true if the commitment target in question is well differentiated at occupational entry. Based on the aforementioned theoretical propositions and empirical evidence (Houle et al., 2022; Solinger et al., 2013) we present the following three hypotheses:

Hypothesis 1 (H1). Individual trajectories of affective commitment to the organization should match one of the following five profiles: *Low*, *Moderate*, *High*, *Increasing*, and *Decreasing*.[1]

Hypothesis 2 (H2). Individual trajectories of affective commitment to the occupation should match one of the following five profiles: *Low*, *Moderate*, *High*, *Increasing*, and *Decreasing*.

Hypothesis 3 (H3). Initial levels of organizational commitment will differ more within and less between profiles than occupational commitment levels.

The Co-Evolution of Affective Commitment to the Occupation and Organization

The work life of all employees' entails a system of commitments to a variety of targets (Klein et al., 2022), where commitment to any one target creates a context likely to influence the expression of commitments to other targets (Meyer et al., 2021; Morin et al., 2011a). Despite the recognition of the multidimensional nature of commitment (Perreira et al., 2018), and of the critical role played by the occupation and organization within this commitment system (Klein et al., 2022; Meyer et al., 2002; Spurk et al., 2019), no previous study has yet considered the co-evolution of employees' affective commitment to these two targets. On the one hand, we can theoretically expect convergence in commitment for employees who see both targets as compatible (Meyer et al., 2021), which is consistent with the high correlations generally observed between these two targets (Cooper-Hakim & Viswesvaran, 2005). Indeed, when considering dual commitment profiles (profiles estimated while considering mindsets of organizational and occupational commitment), previous results have revealed that most profiles tend to display matching mindsets across these two targets of commitment (Meyer et al., 2019; Morin et al. 2015; Tsoumbris & Xenikou, 2010), a result previously reported by Morin et al. (2011a) in a study only considering affective commitment to a variety of targets.

Self-Regulation Theory (e.g., Carver & Scheier, 1998; Johnson et al., 2013) suggests that the development of a strong affective bond towards any target should be predicated by the extent to which it is responsible for assisting employees attaining self-defining goals. Self-Regulation Theory assumes that employee's behaviors are self-regulated through a feedback process of setting and accomplishing goals while seeking to improve their current state (Carver & Scheier, 1998; Johnson et al., 2013). Goals are hierarchically-organized, with the most important being self-defining (Carver & Scheier, 1998) and taking longer to realize, while lower-level goals represent smaller tasks contributing to the achievement of higher-level goals. Once goals are set, individuals must work to reduce the discrepancy that exists between their desired state (i.e., obtained from achieving the goal) and their current state. In a context where nurses are practicing their occupation within a particular organization, it is likely that both targets (i.e., occupation and organization) could be perceived as contributing, or not, to goal attainment. For instance, some nurses have the goal of developing strong social relationships to satisfy their need for relatedness at work. Once having attained this goal, nurses may feel a commitment to the organization which is providing them with opportunities to fulfill this goal, but also toward the occupation which set

[1] We adopt the labels proposed by Houle et al. (2022) rather than those proposed by Solinger et al. (2013) as they better differentiate between initial levels *and* change over time, as well as to simplify comparison across studies (Meyer & Morin, 2016).

the stage for the work-related dynamics underpinning these relationships. More generally, nurses may become attached to an organization allowing them to practice an occupation they enjoy, just like they could become attached to an occupation because of the work environment in which it unfolds. However, we posit that greater change will occur in terms of organizational commitment as most changes in work conditions influencing both targets of commitment levels are likely to unfold as a result of this target (Houle et al., 2020).

Still, commitments may sometimes conflict with one another (Meyer et al., 2021). For instance, one may come to resent an organization seen as interfering with the proper enactment of one's occupational role, just like one may come to see the occupation differently under the lights of a specific workplace. Empirical evidence from past studies investigating commitment to the organization and occupation reveals a greater likelihood that both targets will be experienced in unison, while suggesting that discrepancies may still exist for a subset of employees (Meyer et al., 2019; Morin et al., 2011a, 2015; Tsoumbris & Xenikou, 2010). Interestingly, a recent study suggests that such discrepancies are likely to be far more prevalent among newcomers (Houle et al., 2023).

Moreover, we already proposed that organizational commitment levels are likely to be more variable within-, and less variable across-, profiles than occupational commitment levels, resulting from a more limited prior organizational knowledge and socialization. In this context, it is possible that occupational commitment, anchored in a more extensive pre-entry socialization, may help pave the way for the development of organizational commitment. Indeed, based on social exchange principles, nurses who have a strong affective bond to their occupation are likely to attribute part of that bond to their organization (Houle et al., 2020), thus facilitating the development of affective organizational commitment for nurses who already have a strong emotional bond with their occupation. Indeed, past research supports the proposition that occupational commitment may predate organizational commitment (Vandenberg & Scarpello, 1994). In line with OIT/SDT (Ryan and Deci, 2017) and commitment theory (Meyer et al., 2006), nurses who have developed a strong affective bond toward a target have come to internalize that target as part of their professional identity (presumably due to the attainment of self-defining goals), resulting in a less reactive commitment (Houle et al., 2022) and vice versa. While occupational commitment may have had time to properly develop during nurses' education, this is unlikely for organizational commitment. Thus, stable occupational commitment levels that emerged prior to entry into the workforce could, over time, generalize to the organization seen as being responsible for one's occupational work conditions. Conversely, average occupational commitment trajectories should not hinder or accentuate the development of organizational commitment as the outlook of working in the profession is not grounded in a general negative or positive affective state that comes to be attributed to the organization. Thus, contrary to past person-centered studies investigating multiple targets of commitment over a single or two time-points, we seek to observe how the level and shape of nurses' occupational commitment trajectories during the first five years of their career come to be associated with lower, higher, increasing, or decreasing levels of organizational commitment, and vice versa, leading us to hypothesize that:

Hypothesis 4 (H4). Most nurses will belong to matching profiles of affective organizational and occupational commitment trajectories (especially for the profiles with the highest and lowest trajectories), while a minority of nurses will belong to profiles characterized by distinct organizational and occupational commitment trajectories.

Internalization and Self-Equilibrium Processes

Considering commitment as an indicator of the extent to which one's occupation and organization have been internalized as a part of one's professional identity, makes it critical to adopt a state-trait perspective. This perspective describes how each commitment evolves over time (trait-like evolution), but also the extent to which this evolution is smooth or characterized by time-specific (state-like) fluctuations (Houle et al., 2022). Both components can be captured with growth mixture analyses (GMA) of nurses' profiles of commitment trajectories (Morin et al., 2013, 2017). Our previous hypotheses all pertain to the trait-like evolution of commitment trajectories and rely on the explicit assumption that a higher commitment entails a greater degree of internalization of the target.

The self-equilibrium hypothesis (Morin et al., 2013, 2017; Mund & Neyer, 2016), was initially developed in close connection with SDT (Ryan & Deci, 2017), to explain how one's sense of identity evolves over time. This hypothesis highlights the importance of a balance with the environment to ensure the ongoing satisfaction of one's basic psychological needs (Houle et al., 2022; Morin et al.,

2013, 2017), and is also consistent with Self-Regulation Theory (e.g., Carver & Scheier, 1998), as the consistent attainment of self-defining goals should also lead to more stable trajectories. This equilibrium should result in the emergence of a strong sense of professional identity that remains stable over time. From this perspective, more desirable trait-like trajectories (e.g., higher or increasing levels of commitment) should also fluctuate less over time as a result of time-specific (measured or not) contingencies (i.e., be associated with smaller time-related fluctuations). In contrast, whereas this form of stability would be consistent with the idea that these trajectories reflect a well-internalized sense of professional identity, unstable trajectories should accompany lower levels of commitment and reflect an insufficiently internalized (and thus more reactive) sense of identity.

Houle et al. (2022) supported the self-equilibrium hypothesis among established school principals, consistent with the idea that self-equilibrium processes are a lifelong phenomenon. Thus, their *High* and *Moderately High* trajectories were accompanied by the lowest state-like deviations, while their *Low* trajectories were accompanied by the highest state-like deviations. Moreover, their *Increasing* and *Decreasing* trajectories displayed similar average state-like fluctuations, but these fluctuations decreased over time in the *Increasing* profile and increased over time in the *Decreasing* profile. These results are consistent with the idea that increases in commitment reflect a stronger internalization of the target into one's professional identity. We build upon this previous study by considering the emergence of these processes among early career nurses, and extend it to the consideration of organizational commitment, hypothesizing that:

Hypothesis 5 (H5). Profiles with higher trait-like levels of affective commitment to the organization or occupation will be characterized by smaller state-like deviations (i.e., smaller time-specific residuals) around their trait-like trajectory, and vice versa.

Psychological Need Fulfillment and Commitment Trajectories

At the core of SDT (Ryan & Deci, 2000, 2017) and the self-equilibrium hypothesis (Houle et al., 2022; Morin et al., 2013, 2017) is the assumption that the extent to which employees will be able to internalize an activity (e.g., occupation) or social entity (e.g., organization) to their professional identity depends on the extent to which this activity or entity can satisfy their basic psychological need for autonomy, competence, and relatedness. In line with Self-Regulation Theory (e.g., Carver & Scheier, 1998; Johnson et al., 2012) these three basic needs can be considered as self-defining goals that will contribute to internalization of one's work life. SDT further assumes that satisfying all three needs is necessary to a complete internalization process (Ryan & Deci, 2017). Conversely, sub-optimal internalization is expected to result not only from a lack of satisfaction of these needs, but even more importantly from their frustration (Chen et al., 2015; Trépanier et al., 2016). SDT also emphasizes the role of balance in the fulfillment (a term used to reflect the joint consideration of need satisfaction and frustration; Tóth-Király et al., 2018) of all three needs, highlighting that the imbalanced fulfillment of any specific need will not necessarily yield the same benefits as their joint fulfillment (Sheldon & Niemiec, 2006). As a result, previous SDT research has highlighted the importance of disaggregating global levels of fulfillment across all three needs from the degree to which the fulfillment of any specific need lies in a state of imbalance relative to this global level (Gillet et al., 2019, 2020), which is the approach taken in the present study.

Acknowledging that commitment (e.g., Klein et al., 2012, 2022) and need fulfillment (Hewett et al., 2017; van Hoof & Geurts, 2015) are dynamic constructs likely to exhibit short-term (state-like) fluctuations around more stable longitudinal trajectories (trait-like), makes it important to consider their associations across these two layers of analysis (Hofmans et al., 2021). Considering the trait-like effects of need fulfillment on commitment trajectories (i.e., effects on profile membership and within-profile trajectories) will reveal the more lasting, or longer-term, benefits of need fulfillment. Conversely, considering their short-term (i.e., effects on state-like deviations) effects will indicate whether they can be used to temporarily boost commitment levels in periods of need.

Although they did not specifically consider need fulfillment, Houle et al. (2022) showed that characteristics of the work environment likely to support these needs played a differentiated role in the development and maintenance of occupational commitment trajectories amongst established school principals. The need for autonomy seemed particularly relevant to keep principals away from the least committed profile, whereas the need for competence seemed important to help them stay away from a decreasing trajectory. The need for relatedness was rather related to higher levels of commitment within all profiles, an effect that faded partly over time. Albeit informative in indirectly supporting the

relevance of need fulfillment for occupational commitment, their study failed to directly measure need fulfillment and to properly consider the dual role of global levels of need fulfillment relative to imbalances in the fulfillment of each specific need. We address this limitation, in addition to considering the implications of need fulfillment for the commitment trajectories of a sample of early career nurses for whom commitment is still emerging rather than anchored into a longer professional career. Based on the above considerations, we hypothesize that:

Hypothesis 6 (H6). Higher global levels of need fulfilment will be associated with: (a) membership into profiles characterized by higher, and increasing, levels of affective commitment to the organization and occupation (**H6a**), (b) within-profile trajectories characterized by higher levels of affective commitment to the organization and occupation, and with more pronounced increases in these levels (**H6b**); (c) more positive time-specific (state-like) increases in levels of affective commitment to the organization and occupation (**H6c**).

Hypothesis 7 (H7): The extent to which each specific need is fulfilled beyond global levels of need fulfilment will be associated with differentiated positive effects on: (a) profile membership (**H7a**), within profile trajectories (**H7b**), and time-specific deviations (**H7c**).

Socialization and Commitment Trajectories

A key contribution of this study lies in our consideration of the degree to which commitment first emerges and evolves in the early stages of nurses' careers. The period of entry into a new occupation and organization is critical for employees, who are continuously exposed to novel and unexpected situations that can lead them to feel uncertainty and anxiety in the navigation of their new role (Louis, 1980; Van Maanen & Schein, 1979). Employees must quickly learn to navigate their new role to reduce these feelings and to successfully fulfill their duties in a way that is sustainable and aligned with their core identity. Thus far, research has documented the benefits of learning about the organization (e.g., its values, mission, culture), one's tasks (e.g., responsibilities, specific duties, required communications), and one's social (team) context (i.e., required vs optional relationships with organizational members) on the process via which new employees successfully integrate their new professional role (Bauer et al., 2007; Perrot & Campoy, 2009; Saks et al., 2007).

Each of these three domains of socialization (i.e., organization, tasks, and social relationships) is closely related to the satisfaction of the three psychological needs proposed by SDT to be fundamental for optimal functioning (Ryan & Deci, 2017). Whereas forming strong social relationships should help fulfill the need for relatedness, understanding one's organization and tasks should help fulfill the need for competence, just like developing a good grasp of the overall work context (i.e., all three domains) should help fulfill the need for autonomy (Fernet et al., 2020). Beyond learning about these domains, this connection with need fulfillment also highlights the importance of monitoring the degree to which each domain comes to be internalized within one's usual functioning (Chao et al., 1994; Perrot & Campoy, 2009). For new employees, the ability to learn and internalize these new components should greatly assist in terms of achieving self-defining goals and thus contribute to the internalization of their occupation and organization within their professional identity, which is intimately related to affective commitment (Meyer, 2016; Meyer et al., 2006).

Given the natural connection between these domains of socialization and SDT (e.g., Fernet et al., 2020) we adopt a similar operationalization of socialization and need fulfillment. More precisely, we separately consider employees' global levels of socialization across all three domains as a potentially central driver of their affective commitment to the organization and occupation (Ryan & Deci, 2017), from the degree to which their domain-specific socialization lies in a state of imbalance relative to this global level. As a result, each specific socialization domain (just like all specific needs) is likely to share unique associations with newcomers' affective commitment trajectories. Indeed, from a target similarity perspective (Lavelle et al., 2007, 2009; Morin et al., 2011a, 2011b), each socialization domain should share its strongest association with the commitment target most relevant to that domain. Self-Regulation Theory (e.g., Carver & Scheier, 1998; Johnson et al., 2013) assumes that goal attainment upon occupational entry should be facilitated by the extent to which past socialization experiences have adequately prepared employees for their current work life. In turn, this should help employees develop and internalize an affective bond to their organization and occupation (i.e., achieving lower-level goals that contribute to self-defining goals). For these reasons, organization-related socialization should primarily contribute to commitment to the organization, whereas task-related socialization should mainly contribute to commitment to the occupation. In contrast, socialization related to social

relationships should contribute to both targets of commitment, as relationships may be seen as a characteristic of the workplace (i.e., organization) and of the work-role (occupation) given the inherent team-structured nature of nursing.

Although the learning component of socialization is likely to play an important role in helping early career nurses acquire information of relevance to the development of their affective organizational and occupational commitment, the development of a strong affective bond toward their occupation or organization should be more strongly associated with the extent to which they come to internalize what they have learnt within their professional identity (Meyer, 2016; Meyer et al., 2006, 2008). Lastly, and despite the theoretical benefits of learning, it is also possible for learning, but not internalization, to contribute to a reduction in affective commitment when it involves discovering undesirable aspects of the work role (e.g., Solinger et al., 2013). We leave, however, this possibility as an open research question, and for the moment hypothesize that:

Hypothesis 8 (H8). Higher global levels of socialization will be associated with: (a) membership into profiles characterized by higher, and increasing, levels of affective commitment to the organization and occupation (**H8a**), (b) within-profile trajectories characterized by higher levels of affective commitment to the organization and occupation, and with more pronounced increases in these levels (**H8b**); (c) more positive time-specific (state-like) increases in levels of affective commitment to the organization and occupation (**H8c**).

Hypothesis 9 (H9): Levels of learning/internalization specific to the organization will be associated with larger positive effects on profile membership, within-profile trajectories, and state-like deviations for organizational commitment (**H9a**), whereas levels of learning/internalization specific to the tasks will be associated with larger positive effects on profile membership, within-profile trajectories, and state-like deviations for occupational commitment (**H9b**).

Hypothesis 10 (H10): Levels of internalization specific to the tasks, organization, and social relationships will be associated with larger effects on profile membership, within-profile trajectories, and state-like deviations than specific levels of learning.

Critical Outcomes of Commitment Trajectories

In person-centered studies, documenting the association between profiles and work outcomes serves two main goals. First, although they can be used for confirmatory (driven by theory and hypotheses, as in the present study) and exploratory purposes, person-centered methodologies are methodologically exploratory (Morin et al., 2018). As a result, it is always important to document how profiles are associated with various facets (predictors, outcomes, or correlates) of their nomological network to verify their construct validity (Meyer & Morin, 2016; Morin et al., 2018). Second, documenting how the profiles share differential associations with outcomes helps to document their desirability, which can then help prioritize interventions seeking to limit or favor the occurrence of some profiles. We consider four outcomes likely to share time-structured associations with the commitment trajectories captured by our profiles. We consider two desirable outcomes from the perspective of the employing organization (work satisfaction; quality of care), and two undesirable outcomes from the perspective of the employee (psychological distress; somatization).

From a socialization perspective, all newcomers undergo an anticipatory socialization phase in which they form expectations, attitudes, and perceptions about what their new role should entail once they start their occupation and about what their work-life should be like in their new organization (e.g., Feldman, 1976, 1981; Richards et al., 2014; Riordan et al., 2001). Selecting nursing as an occupation and deciding to apply to work in a specific organization can be assumed to be intimately anchored in these expectations for a substantial number of early career nurses. In addition, SDT (Ryan & Deci, 2000; Ryan & Deci, 2017) and commitment theory (Meyer, 2016; Meyer et al., 2004) both suggest that nurses' early levels of affective commitment should reflect the extent to which their new organization and occupation align with their basic psychological needs and expectations (Houle et al., 2022). In turn, higher early levels of commitment, anchored in this impression of person-environment fit, should lead employees to develop higher levels of work satisfaction, to invest more energy into providing quality care to patients, and to experience higher levels of psychological well-being (i.e., lower psychological distress and somatization; e.g., Meyer, 2016; Meyer & Maltin, 2010; Meyer et al., 2002, Spurk et al., 2019). Conversely, nurses who enter their career with a lack of emotional bond to their organization or occupation should experience more somatization and psychological distress, as well as lower work satisfaction, as they need to navigate a demanding and stressful role with which they do not yet identify,

in addition to having a harder time providing efficient care to their patients.

However, socialization is ongoing beyond this initial anticipatory phase and nurses' initial work experiences are likely to change their initial views of their occupation and organization in a way that exceeds, matches, or fails to meet their expectations (Boswell et al., 2005; Solinger et al., 2013). The speed at which this discrepancy can be reduced (or increased) over time is referred to as velocity (Johnson et al.,2013). A stronger velocity tends to be associated with more desirable outcomes, such as job satisfaction and goal commitment (Chang et al., 2010), as it reflects a more efficient progression toward goal achievement. As the development and/or maintenance of a strong organizational and occupational commitment is theorized to occur as a result of achieving self-defining goals (e.g., fulfilment of basic needs), changes in commitment levels over time should be accompanied by similar changes in employees' well-being and functioning at work. That is, the velocity at which organizational and occupational commitment increase or decrease should be associated with the velocity of change in work satisfaction, quality of care, somatization, and psychological distress. Thus, initial trait-like trajectories that do not change should be associated with more stable outcome levels. Based on the aforementioned theoretical rationales, we hypothesize that:

Hypothesis 11 (H11). Profiles characterized by higher initial levels of affective commitment to the organization or occupation will be accompanied by higher initial levels of work satisfaction and quality of care, and by lower initial levels of psychological distress and somatization.

Hypothesis 12 (H12): Profiles presenting increasing levels of affective commitment to the organization or occupation will be accompanied by steeper increases in levels of work satisfaction and quality of care, and by steeper decreases in levels of psychological distress and somatization relative to profiles with more static trajectories.

Method

Sample and Procedures

Data for the current study was collected among newly registered French-Canadian nurses, working in the public health care sector in the Canadian province of Quebec, across four time points (T1: October 2014; T2: April 2015; T3: October 2015; T4 October 2016), with six months intervals between the first three waves and a year between T3 and T4. A total of 659 nurses with a mean age of 26.8 years (*SD* = 6.71) and 0 to 3 years of tenure in nursing (*M* = 1.85; *SD* =.86) took part in the study. Of them, 265 had 1 year or less experience, and 189 had 1 to 2 years of experience. A total of 647 nurses completed the questionnaires at T1, 428 at T2, 357 at T3, and 295 at T4. Most were women (88%) holding a permanent position (76.40%). Fewer than half of them (43.4%) were working full time, 65% had a college degree, 31.8% a bachelor's degree, and 3.2% had additional training (e.g., Master's). In terms of tenure, 64.68% of nurses had the same organizational and occupational tenure, 16.36% had a shorter organizational tenure and 18.96% had a longer organizational tenure. Potential participants were contacted via a letter sent to their home address explaining the goals of the study and were invited to complete an online questionnaire. In the letter, it was emphasized that responses were confidential and that participation was voluntary. All participants were contacted by email at each time point, while the recruitment was kept open, allowing some new nurses to join the study at later time points. All questionnaires were administered in French at all time points. A data transparency table describing how this data set was used before is provided in the Appendix.

Measures

Occupational and organizational commitment. Organizational and occupational commitment were assessed using the relevant subscales from Meyer et al.'s (1993) questionnaire adapted to French by Stinglhamber et al. (2002). Both occupational commitment (α_{t1} = .868; α_{t2} = .872; α_{t3} = .893; α_{t4} = .872; e.g., *The nursing profession means a lot to me*) and organizational commitment (α_{t1} = .795; α_{t2} = .779; α_{t3} = .807; α_{t4} = .775; e.g., *I am proud to belong to this organization*) included six items rated on a 5-point scale (1 = Completely Disagree to 5 = Completely Agree).

Socialization. Nurses' socialization into various aspects of their role was assessed using Perrot and Campoy's (2009) 24-item scale, originally developed in French. This measure encompasses three socialization facets (organization, task, and team) across two dimensions (learning and internalization) resulting in six four-item subscales. Due to the high degree of interrelation between the matching facets of learning and internalization (e.g., task learning and task internalization) and the high interrelation between higher-order factors (organization, task, and team) formed by combining the dimensions (Fernet et al., 2020), we relied on a bifactor representation of this measure (see the online supplements

for details). We thus estimated one global socialization factor anchored in the variance shared among all items (α_{t1} = .950; α_{t2} = .951; α_{t3} = .953; α_{t4} = .952) and six specific factors reflecting the variance uniquely shared by items forming each subscale beyond that explained by the global factor: (a) task learning (α_{t1} = .797; α_{t2} = .801; α_{t3} = .810; α_{t4} = .824; e.g., *I know the responsibilities, tasks, and projects that I was hired for*); (b) organization learning (α_{t1} = .886; α_{t2} = .887; α_{t3} = .898; α_{t4} = .894; e.g., *I understand the objectives and goals of my organization*); (c) team learning (α_{t1} = .888; α_{t2} = .904; α_{t3} = .921; α_{t4} = .901; e.g., *I understand how my team contributes to my organization's goals*); (d) task internalization (α_{t1} = .899; α_{t2} = .897; α_{t3} = .919; α_{t4} = .922; e.g., *I fully agree with the work mission*); (e) organization internalization (α_{t1} = .877; α_{t2} = .874; α_{t3} = .869; α_{t4} = .888; e.g., *I have incorporated the values of my organization into my own value system*); (f) team internalization (α_{t1} = .909; α_{t2} = .913; α_{t3} = .924; α_{t4} = .937; e.g., *My team's objectives are also my own objectives*). Items were rated on a 7-point scale ranging from 1 (*completely disagree*) to 7 (*completely agree*).

Need fulfilment at work. Basic psychological need fulfilment at work was assessed using a total of 19 items, 10 of which were adapted from the Work-related Basic Need Satisfaction scale (Van den Broeck et al., 2010; French version by Gillet et al., 2020) and 9 of which were adapted from the Psychological Need Thwarting Scale (Bartholomew et al., 2011; French version by Gillet et al., 2012). As noted in the online supplements, following recent recommendations regarding the optimal measurement structure of basic psychological need fulfilment (Tóth-Király, 2018, 2019), we relied on a bifactor operationalization of this construct. We thus estimated a global need fulfilment factor reflecting the variance shared among all items (α_{t1} = .888; α_{t2} = .899; α_{t3} = .907; α_{t4} = .905) and three specific factors reflecting the variance uniquely associated with each need beyond this global factor: (a) autonomy fulfilment (α_{t1} = .825; α_{t2} = .840; α_{t3} = .847; α_{t4} = .853; e.g., *I feel like I can be myself at my job*); (b) competence fulfilment (α_{t1} = .794; α_{t2} = .815; α_{t3} = .849; α_{t4} = .820; *I have the feeling that I can even accomplish the most difficult tasks at work*); (c) relatedness fulfilment (α_{t1} = .791; α_{t2} = .793; α_{t3} = .783; α_{t4} = .811; *Some people I work with are close friends of mine*). Items were rated on a 5-point Likert scale ranging from 1 (*totally disagree*) to 5 (*totally agree*).

Work satisfaction. Work satisfaction was assessed using an adapted version of Diener et al.'s (1985; French version by Bouizegarene et al., 2018) life satisfaction scale in which the referent was changed from "life" to "work" (Houlfort et al., 2015; Huyghebaert et al., 2018). The five items of this measure (α_{t1} = .891; α_{t2} = .872; α_{t3} = .893; α_{t4} = .872; *I am satisfied with my work*) were rated on a 7-point type scale ranging from 1 (*completely disagree*) to 7 (*completely agree*).

Quality of care. Quality of care was assessed using scale initially developed by Aiken et al. (2002; French version by Lavoie-Tremblay et al., 2016). The four items of this measure (α_{t1} = .839; α_{t2} = .783; α_{t3} = .825; α_{t4} = .813; *How to you evaluate the nursing care you provide to your patients*) were rated on a 4-point type scale ranging from 1 (*bad*) to 4 (*excellent*).

Psychological Distress. Psychological distress was assessed using the Kessler et al.' (2002; French version by Arnaud et al., 2010) six-item psychological distress scale. These items (α_{t1} = .861; α_{t2} = .864; α_{t3} = .886; α_{t4} = .884; *In the last month, how often did you feel hopeless*), were rated on a scale ranging from 1 (*never*) to 5 (*very often*).

Somatization. Somatization was assessed using the eight relevant items from the 27-item Physical Symptoms Scale adapted by Knäuper et al.'s (2004; French version by Trépanier et al., 2016) from a measure originally proposed by Bern (1995). Participants were asked to rate the frequency with which they suffered from eight physical symptoms (e.g., headaches; α_{t1} = .795; α_{t2} = .798; α_{t3} = .817; α_{t4} = .807) on a scale ranging from 1 (*never*) to 7 (*almost always*).

Analyses

Model Estimation and Missing Data

Analyses were realized with Mplus 8.7 (Muthén & Muthén, 2018), the maximum likelihood robust (MLR) estimator, and full information maximum likelihood (FIML) procedures to handle missing data. Statistical research has shown that FIML and multiple imputation have a similar accuracy (Collins et al., 2001; Graham et al., 2007), but that FIML should be favoured (for its computational simplicity) for complex models (Enders, 2010). Indeed, statistical simulation studies conducted by Lee et al. (2019) and Newman (2003) show that 65% and 75% of the data can be salvaged by using state-of-the-art missing data handling techniques such as FIML, without estimation biases. FIML relies on the missing at random (MAR) assumption that missing responses can be conditioned on all variables included in the model, including the same variables measured at different time points in longitudinal models,

making it robust to attrition processes related to any of the variables included in the model (Enders, 2010). FIML made it possible to rely on the full sample of participants who completed at least one time point. These 659 participants provided a total of 1727 time-specific ratings (M=2.62), with 198 nurses (30.04%) answering all 4 time waves, 166 (25.19%) answering 3 time waves, 141 (21.40%) answering 2 time waves, and 154 (23.37%) answering only 1 time wave. In addition, the specification of the analyses conducted in this study (i.e., estimated based on tenure rather than measurement points) entail a representation of time similar to that used in multilevel growth models (Grimm et al., 2016), which do not assume that everyone will complete all measurement occasions but rather simply use tenure as a predictor of repeated measures. Lastly, attrition analyses were conducted to assess whether Time 1 scores on all variables (including demographics) were related to the number of time points completed. A single effect appeared significant (p = .037), showing that participants with higher levels of work satisfaction were slightly more likely to remain longer in the sample than other participants (b = .221, SE = .106; β = .124).

Preliminary Analyses

Details on the preliminary measurement models used to verify the psychometric properties and invariance over time (Millsap, 2011) of our measures are reported in the online supplements. Factor scores were saved from the most invariant of those models in standardized units (M = 0 and SD = 1) for the profile indicators (i.e., organizational and occupational commitment) and predictors (i.e., socialization and basic need fulfilment). For outcomes (i.e., work satisfaction, quality of care, psychological distress, and somatization), factor scores were saved from a latent curve model (time-specific factors were used to estimate a higher-order intercept and slope factor reflecting participants initial levels and rate of changes over time) estimated directly from an item-level measurement model (i.e., where invariant time-specific factors are estimated from the items), also described in the online supplements. Factor scores afford a partial control for unreliability (Skrondal & Laake, 2001) and preserve measurement structure (e.g., bifactor, invariance, latent curve) better than scale scores (Morin et al., 2016a; Morin et al., 2016b). Correlations among all variables are reported in Table S6, while their means and variances are reported in Table S7 of the online supplements.

Growth Mixture Analyses (GMA)

As a person-centered extension of latent curve models (Bollen & Curran, 2006), GMA identifies subpopulations (i.e., profiles) presenting distinct trajectories on a set of repeated measures (affective commitment to the organization and occupation). Specifically, a series of repeated measures is summarized by a random intercept factor reflecting initial level (the loadings of the time-specific measures on this factor are all fixed to 1) and a random linear slope factor reflecting the rate of change over time (the loadings of the time-specific measures on this factor are coded to reflect the passage of time, as outlined below). To account for possible nonlinearity (Solinger et al., 2013), we included a random quadratic slope factor (squaring the loadings of the linear slope factor) to estimate possible U-shaped or inverted U-shaped trajectories (Grimm et al., 2016; Morin & Litalien, 2019).

Given our objective of studying onboarding trajectories among newly registered nurses as a function of their tenure, rather than as a function of the time of measurement, we estimated these trajectories as a function of nurses' tenure since their registration using procedures outlined by Grimm et al. (2016; also see Morin & Litalien, 2019). Thus, the intercept factor reflected nurses' commitment upon registration (tenure = 0) and the linear and quadratic slope were coded in annual units. Doing so made it possible to estimate trajectories portraying nurses' commitment over the first five years of their career.

Statistical recommendations are that all GMA parameters (i.e., intercept mean and variance, slopes mean and variance, intercept and slopes covariance, time-specific residuals) should ideally be freely estimated in all profiles (Diallo et al., 2017; Morin et al., 2011c). This recommendation comes with the recognition that this is not always possible (e.g., non-converging or improper solutions) (Diallo et al., 2017; Morin & Litalien, 2019). This was the case, suggesting that these more complex models might have been overparameterized and that simpler models were desirable (e.g., Diallo et al., 2017; Morin & Litalien, 2019). We thus relied on the Mplus default parameterization of setting the growth factors variance-covariance to equality across profiles, while allowing their means to be freely estimated (Diallo et al., 2017; Morin & Litalien, 2019). Due to the estimation of trajectories as a function of tenure (i.e., individually-varying time codes), time-specific residuals (time-specific deviations around one's model implied trajectory) had to be kept equal over time (homoscedastic), but allowed to differ across profiles. This specification is consistent with the multilevel operationalization of growth models (e.g.,

Li & Hser, 2011; Tofighi & Enders, 2007).

GMA including one to five profiles were estimated separately for organizational and occupational commitment using 10000 random sets of start values, 500 iterations, and 1000 final optimizations (Hipp & Bauer, 2006). Although we initially tried to estimate up to eight profiles for each construct, models including more than five profiles converged on improper solutions including empty profiles, leading to their rejection. To determine the optimal number of profiles, we considered their theoretical adequacy, meaningfulness, and statistical indicators (Marsh et al., 2009; Muthén, 2003): (i) Akaïke Information Criterion (AIC), (ii) Consistent AIC (CAIC), (iii) Bayesian Information Criterion (BIC), and (iv) sample-size Adjusted BIC (ABIC). Lower values for the AIC, CAIC, BIC, and ABIC suggest a better-fitting solution. However, these indicators often provide evidence that is continuously in favor of adding unnecessary profiles due to their sample-size dependency (Marsh et al., 2009), and thus only provide a rough indication of the true number of profiles. Many have thus recommended to graphically report the value of these indicators as a function of the number of profiles (i.e., elbow plot), and to consider the first plateau as a rough indicator of the optimal solution (Morin & Litalien, 2019; Morin et al., 2011c). Although the adjusted Lo, Mendel and Rubin's (2001) Likelihood Ratio Test (aLMR) and the Bootstrap Likelihood Ratio Test (BLRT) are also often reported to guide this decision, these indices are not available when modelling the trajectories as a function of individually-varying time codes (e.g., tenure). Finally, the entropy provides a purely descriptive summary of classification accuracy (ranging from 0 to 1) for the assignment of cases to their respective profiles.

Once the optimal number of profiles was selected for the organizational and occupational commitment, these solutions were combined into a single model via a latent transition analytic (LTA) link function (Collins & Lanza, 2010) allowing for the cross-tabulation of profile membership across the two solutions. To ensure that the nature of the profiles remained unchanged in this combined solution, as well as in analyses of predictors and outcomes, profiles were defined using the start values corresponding to the final unconditional solutions. Although LTA is most typically used to assess within-person stability in profile membership over time (Houle et al., 2020; Kam et al., 2016), it can also be used to create a link among any forms of person-centered solutions (e.g., Nylund-Gibson et al., 2014). Put differently, this allowed us to determine how many members of each organizational commitment profile belonged to each occupational commitment profile.

Predictors and Outcomes of Profile Membership

Scores obtained on the predictors at the start of the study (T1) were integrated to the final LTA model as time-invariant predictors (TIP) following a sequential strategy proposed by Diallo et al. (2017). Due to the complexity of the models and number of predictors, the effects of need fulfilment and socialization were estimated separately.[2] First, predictors were only allowed to predict profile membership. Second, predictors were also allowed to predict the intercept factor in a way that was invariant across profiles. Third, predictors were also allowed to predict the linear slope factor in a way that was invariant across profiles. Fourth, predictors were also allowed to predict the quadratic slope factor in a way that was invariant across profiles. Finally, starting from the solution retained in steps 1 to 4, predictions involving the growth factor were allowed to vary across profiles.

Starting from the optimal TIP solution, time-specific scores on the predictors at T2 to T4 were added to the model as time-varying predictors (TVP; T1 associations are already captured by TIP associations with the intercept factor). Four models were tested in sequence. First, we estimated a null model in which all relations between the TVP and within-profile time-specific commitment levels were constrained to be 0. Second, the effects of the TVP on the repeated commitment measures were constrained to equality across time and profiles but allowed to vary across constructs (organizational versus occupational commitment). Third, the effects of the TVP were constrained to equality across time, profiles, and constructs. Fourth, the effects of the TVP were allowed to vary across profiles and constructs, but not time points. As the trajectories are estimated as a function of tenure, it was not possible to investigate whether TVP effects differed over time. In these comparisons, a lower value on the AIC, CAIC, BIC, ABIC indicate a better fitting model (Diallo et al., 2017; Morin et al., 2016b).

Lastly, factor scores reflecting the intercepts and slopes of the outcome trajectories were contrasted

[2] We first estimated a similar sequence of models using demographic controls (i.e., sex, age, part-time vs full-time, permanent vs temporary, level of education, and organizational tenure) to check if their inclusion was needed. Results, reported in Table S8 of the online supplements, support the lack of effect of these variables.

across profiles using a model-based weighted ANOVA approach (Bakk & Vermunt, 2016) implemented via the Auxiliary (DCON) function (Asparouhov & Muthén, 2015). At each time point, mean differences on the intercept and slope factor for each outcome were contrasted across profiles to determine whether, on average, individuals assigned to different profiles differed in terms of work satisfaction, quality of care, psychological distress, and somatization trajectories.

Results

Profiles of Organizational and Occupational Commitment Trajectories

Selecting the Number of Profiles

The results from the alternative solutions are reported in the top of Table 1. For organizational commitment, the AIC, CAIC, BIC, and ABIC kept on decreasing until the five-profile solution. However, the elbow plot (Figure S1 of the online supplements) suggested a first plateau at four profiles. An examination of solutions ranging from three to five profiles revealed that the four-profile solution reflected trajectories differing in commitment levels, stability, and shape, and resulted in the addition of a meaningful profile (i.e., Profile 3 in Figure 1) relative to the three-profile solution. In contrast, the five-profile solution resulted in the addition of a conceptually similar (i.e., statistically redundant) profile (corresponding to Profile 2 in Figure 1 but with a slightly lower trajectory).

The results were similar for occupational commitment. Indeed, all information criteria kept on decreasing until the five-profile solution, while the elbow plot (Figure S2 of the online supplements) suggested a first plateau at three profiles. Investigating solutions including three to five profiles revealed that adding a fourth profile led to a meaningful addition (corresponding to Profile 3 in Figure 2) and to the estimation of trajectories differing in commitment levels, stability, and shape. In contrast, adding a fifth profile resulted in the addition of a conceptually similar (i.e., statistically redundant) profile (virtually identical to Profile 2 in Figure 2 but with a slightly higher initial level).

The four-profile solution was thus retained for interpretation for both constructs, shared important similarities across constructs (differing mainly in profile size), and are graphically illustrated in Figures 1 (organizational commitment) and 2 (occupational commitment). Parameter estimates are reported in Table S9 and classification probabilities in Table S10 of the online supplements)[3]. Both solutions were associated with a high level of classification accuracy (organizational commitment: 802 to .887; occupational commitment: .805 to .929) consistent with their high entropy value of .745 (organizational commitment) and .830 (occupational commitment). In all profiles, the intercept and linear slope factor were negatively correlated showing that, within all profiles, higher initial levels of organizational or occupational commitment were accompanied by lower rates of increases or steeper rates of decreases over time. The intercept and linear slope factors were associated with a statistically significant variance, consistent with inter-individual heterogeneity within each of the profiles, although this variability was more pronounced for commitment to the organization than occupation.

Profiles of Organizational Commitment

The first profile displayed moderately high initial levels of organizational commitment, which remained stable over time. To reflect the fact that organizational commitment was the highest in this profile (i.e., these levels differ in a statistically significant manner from those observed in profiles 3 and 4 after six months, and from those observed in profile 2 after 18 months[4]), we refer to this profile as characterized by *High* levels of organizational commitment. Profile 2 displayed initially *Moderately high* levels of organizational commitment showing a slight decreasing tendency over time but remaining above the sample average for the duration of the study. Profile 3 displayed below average initial levels of organizational commitment showing an increasing tendency until 3 to 4 years of employment, before starting to decrease until the end of the study. Indeed, although the mean of the linear and quadratic slopes were not significant in this profile, after 18 months, the levels of organizational commitment observed in this profile were significantly higher than those observed in Profile 4 and comparable to those observed in Profile 2 (*Moderately high*). We thus retained the label *Low and Increasing* to describe this profile. Lastly, Profile 4 displayed initially slightly below average levels of organizational commitment and a steep decreasing trajectory until 3 to 4 years of employment, before starting to

[3] The profile indicators (the repeated measures of occupational commitment) are factor scores estimated in standardized units (M= 0, SD = 1) saved from a longitudinally invariant measurement model.

[4] Conclusions about time-specific differences across profiles came from the examination of the 95% confidence intervals around the estimated trajectories obtained using Mplus' LOOP PLOT function (Morin et al., 2020).

slightly increase until the end of the study. We retained the label *Average and Decreasing* to describe this profile. These profiles fully support H1.

Profiles of Occupational Commitment

The first profile displayed initially *High* levels of occupational commitment which slightly decreased over time, while they remained higher than in all other profiles for the duration of the study. Profile 2 displayed initially *Average* levels of occupational commitment that remained stable and significantly higher than those observed in Profiles 3 and 4 over time. Profile 3 displayed initially low levels of occupational commitment and a steep increasing trajectory that plateaued in the last year. Although the levels of occupational commitment observed in this *Low and Increasing* profile did not initially differ from those observed in Profile 4, these levels became significantly higher after two and a half years, and remained so until the end of the study. Profile 4 displayed low initial levels of occupational commitment. Although the means of the linear and quadratic slopes were not significant in this profile, after 2.5 years, the levels of occupational commitment observed in this profile became significantly lower than those observed in Profile 3, leading us to label this profile as reflecting a *Low and Decreasing* trajectory. These profiles fully support H2.

Variability Within and Across Profiles

The parameter estimates associated with these two solutions revealed that initial levels of organizational commitment presented almost twice as much within-profile variability as initial levels of occupational commitment. Perhaps as a result of this greater within-profile variability, however, they displayed less variability across profiles. Thus, inspection of the 95% confidence intervals around the estimated trajectories (LOOP PLOT; Morin et al., 2020) revealed that initial levels of occupational commitment differed significantly across most profiles, with the sole exception of the *Low and Decreasing* and *Low and Increasing* profiles, which only differed after 2.5 years. In contrast, initial levels of organizational commitment only differed significantly between the *Moderately High* and *Low and Increasing* profiles. These results thus support H3.

Size of the Profiles and Latent Transitions

For organizational commitment, nurses were evenly spread across profiles: (a) *High*: 21.56%; (b) *Moderately High*: 30.51%: (c) *Low and Increasing*: 25.41%; (d) *Average and Decreasing*: 22.52%. In contrast, for occupational commitment, the *High* (40.54%) and *Average* (37.30%) profiles were more prevalent than the *Low and Increasing* (8.00%) and *Low and Decreasing* (14.16%) ones.

The cross-tabulation results are graphically illustrated in Figure 3 and reported in Table S11 of the online supplements. These results clearly indicate that nurses can adopt distinct trajectories of organizational and occupational commitment in the early stages of their career. Over 75% of nurses belonging to the *High* occupational commitment profile (1) corresponded to the *High* (1) or *Moderately High* (2) organizational commitment profiles, relative to roughly 22% who corresponded to the *Low and Increasing* (3) or *Average and Decreasing* (4) organizational commitment profiles. Most nurses belonging to the *Average* occupational commitment profile (2) corresponded either to the *Low and Increasing* (3) or *Average and Decreasing* (4) organizational commitment profiles, which may help explain why this occupational commitment profile showed a decreasing trajectory after a few years of employment. However, 33.7% of them also corresponded to the *High* (1) or *Moderately High* (2) organizational commitment profiles. The smallest occupational commitment profile (i.e., *Low and Increasing*) was dominated (70.9%) by nurses who displayed a *Moderately High* (2) organizational commitment profile (2), followed by those with an *Average and Decreasing* (4) profile (21.6%). Finally, the *Low and Decreasing* (4) occupational commitment profile mainly included (91.5%) nurses corresponding to the *Average and Decreasing* (4: 58.5%) or *Low and Increasing* (3: 33.0%) organizational commitment profiles. Yet, 5.1% of them displayed a *High* (1) organizational commitment profile. These results fully support H4.

Time-Specific Residuals as an Indicator of State-Like Variability

For organizational commitment, the time-specific residuals (the state component) indicated that trajectories characterized by higher levels of commitment (i.e., the *High* and *Moderately High* profiles) fluctuated less over time (i.e., smaller time-specific residuals, respectively $SD_{(\varepsilon yi)}$ = .259 and .114). In contrast, trajectories characterized by lower levels of commitment (i.e., *Low and Increasing* and *Average and Decreasing* profiles) fluctuated more (respectively $SD_{(\varepsilon yi)}$ = .623 and .463). However, within these two pairs of profiles, those characterized by generally increasing trajectories (*High* and *Low and Increasing* profiles) displayed higher levels of instability than those characterized by stable or

decreasing trajectories (*Moderately High* and *Average and Decreasing*).

For occupational commitment, trajectories characterized by high (i.e., *High* profile) or increasing (i.e., *Low and Increasing*) levels of commitment fluctuated less (i.e., respectively $SD_{(\varepsilon yi)}$ = .077 and .118), whereas trajectories characterized by *Average* levels of commitment fluctuated more ($SD_{(\varepsilon yi)}$ = .352). However, trajectories characterized by the lowest levels of commitment (i.e., *Low and Decreasing*) fluctuated the most ($SD_{(\varepsilon yi)}$ = .706). Thus, for occupational commitment, increases were associated with less fluctuations, whereas they were associated with more fluctuations for organizational commitment. In contrast, for both constructs, higher levels were associated with lower fluctuations relative to lower levels. These results fully support H5.

Predictors of Commitment Trajectories

Model Comparisons

Results from the predictive models are reported in the middle (need fulfillment) and bottom (socialization) of Table 1. For need fulfilment, the BIC and ABIC supported the presence of effects of initial levels of need fulfillment (TIP) on profile membership, as well as on the intercept and slope factors in a way that did not differ across profiles (Model N3). Although the AIC also suggested effects on the quadratic slope factor, no such effects were present in the results. Likewise, although the CAIC suggested a model including effects limited to profile membership, the additional effects suggested by the BIC and ABIC both seemed relevant to consider, leading us to retain Model N3. Adding TVP effects of need fulfillment to this model supported the presence of additional effects on time-specific fluctuations in commitment levels that differed across constructs but not across profiles (Model N8, associated with the lowest values on the CAIC, BIC, and ABIC). Although the AIC suggested that some of these effects could differ across constructs, the parameter estimates from these models were consistent with a lack of variability across constructs, leading us to retain Model 8. For socialization, the BIC and ABIC supported the presence of effects of the initial levels of socialization (TIP) limited to profile membership, whereas the AIC and ABIC also suggested the presence of effects on the intercept (both), linear slope (both), quadratic slope (AIC only) that were invariant across profiles. Examination of the results associated with these alternative solutions supported the presence of TIP effects limited to the profiles and not extending to within-profile trajectories, leading us to retain Model S1. Adding TVP effects of socialization to this model supported the presence of additional effects on time-specific fluctuations in commitment levels that differed across construct but not across profiles (Model S8, associated with the lowest values on the CAIC, BIC, and ABIC). Model S8 was thus retained for interpretation. The results from both sets of predictive models are reported in Tables 2 (organizational commitment profiles) and 3 (occupational commitment profiles).

Need Fulfillment

Supporting H6a, participants' initial levels of global and relatedness need fulfillment were associated with a higher likelihood of membership into the *High* relative to the *Low and Increasing* organizational and occupational commitment profiles, although these effects were stronger for occupational commitment. Initial levels of global and relatedness need fulfillment were also associated with a higher likelihood of membership into the *High* relative to the *Low and Decreasing* occupational commitment profile. Initial levels of relatedness need fulfillment were associated with an increased likelihood of membership into the *High* relative to the *Average* occupational commitment profile, whereas initial levels of competence fulfillment were associated with a higher likelihood of membership into the *High* relative to the *Average and Decreasing* organizational commitment profile. Initial levels of autonomy need fulfillment were associated with a higher likelihood of membership into the *High* relative to the *Average and Decreasing*, as well as into the *Moderately High* relative to *Low and Increasing* organizational commitment profile. Likewise, initial levels of autonomy need fulfillment were also associated with a higher likelihood of membership into the *High* relative to all other occupational commitment profiles. These results fully support H7a.

Beyond these effects on profile membership, higher initial levels of global need fulfillment were associated with higher initial levels of organizational commitment and with a slight decrease in organizational commitment levels within all organizational commitment profiles, thus partially supporting H6b. Higher initial levels of competence need fulfillment were associated with a slight increase in organizational commitment levels within all organizational commitment profiles, thus partially supporting H7b. Lastly, time-specific levels of global, autonomy, and relatedness need fulfillment were associated with time-specific increases in participants' levels of organizational and

occupational commitment (effects stronger for organizational commitment), and time-specific increases in competence need fulfillment were associated with time-specific increases in occupational commitment. Thus, these results fully support H6c and H7c.

Socialization

Higher initial levels of global socialization were associated with a higher likelihood of membership into the *High* relative to all other occupational and organizational commitment profiles in a way that was slightly stronger for occupational commitment. These levels were also associated with a higher likelihood of membership into the *Moderately High* relative to the *Average and Decreasing* organizational commitment profile. These results partially support H8a. However, due to the lack of effects on the within profile trajectories (i.e., the intercept and slope factors), H8b was not supported.

Initial levels of task internalization seemed particularly relevant in relation to occupational commitment, being associated with a higher likelihood of membership into the *High* relative to *Low and Increasing* and *Low and Decreasing* profiles, as well as into the *Average* relative to *Low and Decreasing* profile. Initial levels of team internalization were associated with a higher likelihood of membership into the *Moderately High* and *Low and Increasing* relative to *Average and Decreasing* organizational commitment profiles, whereas higher initial levels of organization internalization were associated with a higher likelihood of membership into the *High* relative to *Average and Decreasing* organizational commitment profile. Initial levels of team learning were associated with a higher likelihood of membership into the *Average and Decreasing* relative to the *Moderately High* organizational commitment profile. Taken together, these results partially support H9a and fully support H9b. Fully supporting H8c and partially supporting H10, time-specific increases in global socialization levels were also associated with time-specific increases in organizational and occupational commitment (effects stronger for organizational commitment). Similarly, time-specific increases in organization internalization were associated with time-specific increases in organizational commitment, whereas time-specific increases in task learning and internalization were both associated with time-specific increases in occupational commitment.

Outcomes of the Commitment Trajectories

The outcome comparisons are graphically represented in Figures 4 (organizational commitment) and 5 (occupational commitment) and reported in Table S12 of the online supplements.

For both targets, the highest initial levels of work satisfaction and quality of care were found in the *High* profiles, while the lowest levels were found in the *Average and Decreasing* (organizational) or *Low and Decreasing* and *Low and Increasing* (occupational) profiles. Levels of work satisfaction and quality of care fell between these extremes in the moderate profiles (i.e., *Average* occupational commitment and *moderately High* organizational commitment profiles). For work satisfaction, the greatest increases over time occurred equally in the *High* and *Low and Increasing* profiles, followed by the moderate profiles, and then by the *Average*/*Low and Decreasing* profiles, both of which displayed low and stable work satisfaction trajectories. For quality of care, all profiles displayed an increasing trajectory, which was the least pronounced in the *High* profiles, and the lowest in the Average and Decreasing (organizational) and *Low and Increasing/Decreasing* (occupational) profiles.

For both targets, initial levels of psychological distress were equally the highest in the *Low and Increasing* and *Average and Decreasing/Low and Decreasing* profiles, followed by the Moderate profile, and lowest in the *High* profile. All profiles displayed a decrease in psychological distress, with a greater decrease in the *Low and Increasing* profile for both targets, followed by the *Average and Decreasing* profile and then by the *High* profile for organizational commitment. In contrast, for occupational commitment, psychological distress trajectories showed a similar decline in the *Low and Increasing* and *Low and Decreasing* profiles, followed by the *Average* and then by the *High* profiles. For both targets, levels of psychological distress were notably higher in the *Low and Increasing* and *Average/Low and Decreasing* profiles than in the *High* and *Moderately High/Average* profiles.

Finally, somatization trajectories decreased over time for all profiles of organizational and occupational commitment and displayed a distinct pattern of associations with the organizational versus occupational commitment profiles. For organizational commitment, initial levels of somatization were equally the highest in the *Low and Increasing* and *Average and Decreasing* profiles, and the lowest in the *High* and *Moderately High* profiles. Moreover, the largest decrease was observed in the *Low and Increasing* profile (which almost reached the levels observed in the *High* and *Moderately High* profiles by the end of the study), followed equally by the *High* and *Moderately High* profiles, and finally by the

Average and Decreasing profile. In contrast, for occupational commitment, initial levels of somatization were equally the highest in the *Low and Decreasing* and *Average* profiles, and all profiles displayed a statistically similar decreasing somatization trajectory. Moreover, examination of Figure 5 reveal virtually identical somatization trajectories in the Average and Low and Decreasing profiles, which fell in between those observed in the High profile (lowest) and in the Low and Increasing one (highest). Taken together, these results fully support H11 and partially support H12. A summary of all results as they pertain to our hypotheses is provided in Appendix B.

Discussion

Affective commitment refers to the emergence of an emotional bond between an employee and a specific work-related target (Klein et al., 2012), which progressively becomes internalized a part of employees' professional identity (Meyer et al., 2008), and helps drive goal-directed behaviors (Meyer et al., 2004). Despite the widespread acknowledgement of the importance of affective commitment for employees and organizations alike (e.g., Meyer, 2016; Meyer et al., 2002; Spurk et al., 2019), there has been surprisingly few longitudinal investigations of how commitment dynamically emerges among new employees (e.g., Solinger et al., 2013), making it impossible to generate clear guidance on how to nurture this important component of their professional identities. Moreover, despite the recognition that employees' commitments to a variety of targets form a complex system within which each commitment creates a context that might influence the expression of other commitments (e.g., Klein et al., 2022; Meyer et al., 2021; Perreira et al., 2018), our knowledge of the joint evolution of multiple commitments remains virtually non-existent. This study sought to address both limitations by considering how trajectories of affective commitment to the organization and occupation co-evolve among a sample of novice nurses during their first five years in the profession. Moreover, to generate guidance on how to help nurture more desirable commitment trajectories among novice nurses, we focused on the dynamic associations between these trajectories and two sets of predictors already associated with validated types of interventions (e.g., Gagné et al., 2022; Slemp et al., 2021; Wanberg, 2012): (a) their level of basic psychological need fulfillment (e.g., Ryan & Deci, 2017); and (b) their experiences of socialization (e.g., Perrot & Campoy, 2009). Lastly, to achieve a more accurate understanding of the various implications of these trajectories, we considered their dynamic associations with nurses' levels of somatization, psychological distress, work satisfaction, and the quality of care.

Distinct but Similar Profiles of Affective Commitment to the Organization and Occupation

Our results revealed four profiles following distinct affective commitment trajectories for both targets, thus supporting H1 and H2 and providing replication evidence to previous studies conducted among more (Houle et al., 2022) or less (Solinger et al., 2013) established employees while focusing on a single target of commitment. Two of those profiles displayed persistently *High* or *Moderate* (i.e., *Average* or *Moderately High*) levels of affective commitment to the organization or to the occupation, which became progressively more differentiated from the other trajectories over time. Moreover, we observed more within-profile, and less between-profile, variability upon entry into the profession for organizational commitment profiles relative to occupational commitment profiles. These results fully supports H3 and suggest that it might be easier for organizations to influence nurses' organizational (*vs* occupational) commitment levels. Conversely, educational institutions responsible for nurses' training may want to monitor whether and how the development of a commitment to the nursing occupation is unfolding among students, as this initial development is likely to have a long-lasting impact on nurses' ability to adapt to, and willingness to remain in, nursing.

In socialization research (Boswell et al., 2005; Solinger et al., 2013) stable trajectories of commitment are assumed to reflect a *Matching* scenario in which employees' expectations are supported by the characteristics of their new role. The proportion of our sample corresponding to a *Matching* scenario for organizational commitment (i.e., the *High* and *Moderately High* profiles) is roughly the same (~50%) as that reported by Solinger et al. (2013) in their smaller sample of Ph.D. graduates. Although the proportion of nurses corresponding to a *Matching* scenario was much higher (~78%) for occupational commitment (i.e., the *High* and *Average* profiles), this proportion is similar – albeit slightly higher – to that reported by Houle et al. (2022) among established school principals (~60%). These results suggest that a majority of newly registered nurses experience a match between their expectations and their new occupational role. Indeed, the proportion of nurses who experience discrepancies between their expectations and the reality of their healthcare organization remain more frequent (~50%) than for the occupation (~22%). Yet, pending replication, this result may be due to the

current sample's characteristics (i.e., French-Canadian nurses, pre-pandemic).

It was particularly noteworthy that only *High* or *Moderate* (i.e., *Average* or *Moderately High*) *Matching* scenarios were observed for both targets of commitment, suggesting that changes in commitment levels over nurses' early years in the profession seemed limited to those displaying initially lower expectations, as captured by initially low to moderately low initial levels of organizational and occupational commitment. For those nurses, the new reality of their work role can either act as an agreeable surprise – thus coming to reflect a *Learning to Love* scenario – or as an eventual source of disappointment (*Hangover*) following initially high positive impression (*Honeymoon*)– thus coming to reflect a *Honeymoon Hangover* scenario (Boswell et al., 2005; Solinger et al., 2013). Indeed, the *Low and Increasing* organizational commitment profile displays a *Honeymoon Hangover* scenario wherein nurses' emotional bond with their organization progressively increases for three and a half years before starting to progressively decrease. Moreover, even if the *Honeymoon* component was not directly observed, both the *Low and Decreasing* occupational commitment profile and the *Average and Decreasing* organizational commitment profile showcased a *Hangover* component, characterizing nurses who become increasingly emotionally detached from either target. Lastly, the *Learning to Love* scenario was only present for occupational commitment, corresponding to the *Low and Increasing* profile in which a growth in commitment was observed over time. Moreover, most (i.e., 73%) nurses corresponding to this *Learning to Love* scenario for occupational commitment (i.e., the *Low and Increasing* profile) belonged to the *High* or *Moderately High* organizational commitment profiles, suggesting that, for very small subset of nurses (i.e., 5.8% of our total sample), organizational commitment may be linked to the positive development of occupational commitment. Similarly, 58.2% of nurses belonging to the *Low and Increasing* organizational commitment profile corresponded to the *High* or *Moderately High* occupational commitment profile, suggesting that a strong occupational commitment may be linked to the positive development of organizational commitment for 14.8% of nurses. These results thus support the idea that fostering a strong commitment to one target may favor the emergence of commitment to the other target, and that this effect, at least for nurses, may be more prevalent for occupational commitment.

For occupational commitment, the changing profiles (*Low and Increasing*; *Low and Decreasing*) were similar in shape to those identified by Houle et al. (2022), although characterized by slightly lower initial levels and less frequent (~22% for both profiles in this study relative to ~41% in Houle et al., 2022). In contrast, the changing profiles (*Low and Increasing*; *Average and Decreasing*) found in this study for organizational commitment were very close in shape and size (~47% versus ~42%) to those identified by Solinger et al. (2013). Preliminary evidence appears to indicate that organizational commitment may be more malleable than occupational commitment making this target more receptive to contextual changes (e.g., starting a new occupation), and possibly interventions aimed at improving employee commitment. Indeed, it was encouraging to note that the trajectories observed in *Low and Increasing* organizational commitment profile reached a level comparable to those observed in the *Moderate*ly *High* organizational commitment profile by the third year of the study. This observation suggests that after an initial period of adaptation, these nurses came to develop a stronger emotional attachment towards their organization and reap benefits in terms of outcomes.

These observations indicate that, despite similarities, commitment trajectories observed among newcomers (e.g., the present study and Solinger et al., 2013) do differ from those observed among more established employees (e.g., Houle et al., 2022), and that changing scenarios may be more prevalent when the organization is the target compared to the occupation. As previously mentioned, the nature of the trajectories observed in this study suggests that nurses' training programs might be preparing them better to face the reality of the occupation as to face that of healthcare organizations, but that post-entry factors are more likely to influence the development of organizational commitment. Based on past research, organizations and HR leaders should demonstrate a clear strategy for the short- and long-term support of employees (e.g., using individual development plans) and attempt to build connections with them (e.g., forming extra-organizational ties) (Morrow, 2010).

Still, person-centered evidence is cumulative, requiring an accumulation of studies to differentiate a core set of universal profiles, a second set of context-specific profiles, and a last set of unique profiles unlikely to generalize (Meyer & Morin, 2016; Solinger et al., 2013). Although our results and current evidence (i.e., Houle et al., 2022; Solinger et al., 2013) supported the construct validity of our profiles, additional research will be essential to better document their relevance and generalizability.

Lastly, when looking at the shape of the trajectories observed for both types of commitment, a relatively clear inflexion point seems to happen between 3 to 4 years of tenure, after which the observed trajectories seem to become more stable. This result is highly informative for our understanding of nurses' socialization process. Indeed, whereas some have suggested that it might take as little as six months for new employees to become familiar with, and autonomous in, their new work role (e.g., Ashforth & Saks, 1996), others have noted that the socialization period was likely to be much longer (one year: Bauer et al., 2007; five years: Rudman et al., 2014), especially among highly qualified employees such as nurses (Benner et al., 2009; Rudman et al., 2014). Our results suggest that, when nurses are considered, the first three to four years might be the most critical.

Co-Evolving Profiles of Affective Commitment to the Occupation and Organization

Supporting H4, most nurses displayed similar profiles of organizational and occupational commitment, particularly those displaying *High* or *Decreasing* trajectories. Thus, close to 80% of nurses from the *High* occupational commitment profile corresponded to a *High* or *Moderately High* organizational commitment profile, whereas nearly 60% of those from the *Low and Decreasing* occupational commitment profile matched the *Average and Decreasing* organizational commitment profile. These results provide longitudinal evidence of the strong association between organizational and occupational commitment previously identified in cross-sectional studies (e.g., Meyer et al., 2019; Morin et al., 2011a, 2015; Tsoumbris & Xenikou, 2010), while also showing that this association appears stronger at more extreme levels (i.e., *High* or *Low/Average and Decreasing)*. In contrast, only 10% of nurses characterized by an *Average* occupational commitment profile corresponded to the same organizational commitment profile: Most of them rather matched the *Low and Increasing* organizational commitment profile (45%), followed by the *High* (24%), and *Average and Decreasing* (21%) organizational commitment profiles. Likewise, only 5.5% of the nurses presenting a *Low and Increasing* occupational commitment profile displayed a *Low and Increasing* organizational commitment profile: Most of them rather matched the *Moderately High* (71%) organizational commitment profile, followed by the *Average and Decreasing* (21.6%) one.

Beyond showing that it is possible for nurses to adopt distinct trajectories of commitment to their organization and occupation, and also supporting H4, this last set of results suggests that a stronger affective bond to any of those targets could contribute to increase the affective bond to the other and vice versa (i.e., a weaker bond to one target can reduce the bond to the other). Although our results do not allow us to identify the mechanisms involved in the process via which commitment increase, or decrease, in similarity across targets, they suggest that both are important and likely to influence one another, perhaps through self-regulation or internalization processes (Fernet et al. 2017). In combination with SDT (Ryan & Deci, 2017) and commitment theory (Meyer et al., 2004), our results thus support the idea that fostering any of those two commitments is likely to create a process that favors the development and internalization of both targets into nurses' professional identities, whereas failing to do so is likely to impede the development and consolidation of both types of bonds.

Self-Equilibrium Processes Underpinning Affective Commitment Trajectories

Supporting H5 and the self-equilibrium hypothesis (Morin et al., 2013, 2017), profiles characterized by higher trajectories of affective commitment also tended to display a lower level of state-like fluctuations over time. These results are thus consistent with those reported by Houle et al. (2022) in relation to the occupational commitment trajectories observed among a sample of established school principals, thus demonstrating the generalizability of the self-equilibrium hypothesis to early career nurses' commitment to their occupation and organization. Initially proposed to explain how different components of one's identity become progressively internalized into a stable sense of self, the self-equilibrium hypothesis is thus explicitly designed to describe the evolution of one's sense of identity (e.g., Houle et al., 2022; Morin et al., 2013, 2017). Our results support the idea that affective commitment reflects the dynamic internalization of various work-related targets into one's sense of professional identity (Meyer et al., 2024, 2006; Spurk et al., 2019) and that stronger levels of internalization also appear more resilient (or less reactive) to internal or external contingencies. When this internalization is weaker, one's sense of professional identity becomes more permeable to the influence of these contingencies (Morin et al., 2013, 2017; Ryan & Deci, 2017).

However, our results also reveal some intricacies that partially challenge, or at least complement, the self-equilibrium hypothesis (Morin et al., 2013, 2017). Although the smallest state-like fluctuations were found in the *High* and *Moderately High* organizational commitment profiles, these fluctuations

were slightly larger in the *High* profile relative to the *Moderately High* one. However, these differences remain minor relative to those observed between the *High* or *Moderately High* profiles relative to both other profiles and could possibly reflect the slightly larger slope found in the *High* profile. The slightly higher level of trait-like evolution observed in this profile seem to be accompanied by slightly larger trait-like fluctuations, reflecting a progressive consolidation of this *High* trajectory at early career stages. Consistent with this interpretation, state-like fluctuations were also more pronounced in the *Low and Increasing* organizational commitment profile relative to the *Average and Decreasing* profile. In contrast, for occupational commitment, these fluctuations were lower in the *Low and Increasing* profile relative to the *Average* one, suggesting that the presence of a trait-like increasing trend in occupational commitment might help to generate state-like stability. Taken together, these unexpected results suggest that increasing trajectories of organizational commitment require a continuous process of adjustment whereby early career nurses come to progressively discover, and learn to enjoy, their new organization. In contrast, early career nurses are already well-informed, because of their training, about the specificities of their new occupational role. Increasing trajectories of occupational commitment may thus occur when nurses realize that their occupation provides a better match to their expectations than they initially thought, a realization that can come without the need for further exploration or adjustments given their prior knowledge.

From a practical perspective, our results highlight that interventions seeking to increase commitment among early career nurses should jointly consider their initial and evolving levels of commitment, but also the reactivity of their commitment to internal and external contingencies. Our results suggest that employees' commitment profiles are jointly defined by these three components (initial levels, trait-like evolution, and time-specific fluctuations), while highlighting that lower commitment trajectories seem to be far more unstable at the state-level. This instability is suggestive of a higher level of reactivity to external or internal contingencies, which is likely to entail a higher level of responsivity to interventions seeking to increase affective commitment among newcomers. However, for these changes to become incorporated into nurses' ongoing commitment trajectories (rather than solely resulting in temporary boosts), these interventions will need to have long lasting effects or be maintained over time. Moreover, in line with the self-equilibrium hypothesis (Morin et al., 2013, 2017, Houle et al., 2022) and current knowledge based on recognized antecedents of commitment (e.g., Morrow, 2010), interventions seeking to increase commitment also seem more likely to succeed if they seek to nurture an in-depth internalization of the commitment targets within nurses' sense of professional identity. Our next set of results provide more specific guidance as to how to best influence profile membership early in the career *versus* how to best influence nurses' unfolding commitment trajectories *versus* how to generate short-term boosts in commitment levels.

Basic Psychological Need Fulfillment and Commitment Trajectories

SDT (Ryan & Deci, 2017) assumes that employee's internalization of their work role to their sense of identity (which is intimately connected to their affective commitment to the organization and occupation) are closely related to the extent to which their basic psychological needs for relatedness, competence, and autonomy are fulfilled at work. Supporting this theoretical expectation and our hypotheses, our results revealed that the joint (i.e., global) fulfillment of all three needs was associated with higher and more stable commitment trajectories (partially supporting H6a). These global levels of need fulfillment were also associated with higher levels of organizational commitment across all profiles (partially supporting H6b), as well as with time-specific increases in organizational and occupational commitment (supporting H6c). These associations were stronger and more widespread for organizational commitment relative to occupational commitment, possibly because it is within the confines of their organization that nurses experience a global sense of need fulfillment, whereas their occupation is slightly more abstract. Although we unexpectedly found that global levels of need fulfillment predicted a slight decrease over time in organizational commitment, this effect is consistent with the negative intercept-slope correlation present in all profiles and suggests that higher initial levels leave less room for growth. These results support the idea that balanced need fulfillment is a key driver of internalization (Ryan & Deci, 2017; Sheldon & Niemec, 2006), at least for affective commitment.

Similar associations were found when we considered each specific need (supporting H7a and H7c, and partially supporting H7b). However, the benefits of the needs for autonomy and relatedness were more pronounced and widespread for occupational commitment than organizational commitment, whereas the opposite was true for the need for competence. These results are thus consistent with the

idea that each need plays a unique role beyond their joint effect (Gillet et al., 2019, 2020). The need for competence seemed to play a key role in relation to organizational commitment, suggesting that nurses may attribute the fulfillment of this need primarily to their organization as the place where they express and nurture their skills. In contrast, it is to their occupation that they mainly seem to attribute the fulfillment of their needs for relatedness and autonomy. This suggests that it is to their occupation that nurses may come to attribute their most important social interactions at work (with coworkers and patients), and that their feelings of autonomy at work are seen as primarily regulated by the rules and principles that guide the practice of nursing rather than by any specific organizational benchmark.

Our results support the idea that efforts to nurture affective commitment among early career nurses could benefit from need supportive interventions. A wide variety of organizational interventions, anchored in SDT, have been proposed, and validated, to support employees' needs and internalization (for comprehensive lists, see Gagné et al., 2021; Slemp et al., 2021). For example, autonomy supportive training seems to positively influence internalization (Williams et al., 2016), while leadership training focusing on initiative taking and positive informational feedback has positive effects on managers' autonomy supportive tendencies and employees' work climate perceptions (Deci et al., 1989). The success of these interventions may depend on whether employees feel that the support will persist in the future (Morrow, 2010) making it important to establish and monitor short- and long-term effects of trainings and interventions. Whereas SDT research has heavily focused on managers' autonomy supportive behaviors, recent studies invite us to consider the contribution of other key agents in the nursing work environment such as the immediate supervisor and coworkers (e.g., Fernet et al., 2020). Intervention research would do well in examining the distinct, but potentially complementary, role of a fuller spectrum of key socializing agents in the pre- and post-entry periods, including mentors, preceptors, clinical supervisors, and patients (Hopeck, 2023).

Socialization Experiences and Commitment Trajectories

New employees need to progressively learn and internalize the basics of their new work role, work group, and organizations via positive socialization experiences (e.g., Louis, 1980; Van Maanen & Schein, 1979). Without a clear understanding of the functioning of their new work environment, it would be rather unrealistic to expect them to develop a strong emotional attachment to any facet of their work role (e.g., Bauer et al., 2007; Chao et al., 1994; Perrot & Campoy, 2009; Saks et al., 2007). In this regard, our study is the first to demonstrate that the global quality of nurses' socialization experiences was associated with their likelihood of membership into the profiles characterized by the highest levels of affective commitment to the organization and occupation (partially supporting H8a), although these effects were stronger for occupational commitment. Moreover, positive socialization experiences were also associated with an increased likelihood of membership into the *Moderately High* organizational commitment profile, thus highlighting their relevance for both forms of commitment. Although these global levels of socialization had no further impact on within-profile trajectories (failing to support H8b), they were associated with the greatest time-specific increases in organizational and occupational commitment (supporting H8c). Moreover, and supporting the target similarity perspective (Lavelle et al., 2007, 2009; Morin et al., 2011a, 2011b) specific levels of task internalization were associated with the *High* and *Average* occupational commitment profiles and with time-specific increases in occupational commitment (supporting H9b and partially supporting H10), while organizational internalization was associated with the *High* organizational commitment profile and time-specific increases in organizational commitment (partially supporting H9a and H10).

These results thus support the idea that globally adequate socialization experiences, as well as adequate target-specific levels of internalization, are likely to encourage the emergence of more desirable profiles and to help generate short term boosts in commitment levels. Moreover, based on the size of the residuals across profiles, our results suggest that short-term boosts in commitment levels as a result of time-specific increases in socialization should have a greater effect on employees with low commitment trajectories (i.e., state-like deviations are larger in these profiles). Thus, although the beneficial short-term impact of socialization (as well as need fulfilment) are equivalent in terms of their state-level effect, state-like deviations are more pronounced in profiles with lower commitment trajectories leading to a larger influence potential.

Although we had no hypotheses specific to team socialization, we found that team internalization was also associated with membership to the *Moderately High* and *Low and Increasing* organizational commitment profile relative to the *Average and Decreasing* profile. These results indicate the benefits

of internalizing the team values and objectives as our own in relation to the adoption of higher or increasing trajectories of organizational commitment. These associations are consistent with the idea that one's workgroup is nested within one's organization so that positive experiences with the former are likely to benefit the latter (e.g., Meyer et al., 2021). Interestingly, team learning also increased the odds of membership to the *Average and Decreasing* organizational commitment profile relative to the *Moderately High* profile hinting that some nurses may understand their team objectives without internalizing them as their own. Thus, team learning disconnected from the internalization of this learning seems to be associated with undesirable effects in terms of organizational commitment.

From a practical perspective, our results support the value of positive socialization experiences going beyond simply learning a new role, but also involving the internalization of this new role. Our results suggest that interventions seeking to improve affective commitment may benefit from ensuring that organizations implement need-supportive interventions (Huyghebaert-Zouaghi et al., 2023; Morrow, 2010), thereby increasing the subjective value of maintaining a strong bond with the target of commitment (Rousseau, 1998). Our results also suggest that organizations may want to invest in monitoring the team dynamics to which early career nurses are exposed, and possibly to move them out of problematic teams to help them internalize proper work dynamics, as well as stronger levels of affective commitment, which will then become less sensitive to undesirable contingencies. Interestingly, a wide range of interventions likely to support the proper internalization of a new work role have been previously proposed and validated (Wanberg, 2012).

Outcomes of Organizational and Occupational Commitment Trajectories

Commitment theory (Meyer, 2016; Meyer & Maltin, 2010; Spurk et al., 2019) and SDT (Ryan & Deci, 2017) both highlight that a strong affective bond with one's occupation or organization should be associated with a more positive level of functioning in and out of work. Our results generally supported these expectations (supporting H11) in showing that profiles characterized by higher and/or increasing levels of affective commitment to the organization and occupation generally experienced more positive functioning, as operationalized by work satisfaction and quality of care offered to patients, as well as lower levels of somatization and psychological distress. Importantly, the alignment of our results with theory provides additional support for the construct validity of the profiles. However, beyond these generic observations, they also revealed specificities that may be noteworthy if similar longitudinal processes could be replicated in future studies.

Thus, nurses' levels of quality of care and work satisfaction were the highest in the profiles characterized by *High* levels of organizational and occupational commitment, the lowest in the *Decreasing* profiles, and fell in between these two extremes in the moderate profiles. However, whereas these two outcomes had an average and comparable level in the *Moderately High* and *Low and Increasing* organizational commitment profiles, they had a low and comparable level in the *Low and Increasing* and *Low and Decreasing* occupational commitment profiles. These differences can probably be explained by the nature of the profiles identified for both targets of commitment, as the *Low and Increasing* organizational commitment profile displayed commitment levels that increased up to the levels observed in the *Moderate* profile by the third year of tenure, whereas the two profiles characterized by *Low* levels of occupational commitment remained distinct from the *Moderate* profile throughout the course of the study. Moreover, and partially supporting H12, the two organizational commitment profiles displaying an increasing trajectory (i.e., *High* and *Low and Increasing*) were also characterized by the greatest increase in work satisfaction over time, thus supporting past results in terms of velocity of change being associated with job satisfaction (Chang et al., 2010). Interestingly, similar yet opposite results were observed in relation to psychological distress, which was highest in the *Low and Increasing* (organization and occupation), *Average and Decreasing* (organization) and *Low and Decreasing* profiles (occupation), highest in the *High* profiles (organization and occupation), and in between these two extremes in the *Moderately High* organizational and *Average* occupational profiles. Moreover, the *Low and Increasing* organizational profile also displayed the greatest reduction of psychological distress over time. These results thus provide further evidence for the benefits of improving organizational and occupational commitment over time in terms of their effect on work satisfaction, psychological distress, and quality of care.

Somewhat unexpectedly, the association between the profiles and somatization were mainly limited to organizational commitment, whereby both the *Average and Decreasing* and *Low and Increasing* organizational commitment profiles displayed higher levels of somatization than the *Moderately High*

profile. The *Low and Increasing* organizational commitment profile also displayed higher levels of somatization compared to the *High* profile, while also presenting the sharpest decrease in somatization over time. Interestingly, the *Average and Decreasing* profile displayed the lowest decrease in somatization levels over time. This suggests that somatization is particularly likely for nurses whose values do not align with those of their organization, and that progressively increasing their commitment to the organization is likely to help offset this detrimental effect.

Strengths, Limitations, and Future Directions

A strength of this current study lies in the estimation of trajectories based on tenure, which allowed us to capture the evolution of commitment over the first five years of a nursing career. However, this modeling decision also forces the time-specific residuals to be estimated as equal over time, thus making it impossible to completely test the self-equilibration hypothesis, which also suggests that the size of these residuals should increase or decreases when commitment trajectories respectively decrease or increase (e.g., Houle et al., 2022). Future studies, focusing on employees with similar levels of tenure upon entry into the study, will be necessary to document this possibility. A second strength comes from our comprehensive operationalization or need fulfillment and socialization experiences, as well as our partitioning of these constructs into their global and specific components (Morin et al., 2016a). Despite this strength, many other facets of employees' work life (e.g., leadership, climate, socialization practices) or personality (e.g., self-esteem contingency, neuroticism) are also likely to influence emerging commitment trajectories and the stability of those trajectories over time. To obtain a complete picture of how commitment first emerges and evolves in the early stages of the career, a more comprehensive set of predictors will need to be considered.

Moreover, although our longitudinal person-centered analytic framework arguably represents another strength of the present study, this analytic design was not suitable to assess the directionality of the associations, which had to be defined based on theoretical *a priori*. For instance, although we can reasonably position socialization experiences as an antecedent of commitment, and commitment as an antecedent of psychological distress, it is also likely that employees experiencing higher levels of psychological distress may not be able to benefit from equally adequate socialization experiences, just like a lack of commitment might also interfere with socialization. This limitation is further reinforced by our sole reliance on self-reported measures, which can suffer from a variety of self-report biases. Clearly, future research will need to consider the directionality of these associations in a more comprehensive manner, while incorporating objective (e.g., actual turnover) and informant (e.g., team-ratings) data. In addition, our ability to consider the evolution of commitment trajectories over the first five years of the career in a sample of French-Canadian nurses is another important strength of this study. However, this strength also comes with an important caveat in terms of generalizability. Indeed, commitment is a fluid dynamic construct that evolves over the course of employees' career (Houle et al., 2022; Spurk et al., 2019) suggesting that additional studies will be needed to assess how these trajectories keep evolving as employees get settled into their career, change occupations or organizations, get promoted, and get ready for retirement. For applied purposes researchers ought to focus on periods of high malleability when devising interventions, as these periods are already prone to changes in commitment which may facilitate its development.

Furthermore, as in any longitudinal study, attrition limits generalizability. For instance, it is possible that some of the participants lost through attrition might also have been those initially less committed to their occupation and organization. This could have contributed to the higher prevalence of the profiles displaying higher levels of commitment. Our attrition analyses do not support this interpretation but suggest that a lack of work satisfaction might have played a similar role. In any case, pending replication, it remains unknown whether and how the present results will generalize to other occupations, countries, and cultures, as well as to the full diversity of early career nurses.

Two limitations pertaining to organizational tenure are worth mentioning. First, we did not monitor organizational transitions, meaning that some nurses may have experienced a change in their organizational referent over time. It is, however, important to note that the prototypical nature of GMM indirectly accounts for these changes by allowing each participant to have a higher, or lower, probability of membership into all of the profiles. Thus, participants likely to have experienced a change will simply end up displaying lower probabilities of profile membership than those with a clearly dominant profile. Second, the lack of organizational identifiers did not allow us to extend our analyses to a multi-level framework accounting for nesting of respondents within organizations.

Lastly, as we relied on a tenure-based modeling approach we were not able to evaluate whether state-like deviations in commitment levels resulted in similar state-like deviations in outcome levels. Future studies should do well to investigate this as the usefulness of interventions designed to temporarily increase commitment levels will depend on whether these improvements benefit other individual (e.g., job satisfaction) and organizational (e.g., turnover intention) level outcomes.

Conclusion

The importance of retaining public sector employees fulfilling critical societal roles, such as nurses, has led researchers to argue that more research needs to be conducted to better understand the mechanisms through which these workers develop, integrate, and internalize their affective bond to multiple work-related targets (Houle et al., 2020, 2022). In the present study, our results supported the idea that affective commitment represents a dynamic bond playing an important role in the ongoing process of adaptation of early career nurses to their career (Spurk et al., 2019; Sullivan & Baruch, 2009). Moreover, we found that the process underpinning the emergence of commitment to the organization and occupation shared far more similarities than differences, and that both entailed self-equilibration processes whereby a strong affective commitment is also one that shows resilience over time (Houle et al., 2022; Morin et al., 2013, 2017). We found support for the idea that affective commitment entails the internalization of one organization and occupation to ones' sense of professional identity, a process that is likely to benefit from exposure to work environments likely to fulfill early career nurses' basic psychological needs and to nurture positive socialization experiences. Perhaps more importantly, we also found tentative evidence that internalizing one's commitment to a single target (e.g., the occupation) seemed to facilitate commitment to another target (e.g., the organization). Finally, we also highlighted the importance of considering commitment trajectories among early career nurses, by demonstrating the various impacts of these trajectories on their levels of psychological functioning, work satisfaction, and even on the quality of care offered to their patients. We hope that these results will help generate additional research on the dynamic interrelations among commitment trajectories over the course of the career of many different types of employees and motivate the implementation of intervention procedures to help facilitate the onboarding trajectories of nurses, as well many other public sector employees.

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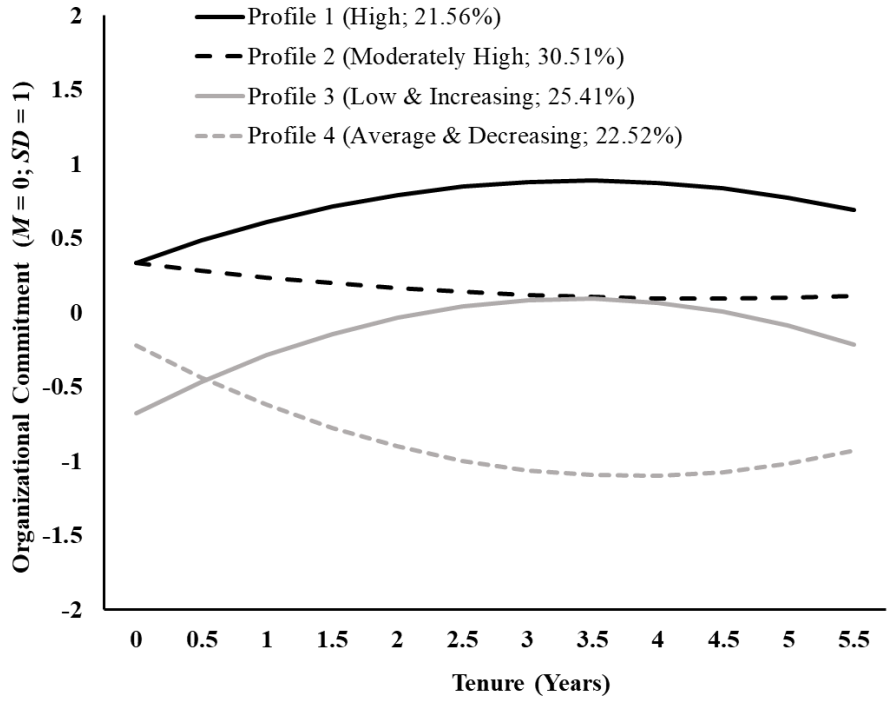
Figure 1

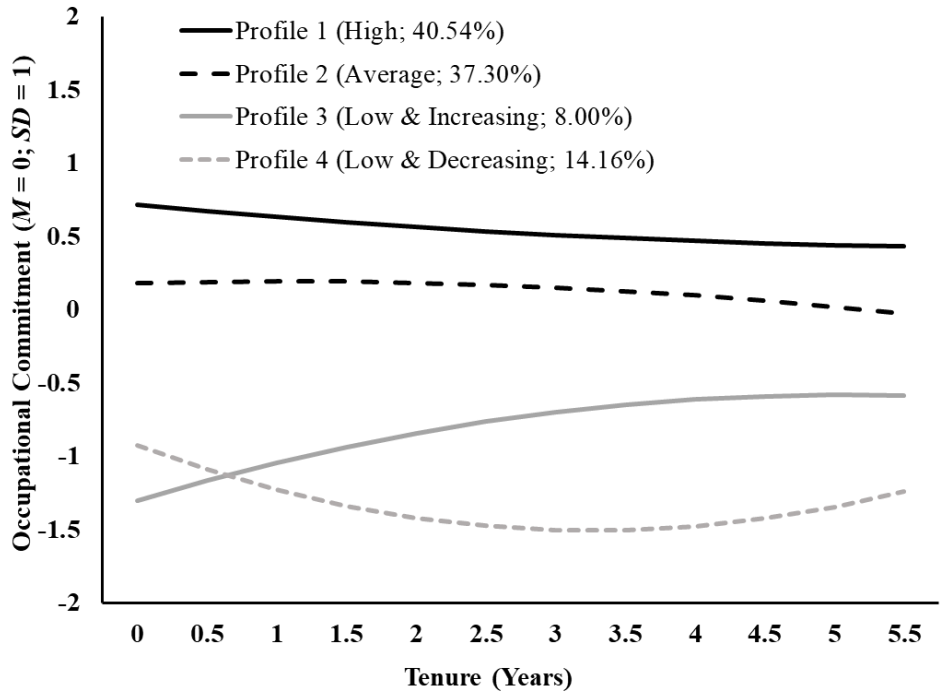
Final 4-Profile Solution: Trajectories of Affective Commitment to the Organization



Note. Profile indicators are factor scores with mean of 0 and a standard deviation of 1.

Figure 2

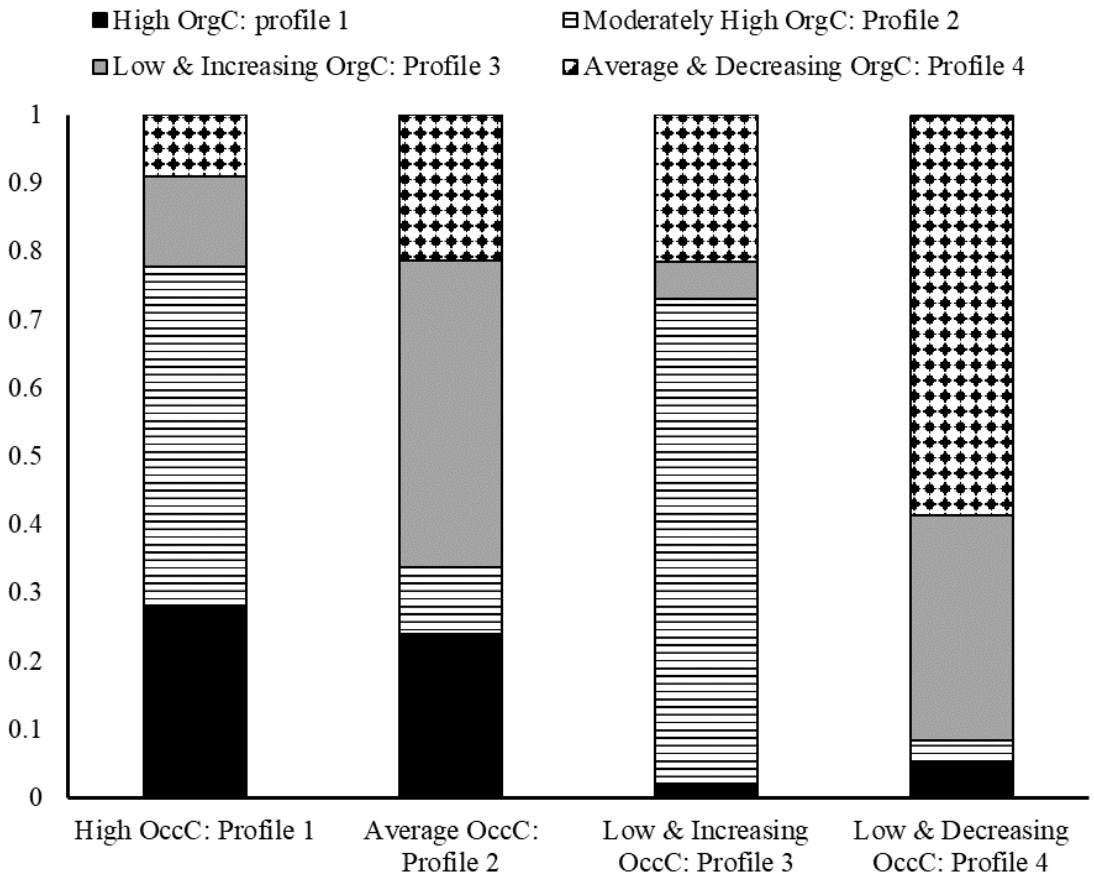
Final 4-Profile Solution: Trajectories of Affective Commitment to the Occupation



Note. Profile indicators are factor scores with mean of 0 and a standard deviation of 1.

Figure 3

Cross-Classification Probabilities of Profile Membership across Targets



Note. The Y-axis reflects proportions summing up to 100%.

Figure 4

Outcome Trajectories Within the Final Four-Profile Solution for Organizational Commitment

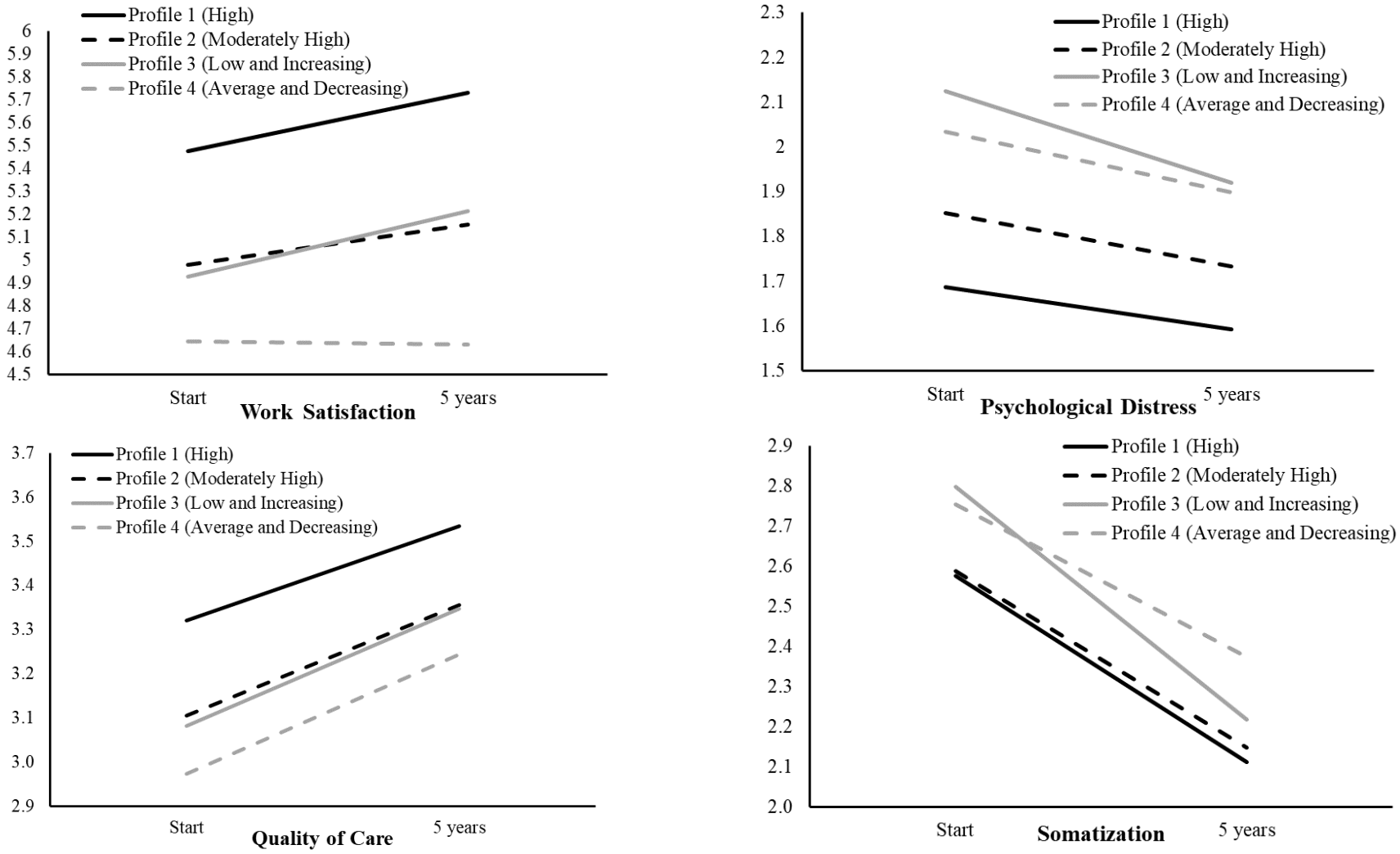


Figure 5

Outcome Trajectories Within the Final Four-Profile Solution for Occupational Commitment

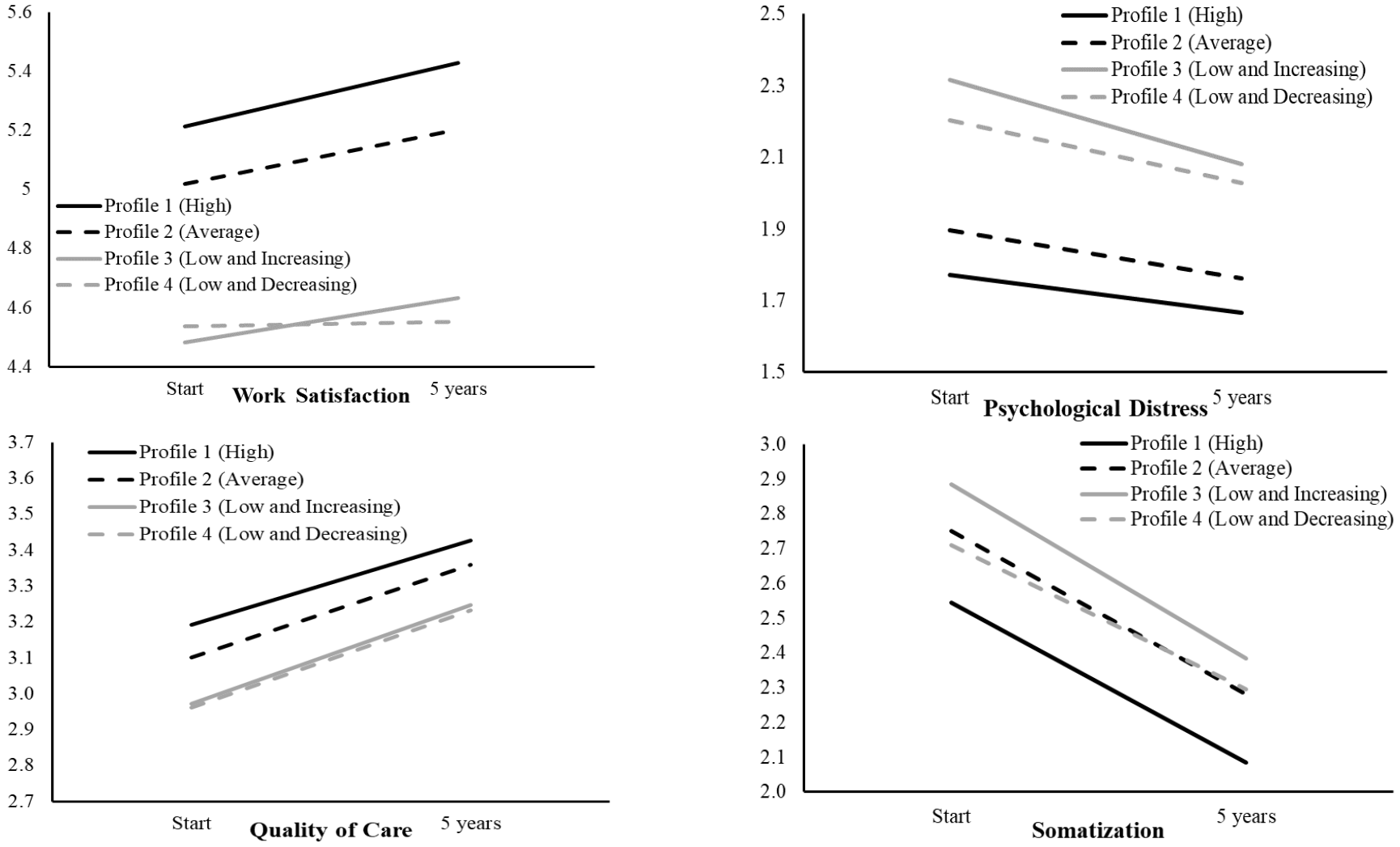


Table 1

Results from the Growth Mixture Analyses

Model	*LL*	*#fp*	Scaling	AIC	CAIC	BIC	ABIC	Entropy
Organizational Commitment Profiles								
1 Profile	-2282.810	10	1.474	4585.621	4640.406	4630.406	4598.656	
2 Profiles	-1982.794	15	1.426	3995.588	4077.765	4062.765	4015.141	.686
3 Profiles	-1925.591	20	1.638	3891.181	4000.751	3980.751	3917.252	.743
4 Profiles	-1871.849	25	1.714	3793.698	3930.661	3905.661	3826.286	.715
5 Profiles	-1841.737	30	1.524	3743.474	3907.829	3877.829	3782.579	.697
Occupational Commitment Profiles								
1 Profile	-1904.300	10	2.515	3828.601	3883.508	3873.508	3841.758	
2 Profiles	-1282.593	15	1.575	2595.186	2677.547	2662.547	2614.921	.826
3 Profiles	-1149.156	20	1.458	2338.311	2448.126	2428.126	2364.625	.786
4 Profiles	-1113.288	25	1.363	2276.577	2413.845	2388.845	2309.469	.830
5 Profiles	-1033.436	30	.052	2126.873	2291.594	2261.594	2166.344	.823
Need Satisfaction and Frustration (Time Invariant Predictors)								
N1. C	-2747.493	48	1.006	5590.985	5851.921	5803.921	5651.528	.809
N2. C, I (inv.)	-2726.663	56	1.027	5565.326	5869.750	5813.750	5635.958	.808
N3. C, I, S (inv.)	-2690.540	64	1.049	5509.081	5856.994	5792.994	5589.804	.807
N4. C, I, S, Q (inv.)	-2679.929	72	1.099	5503.858	5895.261	5823.261	5594.671	.806
N5. N4 + C, I (var.), S (inv.)	-2675.804	88	1.077	5527.609	6005.990	5917.990	5638.603	.816
N6. N4 + C, I, S (var.)	-2656.506	112	1.112	5537.012	6145.861	6033.861	5678.277	.819
Need Satisfaction and Frustration (Time Varying Predictors)								
N7. Baseline: M3	-2690.540	64	1.049	5509.081	5856.994	5792.994	5589.804	.807
N8. Prof. (inv.) & Const. (var.)	-2554.829	72	1.247	5253.659	5645.062	5573.062	5344.472	.805
N9. Prof. (inv.) & Const. (inv.)	-2587.404	68	1.170	5310.808	5680.467	5612.467	5396.576	.808
N10. Prof. (var.) & Const. (var.)	-2524.021	96	1.392	5240.042	5761.912	5665.912	5361.126	.807
Socialization (Time Invariant Predictors)								
S1. C	-2715.844	66	1.013	5563.688	5924.557	5858.557	5649.010	.816
S2. C, I (inv.)	-2690.509	80	1.053	5541.019	5978.435	5898.435	5644.438	.811
S3. C, I, S (inv.)	-2656.250	94	1.035	5500.500	6014.463	5920.463	5622.018	.810
S4. C, I, S, Q (inv.)	-2640.009	108	1.025	5496.019	6086.530	5978.530	5635.635	.806
S5. S4 + C, I (var.) S (inv.)	-2622.254	136	1.167	5516.507	6260.114	6124.114	5692.321	.813
S6. S4 + C, I, S (var.)	-2587.178	178	1.066	5530.356	6503.606	6325.606	5760.464	.825
Socialization (Time Varying Predictors)								
S7. Baseline: S1	-2715.844	66	1.013	5563.688	5924.557	5858.557	5649.010	.816
S8. Prof. (inv.) & Const. (var.)	-2512.447	80	1.259	5184.893	5622.309	5542.309	5288.313	.802
S9. Prof. (inv.) & Const. (inv.)	-2587.333	73	1.145	5320.666	5719.808	5646.808	5415.036	.801
S10. Prof. (var.) & Const. (var.)	-2445.710	122	1.363	5135.420	5802.479	5680.479	5293.135	.809

Note. LL: Loglikelihood*;* #fp: Number of Free Parameters; Scaling = scaling factor; AIC: Akaïke Information Criteria; CAIC: Constant AIC; BIC: Bayesian Information Criteria; ABIC: Sample-Size adjusted BIC; C: Profile membership; I: Intercept factor; S: Slope factor.

Table 2

Results from the Predictive Analyses: Organizational Commitment

	Profile 1 vs Profile 2		Profile 1 vs Profile 3		Profile 1 vs Profile 4		Profile 2 vs Profile 3	
Predictors	Coeff (SE)	OR	Coeff (SE)	OR	Coeff (SE)	OR	Coeff (SE)	OR
Global NSF	.258 (.201)	1.294	.448 (.193)*	1.565	.401 (.234)	1.494	.143 (.159)	.866
Autonomy	.083 (.171)	1.087	.141 (.195)	1.151	.571 (.276)*	1.771	.488 (.218)*	.614
Competence	.336 (.181)	1.399	.233 (.199)	1.262	.553 (.224)*	1.739	.217 (.172)	.805
Relatedness	.280 (.160)	1.323	.360 (.179)*	1.433	.201 (.202)	1.223	-.078 (.174)	1.081
Global Socialization	.366 (.166)*	1.442	.511 (.165)**	1.667	.845 (.201)**	2.327	.145 (.140)	1.157
Task L.	.063 (.218)	1.065	.052 (.249)	1.053	-.159 (.233)	.853	-.011 (.165)	.989
Organization L.	-.002 (.000)	.998	.006 (.000)	1.006	.019 (.204)	1.019	.008 (.000)	1.008
Team L.	.218 (.191)	1.244	.253 (.230)	1.287	-.213 (.224)	.808	.034 (.163)	1.035
Task I.	.143 (.154)	1.154	.078 (.174)	1.081	.059 (.178)	1.061	-.065 (.149)	.937
Organization I.	.064 (.172)	1.066	.127 (.183)	1.135	.388 (.198)*	1.475	.063 (.142)	1.065
Team I.	-.227 (.230)	.797	-.225 (.187)	.799	.336 (.230)	1.400	.002 (.000)	1.002
	Profile 2 vs Profile 4		Profile 3 vs Profile 4		Intercept Factor	Slope Factor	Within Profile	
Predictors	Coeff (SE)	OR	Coeff (SE)	OR	Coeff (s.e)	Coeff (s.e)	Coeff (s.e)	
Global NSF	.190 (.146)	.827	-.047 (.197)	.954	.149 (.065)*	-.028 (.010)**	.218 (.050)**	
Autonomy	.058 (.167)	.943	.430 (.259)	1.537	.058 (.061)	-.006 (.010)	.083 (.039)*	
Competence	-.103 (.157)	1.109	.320 (.209)	1.377	-.097 (.055)	.017 (.008)*	-.024 (.027)	
Relatedness	.080 (.145)	.923	-.158 (.216)	.854	.039 (.066)	-.003 (.010)	.151 (.036)**	
Global Socialization	.479 (.184)**	1.614	.333 (.198)	1.396	Na	Na	.303 (.026)**	
Task L.	-.222 (.181)	.801	-.211 (.229)	.810	Na	Na	.045 (.026)	
Organization L.	.021 (.205)	1.021	.013 (.199)	1.013	Na	Na	.029 (.020)	
Team L.	-.431 (.216)*	.650	-.466 (.244)	.628	Na	Na	.002 (.025)	
Task I.	-.084 (.171)	.919	-.019 (.178)	.981	Na	Na	.023 (.023)	
Organization I.	.324 (.170)	1.383	.261 (.196)	1.299	Na	Na	.070 (.023)**	
Team I.	.563 (.232)*	1.756	.561 (.230)*	1.753	Na	Na	.034 (.024)	

Notes. **: $p < .01$; *: $p < .05$. Coef: Regression coefficient (these are multinomial logistic regression coefficients for the prediction of profile membership, and unstandardized multiple regression coefficients for the prediction of the intercept and slope factors); SE: standard error; OR: Odds ratio; The multinomial logistic regression coefficients and OR reflect the predictor effects on the likelihood of membership in the bottom listed profile relative to the top listed profile; I. = Internalization; L. = Learning; Profile 1: High; Profile 2: Moderately High; Profile 3: Low and Increasing; Profile 4: Average and Decreasing.

Table 3

Results from the Predictive Analyses: Occupational Commitment

	Profile 1 vs Profile 2		Profile 1 vs Profile 3		Profile 1 vs Profile 4		Profile 2 vs Profile 3	
Predictors	Coeff (SE)	OR	Coeff (SE)	OR	Coeff (SE)	OR	Coeff (SE)	OR
Global NSF	.230 (.165)	1.259	.710 (.267)**	2.034	.548 (.194)**	1.730	.480 (.320)	1.616
Autonomy	.615 (.186)**	1.850	.858 (.278)**	2.358	.733 (.240)**	2.081	.243 (.301)	1.275
Competence	.317 (.167)	1.373	.222 (.260)	1.249	.239 (.215)	1.270	-.095 (.242)	.910
Relatedness	.321 (.141)*	1.379	.775 (.332)*	2.171	.662 (.233)**	1.939	.455 (.320)	1.576
Global Socialization	.631 (.157)**	1.879	1.067 (.267)**	2.907	.921 (.209)**	2.513	.436 (.289)	1.547
Task L.	.132 (.181)	1.141	.522 (.277)	1.686	.409 (.221)	1.506	.390 (.282)	1.477
Organization L.	-.263 (.155)	.769	-.256 (.243)	.774	-.257 (.201)	.773	.007 (.000)	1.007
Team L.	-.169 (.163)	.845	-.299 (.290)	.741	.163 (.227)	1.178	-.131 (.271)	.877
Task I.	.100 (.166)	1.105	.556 (.247)*	1.743	.842 (.222)**	2.320	.456 (.253)	1.577
Organization I.	-.154 (.155)	.857	-.174 (.223)	.840	-.311 (.207)	.732	-.020 (.241)	.980
Team I.	-.089 (.166)	.915	.270 (.283)	1.310	-.262 (.194)	.769	.359 (.282)	1.432

	Profile 2 vs Profile 4		Profile 3 vs Profile 4		Intercept Factor	Slope Factor	Within Profile
Predictors	Coeff (SE)	OR	Coeff (SE)	OR	Coeff (s.e)	Coeff (s.e)	Coeff (s.e)
Global NSF	.318 (.173)	1.374	-.162 (.300)	.851	.057 (.047)	-.002 (.007)	.078 (.020)**
Autonomy	.118 (.198)	1.125	-.125 (.306)	.882	-.011 (.036)	.005 (.005)	.044 (.010)**
Competence	-.079 (.167)	.924	.016 (.236)	1.016	.016 (.045)	.008 (.006)	.043 (.015)**
Relatedness	.341 (.201)	1.406	-.114 (.292)	.892	.021 (.048)	.007 (.006)	.054 (.014)**
Global Socialization	.291 (.177)	1.337	-.146 (.320)	.864	Na	Na	.099 (.016)**
Task L.	.278 (.196)	1.320	-.113 (.299)	.893	Na	Na	.031 (.012)*
Organization L.	.005 (.000)	1.005	-.001 (.000)	.999	Na	Na	-.016 (.012)
Team L.	.332 (.205)	1.394	.463 (.337)	1.589	Na	Na	.003 (.009)
Task I.	.742 (.181)**	2.099	.286 (.297)	1.331	Na	Na	.027 (.010)**
Organization I.	-.158 (.183)	.854	-.138 (.269)	.872	Na	Na	.009 (.017)
Team I.	-.173 (.169)	.841	-.532 (.286)	.587	Na	Na	.002 (.013)

Notes. **: $p < .01$; *: $p < .05$. Coef: Regression coefficient (these are multinomial logistic regression coefficients for the prediction of profile membership, and unstandardized multiple regression coefficients for the prediction of the intercept and slope factors); SE: standard error; OR: Odds ratio; The multinomial logistic regression coefficients and OR reflect the predictor effects on the likelihood of membership in the bottom listed profile relative to the top listed profile; I. = Internalization; L. = Learning; Profile 1: High; Profile 2: Average; Profile 3: Low and Increasing; Profile 4: Low and Decreasing.

Appendix A

Data Transparency

The dataset used in this study was initially collected as part of a study specifically focused on motivation and was utilized in three previous publications. Study 1 is a cross-sectional variable-centered study looking at the role of motivation as a mediator of the associations between need satisfaction and psychological functioning. Study 2 is a person-centered study focusing on the stability on multidimensional motivational profiles across two time points. Study 3 is a person-centered study focusing on longitudinal trajectories of a global indicator of motivation using all four time points. In contrast, the current study focused on trajectories of affective organisational and occupational commitment across all time points but, rather than estimating these trajectories as a function of the time of measurement (thus essentially ignoring the effects of tenure), we estimated them as a function of nurses' tenure, which allowed us to directly represent their onboarding (at career start) trajectories. We also note that, although some variables are used in more than one study, very often the way these variables are operationalized differ from one study to the other.

	Study 1	Study 2	Study 3	This Study
Global Motivation				
Time 1	Mediator	Main variable	Main variable	
Time 2			Main variable	
Time 3			Main variable	
Time 4		Main variable	Main variable	
Specific motives				
Time 1	Mediator	Main variable		
Time 2				
Time 3				
Time 4		Main variable		
Need Satisfaction				[satisfaction and frustration]
Time 1	Main variable			Predictor
Time 2				Predictor
Time 3				Predictor
Time 4				Predictor
Need Frustration				[satisfaction and frustration]
Time 1				Predictor
Time 2				Predictor
Time 3				Predictor
Time 4				Predictor
Socialization			*[3 global dimensions]*	*[more complete: 7 components]*
Time 1			Predictor	Predictor
Time 2			Predictor	Predictor
Time 3			Predictor	Predictor
Time 4			Predictor	Predictor
Emotional Exhaustion				
Time 1	Outcome	Outcome		
Time 2				
Time 3				
Time 4		Outcome		
Work Satisfaction				
Time 1	Outcome			Outcome
Time 2				Outcome
Time 3				Outcome
Time 4				Outcome
Turnover intentions				
Time 1	Outcome	Outcome	Outcome	
Time 2			Outcome	
Time 3			Outcome	
Time 4		Outcome	Outcome	
Job Demands				
Time 1		Predictor		
Time 2				
Time 3				
Time 4		Predictor		

	Study 1	Study 2	Study 3	This Study
Job Resources				
Time 1		Predictor		
Time 2				
Time 3				
Time 4		Predictor		
In role performance				
Time 1		Outcome		
Time 2				
Time 3				
Time 4		Outcome		
Transform. Leader.				
Time 1			Predictor	
Time 2			Predictor	
Time 3			Predictor	
Time 4			Predictor	
Abusive Leadership				
Time 1			Predictor	
Time 2			Predictor	
Time 3			Predictor	
Time 4			Predictor	
Affective commit. (org.)				
Time 1			Outcome	Main variable
Time 2			Outcome	Main variable
Time 3			Outcome	Main variable
Time 4			Outcome	Main variable
Continuance commit. (org)				
Time 1			Outcome	
Time 2			Outcome	
Time 3			Outcome	
Time 4			Outcome	
Affective commit. (occ.)				
Time 1			Outcome	Main variable
Time 2			Outcome	Main variable
Time 3			Outcome	Main variable
Time 4			Outcome	Main variable
Continuance commit. (occ)				
Time 1			Outcome	
Time 2			Outcome	
Time 3			Outcome	
Time 4			Outcome	
Somatization				
Time 1				Outcome
Time 2				Outcome
Time 3				Outcome
Time 4				Outcome
Psychological distress				
Time 1				Outcome
Time 2				Outcome
Time 3				Outcome
Time 4				Outcome
Quality of Care				
Time 1				Outcome
Time 2				Outcome
Time 3				Outcome
Time 4				Outcome
Tenure			Control (not retained in model)	Main trajectory indicator

Appendix B
Summary of Hypotheses and Results

	Hypotheses	Results	Support
	Hypotheses about the shape of trait-like commitment trajectories		
H1	Individual trajectories of affective commitment to the organization should match one of the following five profiles: *Low*, *Moderate*, *High*, *Increasing*, and *Decreasing*.	Four organizational commitment profiles followed *High*, *Moderately High*, *Low and Increasing*, and *Average and Decreasing* trajectories.	Full support
H2	Individual trajectories of affective commitment to the occupation should match one of the following five profiles: *Low*, *Moderate*, *High*, *Increasing*, and *Decreasing.*	Four occupational commitment profiles followed *High*, *Average*, *Low and Increasing*, and *Low and Decreasing* trajectories.	Full support
H3	Organizational commitment levels will differ more within and less across profiles than occupational commitment levels.	Initial levels of organizational commitment presented almost twice as much within-profile variability as initial levels of occupational commitment. As expected, they also displayed less variability across profiles.	Full support
H4	Most nurses will belong to matching profiles of organizational and occupational commitment trajectories (especially for the profiles with the highest and lowest trajectories), while a minority of nurses will belong to profiles characterized by distinct organizational and occupational commitment trajectories.	Trait-like organizational and occupational commitment levels evolved in a similar manner for most nurses. This was especially true for those with low or high levels of commitment, while average levels of commitment to one target were less frequently linked to matching levels on the other target.	Full support
	Hypothesis pertaining to state-like deviations from trait-like trajectories of commitment		
H5	Profiles with higher trait-like levels of affective commitment to the organization or occupation will be characterized by smaller state-like deviations (i.e., smaller time-specific residuals) around their trait-like trajectory, and vice versa	Profiles with by higher trait-like levels were accompanied by smaller state-like deviations. Increases in occupational commitment were more stable than increases in organizational commitment.	Full support
	Predictors effects on trait-like commitment trajectories		
H6a	Higher global levels of need fulfilment will be associated with membership into profiles characterized by higher, and increasing, levels of affective commitment to the organization and occupation	Global need fulfilment increased membership into the *High* profile relative to the *Low and Increasing* organizational and occupational commitment profiles, and to the *Low and Decreasing* occupational commitment profile. Effects were stronger for the occupation than the organization.	Partial support
H6b	Higher global levels of need fulfilment will be associated with within-profile trajectories characterized by higher levels of affective commitment to the organization and occupation, and with more pronounced increases in these levels	Global need fulfillment was associated with higher initial levels of organizational commitment and with a slight decrease over time in these levels. No within-profile associations found for occupational commitment.	Partial support
H7a	The extent to which each specific need is fulfilled beyond global levels of need fulfilment will be associated with differentiated positive effects on profile membership	Autonomy and relatedness increased membership into the *High* occupational commitment profile relative to all others. Autonomy and competence increased membership into the *High* organizational commitment profile relative to the *Average and Decreasing* profile. Autonomy increased membership into the *Moderately High* versus the *Low and Increasing* organizational commitment profile. Relatedness increased membership into the *High* organizational commitment profile relative to the *Low and Increasing* one.	Full support
H7b	The extent to which each specific need is fulfilled beyond employee's global levels of need fulfilment will be associated with differentiated positive effects on within-profile trajectories.	Competence was associated with a slight increase in organizational commitment.	Partial support
H8a	Higher global levels of socialization will be associated with membership into profiles characterized by higher, and increasing, levels of affective commitment to the organization and occupation.	Global socialization increased membership into the *High* relative to all other occupational and organizational commitment profiles (stronger for occupational commitment). These levels increased membership into the *Moderately High* relative to the *Average and Decreasing* organizational commitment profile.	Partial support
H8b	Higher global levels of socialization will be associated with within-profile trajectories characterized by higher levels of affective commitment to the organization and occupation, and with more pronounced increases in these levels.	No within-profile effect of global socialization was found.	No support
H9a	Levels of learning/internalization specific to the organization will be associated with larger positive effects on profile membership and within-profile trajectories	Organizational internalization increased membership to the *High* organizational commitment profile relative to the *Average and Decreasing* profile but had no	Partial support

	Hypotheses	Results	Support
	for organizational commitment.	effect on occupational commitment profiles and on within-profile trajectories. Organizational leaning had no effect.	
H9b	Levels of learning/internalization specific to the tasks will be associated with larger positive effects on profile membership and within-profile trajectories for occupational commitment	Task internalization increased membership into the *High* relative to *Low and Increasing* and *Low and Decreasing* occupational commitment profiles, as well as into the *Moderate* relative to *Low and Decreasing* occupational profiles. Task internalization had no effect in relation to organizational commitment profiles and trajectories. Task learning had no effect.	Full support
H10	Levels of internalization specific to the tasks, organization, and social relationships will be associated with larger effects on profile membership and within-profile trajectories.	Beyond effects reported for H8a, H8b, team learning decreased membership in the *High* organizational profile relative to the *Moderately High* profile, whereas team internalization had the opposite effect. Team internalization increased membership into the *High* organizational profile relative to the *Low and Increasing* profile. In total, there were 6 effects of internalization on profiles, 1 (unexpected) effect of learning on profiles, and no within-profile effect of learning or internalization.	Partial support
	Predictors effects on state-like deviations from trait-like trajectories		
H6c	Higher global levels of need fulfilment will be associated with more positive time-specific (state-like) increases in levels of affective commitment to the organization and occupation	Global need fulfillment was related to time-specific increases in organizational and occupational commitment (stronger for organizational commitment).	Full support
H7c	The extent to which each specific need is fulfilled beyond global levels of need fulfilment (i.e., imbalance) will be associated with differentiated positive effects on time-specific deviations	Autonomy and relatedness were related to time-specific increases in organizational and occupational commitment (stronger for organizational commitment). Competence was related to time-specific increases in occupational commitment.	Full support
H8c	Higher global levels of socialization will be associated more positive time-specific (state-like) increases in levels of affective commitment to the organization and occupation	Global socialization was related to time-specific increases in organizational and occupational commitment (stronger for organizational commitment).	Full support
H9a	Levels of learning/internalization specific to the organization will be associated with larger positive effects on state-like deviations for organizational commitment	Organization internalization was related to time-specific increases in organizational commitment. Organization learning had no effect.	Partial support
H9b	Levels of learning/internalization specific to the tasks will be associated with larger positive effects on state-like deviations for occupational commitment	Task learning and internalization were related to time-specific increases in occupational commitment.	Full support
H10	Levels of internalization specific to the tasks, organization, and social relationships will be associated with larger effects on state-like deviations relative to specific levels of learning.	No effect beyond those reported for H8a and H8b. In total, there were two effects of internalization for one effect of learning.	Partial support
	Outcomes		
H11	Profiles characterized by higher initial levels of affective commitment to the organization or occupation will be accompanied by higher initial levels of work satisfaction and quality of care, and by lower initial levels of psychological distress and somatization.	The highest work satisfaction and quality of care and the lowest somatization and psychological distress were observed in the *High* organizational and occupational commitment profiles. The lowest levels were observed in the *Low and Decreasing* occupational profile and the *Average and Decreasing* organizational profile.	Full Support
H12	Profiles presenting increasing levels of affective commitment to the organization or occupation will be accompanied by steeper increases in levels of work satisfaction and quality of care, and by steeper decreases in levels of psychological distress and somatization relative to profiles with more static trajectories.	The greatest increase in work satisfaction was in *High* and *Low and Increasing* profiles followed by the *Moderately High* profile. All profiles displayed a decrease in psychological distress (most pronounced in the *Low and Increasing* profiles). The largest decrease in somatization was in the *Low and Increasing* organizational profile, followed by the *High* and *Moderately High* profiles. Somatization decreased at the same rate for all occupational profiles. All profiles displayed increasing trajectory of quality of care (smallest increase in the *High* profiles).	Partial support

Online Supplements for:

Nurses' Early Career Organizational and Occupational Commitment Trajectories: A Dual Target Growth Mixture Investigation

Preliminary Measurement Models

Preliminary measurement models were estimated using the Mplus 8.7 (Muthén & Muthén, 2021) statistical package to ascertain the psychometric properties and longitudinal measurement invariance (i.e., equivalence) of all measures. These models were estimated using the maximum likelihood robust estimator (MLR) and full information maximum likelihood (FIML) procedures to handle missing data. Due to the complexity of the current longitudinal analyses, separate longitudinal measurement models were estimated for (i) affective commitment to the organization and occupation; (ii) basic need fulfilment; (iii) Socialization; (iv) work satisfaction; (v) quality of care; (vi) psychological distress; (vii) somatization. In all measurement models, *a priori* correlated uniquenesses were included between matching indicators across time points to avoid converging on inflated stability estimates (e.g., Marsh, 2007).

Participants' ratings of affective organizational commitment and affective occupational commitment were represented via two confirmatory factor analytic (CFA) factors at each separate time point, resulting in an eight-factor longitudinal CFA model (i.e., one factor for organizational commitment and one factor for occupational commitment at each of four time points). An *a priori* orthogonal method factor was included to this model to account for the methodological artifact created by the negative wording of three items from both subscales (e.g., Zhang et al., 2016).

Participants' ratings of basic need fulfilment and socialization were both represented via the estimation of separate longitudinal bifactor exploratory structural equation models (B-ESEM; Morin et al., 2016). These models were estimated using a confirmatory bifactor orthogonal rotation procedure (target rotation), allowing us to rely on an *a priori* specification of the main indicators of each factor, while also allowing for the free estimation of cross-loadings, which were targeted to be as close to 0 (Morin et al., 2020). For need fulfilment, the superiority of a B-ESEM representation of need satisfaction (e.g., Garn et al., 2019; Gillet et al., 2020) and need fulfilment more generally (i.e. need satisfaction and frustration; Tóth-Király et al., 2018a, 2018b) is well documented. Following previous recommendations (Tóth-Király et al., 2018, 2019), need fulfillment ratings were represented, at each of four time points, by one global factor (global need fulfilment) defined by all items, and three orthogonal specific factors (autonomy fulfilment, competence fulfilment, relatedness fulfilment, reflecting the variance shared among the items forming these subscales beyond that explained by the global factor). For socialization, the high correlations previously reported by Fernet et al. (2020) between the three global dimensions assessed in this measure (task, organizational, and team socialization) suggested the presence of a global socialization construct. Given the generally acknowledged superiority of bifactor models relative to higher-order models (which rely on a strict proportionality constraint and create a redundancy when first and second order factors scores are jointly used in analyses, Gignac, 2016; Morin et al., 2016), socialization ratings were also modeled using a B-ESEM representation. More precisely, at each time point, we estimated one global factor (global socialization) defined by all items, and six orthogonal specific factors (task learning, team learning, organization learning, task internalization, team internalization, organization internalization reflecting the variance shared among the items forming these subscales beyond that explained by the global factor). This model also incorporated 3 pairs of *a priori* correlated uniquenesses between items presenting parallel wording (e.g., Marsh et al., 2010, 2013).

Participants' ratings on the outcomes were estimated via four separate longitudinal CFA models (work satisfaction, quality of care, psychological distress, somatization). Once the measurement invariance of these solutions was ascertained (up to strict invariance following the sequence detailed above) these four CFA models were converted to latent curve models (Bollen & Curan, 2006), specified as fully latent from the model of strict invariance, to estimate the longitudinal trajectories of the outcomes defined as a function of tenure (Grimm et al., 2016). For these models, we contrasted models involving linear and quadratic trajectories.

For all measurement models, longitudinal tests of invariance were conducted to assess the measurement invariance of the latent factors across the four time points (Millsap, 2011). These tests were conducted in the following sequence: (i) configural invariance (same model, with no additional constraint), (ii) weak invariance (same factor loadings), (iii) strong invariance (same factor loadings and items intercepts), (iv) strict invariance (same factor loadings, items intercepts, and items uniquenesses), (v) invariance of the latent variances and covariances, and (vi) latent mean invariance.

Given the well-documented sample size dependency and oversensitivity to minor misspecifications of the chi -square test of exact fit (χ^2), we relied on the sample-size independent goodness-of-fit indices to assess model fit (Hu & Bentler, 1999; Marsh et al., 2005): Values greater than .90 and .95 on the comparative fit index (CFI) and the Tucker-Lewis index (TLI), as well as values smaller than .08 and .06 on the root mean square error of approximation (RMSEA) respectively support adequate and excellent model fit. For tests of measurement invariance, common guidelines (Chen, 2007; Cheung & Rensvold, 2002) suggest that the invariance hypothesis can be considered to be supported when a model does not result in a CFI or TLI decrease greater than .01, or in a RMSEA increase than .015 relative to the previous model. These traditional goodness-of-fit indices were not available, however, for the outcomes latent curve models given the estimation of trajectories defined on the basis of tenure, rather than measurement point. Comparisons of linear and quadratic models thus relies on the same information criteria used in the main manuscript (AIC, CAIC, BIC, and ABIC). We considered lower values on at least two of these criteria sufficient to support the most parsimonious model (linear), but lower values on three of these criteria necessary to support the least parsimonious (quadratic model).

Goodness-of-fit results for all preliminary measurement models are reported in Table S1. These results confirm the full longitudinal invariance of all constructs, as none of the models resulted in a decrease in model fit exceeding the recommended guidelines relative to the previous models. In addition, with two exceptions, all models resulted in an acceptable level of fit to the data. In addition, although the TLI was under .900 for both predictor models for the initial model of configural invariance, the fact that both the CFI and RMSEA were adequate suggested that the lower TLI value may be due to a lack of parsimony in the configural model. Indeed, as soon as constraints were imposed on the factor loadings (i.e., weak invariance) the TLI for these two models increased to an acceptable level of fit, which was maintained in the subsequent models. On this basis, the model of latent mean invariance was retained to save the factor scores for the predictors (basic need fulfilment and socialization) and profile indicators (organizational and occupational commitment). For these constructs, the fact that the model of latent mean invariance was supported simply indicates that average levels observed on these constructs in the current sample did not change over time. Moreover, the reliance on this model to generate the factor scores allowed us to interpret scores on these variables in standardized units (M = 0; SD = 1; Guay et al., 2021; Meyer & Morin, 2016). For the outcomes, the model of strict invariance was used to generate the latent curve models from which the factor scores were extracted, to be able to account for the possible change in these trajectories over time. These models were estimated while retaining the natural measurement units of the outcomes.

The parameter estimates, composite reliability coefficients (ω: McDonald, 1970), and alpha coefficient of scale score reliability from the final (most invariant) measurement models estimated for organizational commitment, occupational commitment, and the outcomes are reported in Tables S2, while those for the predictors are reported in Tables S3. Overall, all factors were correctly defined as shown by acceptable factor loadings and strong composite reliability coefficients (Morin et al., 2020): (a) organizational commitment ($M_{|\lambda|}$ = .690; ω = .864); (b) occupational commitment ($M_{|\lambda|}$ = .713; ω = .888); (c) work satisfaction ($M_{|\lambda|}$ = .782; ω = .889); (d) quality of care ($M_{|\lambda|}$ = .730; ω = .821); (e) psychological distress ($M_{|\lambda|}$ = .735; ω = .879); (f) somatization ($M_{|\lambda|}$ = .579; ω = .803); (g) global need fulfilment ($M_{|\lambda|}$ = .511; ω = .915); (h) autonomy fulfilment ($M_{|\lambda|}$ = .452; ω = .719); (i) competence fulfilment ($M_{|\lambda|}$ = .484; ω = .696); (i) relatedness fulfilment ($M_{|\lambda|}$ = .310; ω = .557); (j) global socialization ($M_{|\lambda|}$ = .652; ω = .972); (k) task learning ($M_{|\lambda|}$ = .462; ω = .663); (l) organizational learning ($M_{|\lambda|}$ = .540; ω = .796); (m) team learning ($M_{|\lambda|}$ = .281; ω = .555); (n) task internalization ($M_{|\lambda|}$ = .507; ω = .818); organizational internalization ($M_{|\lambda|}$ = .479; ω = .746); (o) team internalization ($M_{|\lambda|}$ = .528; ω = .836).

Lastly, model fit associated with the alternative latent curve models used to estimate the outcomes trajectories are reported in Table S4. With one exception (i.e., psychological distress), these results supported the linear model, which was associated with lower values than the quadratic model on at least two of the information criteria. Although this was not the case for psychological distress, parameter estimates from this model (as well as from all other quadratic models) were inconsistent with the presence of quadratic trajectories (non-significant means and variances on the quadratic slope factor), leading us to retain the linear models for all outcomes. Parameter estimates from these linear solutions are reported in Table S5. These results reveal, on average, a small increase in quality of care and small decrease in somatization, over the first five years in the nursing occupation. In contrast, work satisfaction and psychological distress remained mostly stable over that same period of time. The factor

correlations and scale means and variances for all variables included in the present study are respectively reported in Table S6 and S7.

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Table S1

Goodness-of-Fit Information for the Measurement Models

Model	df	χ^2	CFI	TLI	RMSEA	RMSEA 90% CI	$\Delta\chi^2$ (df)
Organizational and Occupational Affective Commitment							
1. Configural	926	1333.242**	.965	.957	.025	.022;.028	
2. Weak	971	1370.134**	.966	.960	.024	.021;.027	44.568 (45)
3. Strong	998	1405.503**	.965	.960	.024	.021;.027	35.162 (27)
4. Strict	1034	1446.811**	.965	.961	.024	.021;.027	46.363 (36)
5. Latent VC	1046	1462.043**	.964	.961	.024	.021;.027	15.428 (12)
6. Latent means	1055	1483.382**	.963	.961	.024	.021;.027	22.019 (9)**
Basic Need Fulfilment							
1. Configural	2379	3805.624**	.905	.886	.031	.029;.033	
2. Weak	2559	3902.735**	.910	.900	.029	.027;.031	135.978 (180)
3. Strong	2604	3960.797**	.909	.901	.029	.027;.031	56.981 (45)
4. Strict	2661	4024.482**	.909	.902	.029	.027;.030	75.389 (57)
5. Latent VC	2691	4037.520**	.910	.905	.028	.027;.030	18.875 (30)
6. Latent means	2703	4072.186**	.908	.903	.028	.027;.030	37.003 (12)**
Socialization							
1. Configural	3522	6125.623**	.918	.893	.034	.032;.035	
2. Weak	3879	6104.923**	.930	.917	.030	.028;.031	283.187 (357)
3. Strong	3930	6172.268**	.929	.918	.030	.028;.031	66.568 (51)
4. Strict	4002	6236.620**	.929	.919	.029	.028;.031	88.803 (72)
4a. Strict Cus	4011	6246.493**	.929	.920	.029	.028;.031	11.075 (9)
5. Latent VC	4095	6316.251**	.930	.922	.029	.028;.030	89.728 (84)
6. Latent means	4116	6376.740**	.928	.921	.029	.028;.031	63.262 (21)**
Work Satisfaction							
1. Configural	134	279.606**	.964	.949	.042	.035;.049	
2. Weak	146	297.848**	.962	.951	.041	.035;.048	18.657 (12)
3. Strong	158	316.499**	.961	.953	.041	.034;.047	18.180 (12)
4. Strict	173	327.090**	.962	.958	.038	.032;.045	15.965 (15)
5. Latent VC	176	328.118**	.962	.959	.038	.031;.044	0.772 (3)
6. Latent means	179	334.009**	.961	.959	.038	.032;.044	5.919 (3)
Quality of Care							
1. Configural	74	158.519**	.960	.935	.043	.034;.053	
2. Weak	83	174.173**	.957	.938	.042	.034;.051	15.660 (9)
3. Strong	92	184.488**	.956	.943	.041	.032;.049	9.014 (9)
4. Strict	104	199.376**	.955	.948	.039	.031;.047	17.176 (12)
5. Latent VC	107	210.287**	.951	.945	.040	.032;.048	13.247 (3)
6. Latent means	110	232.238**	.942	.937	.043	.035;.050	24.844 (3)
Psychological Distress							
1. Configural	210	437.781**	.947	.931	.042	.037;.048	
2. Weak	225	463.590**	.945	.932	.042	.036;.047	26.839 (15)*
3. Strong	240	488.949**	.942	.934	.041	.036;.047	23.888 (15)
4. Strict	258	507.605**	.942	.938	.040	.035;.045	22.910 (18)
5. Latent VC	261	507.313**	.943	.940	.039	.034;.044	2.493 (3)
6. Latent means	264	509.216**	.943	.941	.039	.034;.044	.949 (3)
Somatization							
1. Configural	410	661.222**	.945	.933	.032	.027;.036	
2. Weak	431	680.231**	.945	.937	.031	.026;.035	20.555 (21)
3. Strong	452	715.417**	.942	.936	.031	.027;.035	35.474 (21)*
4. Strict	476	746.249**	.940	.938	.031	.026;.035	30.936 (24)
5. Latent VC	479	746.348**	.941	.939	.030	.026;.034	1.180 (3)
6. Latent means	482	757.647**	.939	.937	.031	.026;.035	11.561 (3)**

Note. * p < .05; ** < .01; df: degrees of freedom; χ^2 = chi-square; CFI: comparative fit index; TLI: Tucker-Lewis index; RMSEA: root mean square approximation; C.I.: 90% confidence intervals for the RMSEA, $\Delta\chi^2$: Chi-square difference test.

Table S2

Longitudinally Invariant Standardized Parameter Estimate and Reliability Coefficients for Affective Organizational Commitment, Affective Occupational Commitment, Work Satisfaction, Quality of Care, Psychological Distress, and Somatization Measurement Models.

	Organizational Commitment		Occupational Commitment		Work Satisfaction		Quality of care		Psychological Distress		Somatization	
	λ	δ	λ	δ	λ	δ	λ	δ	λ	δ	λ	δ
Item 1	.878	.228	-.658	.296	.778	.394	0.679	0.539	0.602	0.638	0.446	0.801
Item 2	-.721	.429	-.648	.344	.672	.548	0.830	0.312	0.834	0.304	0.557	0.69
Item 3	-.620	.573	.847	.282	.858	.263	0.718	0.485	0.564	0.682	0.543	0.705
Item 4	.875	.234	.777	.396	.832	.307	0.693	0.519	0.810	0.343	0.499	0.751
Item 5	.862	.257	-.580	.575	.772	.404			0.840	0.294	0.64	0.59
Item 6	.181	.967	.768	.410					0.758	0.426	0.731	0.465
Item 7											0.628	0.606
Item 8											0.591	0.651
ω	.864		.888		.889		.821		.879		.803	
α t1	.795		.868		.891		.839		.861		.795	
α t2	.779		.872		.882		.783		.864		.798	
α t3	.807		.893		.880		.825		.886		.817	
α t4	.775		.872		.869		.813		.884		.807	

Note. λ: factor loading; δ: item uniqueness; ω: omega coefficient of model-based composite reliability; α: alpha coefficient of scale score reliability; t1: time 1; t2: time 2; t3: time 3; t4: time 4.

Table S3

Longitudinally Invariant Standardized Parameter Estimates and Reliability Coefficients for the Basic Need Fulfilment and Socialization Models.

	Global fulfilment	S-Autonomy	S-Competence	S-Relatedness		Global Socialization	S-Task (L)	S-Org (L)	S-Team (L)	S-Task (I)	S-Org (I)	S-Team (I)	
	λ	λ	λ	λ	δ	λ	λ	λ	λ	λ	λ	λ	δ
Item 1	**.626**	**.148**	.134	.346	.449	**.565**	**.375**	.046	.099	.184	-.079	-.026	.488
Item 2	**.419**	**.360**	.112	.200	.642	**.565**	**.660**	.049	-.047	.169	-.122	-.001	.197
Item 3	**.474**	**.507**	.122	.103	.492	**.492**	**.547**	.020	-.009	.168	-.155	.036	.405
Item 4	**.223**	**-.510**	-.031	.172	.597	**.485**	**.265**	.060	.015	.155	-.139	-.043	.646
Item 5	**.363**	**-.623**	.016	.203	.300	**.529**	.041	**.691**	-.045	.040	.035	-.055	.411
Item 6	**.251**	**-.563**	.014	.153	.390	**.585**	.034	**.731**	-.006	.007	.050	-.058	.437
Item 7	**.258**	.206	**.484**	.277	.433	**.722**	-.043	**.421**	-.011	-.021	.132	-.154	.183
Item 8	**.680**	.159	**.660**	.327	.304	**.674**	-.004	**.318**	.145	-.039	.092	-.107	.168
Item 9	**.595**	.168	**.650**	.310	.441	**.827**	-.040	.012	**.164**	-.072	.135	.003	.233
Item 10	**.304**	.176	**.618**	.297	.760	**.785**	.005	-.042	**.265**	-.049	-.110	.154	.116
Item 11	**-.543**	.064	**-.369**	.212	.415	**.702**	.018	.045	**.435**	-.058	-.037	.077	.258
Item 12	**-.542**	.056	**-.370**	.241	.276	**.665**	.053	-.056	**.258**	-.003	-.071	.269	.402
Item 13	**-.458**	-.022	**-.240**	.238	.450	**.645**	.180	-.032	.025	**.370**	-.036	.022	.273
Item 14	**-.716**	.024	-.025	**.482**	.302	**.549**	.234	.068	.042	**.439**	.022	.083	.178
Item 15	**-.629**	.054	-.040	**.449**	.406	**.657**	.076	-.004	-.110	**.604**	-.038	.034	.196
Item 16	**-.687**	.003	.064	**.379**	.413	**.669**	.050	.008	-.065	**.613**	-.036	.036	.264
Item 17	**-.660**	.053	.032	**-.209**	.517	**.739**	-.075	.090	-.086	-.052	**.379**	-.113	.264
Item 18	**-.637**	.009	-.003	**-.182**	.562	**.585**	.007	.098	.111	.049	**.667**	.107	.273
Item 19	**-.638**	.104	.029	**-.160**	.556	**.778**	-.065	.054	-.134	-.023	**.401**	-.113	.304
Item 20						**.703**	-.095	-.025	-.088	-.079	**.467**	.007	.408
Item 21						**.744**	-.028	-.134	.008	-.036	-.121	**.491**	.170
Item 22						**.583**	.069	-.060	.141	.076	.140	**.594**	.254
Item 23						**.757**	-.019	-.107	-.005	.001	-.114	**.536**	.116
Item 24						**.640**	-.070	-.074	.019	.024	.019	**.491**	.338
ω	.915	.719	.696	.557		.972	.663	.796	.555	.818	.746	.836	
α t1	.888	.825	.794	.791		.950	.797	.886	.888	.899	.877	.909	
α t2	.899	.840	.815	.793		.951	.801	.887	.904	.897	.874	.913	
α t3	.907	.847	.849	.783		.953	.810	.898	.921	.919	.869	.924	
α t4	.905	.853	.820	.811		.952	.824	.894	.901	.922	.888	.937	

Note. λ: factor loading; δ: item uniqueness; G-: global factor; S-: specific factor; (L): learning; (I): internalization. M|λ|: average loading; ω: omega coefficient of model-based composite reliability; α: alpha coefficient of scale score reliability; t1: time 1; t2: time 2; t3: time 3; t4: time 4.

Table S4

Goodness-of-Fit Information for the Latent Curve Models (LCM) Estimated for the Outomes

Model	*LL*	*#fp*	Scaling	AIC	CAIC	BIC	ABIC
			Work Satisfaction				
Linear LCM	10603.915	52	1.3074	21311.831	21592.816	21540.816	21375.730
Quadratic LCM	-10594.570	56	1.2897	21301.140	21603.740	21547.740	21369.954
			Quality of Care				
Linear LCM	-4317.668	43	1.3736	8721.337	8954.186	8911.186	8774.670
Quadratic LCM	-4309.094	47	1.3405	8712.188	8966.698	8919.698	8770.483
			Psychological Distress				
Linear LCM	-10259.196	61	1.5599	20640.393	20970.414	20909.414	20715.753
Quadratic LCM	-10245.097	65	1.5606	20620.193	20971.855	20906.855	20700.494
			Somatization				
Linear LCM	-18585.200	79	1.4935	37328.401	37755.544	37676.544	37425.738
Quadratic LCM	-18579.902	83	1.5047	37325.804	37774.575	37691.575	37428.070

Note. Loglikelihood*;* #fp: Number of Free Parameters; Scaling = scaling factor; AIC: Akaïke Information Criteria; CAIC: Constant AIC; BIC: Bayesian Information Criteria; ABIC: Sample-Size adjusted BIC.

Table S5

Parameter Estimates for the Final Latent Curve Models for the Outcomes

Parameter	Work Satisfaction Estimate (*t*)	Quality of Care Estimate (*t*)	Psychological Distress Estimate (*t*)	Somatization Estimate (*t*)
Intercept mean	4.980 (61.678)**	3.107 (74.809)**	1.921 (31.535)**	2.671 (31.253)**
Slope mean	.033 (1.214)	.050 (3.604)**	-.027 (-1.302)	-.092 (-3.437)**
Intercept variability (SD = √σ)	.713 (3.714)**	.237 (3.752)**	.606 (3.818)**	1.049 (4.362)**
Slope variability (SD = √σ)	.026 (.908)	.008 (.971)	.009 (.406)	.033 (.960)
Intercept-slope correlation	-.046 (-.673)	-.024 (-1.195)	-.044 (-.808)	-.073 (-.890)
SD(εyi)_T1	.767 (6.639)**	.370 (6.813)**	.465 (4.393)**	.536 (4.061)**
SD(εyi)_T2	.635 (6.487)**	.286 (4.865)**	.500 (4.616)**	.531 (4.598)**
SD(εyi)_T3	.560 (5.286)**	.342 (6.039)**	.615 (5.062)**	.501 (4.024)**
SD(εyi)_T4	.677 (4.758)**	.383 (4.502)**	.588 (3.422)**	.547 (2.116)*

Note. t = Estimate / standard error of the estimate (t values are computed from the original variance estimate and not from the square root); SD(εyi) = Standard deviation of the time-specific residual; The square root of the estimate of variability (trajectory factor, time-specific residual) is presented so that the results can be interpreted in the same unit as the construct used in the model (here, factor scores are interpreted in natural units); * $p \leq .05$; ** $p \leq .01$.

Table S6

Correlations for the Variables used in this Study

	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. OrgC_1 (fs)																								
2. OccC_1 (fs)	.378**																							
3. GS_1 (fs)	.525**	.380**																						
4.TASKL_1 (fs)	-.011	.112**	.020																					
5. ORGL_1 (fs)	.030	-.031	.016	.056																				
6. TEAML_1 (fs)	-.014	-.071	.061	-.007	-.028																			
7. TASKI_1 (fs)	.052	.286**	.034	.072	.012	-.106**																		
8. ORGI_1 (fs)	.143**	-.028	.038	-.059	-.060	.019	.000																	
9. TEAMI_1 (fs)	.097*	.019	.070	-.006	-.098*	.029	-.139**	.001																
10. GNF_1 (fs)	.426**	.334**	.363**	.139**	.003	.032	.137**	.006	.144**															
11. AF_1 (fs)	.202**	.206**	.274**	.065	.002	-.119**	.059	-.016	-.075	.062														
12. CF_1 (fs)	.030	.117**	.203**	.312**	.082*	-.010	.239**	.043	-.083*	.062	.000													
13. RF_1 (fs)	.179**	.221**	.240**	.120**	-.031	.029	.089*	-.048	.096*	-.007	-.038	.050												
14. OrgC_2 (fs)	.748**	.322**	.431**	.030	-.005	-.013	.046	.153**	.115**	.314**	.194**	.102*	.200**											
15. OccC_2 (fs)	.374**	.872**	.349**	.130**	-.061	-.037	.242**	-.010	.053	.300**	.201**	.104**	.237**	.406**										
16. GS_2 (fs)	.409**	.359**	.743**	.117**	-.020	.011	.016	.043	.018	.301**	.279**	.219**	.219**	.535**	.408**									
17. TASKL_2 (fs)	-.012	.087*	.011	.449**	.108**	.098*	.103**	-.113**	-.032	.069	-.005	.182**	.155**	-.030	.094*	.031								
18. ORGL_2 (fs)	.034	-.074	.005	-.025	.488**	.207**	.040	.059	-.037	.022	-.055	.045	-.017	.082*	-.060	.093*	.017							
19. TEAML_2 (fs)	-.016	-.067	-.055	.113**	-.099*	.125**	-.009	.114**	.188**	.008	-.037	.054	-.021	.037	-.062	-.003	-.019	-.017						
20. TASKI_2 (fs)	.017	.153**	.056	.055	-.275**	-.017	.533**	.088*	-.042	.065	.057	.156**	.120**	.020	.190**	.045	.092*	-.076	-.085*					
21. ORGI_2 (fs)	.150**	.001	-.053	-.009	.081*	.048	.060	.727**	.200**	.031	-.031	.024	-.062	.205**	.037	-.015	-.070	.043	.028	.022				
22. TEAMI_2 (fs)	-.046	.075	-.064	.221**	-.135**	.102**	.137**	.184**	.423**	.088*	-.054	.047	.119**	.006	.090*	.046	-.006	-.102**	.126**	.044	.015			
23. GNF_2 (fs)	.353**	.328**	.331**	.140**	-.017	-.009	.160**	.031	.084*	.773**	.096*	.074	.169**	.410**	.354**	.371**	.083*	.003	.010	.115**	.015	.150**		
24. AF_2 (fs)	.076	.126**	.190**	.032	-.067	-.050	.085*	-.012	-.100*	-.016	.597**	.012	.048	.141**	.176**	.260**	.128**	-.048	-.013	.063	-.080*	.016	.085*	
25. CF_2 (fs)	.023	.096*	.177**	.255**	.018	.049	.157**	.028	-.034	.171**	.053	.644**	.019	.064	.093*	.214**	.283**	.043	-.025	.230**	.009	.014	.098*	.012

Note: * p < .05; ** p < .01; fs = time invariant factor scores (with a mean of 0 and a SD of 1); time 1 = _1; time 2 = _2; time 3 = _3; time 4 = _4; OrgC: organizational commitment; OccC: occupational commitment; GS: global socialization; TASKL: task learning; ORGL: organizational learning; TEAML: team learning; TASKI: task internalization; ORGI: organizational internalization; TEAMI: team internalization; GNF: global need fulfilment; AF: autonomy fulfilment; CF: competence fulfilment; RF: relatedness fulfilment.

Table S6 (Continued 1)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
26. RF_2 (fs)	.154**	.202**	.209**	.092*	-.014	.018	.031	-.081*	.094*	.002	.029	.132**	.597**	.229**	.247**	.316**	.183**	.043	.105**	.130**	-.100*	.095*	.094*	-.014
27. OrgC_3 (fs)	.704**	.296**	.404**	-.012	.008	-.074	.064	.145**	.125**	.292**	.220**	.059	.140**	.787**	.356**	.431**	-.050	.018	.013	.004	.198**	-.023	.385**	.132**
28. OccC_3 (fs)	.318**	.819**	.320**	.101*	-.055	-.032	.232**	.015	.035	.266**	.174**	.147**	.213**	.351**	.845**	.376**	.107**	-.062	-.048	.192**	.032	.073	.344**	.136**
29. GS_3 (fs)	.391**	.323**	.702**	.065	.009	-.175**	.086*	-.014	.015	.271**	.291**	.264**	.202**	.450**	.341**	.767**	.017	-.085*	.041	.064	-.071	-.035	.330**	.204**
30. TASKL_3 (fs)	.036	.122**	.143**	.385**	.011	.139**	.181**	.017	.085*	.177**	-.062	.169**	.141**	.009	.117**	.078*	.570**	.170**	.207**	.140**	-.126**	.010	.124**	.055
31. ORGL_3 (fs)	.081*	-.063	.123**	-.060	.613**	.235**	-.160**	.074	.005	-.008	.055	.074	.002	.092*	-.072	.127**	.007	.637**	-.088*	-.221**	.118**	-.149**	-.023	-.006
32. TEAML_3 (fs)	.022	-.043	.153**	.170**	-.123**	.601**	-.216**	.147**	.161**	.061	-.036	.051	.020	.024	-.060	.033	.088*	-.154**	.424**	-.052	.078*	.251**	.037	-.012
33. TASKI_3 (fs)	.065	.266**	.109**	.091*	-.155**	-.052	.314**	.072	-.119**	.098*	.053	.100*	.152**	.021	.268**	.210**	.087*	-.181**	-.258**	.433**	-.026	.006	.115**	.119**
34. ORGI_3 (fs)	.164**	-.007	.049	-.124**	.107**	.119**	.053	.692**	.239**	.016	-.021	-.017	-.076	.239**	.024	.115**	-.149**	.136**	.101*	-.104**	.771**	.041	-.002	-.019
35. TEAMI_3 (fs)	-.019	.038	-.119**	.124**	-.058	-.083*	-.017	.195**	.500**	.091*	-.096*	.012	.128**	.033	.106**	.018	.112**	-.007	.059	.214**	.181**	.609**	.132**	-.066
36. GNF_3 (fs)	.298**	.259**	.259**	.163**	.005	-.033	.155**	.048	.110**	.738**	.096*	.109**	.089*	.310**	.259**	.256**	.094*	.034	-.005	.134**	.066	.119**	.817**	-.046
37. AF_3 (fs)	.075	.126**	.182**	.027	-.069	-.062	.028	-.011	-.058	-.042	.640**	-.018	.062	.120**	.138**	.178**	.077	-.085*	-.009	.018	-.062	-.009	.080*	.767**
38. CF_3 (fs)	.081*	.151**	.255**	.235**	.006	.047	.110**	.046	-.007	.325**	.002	.523**	-.009	.088*	.143**	.268**	.259**	.024	.012	.146**	-.023	.034	.232**	.027
39. RF_3 (fs)	.187**	.239**	.238**	.054	-.045	.001	.067	-.036	.077	.054	.000	-.014	.712**	.249**	.296**	.317**	.148**	-.003	.038	.127**	-.075	.085*	.252**	.077
40. OrgC_4 (fs)	.692**	.316**	.395**	.010	-.022	-.049	.048	.152**	.132**	.253**	.221**	.056	.147**	.789**	.369**	.450**	-.062	-.003	.012	.027	.209**	-.035	.334**	.118**
41. OccC_4 (fs)	.303**	.831**	.298**	.106**	-.021	-.038	.244**	.004	.032	.245**	.187**	.143**	.195**	.343**	.831**	.358**	.110**	-.049	-.053	.178**	.029	.043	.289**	.146**
42. GS_4 (fs)	.380**	.269**	.681**	.071	-.037	-.008	-.029	.021	.022	.229**	.287**	.220**	.147**	.457**	.310**	.749**	-.005	.008	-.002	.043	.032	-.169**	.282**	.207**
43. TASKL_4 (fs)	-.031	.063	.008	.369**	-.018	-.247**	.238**	.017	.108**	.070	.020	.198**	.115**	-.049	.038	-.076	.449**	-.074	-.065	.312**	-.098*	.069	.075	.018
44. ORGL_4 (fs)	.058	-.049	.050	-.106**	.537**	.252**	-.057	.008	-.210**	-.039	.016	.076	.012	.062	-.062	.031	.096*	.488**	.051	-.294**	.055	-.154**	-.055	.039
45. TEAML_4 (fs)	-.042	-.003	.036	.339**	.018	.435**	-.123**	.023	.045	.057	-.072	.079*	.043	.012	-.011	.101*	.196**	-.146**	.423**	-.218**	-.017	.265**	.054	.017
46. TASKI_4 (fs)	.076	.235**	.127**	.251**	-.047	-.014	.490**	-.089*	-.175**	.140**	.090*	.222**	.206**	.011	.240**	.185**	.290**	-.160**	.054	.405**	-.082*	.283**	.186**	.131**
47. ORGI_4 (fs)	.140**	.048	-.018	.094*	-.023	.073	.157**	.752**	.252**	.074	-.017	.082*	-.005	.245**	.085*	.164**	-.024	.056	.036	.080*	.740**	.228**	.091*	-.017
48. TEAMI_4 (fs)	.044	.117**	-.035	.090*	-.065	-.081*	.102**	.218**	.315**	.049	-.010	.044	.094*	.062	.195**	.023	.050	-.112**	.225**	.090*	.173**	.428**	.097*	.017
49. GNF_4 (fs)	.275**	.233**	.257**	.086*	-.018	-.023	.080*	.060	.108**	.698**	.093*	.033	-.078	.339**	.264**	.270**	.055	.007	-.012	.086*	.099*	.043	.814**	-.044

Note: * p < .05; ** p < .01; fs = time invariant factor scores (with a mean of 0 and a SD of 1); time 1 = _1; time 2 = _2; time 3 = _3; time 4 = _4; OrgC: organizational commitment; OccC: occupational commitment; GS: global socialization; TASKL: task learning; ORGL: organizational learning; TEAML: team learning; TASKI: task internalization; ORGI: organizational internalization; TEAMI: team internalization; GNF: global need fulfilment; AF: autonomy fulfilment; CF: competence fulfilment; RF: relatedness fulfilment.; Raw scores correlations (which were not analyzed in this study) can be obtained upon request from the authors.

Table S6 (Continued 2)

	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
26. RF_2 (fs)	0.073																							
27. OrgC_3 (fs)	0.047	.136**																						
28. OccC_3 (fs)	.158**	.223**	.393**																					
29. GS_3 (fs)	.224**	.284**	.504**	.378**																				
30. TASKL_3 (fs)	.252**	.126**	-0.007	.155**	0.046																			
31. ORGL_3 (fs)	0.065	0.047	0.057	-0.043	.082*	-0.024																		
32. TEAML_3 (fs)	0.065	0.016	-0.043	-0.054	-0.036	.114**	0.060																	
33. TASKI_3 (fs)	.152**	.130**	-0.024	.264**	.086*	.096*	-.106**	-.101*																
34. ORGI_3 (fs)	-0.038	-.090*	.261**	0.009	0.046	-0.058	.148**	0.062	-0.028															
35. TEAMI_3 (fs)	0.041	.182**	0.014	.093*	-0.020	-0.007	-.100*	0.057	0.062	-0.009														
36. GNF_3 (fs)	.300**	-0.033	.407**	.310**	.303**	.146**	-0.020	0.007	0.033	0.022	.150**													
37. AF_3 (fs)	-0.029	-0.014	.183**	.159**	.230**	0.012	-0.035	0.016	0.053	0.000	-.086*	0.063												
38. CF_3 (fs)	.699**	.165**	0.030	.188**	.290**	.351**	0.056	.095*	.218**	-0.038	0.019	.206**	0.001											
39. RF_3 (fs)	-0.055	.774**	.244**	.301**	.327**	.166**	0.000	-0.027	.145**	-0.065	.185**	.098*	0.047	0.049										
40. OrgC_4 (fs)	0.034	.146**	.880**	.380**	.472**	-0.017	0.029	-0.019	-0.004	.267**	-0.034	.312**	.138**	0.018	.208**									
41. OccC_4 (fs)	.119**	.219**	.332**	.897**	.333**	.162**	-0.047	-0.075	.252**	0.020	0.071	.255**	.134**	.148**	.274**	.388**								
42. GS_4 (fs)	.200**	.215**	.465**	.342**	.808**	0.054	.088*	-0.048	-0.015	0.066	-.197**	.264**	.197**	.233**	.236**	.526**	.340**							
43. TASKL_4 (fs)	.272**	.094*	-0.019	0.076	.143**	.465**	-0.066	-.115**	.175**	-.087*	.138**	.159**	-0.013	.270**	.114**	-0.015	.089*	0.023						
44. ORGL_4 (fs)	0.007	.080*	.083*	-0.026	.099*	.108**	.660**	-0.004	-.112**	.116**	-.208**	-0.046	0.030	0.047	0.028	0.020	-0.018	0.018	-0.063					
45. TEAML_4 (fs)	0.073	0.033	-0.038	0.007	0.010	.325**	-.082*	.759**	-0.033	0.058	0.003	0.026	0.000	.155**	0.038	0.017	0.013	0.004	0.044	0.032				
46. TASKI_4 (fs)	.201**	.189**	0.024	.253**	.222**	.085*	-.276**	-.092*	.393**	-.232**	.151**	.153**	.093*	.177**	.183**	0.002	.194**	0.076	.165**	-.094*	0.008			
47. ORGI_4 (fs)	0.075	-0.021	.230**	.082*	0.055	-0.004	0.049	0.055	.123**	.801**	.237**	.091*	-0.018	0.058	-0.002	.246**	.089*	0.060	-0.010	-0.004	0.008	-.090*		
48. TEAMI_4 (fs)	-0.039	.178**	.110**	.198**	.139**	0.055	-0.056	-0.003	.171**	.142**	.529**	.118**	0.040	0.025	.193**	.078*	.177**	0.019	0.047	-0.052	0.040	.135**	0.077	
49. GNF_4 (fs)	.159**	-.085*	.375**	.278**	.290**	.088*	0.001	-0.018	0.055	0.067	0.065	.800**	0.001	.249**	0.037	.360**	.245**	.307**	.116**	-0.020	0.007	.083*	.090*	.122**

Note: * p < .05; ** p < .01; fs = time invariant factor scores (with a mean of 0 and a SD of 1); time 1 = _1; time 2 = _2; time 3 = _3; time 4 = _4; OrgC: organizational commitment; OccC: occupational commitment; GS: global socialization; TASKL: task learning; ORGL: organizational learning; TEAML: team learning; TASKI: task internalization; ORGI: organizational internalization; TEAMI: team internalization; GNF: global need fulfilment; AF: autonomy fulfilment; CF: competence fulfilment; RF: relatedness fulfilment.

Table S6 (continued 3)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
50. AF_4 (fs)	0.074	.171**	.134**	0.019	0.042	-.135**	.094*	-0.015	-.090*	-.115**	.658**	0.035	-0.051	.104**	.179**	.187**	0.036	-0.042	-0.035	0.074	-0.007	-0.045	0.028	.655**
51. CF_4 (fs)	0.010	0.047	.135**	.286**	0.025	0.006	.160**	0.039	-0.072	.094*	-0.014	.747**	-0.037	0.056	0.050	.161**	.275**	0.042	0.043	.191**	-0.012	0.023	0.069	0.064
52. RF_4 (fs)	.181**	.204**	.211**	0.067	-0.066	0.029	0.016	-0.076	0.062	-0.025	0.038	-.108**	.724**	.221**	.250**	.253**	.094*	-0.041	0.038	.119**	-0.070	0.043	.192**	0.039
53. ISAT (fs)	.472**	.411**	.467**	0.070	-0.020	0.002	.196**	0.008	0.056	.403**	.255**	.207**	.233**	.553**	.468**	.522**	.098*	-0.019	0.027	.175**	0.032	0.011	.516**	.232**
54. SSAT (fs)	.173**	.207**	.139**	0.028	-.090*	-0.055	0.079	0.079	0.039	.093*	.146**	0.058	0.024	.200**	.264**	.202**	0.008	-.083*	0.025	0.052	0.062	0.047	.212**	.118**
55. IPD (fs)	-.285**	-.247**	-.255**	-.121**	0.011	0.022	-.176**	-0.058	-0.065	-.574**	-.082*	-.203**	-0.017	-.283**	-.262**	-.232**	-.090*	-0.028	-0.004	-.119**	-0.067	-0.039	-.609**	-0.024
56. SPD (fs)	.293**	.221**	.252**	.104*	0.001	-0.017	.177**	0.049	0.062	.540**	0.069	.181**	0.029	.255**	.220**	.218**	0.079	0.041	0.009	.080*	0.047	0.067	.504**	0.041
57. IQOC (fs)	.302**	.250**	.369**	0.045	-0.030	-0.027	.117**	0.043	-0.002	.289**	.238**	.184**	.105**	.328**	.252**	.441**	0.009	-.089*	0.036	.108**	0.021	0.057	.344**	.201**
58. SQOC (fs)	-.172**	-.172**	-.212**	-0.059	-.097*	-0.001	-0.067	-0.006	-0.007	-.202**	-.131**	-.095*	-0.060	-.165**	-.145**	-.234**	0.007	0.036	-0.024	-0.015	-0.043	-0.076	-.206**	-.135**
59. ISOMA (fs)	-.145**	-0.076	-.126**	-0.061	-0.031	0.011	-.112**	-.090*	0.003	-.364**	-0.037	-.137**	0.035	-.152**	-.084*	-.145**	-.084*	-0.052	-0.063	-0.059	-.080*	0.008	-.391**	0.000
60. SSOMA (fs)	.084*	0.027	.113**	0.027	-0.001	-0.033	0.025	0.005	-0.001	0.030	0.023	.109**	0.053	0.004	0.012	.115**	0.019	-0.015	0.037	-0.077	-0.029	0.054	-0.079	-0.009

Note: * p < .05; ** p < .01; fs = time invariant factor scores; time 4 = _4. AF: autonomy fulfilment; CF: competence fulfilment; RF: relatedness fulfilment; ISAT: work satisfaction intercept factor; SSAT: work satisfaction slope factor; IPD: psychological distress intercept factor; SPD: psychological distress slope factor; IQOC: quality of care intercept factor; SQOC: quality of care slope factor; ISOMA: somatization intercept factor; SSOMA: somatization slope factor.

Table S6 (continued 4)

	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
50. AF_4 (fs)	-.083*	-0.02	.141**	.154**	.214**	-0.05	0.04	-.129**	0.07	-0.01	-.097*	0.00	.587**	-.095*	-0.04	.165**	.178**	.257**	0.00	0.03	-.100*	.145**	-0.02	0.04
51. CF_4 (fs)	.780**	.128**	0.05	.128**	.224**	.261**	0.05	0.07	.115**	-0.06	0.03	.241**	0.00	.680**	-.102*	0.02	.099*	.212**	.345**	0.06	.117**	.200**	0.03	0.04
52. RF_4 (fs)	-.095*	.681**	.215**	.243**	.240**	0.06	-0.02	0.02	.101*	-.087*	.091*	.090*	.084*	-.138**	.754**	.253**	.230**	.254**	.105**	-0.01	0.06	.169**	-0.08	.132**
53. ISAT (fs)	.196**	.252**	.558**	.440**	.512**	.110**	0.00	0.02	.116**	0.05	0.02	.437**	.212**	.234**	.290**	.533**	.414**	.492**	0.04	-0.02	0.03	.224**	.093*	0.07
54. SSAT (fs)	0.07	0.00	.334**	.297**	.294**	0.01	-0.06	-0.08	0.05	0.07	-0.02	.229**	.176**	.093*	0.06	.394**	.293**	.326**	0.04	-0.08	-0.02	.158**	.089*	.140**
55. IPD (fs)	-.219**	0.04	-.276**	-.281**	-.256**	-.152**	0.01	-0.02	-.102*	-0.04	-0.03	-.603**	-0.03	-.286**	-0.02	-.241**	-.247**	-.239**	-.163**	0.02	-0.02	-.144**	-.092*	-0.02
56. SPD (fs)	.151**	-0.03	.215**	.199**	.202**	.149**	0.00	0.02	0.07	0.03	0.04	.474**	0.00	.218**	0.00	.177**	.174**	.185**	.131**	0.01	0.02	.122**	0.08	0.01
57. IQOC (fs)	.192**	.163**	.344**	.242**	.419**	0.01	-0.02	0.05	.126**	.084*	-0.03	.303**	.174**	.178**	.172**	.352**	.234**	.371**	0.00	-0.02	0.07	.196**	.093*	0.05
58. SQOC (fs)	-.139**	-.117**	-.182**	-.129**	-.164**	0.05	-0.04	-.102*	-.099*	-.084*	-0.02	-.178**	-0.06	-0.05	-0.07	-.158**	-.112**	-.091*	0.07	-0.03	-.094*	-.125**	-0.06	-0.01
59. ISOMA (fs)	-.123**	0.08	-.164**	-.084*	-.140**	-0.07	-0.02	-0.03	-0.07	-0.08	-0.01	-.392**	0.01	-.166**	0.05	-.109**	-0.07	-.109**	-0.04	-0.02	-0.01	-.095*	-.131**	0.02
60. SSOMA (fs)	-0.02	.087*	-0.04	-0.06	.094*	0.00	0.00	0.00	0.03	-0.01	0.05	-.117**	-0.07	0.03	0.02	-0.06	-0.05	0.05	-0.05	0.02	0.02	0.06	0.02	0.03

Note: * p < .05; ** p < .01; fs = time invariant factor scores; time 4 = _4. AF: autonomy fulfilment; CF: competence fulfilment; RF: relatedness fulfilment; ISAT: work satisfaction intercept factor; SSAT: work satisfaction slope factor; IPD: psychological distress intercept factor; SPD: psychological distress slope factor; IQOC: quality of care intercept factor; SQOC: quality of care slope factor; ISOMA: somatization intercept factor; SSOMA: somatization slope factor.

Tables S6 (continued 5)

	49	50	51	52	53	54	55	56	57	58	59
50. AS_4 (fs)	0.02										
51. CS_4 (fs)	.082*	0.013									
52. RS_4 (fs)	0.01	-0.019	-0.070								
53. ISAT (fs)	.404**	.219**	.178**	.250**							
54. SSAT (fs)	.329**	.284**	0.077	.094*	.330**						
55. IPD (fs)	-.575**	-0.033	-.240**	0.023	-.461**	-.207**					
56. SPD (fs)	.401**	0.010	.179**	-0.044	.405**	0.005	-.894**				
57. IQOC (fs)	.278**	.178**	.166**	.145**	.491**	.251**	-.238**	.222**			
58. SQOC (fs)	-.114**	-0.033	-.092*	-.091*	-.251**	0.046	.140**	-.173**	-.605**		
59. ISOMA (fs)	-.366**	-0.048	-.134**	.102*	-.296**	-.159**	.578**	-.501**	-.158**	.115**	
60. SSOMA (fs)	-.216**	-0.024	0.024	-0.006	-0.007	-.221**	0.062	.158**	-0.023	-0.072	-0.032

Note: * p < .05; ** p < .01; fs = time invariant factor scores; time 4 = _4. AF: autonomy fulfilment; CF: competence fulfilment; RF: relatedness fulfilment; ISAT: work satisfaction intercept factor; SSAT: work satisfaction slope factor; IPD: psychological distress intercept factor; SPD: psychological distress slope factor; IQOC: quality of care intercept factor; SQOC: quality of care slope factor; ISOMA: somatization intercept factor; SSOMA: somatization slope factor.

Table S7

Scale Means and Variances

	Mean	Var.		Mean	Var.
Occupational Commitment_T1	4.356	0.521	Global Socialization_T3	5.390	0.747
Occupational Commitment_T2	4.353	0.474	Global Socialization_T4	5.399	0.794
Occupational Commitment_T3	4.299	0.595	Relatedness_T1	4.124	0.495
Occupational Commitment_T4	4.260	0.612	Relatedness_T2	4.183	0.489
Organizational Commitment_T1	3.629	0.679	Relatedness_T3	4.188	0.500
Organizational Commitment_T2	3.686	0.627	Relatedness_T4	4.218	0.531
Organizational Commitment_T3	3.572	0.739	Autonomy_T1	3.528	0.645
Organizational Commitment_T4	3.616	0.675	Autonomy_T2	3.645	0.687
Task Learning_T1	6.014	0.539	Autonomy_T3	3.572	0.679
Task Learning_T2	6.028	0.567	Autonomy_T4	3.629	0.697
Task Learning_T3	6.080	0.536	Competence_T1	3.935	0.410
Task Learning_T4	6.088	0.676	Competence_T2	4.033	0.400
Task Internalization_T1	5.671	0.818	Competence_T3	4.068	0.437
Task Internalization_T2	5.699	0.790	Competence_T4	4.102	0.409
Task Internalization_T3	5.728	0.781	Global Need Fulfilment_T1	3.870	0.341
Task Internalization_T4	5.745	0.866	Global Need Fulfilment_T2	3.961	0.360
Organizational Learning_T1	5.030	1.333	Global Need Fulfilment_T3	3.955	0.376
Organizational Learning_T2	5.060	1.414	Global Need Fulfilment_T4	3.997	0.378
Organizational Learning_T3	5.045	1.532	Quality of Care _T1	3.230	0.267
Organizational Learning_T4	4.998	1.436	Quality of Care _T2	3.281	0.211
Organizational Internalization_T1	4.708	1.677	Quality of Care _T3	3.351	0.242
Organizational Internalization_T2	4.652	1.581	Quality of Care _T4	3.304	0.277
Organizational Internalization_T3	4.689	1.718	Psychological Distress_T1	1.969	0.602
Organizational Internalization_T4	4.644	1.882	Psychological Distress_T2	1.918	0.569
Team Learning_T1	5.401	1.155	Psychological Distress_T3	1.916	0.665
Team Learning_T2	5.399	1.111	Psychological Distress_T4	1.921	0.659
Team Learning_T3	5.559	1.071	Somatization_T1	2.600	0.823
Team Learning_T4	5.570	1.203	Somatization_T2	2.595	0.809
Team Internalization_T1	5.310	1.363	Somatization_T3	2.437	0.891
Team Internalization_T2	5.281	1.312	Somatization_T4	2.477	0.888
Team Internalization_T3	5.359	1.501	Work Satisfaction_T1	4.313	1.422
Team Internalization_T4	5.478	1.505	Work Satisfaction_T2	4.467	1.424
Global Socialization_T1	5.336	0.721	Work Satisfaction_T3	4.453	1.367
Global Socialization_T2	5.340	0.729	Work Satisfaction_T4	4.421	1.505

Note: _T1-_T4: time 1 to time 4; Var: variance; It is important to keep in mind that our main analyses relied on factor scores (M = 0 and SD = 1), so that these descriptives statistics are only provided to highlight the type of responses provided by the participants

Table S8

Test of Demographic Controls (Sex, Age, Part-Time vs Full-Time, Permanent vs Temporary, Education, and Organizational Tenure)

Model	*LL*	*#fp*	Scaling	AIC	CAIC	BIC	ABIC	Entropy
1. Null	-2796.069	24	1.004	5640.138	5771.363	5747.363	5671.164	.800
2. Effects on C	-2775.908	60	1.008	5671.815	5999.877	5939.877	5749.380	.805
3. Effects on C, I	-2766.728	72	1.112	5677.455	6071.130	5999.130	5770.533	.807
4. Effects on C, I, S	-2759.285	84	1.062	5686.570	6145.857	6061.857	5795.161	.809
5. Effects on C, I, S, Q	-2748.817	96	1.124	5689.634	6214.533	6118.533	5813.738	.810
6. Model 4 + C, I (var.), S	No Convergence							
7. Model 4 + C, I, S (var.)	-2703.563	156	1.1307	5719.126	6572.087	6416.087	5920.794	.810

Note. LL: Loglikelihood*;* #fp: Number of Free Parameters; Scaling = scaling factor; AIC: Akaïke Information Criteria; CAIC: Constant AIC; BIC: Bayesian Information Criteria; ABIC: Sample-Size adjusted BIC; C: Profile membership; I: Intercept factor; S: Slope factor; Q: Quadratic factor.

Figure S1

Elbow Plot for the Organizational Commitment Growth Mixture Analyses

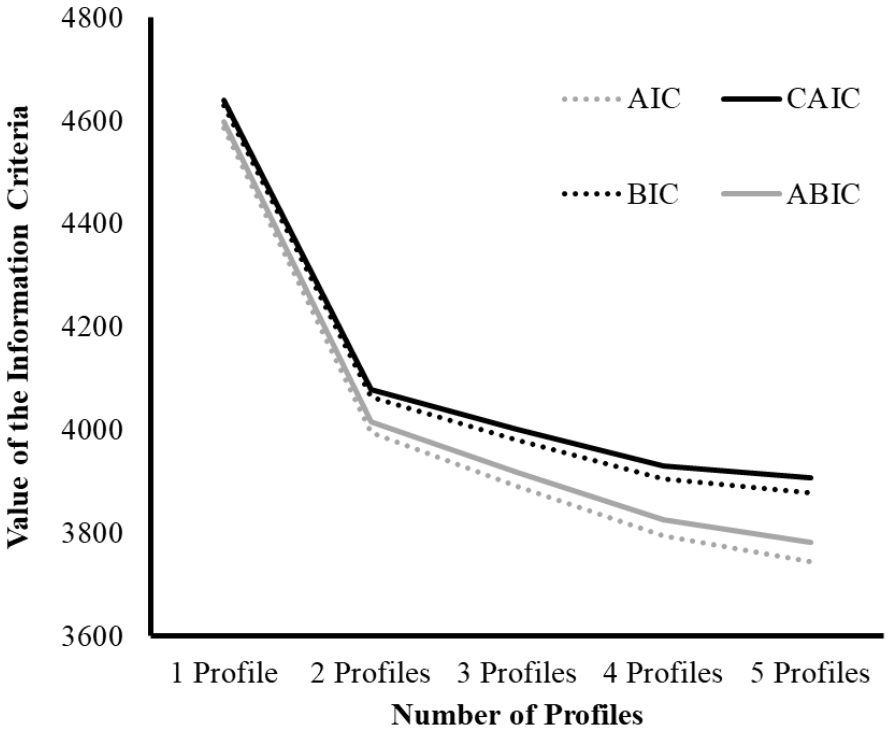

Figure 2

Elbow Plot for the Occupational Commitment Growth Mixture Analyses

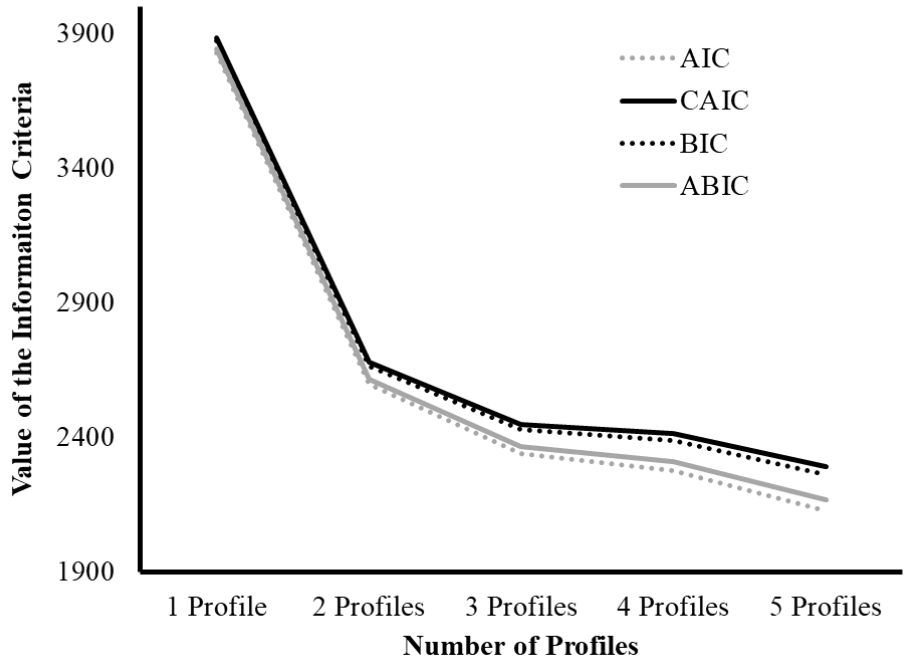

Table S9

Parameter Estimates for the Final Unconditional Growth Mixture Solutions

Parameter	Profile 1 (High) Estimate (*t*)	Profile 2 (Moderately High) Estimate (*t*)	Profile 3 (Low and Increasing) Estimate (*t*)	Profile 4 (Average and Decreasing) Estimate (*t*)
Organizational Commitment				
Intercept mean	.334 (1.093)	.332 (2.801)**	-.678 (-2.211)*	-.221 (-.707)
Slope mean	.323 (1.678)	-.108 (-2.922)**	.457 (1.156)	-.462 (-3.308)**
Quadratic mean	-.047(-1.938)	.012 (2.718)**	-.068 (-1.611)	.061 (3.239)**
Intercept variability (SD = √σ)	.981 (6.763)**	.981 (6.763)**	.981 (6.763)**	.981 (6.763)**
Slope variability (SD = √σ)	.279 (2.719)**	.279 (2.719)**	.279 (2.719)**	.279 (2.719)**
Quadratic variability (SD = √σ)	.032(1.104)	.032 (1.104)	.032 (1.104)	.032 (1.104)
Intercept-slope correlation	-.266 (-5.746)**	-.266 (-5.746)**	-.266 (-5.746)**	-.266 (-5.746)**
Intercept-quadratic correlation	.027 (3.932)**	.027 (3.932)**	.027 (3.932)**	.027 (3.932)**
Slope-quadratic correlation	-.008 (-1.698)	-.008 (-1.698)	-.008 (-1.698)	-.008 (-1.698)
SD(εyi)_T1-T4	.259 (4.123)**	.114 (2.550)*	.623 (3.366)	.463 (2.581)**
Parameter	Profile 1 (High) Estimate (*t*)	Profile 2 (Average) Estimate (*t*)	Profile 3 (Low and Increasing) Estimate (*t*)	Profile 4 (Low and Decreasing) Estimate (*t*)
Occupational Commitment				
Intercept mean	. 718 (10.697)**	.179 (1.789)	-1.303 (-5.139)**	-.930 (-2.660)**
Slope mean	-.091 (-4.071)**	.025 (.380)	.286 (5.555)**	-.354 (-1.722)
Quadratic mean	.007 (1.912)	-.011 (-1.072)	-.028 (-4.313)**	.054 (1.764)
Intercept variability (SD = √σ)	.519 (3.444)**	.519 (3.444)**	.519 (3.444)**	.519 (3.444)**
Slope variability (SD = √σ)	.141 (2.123)*	.141 (2.123)*	.141 (2.123)*	.141 (2.123)*
Quadratic variability (SD = √σ)	.000 (1.716)	.000 (1.716)	.000 (1.716)	.000 (1.716)
Intercept-slope correlation	-.044 (-2.126)*	-.044 (-2.126)*	-.044 (-2.126)*	-.044 (-2.126)*
Intercept-quadratic correlation	.005 (1.830)	.005 (1.830)	.005 (1.830)	.005 (1.830)
Slope-quadratic correlation	-.003 (-1.930)	-.003 (-1.930)	-.003 (-1.930)	-.003 (-1.930)
SD(εyi) T1-T4	.077 (4.123)**	.352 (2.550)*	.118 (3.366)	.706 (6.324)**

Note. * $p \leq .05$; ** $p \leq .01$; t = Estimate / standard error of the estimate (t values are computed from the original variance estimate and not from the square root); SD(εyi) = Standard deviation of the time-specific residual; The square root of the estimate of variability (trajectory factor, time-specific residual) is presented so that the results can be interpreted in the same unit as the construct used in the model (standardized factor score with M = 0 and SD = 1).

Table S10

Classification Probabilities: Most Likely Latent Class Membership (Column) by Latent Class (Row) for the Final Unconditional Growth Mixture Solutions

Profile	High	Moderately High	Low and Increasing	Average and Decreasing
Organizational Commitment				
High	.832	.050	.115	.003
Moderately High	.053	.887	.033	.026
Low and Increasing	.074	.015	.802	.109
Average and Decreasing	.001	.020	.155	.825
Profile	High	Average	Low and Increasing	Low & Decreasing
Occupational Commitment				
High	.917	.068	.015	.000
Average	.028	.929	.012	.031
Low and Increasing	.072	.094	.805	.029
Low and Decreasing	.000	.067	.016	.918

Table S11

Transitions Probabilities from the Latent Transition Analysis across Organizational and Occupational Commitment Profiles

Profile	Profile 1: High OrgC	Profile 2: Moderately High OrgC	Profile 3: Low and Increasing OrgC	Profile 4: Average and Decreasing OrgC
Profile 1: High OccC	.281	.496	.132	.091
Profile 2: Average OccC	.240	.097	.450	.213
Profile 3: Low and Increasing OccC	.021	.709	.055	.216
Profile 4: Low and Decreasing OccC	.051	.033	.330	.585

Note. OccC = Occupational Commitment; OrgC = Organizational Commitment.

Table S12

Associations between Profile Membership and the Outcome Trajectories

Outcome		Profile 1 (High)	Profile 2 (Moderately High)	Profile 3 (Low and Increasing)	Profile 4 (Average and Decreasing)	Summary
			Organizational Commitment			
Work Satisfaction	Intercept	5.478	4.982	4.929	4.646	1>2=3>4
	Slope	.051	.035	.057	-.003	1=3>2>4
Quality of care	Intercept	3.320	3.105	3.082	2.973	1>2=3>4
	Slope	.043	.050	.053	.054	2=3=4>1
Psychological Distress	Intercept	1.687	1.853	2.125	2.033	3=4>2>1
	Slope	-.019	-.024	-.041	-.027	3>4>1; 3>2=4; 1=2
Somatization	Intercept	2.576	2.587	2.798	2.754	3=4>2; 3>1=2; 1=4
	Slope	-.093	-.088	-.116	-.076	3>1=2>4;
Outcome		Profile 1 (High)	Profile 2 (Average)	Profile 3 (Low and Increasing)	Profile 4 (Low and Decreasing)	Summary
			Occupational Commitment			
Work Satisfaction	Intercept	5.212	5.018	4.482	4.537	1>2>3=4
	Slope	.043	.037	.030	.003	1=2=3>4
Quality of care	Intercept	3.192	3.100	2.972	2.962	1>2>3=4
	Slope	.047	.052	.055	.054	2=3=4>1
Psychological Distress	Intercept	1.772	1.896	2.317	2.204	3=4>2>1
	Slope	-.021	-.027	-.047	-.035	3=4>2>1
Somatization	Intercept	2.545	2.751	2.884	2.711	2=3>1; 2=3=4; 1=4
	Slope	-.092	-.094	-.100	-.083	1=2=3=4