

**Running Head:** Occupational Commitment Profiles

A Latent Transition Analysis Investigating the Nature, Stability, Antecedents, and Outcomes of Occupational Commitment Profiles for School Principals

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### Highlights

- We found 5 occupational commitment profiles among 525 school principals.
- Profiles were identical over 2 years, and membership was stable.
- Beneficial effects were associated with profiles dominated by affective commitment.
- Synergistic effects of normative commitment were found.
- Interpersonal relationships with school managers predicted profile membership.

### Abstract

A person-centered perspective makes it possible to identify the most common combinations, or profiles, of *Affective* (AC), *Normative* (NC), and *Continuance* (CC) commitment to any target. Extensive person-centered research has been conducted on employees' commitment to their organization. However, only a few cross-sectional studies have focused on employees' profiles of commitment to their occupation, which is surprising given the key role of this target of commitment for a variety of occupational groups. The goal of this study was to contribute to this growing literature by focusing on occupational commitment profiles among a sample of 525 school principals ( $M_{age} = 44.94$ ; 59% females), while also adopting a longitudinal perspective to assess profile stability over a two-year period. We also investigated the implications of these profiles in relation to occupational turnover intentions, job satisfaction, work-life imbalance and psychological distress, as well as the role of interpersonal relationships with other school managers, involvement in decision-making, and schoolboard transformational leadership in the prediction of profile membership. Our results revealed five profiles, which remained identical and highly stable (less than a fifth of the participants transitioned to a distinct profile) over the course of the study. Beneficial effects were associated with profiles dominated by AC, detrimental effects were related to the CC-dominant profile, and we found beneficial synergistic effects of NC when combined with high CC in terms of job satisfaction, turnover intentions and work-life imbalance. In terms of predictions, only higher levels of interpersonal relationships with other school managers proved to predict profile membership.

**Keywords.** Occupational commitment, profiles, longitudinal, stability, latent transition, leadership, relationships, involvement, turnover intentions, job satisfaction, work-life imbalance.

Commitment has been defined by Meyer and Herscovitch (2001) as a driving force that has the potential to bind “*an individual to a course of action that is of relevance to a particular target*” (p. 310). This driving force, as theorized through the lens of the Three-Component Model (TCM), is underpinned by three mindsets (Meyer & Allen, 1991; Meyer, Allen, & Smith, 1993) that combine to influence behaviour: An emotional attachment (affective commitment – AC), a sense of moral obligation (normative commitment – NC) and a recognition of the costs associated with leaving one’s association with the target (continuance commitment – CC). Although the organization is by far the most studied target, evidence for the theoretical and practical importance of studying other targets such as the occupation is accumulating (Cooper-Hakim, & Viswesvaran, 2005; Spurk, Hofer, Burmeister, Muehlhausen, & Volmer, 2019; Wang, Jiang, Weng, & Wang, 2019). Thus, occupational commitment has been positioned as a core component of identity development throughout one’s career (Meyer, Jackson, & Maltin, 2008; Spurk et al., 2019), as well as an important outcome of employees’ adaptation to their occupational career (Baltes, Featherman, & Lerner, 2014; Spurk et al., 2019). This perspective positions occupational commitment as a dynamic career-long process (Spurk et al., 2019), that plays an important role in guiding employee intentions and behaviour, both within and outside the workplace (Baruch, Grimland, & Vigoda-Gadot, 2014; Klein, Molloy, & Brinsfield, 2012).

Importantly, the occupation is likely to be a far more critical target for a variety of occupational groups, such as public service employees (e.g., nurses, teachers, and physicians), who are often trained and socialized for many years (via a long educational trajectory, internships, and often preliminary work experiences) to achieve a career characterized by little mobility across occupations, but where mobility across organizations is frequent. These employees often select a vocational path from a young age and begin their occupational socialization process occupation through their education and training long before they formally enter their occupation (Somers, Birnbaum, Finch & Casal, 2018; Spurk et al., 2019). This early decision process, coupled with a long educational and socialization trajectory, makes it likely for at least some of those employees to end up in an occupation that they dislike (low AC), despite having already invested a lot in developing skills that may not generalize to other occupations (high CC), and occupying a role that is highly valued socially (High NC). These considerations explain how and why occupational mobility could be limited for members of these professional groups, despite the fact that mobility across organizations may be facilitated, and even sometimes encouraged. In addition they also illustrate the importance of jointly considering all three mindsets of occupational commitment.

Unfortunately, research is currently lacking in relation to the combined effects of AC, NC, and CC directed at the occupation (Cooper-Hakim, & Viswesvaran, 2005; Spurk et al., 2019; Meyer & Morin, 2016). For instance, comprehensive reviews of variable-centered (i.e., focused on average relations among constructs obtained in specific samples) evidence (Cooper-Hakim, & Viswesvaran, 2005; Spurk et al., 2019) has shown AC to be associated with slightly greater benefits than NC, whereas CC has been shown to be associated with weaker, or undesirable, effects. However, these reviews also highlighted the relative dearth of research considering all three mindsets simultaneously, as well as the need to consider the possibility that some of the associations could differ across distinct subpopulations of participants. Interestingly, person-centered methods (e.g., Meyer & Morin, 2016) provide a way to relax the population homogeneity assumption of variable centered analyses (i.e., the assumption that the observed associations generalize to all participants) to focus on the identification of subpopulations (or profiles) of employees characterized by qualitatively distinct configurations of AC, NC, and CC.

The present study seeks to add to this body of research by considering occupational commitment profiles among high-level public managers, a particularly neglected group of employees. More precisely, this study focuses on school principals who begin their socialization process through a formal education to first become teachers, followed by a minimum of five years teaching experience and the obtainment of a graduate degree before being considered eligible for the role of vice-principal or principal (Government of Québec, 2003). Once qualified, school principals are typically hired by the state, and routinely relocated to new schools in order to achieve the best possible match between their unique set of competencies and the specific needs of the school system. Such a lengthy and specialized career path, coupled with a high level of organizational mobility driven by the state, makes the occupation a particularly relevant target of

commitment to consider for the attraction and retention of school principals. The present study also contributes to person-centered research on occupational commitment profiles by (i) adopting a longitudinal perspective (Morrow, 2011), allowing us to assess their stability over time (Morin, Meyer, Creusier, & Biétry, 2016), and (ii) examining their associations and a variety of theoretically relevant predictors (i.e., transformational leadership of the schoolboard, involvement in the decision-making process, and quality of interpersonal relationships with other school managers) and outcomes (i.e., psychological distress, job satisfaction, and occupational turnover intentions).

### **Affective, Continuance and Normative Commitment to the Occupation**

To better understand how each mindset of occupational commitment may be experienced individually, and to understand how different mindset combinations may influence behavior, it is important to briefly review variable-centered studies of occupational commitment. So far, variable-centered research evidence has clearly documented the many benefits of occupational AC in relation to a variety of outcome variables, including positive associations with job involvement, performance and satisfaction, satisfaction with co-workers, supervisor support and autonomy, and negative associations with burnout, turnover intentions, and various indices of stress (e.g., Cooper-Hakim & Viswesvaran, 2005; Lee, Carswell, & Allen, 2000; Spurk et al., 2019; Wang et al., 2019). The more limited research conducted on NC reveals that this mindset tends to be negatively related to turnover intentions and job performance, and positively related to job satisfaction (Cooper-Hakim & Viswesvaran, 2005), although relations between occupational NC and turnover intentions might also vary as a function of occupational CC (Spurk et al., 2019). Conversely, relations involving occupational CC appear to be weaker than those involving NC or AC (i.e., job satisfaction, turnover intentions) or opposite in direction (i.e., lower levels of job performance (Cooper-Hakim & Viswesvaran, 2005). Unfortunately, there is surprisingly little research looking into the joint effects of AC, NC, and CC to the occupation, leading Spurk et al. (2019) to pinpoint this joint investigation as a critical area for future research.

This lack of attention is particularly problematic considering that one of the key assumptions of the TCM is that employees' commitment to any target will be formed by a unique configuration of mindsets experienced as a whole and reflecting a variety of psychological states (Meyer & Herscovitch, 2001; Meyer & Morin, 2016). For instance, Gellatly, Meyer and Luchak (2006) proposed that each specific mindset creates a context for how the other mindsets will be experienced. For example, NC may be experienced differently if paired with high AC (*moral imperative*), or high CC (*indebted obligation*), versus low AC/NC (*trapped*) (Morin & Meyer, 2016). Similarly, on its own, CC describes feelings of entrapment and may yield undesirable effects, whereas when combined with AC it reflects feelings of valued investments and may thus yield positive effects (Meyer & Morin, 2016; Powell & Meyer, 2004). These considerations reinforce the need to adopt a multidimensional perspective when studying occupational commitment, and shows the unique value of the person-centered approach in providing a way to directly, and explicitly reflect the most commonly occurring mindset configurations in a sample.

### **Theoretical Rationale for Occupational Commitment Profiles**

An early theorization of the combined effects of commitment mindsets was proposed by Meyer and Herscovitch (2001), who suggested that commitment profiles could follow eight configurations. On the basis of variable-centered evidence of relations observed between commitment mindsets and outcomes, they suggested that the most desirable profile should combine high AC with low NC and CC (AC Dominant), immediately followed by a profile characterized by high AC accompanied by matching levels of NC (AC/NC Dominant). Coming next would be profiles characterized by similarly high levels of AC, but accompanied by matching levels of CC (AC/CC Dominant), or CC and NC (Fully Committed). In contrast, they proposed that the least desirable profiles should be characterized by low AC, NC and CC (weakly committed) or by low AC/NC coupled with high CC (CC-dominant), thus reflecting either a lack of commitment or a feeling of entrapment. Coming in between would be profiles characterized by low levels of AC, but high levels of NC (NC Dominant), or NC and CC (NC/CC Dominant). Meyer and Morin (2016) more recently noted that, beyond the Fully Committed and Weakly Committed profiles, the other profiles seemed to reflect an orientation toward work characterized by feelings of emotional attachment (AC Dominant), moral obligation (NC Dominant), entrapment (CC Dominant), moral imperative (AC/NC

Dominant), investment (AC/CC Dominant), or indebtedness (NC/CC Dominant).

Despite the generality of these propositions, emerging evidence suggests that these combinations may not be experienced in the same way, or lead to the same outcomes, when the occupation is the target (Somers et al., 2018). To our knowledge, only four published studies have sought to identify profiles of employees' commitment to their occupation (Meyer, Morin, Stanley & Maltin, 2019; Morin, Meyer, McInerney, Marsh, & Ganotice, 2015; Somers et al., 2018; Tsoumbris & Xenikou, 2010). Unfortunately, only two of these studies did report a profile solution that was solely based on employees' mindsets of commitment to their occupation (Morin, et al., 2015; Somers et al., 2018). In contrast, the remaining studies reported profiles of employees defined based on a combination of commitment to the organization and occupation, making it impossible to isolate the effects of occupational commitment mindsets.

In a study of Hong Kong teachers, Morin et al. (2015) revealed that occupational commitment matched six profiles corresponding to a Weak CC Dominant, Weakly Committed, Moderately Committed, AC Dominant, AC/NC Dominant and Fully Committed configurations. In a sample of nursing students, Somers et al. (2018) identified three profiles corresponding to AC Dominant, Moderately Committed, and NC/CC Dominant configurations. In addition, results from studies investigating dual commitment profiles (combining commitment to the organization and the occupation) revealed that most profiles presented matching mindsets across these two targets (Meyer et al., 2019; Morin et al. 2015; Tsoumbris & Xenikou, 2010), matching previous results reported by Morin, Morizot, Boudrias, and Madore (2011) in a study of AC to a variety of targets. Meyer et al. (2019) found that their sample of teachers was best characterized by five profiles of dual commitment, labelled as CC Low Alternatives (organization) & CC Dominant (both), AC Dominant (both), Fully Committed (both), Moderately Committed (both), and Moderately Committed (organization) & Fully Committed (occupation). Tsoumbris and Xenikou (2010) found four dual commitment profiles, in a sample including private and public employees, characterized as CC Dominant, Weakly Committed, Fully Committed, and AC/NC Dominant, though the last profile was closer to a pure AC Dominant for the occupation.

It is important to keep in mind that person-centered evidence is generally built on an accumulation of studies reporting different profile configurations, making it possible to identify a core set of profiles that emerge with regularity, and a peripheral set of profiles that emerge irregularly, under specific conditions (Solinger, Van Olffen, Roe, & Hofmans, 2013). It is also likely that some commitment mindsets and mindset combinations might be more predominant among school principals and other professions involving a long training and socially-valued occupations. For instance, given the long-term and highly specific investments required to become a school principal, it is possible that high CC, even when paired with high AC and/or NC, may not yield the same benefits as it would for other types of employees due to the added stress of knowing the complexity of an occupational change. It thus seems logical to anticipate a possibly greater salience of CC, at least for a subset of school principals. Likewise, NC to the occupation could also become more salient for school principals, given the socially critical role that they are called to play as part of their occupation. Indeed, social exchange literature suggests that part of an occupation's worth as a resource comes from the status that it provides to the employee (Foa & Foa, 1974, 1980) and that status, like any other resource, varies in how accessible it is and whether it provides a tangible or symbolic benefit (Cropanzano & Mitchell, 2005). For school principals, whose occupations are associated with symbolic benefits for society, the social exchange process might lead them to develop higher NC toward their occupation than they would have developed toward another occupation.

These propositions are supported in the two studies of teachers, who share similarities with school principals (part of the training and socialization process overlaps, as well as the social importance of the occupation). For instance, Morin et al. (2015) found CC and/or NC were at least one of the two dominant mindsets of occupational commitment to the teaching profession in a majority of profiles (four out of seven). Likewise, Meyer et al. (2019) found that NC dominated two profiles (out of five) characterized by a *Full Commitment* to the occupation, while CC dominated one additional profile. These results are consistent with our proposition that CC and NC are important mindsets to consider in relation to occupational commitment occurring in the context of socially-valued specialized professions.

Based on these empirical and theoretical considerations, we expect some of the profiles identified in

at least three out of the four previous person-centered occupational commitment studies to also emerge in the present study: CC Dominant, AC Dominant, Moderately Committed, AC/NC Dominant, and Fully Committed. In addition, we also expect to identify a profile matching the NC/CC Dominant configuration previously identified by Somers et al. (2018), given the specific nature of the school principal sample considered in the present study. Indeed, as noted above, we expect CC and NC to be particularly salient among this professional group, making it logical to expect a profile in which commitment is driven by the perceived cost of leaving the occupation and a felt moral obligation to carry out a socially important role. In contrast, despite the fact that a similar profile was identified in three out of the four previous studies, we do not expect to identify a *Weakly Committed* profile in the present study. Indeed, this profile would be unlikely given the substantial investments and challenges associated with a change in the school principal profession. More specifically, we expect that:

*Hypothesis 1: The following occupational commitment profiles will be identified: AC Dominant, CC Dominant, Moderately Committed, AC/NC Dominant, Fully Committed, and NC/CC Dominant.*

### **Profile Stability**

Achieving a clear understanding of employees' commitment profiles can be particularly useful from an intervention perspective, not only because most managers and practitioners have a natural tendency to think in terms of categories (Morin, Morizot et al., 2011; Zyphur, 2009), but also by providing guidance on the development of interventions targeting specific profiles of employees (Meyer & Morin, 2016). However, the ability to rely on these profiles to guide intervention requires evidence that the identified profiles generalize across contexts and over time (in the absence of intervention) for specific employees. On the one hand, profiles that fluctuate or change in an unpredictable manner across contexts or situations can, at best, be considered to reflect ephemeral states of dubious utility or, at worst, unreliable categories. These unreliable profiles are likely to exist under unique conditions, making the generalizability of their relations with covariates unlikely, and therefore, their inclusion to guide theory ill-advised. On the other hand, profiles into which membership remains unchanged over time for most employees are likely to reflect rather rigid psychological states. In this situation, interventions designed to modify individual profiles are likely to be far more time-consuming and complex relative to interventions designed to modify profiles displaying a greater level of malleability. As noted by Spurk et al. (2019), some malleability is a critically important precondition to investigations of the likely determinants of occupational commitment, themselves required to devise interventions strategies seeking to modify commitment profiles. More precisely, evidence of stability in profile membership does not mean that intervention is unlikely, but rather would indicate that interventions would benefit more from seeking to find ways of improving the adaptiveness of these profiles, rather than trying to change their structure. However, across all possibilities, achieving a better understanding of within-sample (i.e., the nature of the profiles remaining unchanged over time) and within-person (i.e., individual membership into specific profiles remaining unchanged over time), is required to further theoretical development regarding the nature, and evolution, of occupational commitment profiles. Importantly, without adequate theory to guide interventions, the practical utility of measuring these profiles disappears.

Fortunately, evidence is starting to accumulate for the cross-sample generalizability of occupational commitment profiles (Meyer et al., 2019; Morin, et al., 2015; Somers et al., 2018; Tsoumbris & Xenikou, 2010) by demonstrating that similarly characterized profiles emerge across a range of situations and occupations. Unfortunately, evidence is lacking regarding the generalizability of occupational commitment profiles over time among any sample of employees. Adopting a longitudinal perspective addresses this gap. Traditionally, stability in ratings of occupational commitment has been examined with analyses of rank-order stability (i.e., longitudinal correlations), or of mean-level stability. In a recent review of these studies, Spurk et al. (2019) report rank-order stability estimates for AC to the occupation ranging from  $r = .47$  to  $r = .83$  over a period of one year ( $Mr = .65$ , with time intervals ranging from 7 weeks to 36 months). They also report generally inconsistent results (decreases, stability, and increases) in terms of mean-level stability for AC, for an average mean change approaching 0. The more limited studies focusing on NC and CC to the occupation generally demonstrate either small decreases or a lack of change over time (Meyer et al., 1993; Snizek & Little, 1984).

The adoption of a longitudinal person-centered approach encompasses, while also going beyond, these simple tests of rank order, and mean-level, longitudinal stability. More precisely, this approach makes it possible to consider longitudinal stability in the nature of the profiles (within-sample stability, referring whether the same number of profiles, with the same shape, within-profile variability, and sizes will be identified over time), but also stability and change in employee membership to specific profiles (within-person stability) (Kam, Morin, Meyer, & Topolnytsky, 2016). To our knowledge, a single study focusing on organizational commitment has looked at the within-sample stability of commitment profiles before, and after, organizational changes. In this study, Kam et al. (2016) found evidence that the number (configural similarity), shape (structural similarity) and within-profile variability (dispersion similarity) of profiles stayed constant over time. In addition, they also found latent profiles that had roughly the same size over time (suggesting distributional similarity). In terms of within-person stability, Kam et al. (2016) reported that only a very small number (< 3%) of employees transitioned to a distinct, yet generally similarly shaped, profile over the 8 months of the study. This result supports the within-person stability of organizational commitment profiles, and suggest that these profiles might efficiently capture relatively stable inter-individual differences. However, this interpretation does not mean that change in profile membership is impossible (indeed, the authors reported that management trustworthiness perceptions could predict changes in profile membership), simply that it is unlikely in the absence of intervention.

This study was designed to longitudinally assess the within-sample and within-person stability of occupational commitment profiles. Given Kam et al. (2016) report of high rates of within-person stability in organizational commitment profiles over an eight-month period encompassing organizational changes, a longer time interval of two years was retained in this study to maximize our chances of observing, and predicting, within-person changes as a pre-requisite of achieving a better understanding of what drives membership into these profiles (Spurk et al., 2019). Due to the specificity and length of the socialization process undertaken to obtain and maintain the occupation of school principal, coupled with the partially dispositional nature of commitment (Mowday, Porter, & Steers, 1982), we posit that occupational commitment profiles should be relatively stable over time. This expectation is supported, albeit indirectly, by Kam et al. (2016) results related to the stability of organizational commitment profiles, coupled with evidence regarding the cross-sample generalizability of occupational commitment profiles (Meyer et al., 2019; Morin et al., 2015; Somers et al., 2018; Tsoumbris & Xenikou, 2010).

*Hypothesis 2: We expect to find evidence of within-sample stability related to the number (configural similarity), shape (structural similarity), within-profile variability (dispersion similarity), and size (distributional similarity) of occupational commitment profiles over a two-year period.*

*Research Question 1: Given the lack of prior guidance, we leave as an open research question the proportion of participants transitioning to a different profile. However, we expect to find some evidence of within-person stability in profile membership, as evidenced by a majority of participants remaining in the same profile over time, and by transitions occurring mainly among similarly-shaped profiles over the course of a two-year period.*

### **Antecedents of Occupational Commitment**

The commitment literature is rich with theory regarding the psychological processes involved for commitment mindsets to strengthen and weaken over time. In particular, social exchange theory (Blau, 1964) has long been one of the key theoretical underpinning of research focusing on the determinants of workplace commitment. Social exchanges between the employee and commitment targets, such as the organization, are known to play a role in the emergence of commitment to these targets (Cropanzano & Mitchell, 2005; Meyer & Allen, 1991). At the core of social exchange theory is the idea that successful social exchanges require both parties to believe that the other is able and willing to fulfill obligations related to the terms of the exchange. Whereas these obligations are readily identifiable between employees and organizations (Cropanzano & Mitchell, 2005; Lavelle, Rupp, & Brockner, 2007), they are rarely mentioned in relation to the occupation. Presumably, this is because the occupation comes with fewer concrete obligations to uphold apart from providing the employee with the ability to practice an enjoyable and satisfactory profession, associated with a specific pay range and social status. Other obligations relevant to the occupation are more likely handled via social exchanges with other targets, such as the organization.

Indeed, changing the relationship with this target may create work conditions that substantively affect employees' perceived social exchanges with their occupation. As such, it may be simpler to view occupational commitment as a motivational force (Meyer, Becker, & Vandenberghe, 2004), rather than a social exchange, when considering possible antecedents.

Considering commitment as a motivational force makes it possible to look toward motivational theories to guide the investigation of antecedents of commitment profiles. Self-Determination Theory (SDT; Ryan & Deci, 2000, 2017) proposes that employee motivation emerges from work conditions supporting the satisfaction of employees' basic need for relatedness, competence and autonomy. This perspective is consistent with the idea that occupational commitment represents a core outcome of employees' adaptation to the resources available to them over the course of their career (Baltes et al., 2014; Spurk et al., 2019). Among those need-supportive conditions, research has shown that transformational leadership practices enable a work context supportive of employee's ability to function autonomously, leading in turn to greater levels of autonomous motivation (Meyer, Stanley, Herscovitch, & Topolnysky, 2002; Gagne & Deci, 2005; Sheldon, Turban, Brown, Barrick, & Judge, 2003). This result has been replicated in school settings (Eyal & Roth, 2010; Fernet, Trépanier, Austin, Gagné, & Forest, 2015). Research in educational administration provides evidence that schoolboards exert a significant influence on school principals. They establish priorities for learning and achievement, set targets and timelines for school improvements, and work hand-in-hand with the schools (Leithwood & Jantzi, 2008). In other words, schoolboards are likely (or not) to act in a transformational manner. Likewise, practices supporting employees' involvement in decisions and personal growth (i.e., competence), help support employees' organizational AC (Morrow, 2011). Finally, positive social interactions in the workplace (relatedness) have also been found to support organizational AC (Epitropaki, & Martin, 2005). Although fewer studies have considered commitment profiles, these studies support these aforementioned variable-centered conclusions in showing more desirable organizational commitment profiles to be associated with the perceived trustworthiness of upper managers (Kam et al., 2016) and with exposure to team-oriented HR practices (Meyer, Morin, & Wasti, 2018).

In the present study, we extend this accumulating evidence to occupational commitment profiles, by considering participants' exposure to work conditions that should contribute to nurture the basic psychological needs proposed by SDT. More precisely, we focus on transformational leadership from the schoolboard (need for autonomy), involvement in key decision processes related to the exercise of one's professional role (need for competence), and perceived quality of interpersonal relationships with other school managers (need for relatedness), as predictors of their likelihood of membership into the various occupational commitment profiles. Based on the theoretical perspective of SDT, as well as on the results from previous studies of organizational commitment profiles, we propose that employees' perceived satisfaction with the three basic needs should primarily affect their occupational AC:

*Hypothesis 3: Schoolboard transformational leadership will positively predict membership into profiles dominated fully or partly by AC, compared to those dominated by other mindsets.*

*Hypothesis 4: Involvement in the decision process will positively predict membership into profiles dominated fully or partly by AC, compared to those dominated by other mindsets.*

*Hypothesis 5: Positive relationships with other school managers will predict membership into profiles dominated fully or partly by AC, compared to those dominated by other mindsets.*

*Research Question 2: As a further test of longitudinal stability, we consider the extent to which the associations between these predictors and school principals' likelihood of profile membership would generalize over time periods, as well as whether these predictors could influence profile transitions occurring over time. In the absence of prior empirical guidance, and although we have no reason to expect these associations to change over time, we leave this last verification as an open question.*

### **Outcomes of Commitment Profiles**

Meyer and Herscovitch (2001) propositions regarding the desirability of alternative commitment profiles were initially devised from variable-centered research conducted on employees' commitment to the organization. So far, variable-centered results obtained in research focusing more specifically on occupational commitment have tended to support the generalizability of these propositions to the

occupational target (Cooper-Hakim, & Viswesvaran, 2005; Wang et al., 2019). More precisely, occupational commitment research shows that CC generally tends to contribute negatively, or not at all, to outcome prediction. Importantly, for occupations requiring a lengthy training and socialization trajectory, such as school principals, we expect CC to be even more strongly, and negatively, associated with outcomes given the greater challenges associated with occupational changes.

Unfortunately, out of the four studies investigating occupational commitment profiles, only one provided empirical evidence regarding the contribution of occupational commitment profiles on work outcomes. In this study, Somers et al. (2018) found that nursing students belonging to an NC/CC Dominant profile displayed the least amount of academic performance compared to students belonging to either the AC Dominant or to the Moderately Committed profiles. However, the nature of their sample (i.e. students vs. high-level managers), limits the generalizability of their results to the current study.

As a starting point in the documentation of the construct validity (e.g., Meyer & Morin, 2016) of the identified profiles, we consider turnover intentions, which has long been considered as a key focal outcome in occupational commitment research. Generally, results from past studies of occupational commitment have demonstrated strong negative associations between AC and intentions to leave the occupation, weaker positive associations involving NC, but null or inconsistent associations involving CC (Cooper-Hakim, & Viswesvaran, 2005; Lee et al., 2000; Spurk et al., 2019). Unfortunately, these previous studies have generally considered commitment mindsets in isolation, rather than in combination as part of a person-centered perspective. Still, these studies do allow us to generate some person-centered expectations linked to the dominant occupational mindset(s) observed in each profile. More precisely, these previous variable-centered studies suggest that the AC Dominant, AC/NC Dominant, and Fully Committed profiles should display the greatest levels of attachment to the occupation, and thus the lowest turnover intentions. In contrast, employees belonging to the CC Dominant, or CC/NC Dominant profile should display a lesser attachment to the occupation, and thus more pronounced turnover intentions.

*Hypothesis 6: Turnover intentions will be lowest in AC Dominant, AC/NC Dominant and/or Fully Committed profile(s), followed by the Moderately Committed profile, and highest amongst the CC Dominant and NC/CC Dominant profiles.*

Job satisfaction has been identified as a highly relevant source of information on functioning at work (e.g., Faragher, Cass, & Cooper, 2005) and one of the strongest correlates of AC to the occupation (Cooper-Hakim, & Viswesvaran, 2005). In their meta-analysis of variable-centered studies of commitment mindsets and targets, Cooper-Hakim and Viswesvaran (2005) reported a strong positive relation between occupational AC and job satisfaction, a weaker positive relation between NC and job satisfaction, and a negative relation between CC and job satisfaction. Seeing how an occupation often dictates the parameters of the everyday functioning for specialized employees, AC to this occupation, which captures feelings of emotional attachment to these parameters, is likely to be closely related to job satisfaction. Conversely, CC to the occupation reflects feelings of entrapment that are fairly detached from everyday functioning, and yet likely to taint one's perceptions of work enjoyment in a more generalized manner. Profiles dominated by CC should be characterized by lower levels of job satisfaction. When combined with AC however, CC may reinforce the importance of the occupation by reflecting the risk of losing something that positively contributes to one's identity, thus leading to stronger levels of job satisfaction. Finally, NC, as reflected through feelings of moral obligations to a socially valued occupation, should contribute positively to job satisfaction in so far as the prestige associated with an occupation provides the employee with some form of satisfaction that is independent of AC and CC.

*Hypothesis 7: Job satisfaction will be highest in profiles dominated by AC and NC (Fully Committed, AC/NC Dominant, AC Dominant), followed by the Moderately Committed and NC/CC Dominant profiles, and lowest in the CC Dominant profile.*

Finally, psychological distress and work-life imbalance are newly documented outcomes of low AC and high CC in the broader commitment literature. Thus, evidence is accumulating for associations between commitment to the organization and employees' psychological well-being and distress (Meyer & Maltin, 2010; Meyer et al., 2019), as well as with their perceptions of work-life imbalance (Emre & De Spiegeleare, 2019; Fontinha, Easton, & Van Laar, 2019; Geraldés, Madeira, Carvalho, & Chambel, 2019). In this study,

we investigate how these associations extend to a person-centered representation of occupational commitment. Although it is known that psychological well-being tends to be supported by employee's personal growth and sense of purpose in life (Keyes 2005; Ryff, 1989; Ryff & Keyes, 1995), it remains unknown whether these same conditions also buffer against psychological distress, which is often viewed as the opposite of well-being (Morin, Boudrias, Marsh, Madore, & Desrumaux, 2016) as reflecting a state of emotional suffering which may also encompass some somatic and functional difficulties (Drapeau, Marchand, & Beaulieu-Prevost, 2012). The way psychological distress has been operationalized in previous research varies greatly across studies, ranging from global measures of distress encompassing a variety of nonspecific manifestations of mental health disorders (Kessler et al., 2002), to more extensive multidimensional measures covering various forms of manifestations (e.g., Morin et al., 2016). In the present study, we adopt the second perspective, relying on an operationalization of psychological distress encompassing manifestations of depression, anxiety, irritability, and cognitive disturbances (Ilfeld, 1976), allowing us to systematically verify whether observed associations with profile membership will generalize across components.

Likewise, feelings of work-life balance are themselves partly explained by the extent to which employees perceive that their personal growth in the work and family domains are in alignment with their life goals (Fontinha, Easton, & Van Laar, 2019; Kalliath & Brough, 2008). From a life span perspective, committing to an occupation that involves a lengthy career development is likely to spill over into other life roles (Spurk et al., 2019), enabling or interfering with work life balance and psychological distress. Furthermore, for school principals whose career typically involves various roles (first as students, then as teachers, and finally as principals) and institutions, the impact of feelings of stagnating within their occupation is likely to be perceived as more distressful than an impression of misfit within a specific school.

AC involves an emotional attachment anchored in shared values between an employee and an occupation. Given the importance of value congruence as a driver of psychological well-being, we posit that lower levels of psychological distress and work-life imbalance should be associated with profiles characterized by high levels of AC to the occupation. Conversely high levels of CC, especially without AC, are likely to be experienced as a sensation of fulfilling an unwanted role, and thus a hindrance to personal growth leading to psychological distress and work-life imbalance. Finally, we assume that high levels of NC to a socially-valued occupation should help alleviate psychological distress by providing a sense of life purpose and facilitating the development or maintenance of a desired role-identity. However, NC is unlikely, at least but in the absence of AC, to contribute to feelings of personal growth, and thus should not contribute to levels of work-life imbalance.

*Hypothesis 8: Psychological distress (i.e., depression, anxiety, cognitive difficulties, and irritability) will be lowest in profiles characterized as AC and AC/NC Dominant, followed by Fully Committed, then Moderately Committed and NC/CC Dominant and highest in the CC Dominant profiles.*

*Hypothesis 9: Work life imbalance will be lowest in profiles characterized as AC and AC/NC Dominant, followed by Fully Committed, then Moderately Committed and highest in the NC/CC Dominant and CC Dominant profiles.*

*Research Question 3: As a final test of longitudinal stability, we consider the extent to which the associations between the profiles and these outcomes would generalize over time periods. In the absence of prior empirical guidance, and although we have no reason to expect these associations to change over time, we leave this last verification as an open question.*

## **Method**

### **Participants and Procedures**

The data used in this research come from a larger longitudinal study focusing on the well-being of school principals conducted in the Canadian province of Quebec (Fernet, 2011). In Canada, each province is responsible for its primary and secondary education system. The governance systems are structured in three tiers. At the top are the provincial governmental authorities, or the provincial departments of education. The intermediate authorities are either school boards or school districts. These are decentralized entities administered by a publicly elected school board that is responsible for a given territory. At the bottom are the schools themselves (see Cattonar et al., 2007, for a detailed description). All 2400 members

of the Quebec Federation of School Principals received an invitation letter presenting the objectives of the research and a link to the online survey. Of those, 441 school principals (18.38%) completed the initial questionnaire in June 2008, and 262 (10.92%) agreed to complete a follow-up questionnaire two years later, in June 2010. In total, 525 school principals ( $M_{age} = 44.98$ ;  $SD_{age} = 7.19$ ), including 41% males and 59% females, participated in at least one wave of data collection, with 263 (50.10%) responding only to time 1, 84 (16.00%) responding only to time 2, and 178 (33.90%) responding to both waves of data collection. At Time 1 ( $n = 441$ ), participants had average tenure in this function of 6.39 years ( $SD = 5.8$ ), rated the SES of their schools (on a 1 to 3 scale) an average of 1.71 ( $SD = 0.70$ ), mentioned working on an average of 1.75 hours ( $SD = 1.94$ ) of overtime per day on the weekend, reported working in schools including 75.58 employees ( $SD = 64.71$ ), and mentioned having an average of 1.57 children at home ( $SD = 1.19$ ). In addition, 86.6% reported having a spousal partner, while the remaining 13% reported being single. In terms of education, 0.7% reported having obtained an undergraduate university degree, 25.4% a diploma superior to an undergraduate university degree, 46.5% a master's degree, and 27.4% a doctorate degree.

### Measures

All questionnaires were administered in French. Note that previous studies support the reliability and validity of the versions (either originally developed or adapted in French) used in the present study.

**Occupational Commitment.** Participants' commitment to their occupation was assessed using Stinglhamber, Bentein, and Vandenberghe (2002) French adaptation of Meyer et al.'s (1993) occupational commitment questionnaire. Affective Occupational Commitment (AC) was assessed using six items ( $\alpha_{t1} = .830$ ;  $\alpha_{t2} = .840$ ; e.g., *I am enthusiastic about my occupation as school principal*). Normative Occupational Commitment (NC) was measured using six items ( $\alpha_{t1} = .863$ ;  $\alpha_{t2} = .858$ ; e.g., *I would be violating people's trust in me if I left my occupation as school principal now*). Continuance Occupational Commitment (CC) was assessed using four items that define employees' perceived costs of leaving the occupation ( $\alpha_{t1} = .773$ ;  $\alpha_{t2} = .817$ ; e.g., *I cannot imagine leaving my occupation as school principal because of the substantial investment in learning it required of me*). Responses to these items were provided on a 5-point Likert-type scale (1 = Completely Disagree and 5 = Completely Agree).

**Schoolboard Transformational Leadership.** Participants' perception of schoolboard transformational leadership practices was assessed using a 7-item ( $\alpha_{t1} = .934$ ;  $\alpha_{t2} = .940$ ; e.g., *The schoolboard communicates a clear and positive vision of the future*) measure (Carless, Wearing, & Mann, 2000; French-Canadian version by Fernet et al., 2015). The referent was changed to refer to the schoolboard (the closest thing to a supervisor for school principals). This scale condenses seven facets of transformational leadership (vision; staff development; supportive leadership; empowerment; innovative thinking; lead by example; and charisma) into a measure of transformational leadership. Responses were provided on a 5-point Likert-type scale (1 = Completely Disagree and 5 = Completely Agree).

**Involvement in the Decision Process.** Participant's participation in decisions involving their own work was assessed using five items ( $\alpha_{t1} = .819$ ;  $\alpha_{t2} = .822$ ) taken from the Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins, & Klesh, 1979; French-Canadian version by Fernet, Lavigne, Vallerand, & Austin, 2014). In this study, the referent was changed to refer to the schoolboard (e.g., *The schoolboard encourages me to participate in important decisions*). These items were rated on a 4-point Likert type scale (1 = Completely Disagree and 4 = Completely Agree).

**Quality of Interpersonal Relationships with Other School Managers.** To assess the extent to which participants' felt that their need for relatedness and support was met at the level of the interpersonal relationships they shared with other school managers, we relied on a 5-item subscale ( $\alpha_{t1} = .955$ ;  $\alpha_{t2} = .952$ ; e.g., *Presently, in my relationships with other school managers, I feel appreciated*) developed by Richer and Vallerand (1998). These items were rated on a 5-point rating scale (0 = Not at All and 4 = Extremely). This scale has been used by researchers in the past as a measure of relatedness need satisfaction (Auzoult, 2013; Brien et al., 2012) aligned with SDT (Ryan & Deci, 2000).

**Psychological Distress.** Participants' psychological distress was assessed using Ilfeld's (1976) Psychiatric Symptom Index, as adapted to French by Préville, Boyer, Potvin, Perrault, and Légaré (1992). This questionnaire includes four subscales covering symptoms of depression (5 items;  $\alpha_{t1} = .750$ ;  $\alpha_{t2} = .809$ ; e.g., *I felt hopeless about the future*), cognitive difficulties (2 items;  $\alpha_{t1} = .855$ ;  $\alpha_{t2} = .891$ ; e.g., *I had trouble*

*remembering things*), anxiety (3 items;  $\alpha_{t1} = .737$ ;  $\alpha_{t2} = .802$ ; e.g., *I felt fearful or afraid*), and irritability (4 items;  $\alpha_{t1} = .788$ ;  $\alpha_{t2} = .847$ ; e.g., *I got angry over things that are not too important*). Participants were asked to indicate the frequency to which they experienced each symptom during the past week on a 4-point rating scale (1 = Never and 4 = Always).

**Job Satisfaction.** Participants' satisfaction with their work was assessed with an adapted version of the French-Canadian version (Blais, Vallerand, Pelletier, & Brière, 1989) of the Satisfaction With Life Scale (Diener, Emmons, Larsen, & Griffin, 1985; French-Canadian version by Richer, Blanchard, and Vallerand, 2002), wherein the term "life" was replaced by "job". All five items from this measure ( $\alpha_{t1} = .842$ ;  $\alpha_{t2} = .864$ ; e.g., *I am satisfied with my job*) were rated on a 7-point Likert type scale (1 = Completely Disagree and 7 = Completely Agree).

**Turnover Intentions.** Participants' intentions to leave their occupation was measured using three items developed by O'Driscoll and Beehr (1994) in which participants were asked if they: (i) thought about leaving their occupation, (ii) planned to start looking for a new occupation (other than being a school principal) within the next 12 months, and (iii) wish to change occupation within the next three years. One item was added to this scale to account for the influence of the current socio-economic context in Quebec on employees' turnover intentions (i.e., *If the economic context was favorable, I would actively try to find a new occupation*). All four items ( $\alpha_{t1} = .889$ ;  $\alpha_{t2} = .899$ ) were rated on a 7-point Likert type scale (1 = Completely Disagree and 7 = Completely Agree).

**Work-life Imbalance.** Participants' levels of work-life imbalance, reflecting the extent to which their work as a school principal interfered with other spheres of their life was assessed using five items ( $\alpha_{t1} = .925$ ;  $\alpha_{t2} = .935$ ; e.g., *My work interferes with the other activities in my life*) originally developed in French by Vallerand, Paquet, Philippe, and Charest (2010). All items were rated on 7-point Likert type scale (1 = Completely Disagree and 7 = Completely Agree).

## Analyses

### Model Estimation and Missing Data

All analyses were done in *Mplus* 8.2 (Muthén & Muthén, 2018) using the robust maximum Likelihood estimator (MLR), and Full Information Maximum Likelihood (FIML) to handle missing data. FIML made it possible to estimate all models using the full sample of participants who completed at least one measurement point ( $n = 525$ ) without relying on a suboptimal deletion of participants who completed a single measurement point. FIML was also used to handle the very small amount of within-wave missing responses at the item level (Time 1: 0% to 1.6%,  $M = .58\%$ ; Time 2: 0% to 1.90%,  $M = .54\%$ ) as part of the estimation of the preliminary measurement models reported in the online supplements and described in the next section. FIML has a level of efficacy comparable to that of multiple imputation, but is more efficient in the presence of large amounts of missing data (Enders, 2010; Graham, 2009). Just like multiple imputation, FIML is tenable under Missing At Random (MAR) assumptions, allowing the probability of missingness on any variable to be unrelated to the values of that variable conditional on all other observed and latent variables included in the model. The tenability of MAR is enhanced in repeated measures longitudinal designs to the extent that even if missingness on a specific variable was a function of values on this same variable at a specific time point, this missingness could still be accounted for by the availability of this same variable at other time points (e.g., Newman, 2014). As such, FIML can be considered to be robust to attrition-related differences on all key study variables.

### Preliminary Analyses

Factor scores from preliminary measurement models reported in the online supplements were used as profile indicators, predictors, and covariates (see Table S1 for model fit information, Table S2, S3 and S4 for the parameter estimates from the longitudinally invariant measurement models of the profile indicators, the profile predictors, and the profile outcomes, respectively). To make sure that the measures were comparable over time, these factor scores were saved from invariant longitudinal models (Millsap, 2011) in standardized units with  $M = 0$  and  $SD = 1$ . Although factor scores are not as robust to measurement errors as latent variables, they afford a partial control for unreliability by giving more weight to more reliable items (Skrondal & Laake, 2001) and preserve the measurement structure (e.g., invariance) better than scale scores (Morin, Boudrias et al., 2016; Morin, Meyer et al., 2016). Variable correlations, and reliability

information is reported in Table S5 of the online supplements.

### Main Models

**Latent Profile Analyses and Test of Profile Similarity.** The factor scores representing AC, NC, and CC at each time point were used to estimate time-specific profiles of participants. At each separate time point, we estimated Latent Profile Analyses (LPA) solutions including 1 to 8 profiles in which the means and the variances of the profile indicators were freely estimated (Diallo, Morin, & Lu, 2016; Morin, Maïano, Nagengast, Marsh, Morizot, & Janosz, 2011; Peugh & Fan, 2013). To avoid model convergence on a local maxima and to maximize the replicability of the best log likelihood value, all of the main analyses (latent profile, latent transitions) were estimated with 10000 random sets of start values, each of which was allowed 200 iterations, and the 500 strongest solutions were retained for final stage optimization (Hipp & Bauer, 2006; McLachlan & Peel, 2000). The key objective of these analyses was to verify that the same number of profiles would be identified at each time point. Once the selection of the optimal time-specific solutions, in terms of number of profiles, was completed, these two solutions were integrated into a single longitudinal LPA to conduct longitudinal tests of profile similarity.

These tests were realized according Morin and Litalien's (2017) longitudinal adaptation of the sequential strategy proposed by Morin, Meyer et al. (2016). The first step verifies whether the same number of profiles would be identified at both time points. This test of configural similarity corresponds to the results from the previous time-specific LPA. Configural similarity is a prerequisite to all other similarity tests. Once the two time-specific LPA are combined into a single longitudinal model, equality constraints can be progressively integrated. The second step assesses structural similarity through the inclusion of equality constraints on the means of the profile indicators across time points. This step thus verifies whether the estimated profiles retain the same shape over time, and is also a prerequisite to the further steps. The third step assesses dispersion similarity through the inclusion of equality constraints on the variance of the profile indicators over time. This step thus verifies whether the within-profile variability (i.e., inter-individual differences between profile members) remains the same over time. This step is not, however, a prerequisite to the following step, which assesses the distributional similarity through the inclusion of equality constraints on the class probabilities over time. This step thus verifies whether the sizes of the profiles remains unchanged over time.

**Latent Transition Analyses.** The most similar model was converted to a Latent Transition Analysis (Collins & Lanza, 2010) to assess within-person stability and transitions in profile membership (Kam et al., 2016). This conversion was done via the manual implementation of the auxiliary three-step approach (Asparouhov & Muthén, 2014) advocated by Morin and Litalien (2017). This approach: (i) preserves the complete similarity of the longitudinal LPA solution while also estimating profile transitions over time; (ii) ensures that the definition of the profiles remains unchanged when including covariates (predictors, outcomes; e.g., Diallo, Morin, & Lu, 2017). Essentially, this approach relies on participants' modal class assignment from the most similar model from the previous sequence, but "corrects" this modal assignment by taking into account the probability of each participant being a member of all other latent profiles. Readers interested in implementing this approach should consult Morin and Litalien (2017).

**Demographic Controls and Predictors.** Demographic controls (measured at Time 1) and predictors (measured at Time 1 and 2) of profile membership were directly integrated to this LTA model via a multinomial logistic regression function. In terms of demographics, we considered sex (coded 0 = Female and 1 = Male), age (in years), level of education (0 = undergraduate university degree, 1 = higher than undergraduate university degree but lower than a master's degree; 2 = master's degree; 3 = doctorate degree), relationship status (0 = in a spousal relationship; 1 = not in a spousal relationship), number of children at charge in the household environment, tenure in the current function (in years), and average number of overtime hours worked per day on the weekend. We also considered participants' reports of the number of employees in their schools and estimates of the school SES (1 = Favorable, 2 = Average, and 3 = Unfavorable).

For the demographics, three alternative models were estimated and contrasted to verify whether their inclusion was required within the second set of substantive predictive models given the previously demonstrated variable-centered associations of demographic characteristics with occupational commitment

mindsets (Spurk et al., 2019). First, associations between the demographics and participants' likelihood of membership into the various profiles were allowed to differ across time points (the prediction of membership into T1 profiles was allowed to differ from the prediction of membership into T2 profiles), and predictions of membership into T2 profiles were allowed to differ as a function of membership into T1 profiles. This second component (i.e., variation as a function of membership into T1 profiles) sought to verify whether the demographics could directly influence specific profile transitions (i.e., participant likelihood of moving from one specific T1 profile to one specific T2 profile). In a second model, associations between the demographic controls and participants' likelihood of membership into the various profiles were allowed to differ across time points (as in the previous model) but not as a function of membership into T1 profiles. Finally, a third model of predictive similarity was estimated in which the associations between the demographic controls and participants' likelihood of membership into the various profiles were constrained to be equal over time. The same sequence of tests was then repeated with the predictors. In these models, the T1 predictors were allowed to predict the T1 profiles, while the T2 predictors were allowed to predict the T2 profiles. An additional, null effects model, was estimated for the demographic controls to verify whether their inclusion improved model fit. In this model, all relations between demographics and the profile membership were fixed to be zero.

**Outcomes.** Outcomes (measured at T1 and T2) were also directly integrated to the final LTA model. Outcome measures were specified as related to profile membership at the matching time point. Mean-level differences were tested in a single step using the multivariate delta method (Raykov & Marcoulides, 2004). Following Morin, Meyer et al. (2016), two models were contrasted in which profile-to-outcomes associations were either allowed to differ across time points or constrained to equality across time points. The global model tested in the present study across all analyses is illustrated in Figure 1.

**Model Selection and Comparison.** To determine the optimal number of profiles present at each time point, it is first important to consider the meaning, theoretical conformity, and statistical adequacy of the solution (Marsh, Lüdtke, Trautwein, & Morin, 2009; Muthén, 2003). A variety of statistical indices can also be used to guide this process (McLachlan & Peel, 2000): (i) the Akaike (1987) Information Criterion (AIC), (ii) the Consistent AIC (CAIC; Bozdogan, 1987), (iii) the Bayesian Information Criterion (BIC; Schwartz, 1978), (iv) the sample-size Adjusted BIC (ABIC; Sclove, 1987), (v) the adjusted Lo, Mendel and Rubin's (2001) Likelihood Ratio Test (aLMR), and (vi) the Bootstrap Likelihood Ratio Test (BLRT; McLachlan & Peel, 2000). A lower AIC, CAIC, BIC, and ABIC value suggests a better-fitting solution. A statistically significant aLMR and BLRT supports the value of a solution relative to one including fewer profiles. Finally, the entropy summarizes the classification accuracy of the solution (from 0 to 1).

Statistical simulation studies demonstrated the utility of the CAIC, BIC, ABIC and BLRT, but not that of the AIC and ALMR (e.g., Diallo, Morin, & Lu, 2016, 2017; Nylund, Asparouhov, & Muthén 2007; Peugh & Fan, 2013; Tein, Coxe, & Cham, 2013; Tofighi & Enders, 2008). We report these two indicators to ensure complete disclosure, but will not use them to guide model selection. In addition, all of these tests are heavily influenced by sample size (Marsh et al., 2009). For this reason, they often keep on suggesting adding profiles to the solution. When this happens, the point at which indicators reach a plateau on a graphical representation (referred to as an elbow plot) can be used to guide model selection (Morin, Maïano et al., 2011). Finally, when testing profile similarity or contrasting alternative predictive models, Morin, Meyer et al. (2016) suggest that at least two indices out of the CAIC, BIC, and ABIC should be lower for the more "similar" model to be supported.

## Results

The fit indices for the LPA models estimated separately at both time points are reported in Table 1, and graphically represented in Figure S1 and S2. As can be seen in both elbow plots, all indices seem to follow similar tendencies, and to keep on decreasing until reaching the 8-profile solution. Yet, their decrease seems to reach a first plateau around 3 profiles, and a second more pronounced one around 5 profiles at both time points. Solutions including 5 profiles, together with adjacent 4- and 6-profile solutions were thus inspected. A first noteworthy observation is that these solutions already displayed a high level of similarity across time points, providing early evidence of configural similarity. Furthermore, adding a fifth profile to the solution clearly enriched the results at both Time 1 and Time 2 through the addition of a well-defined

and meaningfully distinct profile in terms of shape (corresponding to Profile 2, described below). Conversely, adding a sixth profile simply resulted in the arbitrary division of one of the existing profiles into smaller ones characterized by less than 1% of the sample at Time 2. For this reason, the 5-profile solution was retained at both time points for tests of longitudinal similarity.

The results from these tests of profile similarity are reported in Table 1. Relative to the model of configural similarity, the model of structural similarity resulted in lower CAIC and BIC, thus supporting the idea that profiles had the same structure over time. Decreases in CAIC and BIC also supported the dispersion (within-profile variability), and distributional (profile sizes) similarity of the solution over time. These results support Hypothesis 2, which expected profile similarity to be observed in this study.

This model of distributional similarity was thus retained for further stages of analyses and for interpretation. The parameter estimates from this solution are reported in Table S6 of the online supplements, and graphically illustrated in Figure 2. The first profile is characterized by average levels of AC, and by very low levels of NC and CC. This *Low AC Dominant* (i.e., we use *Low* to reflect the fact that global levels of commitment remain low across mindsets in this profile, and to contrast it with Profile 4 where AC levels are above average) profile corresponds to 12.5% of the sample. The second profile is characterized by very low levels of AC, average levels of NC and high levels of CC. This *CC Dominant* profile is the smallest and corresponds to 7.7% of the sample. The third profile is characterized by average levels of AC, NC and CC. This *Moderately Committed* profile is the largest and corresponds to 34.6% of the sample. The fourth profile is characterized by high levels of AC, and low levels of NC and CC. This *AC Dominant* (or Emotionally Committed) profile corresponds to 17.5% of the sample. Finally, the fifth profile is characterized by moderately high levels of AC, and very high levels of NC and CC. This *NC/CC Dominant* profile is the second largest, corresponding to 27.8% of the sample. These profiles match Hypothesis 1, with the exception that the *Fully Committed* and *AC/NC Dominant* profiles were not observed, and support the salient role of NC and CC in the definition of many profiles.

### **Latent Transitions**

The within-person transition probabilities from the LTA (built from the distributional similarity LPA solution) are reported in Table 2 and specifically address Research Question 1 related to the stability of profile membership over time. These results first show that the *Low AC Dominant* (1) profile was the least stable, with only 22% of the school principals initially corresponding to this profile remaining in it two years later. Rather, school principals belonging to this *Low AC Dominant* (1) profile had a high probability of transitioning upward to the similarly-shaped *AC Dominant* (4) profile (64.1%), and small probabilities of transitioning downward to the *Moderately Committed* (3: 10.3%) or *CC Dominant* (2: 3.6%) profiles. Likewise, school principals belonging to the *AC Dominant* (4) profile had a high probability of transitioning downward to the similarly-shaped *Low AC Dominant* (1) profile (30.2%), and a lower probability of transitioning to the *Moderately Committed* (3) profile (10.8%). However, this *AC Dominant* (4) profile displayed a moderate level of stability (59%), which was relatively higher than that of the *Low AC Dominant* (1) profile (22%), but lower than that of the remaining profiles. Finally, the remaining profiles (2: *CC Dominant*; 3: *Moderately Committed*; 5: *NC/CC Dominant*) showed a very high level of stability ranging from 97.2% (profile 3) to 100% (profiles 2 and 5). Taking into account the differences in profile size, these results show that 19.5% of the school principals transitioned to a distinct profiles over the two-year period. These results indicate that transitions do indeed occur for some school principals, but that these transitions are limited to profiles dominated by AC, and more frequent among similarly shaped profiles. These results also support the stability of the remaining profiles over time.

### **Demographic Predictors of Profile Membership**

The results associated with the four alternative models in which demographic predictors were incorporated to the model are reported in the second half of Table 1. These results showed that the null effects model resulted in the lowest values on all information criteria, consistent with a lack of relation between these variables and the likelihood of membership into any of the profiles. This conclusion is also consistent with the examination of the parameter estimates associated with the other models. These variables were thus excluded from subsequent analyses.

### **Theoretical Predictors of Profile Membership**

**Main Analyses.** The results from the models estimated to tests the effects of our predictors (interpersonal relationships, transformational leadership, and involvement in decision-making) on profile membership are also reported in the second half of Table 1. To address Research Question 3, related to the stability of these predictions over time, the results showed that the model of predictive similarity, in which the effects of the predictors were equivalent over time and did not play a role in profile transitions, resulted in the lowest values for all information criteria. This model was thus retained for interpretation, and results from the multinomial logistic regressions estimated in this model are reported in Table 3.

As shown in Table 3, neither participants' assessment of the schoolboard transformational leadership or of their own involvement in decision-making had any impact on profile membership. These results thus failed to support Hypotheses 3 and 4, which expected these variables to play a role in the prediction of profile membership. However, the quality of their interpersonal relationships with other school managers shared multiple associations with profile membership. More precisely, participants reporting better, or more satisfactory, relationships had a higher likelihood of membership into the *NC/CC Dominant* (5) profile relative to the *Low AC Dominant* (1) and *CC Dominant* (2) profiles. Likewise, better relationships were associated with a greater likelihood of membership into the *Low AC Dominant* (1), *Moderately Committed* (3) and *AC Dominant* (4) profiles relative to the *CC Dominant* (2) profile. Lastly, higher relationship quality was also associated with a greater likelihood of membership into the *AC dominant* (4) profile relative to the *Low AC Dominant* (1) and *Moderately Committed* (3) profiles. These results thus partially support Hypothesis 5, which expected this variable to play a role in the prediction of profile membership, by showing that better relationships increased the odds of belonging to profiles characterized by higher levels of AC. However, the results also showed that better relationships increased the odds of belonging to the *NC/CC dominant* profile compared to the *low AC dominant* profile.

**Additional Exploratory Analyses.** Following an anonymous reviewer's suggestions, we conducted a final set of exploratory analyses in which factor scores representing Time 2 predictors were replaced by factors scores estimated from a latent change preliminary measurement model (Kam et al., 2016). More precisely, rather than relying on a longitudinal measurement model to save factor scores reflecting T1 and T2 predictor levels, this model was converted to estimate initial levels (T1) on these predictors and change over time in predictor levels (T2-T1). The latent change indicator was then used in the predictive LTA as a replacement for T2 scores. Three alternative models were contrasted in order to verify whether and how changes in predictor levels could influence T2 profile membership and T1-T2 profile transitions. Building on the results from the main predictive analyses, T1 scores on the predictors were allowed to influence the probability of membership into the T1 profiles in all three models. In a first null effects model, the effects of the latent change indicators on the T2 profiles were constrained to zero. In a second model, these effects were freely estimated, but not allowed to vary as a function of T1 profile membership. In a third model, these effects were allowed to vary as a function of T1 profile membership, consistent with an effect on profile transitions. The results from these analyses are reported in Table 1, and support the null effects model, consistent with a lack of additional effect of change in predictor levels.

### **Outcomes of Profile Membership**

In response to Research Question 3 related to the stability of the associations between profiles and outcomes over time, the results reported in the bottom section of Table 1 revealed that the model of explanatory similarity, in which these associations were set to be equal, resulted in the lowest value on all information criteria. This model was thus retained for interpretation. The results from this model are reported in Table 4. First, turnover intentions were highest in the *CC Dominant* (2) profile, and lowest in the *NC/CC Dominant* (5) profile which displayed statistically lower levels of turnover intentions than the *Moderately Committed* (3) profile, but not than the two profiles dominated by AC (1, 4). These results partially support Hypothesis 6, related to associations between profile membership and turnover intentions, showing the profiles dominated by AC to have lower levels of turnover intentions than the CC-Dominant profile. However, they also unexpectedly revealed that the lowest levels of turnover intentions were found in the NC/CC dominant profile, and similar levels of turnover intentions in the Moderately Commitment profile relative to those dominated by AC. These results hinting at a possible synergistic effect of normative commitment when paired with high continuance commitment.

The highest levels of job satisfaction were equally observed in the *AC Dominant* (4), *NC/CC dominant* (5), and *Low AC Dominant* (1) profiles, followed by the *Moderately Committed* (3) profile, and then by the *CC Dominant* (2) profile. These results partially support Hypothesis 7, related to associations between profile membership and job satisfaction, showing the profiles characterized by higher levels of AC, but also the NC/CC dominant profile, to have the highest levels of job satisfaction, and the *CC Dominant* profile to display the lowest levels. These results further illustrate the potential synergistic beneficial effect of NC when paired with high CC.

Three of the psychological distress indicators (i.e., depression, anxiety, and irritability) follow identical associations with the profiles. More precisely, levels on these three indicators were highest in the *CC Dominant* (2) profile, followed by the *Moderately Committed* (3) and *NC/CC dominant* (5), which did not differ from one another, and then by the *Low AC Dominant* (1) and *AC Dominant* (4) profiles, which also did not differ. Levels of cognitive disturbance, the remaining psychological distress indicator, were equally high in the *CC Dominant* (2), *Moderately Committed* (3) and *NC/CC Dominant* (5) profiles, and lowest in the *Low AC Dominant* (1) and *AC Dominant* (4) profiles. These results partially support Hypothesis 8, related to associations between profile membership and psychological distress. In fact, associations observed for depression, anxiety, and irritability fully support Hypothesis 8, whereas those related to cognitive disturbance failed to support the hypothesized distinction between the *CC Dominant* profile relative to the *Moderately Committed* (3) and *NC/CC Dominant* (5) profiles.

Finally, the highest levels of work-life imbalance were associated with the *CC Dominant* (2) profile, followed by the *NC/CC dominant* (5) profile, and then by the remaining three profiles. These three profiles were statistically equivalent apart from the *Moderately Committed* (3) profile which had having higher levels of work-life imbalance than the *Low AC Dominant* (1) profile. These results partially support Hypothesis 9, related to associations between profile membership and work-life imbalance, in supporting the benefits of profiles dominated by AC in terms of work-life imbalance. However, contrary to our expectations, the *Moderately Committed* profile had lower levels of work-life imbalance than the NC/CC dominant profile, and levels equivalent to those observed in the profiles dominated by AC, suggesting that high CC may be driving work-life imbalance, while high NC could help to partially reduce this imbalance in the presence of High CC.

### Discussion

Occupational commitment represents a core indicator, and driver, of employees' lifelong process of adaptation to their occupational career (Baltes et al., 2014; Spurk et al., 2019) and plays a critical role in influencing employees' attitudes and functioning in and out of their occupational roles (Baruch et al., 2014; Klein et al., 2012). Despite the recognition that employees' commitment is typically driven by a combination of three distinct mindsets, only limited research had previously adopted a person-centered approach to study occupational commitment, and none had done so among managers. Our study sought to fill this gap by identifying occupational commitment profiles among a sample of school principals, allowing for a long overdue investigation into the combined influence of occupational commitment mindsets on a series of occupationally-salient (i.e., turnover intentions and job satisfaction) and individually-relevant (i.e. psychological distress and work-life imbalance) outcomes. Moreover, answering the repeated call for longitudinal research in organizational psychology (Avey, Luthans, & Mhatre, 2008; Meyer & Morin, 2016), this study provides evidence of longitudinal similarity in the nature of the identified occupational commitment profiles, whilst also evidencing persistence in membership into similarly shaped profiles. In doing so, this study thus supported the practical and theoretical usefulness of adopting a person-centered approach to study commitment (Meyer & Morin, 2016; Morin, Morizot et al., 2011; Zyphur, 2009). Finally, this study also demonstrated the benefits of ensuring quality interpersonal relationships at work amongst high-level managers, hence providing an avenue for intervention.

### Person-Centered Implications for Commitment Theory

Our results revealed that occupational commitment was best represented via five distinct profiles, which generally matched our expectations (Hypothesis 1), although the hypothesized AC Dominant profile was found to take two different forms (*Low AC Dominant* and *AC Dominant*). The remaining profiles (*CC Dominant*, *NC/CC Dominant*, and *Moderately Committed*) more directly matched our expectations, despite

the fact that two of the expected profiles (*AC/NC Dominant* and *Fully Committed*) did not emerge in the present study. Interestingly, all of the profiles identified in the present study were previously identified in at least three, out of four, of the previous investigations of occupational commitment profiles (Meyer et al., 2019; Morin et al., 2015; Somers et al., 2018; Tsoumbris & Xenikou, 2010). This similarity of results across studies conducted in distinct cultural contexts and among diverse occupational groups lends support to the generalizability of our results. Likewise, and supporting Hypothesis 2, the number, structure, dispersion, and relative size of these profiles were found to be virtually identical over a two-year period, lending further support to this generalizability.

Also matching our expectations, we found that NC and/or CC played a dominant role in the definition of two out of the five profiles, with 35.5% of our sample belonging to one of these profiles. This observation adds to previous research evidence collected among samples of teachers (Morin et al., 2015; Meyer et al., 2019) to support the idea that NC and CC might be particularly salient when the target of the commitment is a socially-valued (NC) specialized (CC) occupation. Indeed, CC to a particular occupation is likely to vary as a function of the employee's perceived ability to generalize their training, skills, and knowledge to other occupations, which is likely to linearly decrease as a function of the level of specialization and length of training required in a specific occupation. Likewise, socially-valued occupations, through the provision of a specific social status to employees (Foa & Foa, 1974, 1980), are also likely to help in nurturing NC. Moreover, those employees who develop a moral obligation (via NC) to a socially-valued occupation may do so before they start practicing this occupation. Thus, for socially-valued occupations requiring a long training process (e.g., physicians, judges, school principals, etc.), mutually-reinforcing relations might emerge whereby increasing NC levels might in turn lead to increasing CC levels. Interestingly, four of the five profiles identified in the present study displayed similar levels of NC and CC, suggesting some degree of interdependence of these two mindsets for the current sample. This observation is consistent with Meyer et al. (1993) report of a high degree of association between these mindsets in their initial study of occupational commitment, as well as with the person-centered results previously reported regarding teachers' occupational commitment profiles (Meyer et al., 2019; Morin et al., 2015). In contrast, the remaining profile was solely dominated by CC. These results and interpretations suggest that, at least among socially-valued specialized occupations, nurturing the emergence of a moral bond to the occupation early on in the training process might help to foster commitment more generally and to avoid the emergence of a *CC-Dominant* profile later on. Obviously, these speculations regarding the role of NC and CC in the emergence of commitment during early training experiences should be more thoroughly investigated in future studies.

Although we expected an *AC/NC Dominant* and a *Fully Committed* profile, these profiles did not emerge in the present study. When considering this unexpected result, it is important to reinforce that person-centered evidence is cumulative, and emerges from multiple studies allowing one to identify a set of dominant profiles that emerge across most studies, and a more peripheral set of occasional profiles (Solinger, Van Olffen, Roe & Hofmans, 2013). For instance, in their comprehensive review of person-centered research on organizational commitment, Meyer and Morin (2016; also see Kabins, Xu, Bergman, Berry & Willson, 2016) showed that even though some profiles could be considered to emerge quite regularly across studies, the *CC-Dominant* profile was the only one to emerge across all studies. However, when we do consider the specific nature of the profiles identified in this study, it is interesting to note that they seem to match Kabins et al. (2016) theoretical proposition that commitment profiles would typically be underpinned by two distinct forms of psychological processes. On the one hand, value-based profiles (i.e., profiles dominated by AC) should be driven by an intrinsic desire to uphold a bond with the target of the commitment (i.e., the occupation in the present study). On the other hand, exchange-based profiles (i.e., profiles dominated by NC, CC, or NC/CC) should be driven by more extrinsic forms of social (NC) or economical/practical (CC) obligations. This is what our results seem to demonstrate. Indeed, using the labels initially proposed by Meyer and Morin (2016), our results show that school principals appeared to be mainly driven by intrinsic feelings of emotional attachment differing in intensity (*AC Dominant* or *Low AC Dominant*) or by an extrinsic sense of entrapment (*CC Dominant*) or indebtedness (*NC/CC Dominant*), leaving a final profile apparently driven by a more moderate approach showing balance across mindsets

(*Moderately Committed*). These observations suggest that, as far as school principals are concerned, a work orientation mainly fueled by feelings of emotional attachment to the occupation makes it impossible for matching levels of entrapment or investment to emerge. Alternatively, a work orientation mainly fueled by extrinsic drivers seems to make it difficult for school principals to develop matching levels of emotional attachment to an occupation that provides so few opportunities for alternative career pathways. Clearly, future research would be needed to better document the generalizability of the present findings to other samples of school principals, high level managers, and occupational groups more generally.

Finally, in response to Research Question 1, our results revealed a high level of within-person stability in profile membership over time. Indeed, only 19.5% of the participants transitioned to another profile, and those who did so systematically transitioned to a similarly-shaped profile. As expected, 75.4% of all transitions were limited to the similarly shaped *AC Dominant* and *Low AC Dominant* profiles, with a greater percentage of employees transitioning upwards to the *AC Dominant* profile (9.64% of the entire sample), as opposed to downwards to the *Low AC Dominant* profile (5.06% of entire sample). This observation suggests that the intensity of commitment might be more malleable (Spurk et al., 2019) over time in profiles dominated by AC, supporting the idea that targeting AC for intervention may be worthwhile (Kam et al., 2016; Meyer et al., 2019; Morin et al., 2015). In contrast, membership into profiles dominated by CC and/or NC might be harder to modify, as shown by the fact that only 3.9% of the sample transitioned out of a value-based profile into either of the *Moderately Committed* or *CC-Dominant* profiles. Finally, the fact that none of the employees initially belonging to the *CC Dominant* and *NC/CC Dominant* profiles transitioned to another profile two years later reinforce our speculations regarding the salience of NC and CC among socially-valued specialized occupations. Overall, these results regarding the within-sample and within-person stability of the identified profiles support the idea that these profiles reflect relatively persistent psychological states (Gellatly et al., 2006), possibly impacted by dispositional factors (Mowday, Porter, & Steers, 1982), and that can be used to guide generalizable interventions targeting specific types of employees (Meyer & Morin, 2016). Likewise, the observation of within-person variability in profile membership does also support the idea that profiles retain some level of malleability, and that change and intervention is possible (Spurk et al., 2019).

### **Predicting Occupational Commitment Profile Membership**

Partially supporting Hypothesis 5, anchored in SDT (Ryan & Deci, 2017), our results suggest that exposure to an environment allowing employees to experience positive social relationships, and thus supporting their basic need for relatedness, was beneficial in terms of occupational commitment. School principals who reported greater satisfaction in their relationships with other school managers were less likely to belong to the *CC Dominant* profile relative to all other profiles, and had increased odds of membership into the *AC Dominant* and *NC/CC Dominant* profiles (both of which have higher AC, NC and CC) relative to the *low AC Dominant* one. Healthy work relationships appear to help foster commitment profiles characterized by high levels of affective attachment to one's occupation, or by a strong sense of responsibility (NC/CC). Considering that high-level managers have fewer opportunities to interact with peers of a similar hierarchical level than typical employees, making sure that a functional communication network exists to facilitate positive social interactions should be a priority for anyone interested in improving AC accompanied, or not, by a strong sense of work responsibilities (NC/CC). Peer mentoring and coaching would be alternative avenues to reinforce such social connectedness.

Contrary to our expectations, expressed within Hypotheses 3 and 4, our results failed to reveal associations between employees' perceptions of schoolboard transformational leadership or involvement in the decision-making process, and their likelihood of profile membership. Although this result was unexpected, it could be related to our focus on high-level managers who, by nature, rely on substantial level of autonomy and have been found to be particularly sensitive to the relational aspects of their job (Fernet, Torrès, Austin, & St-Pierre, 2016). As such, our results suggest that schoolboard leadership practices do not play a substantive role in school principals' daily operations, at least not to the extent of impacting their commitment to their occupation. Indeed, social exchange theory could lead us to expect stronger relations between isomorphic (i.e., related to matching targets) variables (Blau, 1964; Cropanzano & Mitchell, 2005; Lavelle et al., 2007), suggesting that schoolboard practices might have a greater impact on school principals

commitment to the schoolboard itself, rather than to their occupation. Likewise, proximal determinants related more directly to schools principals daily actions, such as their perceptions of their own ability to lead (need for competence) or of being impeded or supported in their actions by the school staff (need for autonomy) could play a greater role in driving occupational commitment. These possibilities should be examined in future research.

Another explanation for these results comes from the fact that we only considered the additive effects of the predictors treated as independent variables, when researchers have recently demonstrated that a balance between the three basic needs may be just as important as having elevated levels on any single one (Sheldon & Niemec, 2006). Although this proposition has so far been supported in relation to employees' need satisfaction (Gillet, Morin, Choisy, & Fouquereau, 2019; Gillet, Morin, Huart, Colombat, & Fouquereau, 2019; Tóth-Király, Bőthe, Orosz, & Rigó, 2018), it has yet to be more systematically tested in relation to work-related need supporting and thwarting work conditions (e.g., Tóth-Király, Morin, Bőthe, Orosz, & Rigó, 2018), as well as in relation to the prediction of commitment profiles. Clearly, this is another avenue that might prove profitable for future research.

### **Outcomes of Commitment Profiles**

Our results supported Hypotheses 6 to 9 regarding the benefits associated with membership into profiles dominated by AC, particularly the *AC Dominant* one, in relation to all outcomes. Indeed, the *AC Dominant* profile presented the lowest levels of psychological distress (together with the *Low AC Dominant* profile), turnover intentions (together with the *Low AC Dominant* and *NC/CC Dominant* profiles), and work-life imbalance (together with the *Low AC Dominant* profile), coupled with the highest levels of job satisfaction (together with the *Low AC Dominant* and *NC/CC Dominant* profiles). These results add to the already abundant research evidence demonstrating the benefits of AC (Cooper-Hakim & Viswesvaran, 2005; Lee et al., 2000; Spurk et al., 2019), and of membership into AC-dominated profiles (e.g., Meyer et al., 2019; Morin et al. 2015; Somers et al., 2018), for a range of outcomes. It was, however, interesting to note that, within profiles dominated by AC, AC levels did not seem to matter in relation to the outcomes considered in the present study as outcome levels observed in the *Low AC Dominant* profile were impossible to differentiate from those observed in the *AC Dominant* one. Pending evidence of generalization to other outcomes, this result seems to suggest that it is the presence of an occupational orientation dominated by AC (i.e., levels of AC relative to levels of NC and CC), more than AC levels in themselves, that appears to drive the benefits associated with these profiles. However, when considering these results, it remains important to note that the levels of AC observed in these two profiles were not especially high (i.e., moderate, and moderately high). It would be interesting to see whether these results generalize to future studies revealing profiles dominated by even higher levels of AC.

Also supporting Hypotheses 6 to 9, we found that the *Moderately Committed* profile presented lower levels of psychological distress (depression, anxiety, and irritability), turnover intentions, and work-life imbalance, as well as higher levels of job satisfaction, than the *CC Dominant* profile. This result is consistent with the idea that, on its own, the sense of entrapment that defines CC can be harmful for employees. However, our results regarding the *NC/CC Dominant* profile failed to match expectations, expressed via Hypotheses 6 and 7, in showing that this profile presented outcome levels that were either as desirable as those observed in the profiles dominated by AC (job satisfaction, turnover intentions). This result suggests that the meaning of CC changes when combined to high levels of NC to reflect a form of moral bond or feelings of indebtedness (Meyer & Morin, 2016) carrying more desirable outcomes. Our results support this assertion, and previous claims that the main benefits of NC are likely to be synergistic (Meyer & Parfyonova, 2010), at least in terms of job satisfaction and turnover intentions. Indeed, these benefits did not generalize to all outcomes. Thus, although the *NC/CC Dominant* profile fared better than the *CC Dominant* one in terms of work-life imbalance levels, these levels remained substantially lower in this profile relative to the others. Likewise, when considering psychological distress, levels observed in this *NC/CC Dominant* profiles, albeit lower than those observed in the *CC Dominant* profile for most facets of psychological distress apart from cognitive disturbances, were comparable to those observed in the less desirable *Moderately Committed* profile. This last observation suggests that, although there are some professional advantages (i.e., higher job satisfaction, lower turnover intentions) to displaying such a moral

bond to one's occupation, these advantages do not generalize to personal outcomes (work life imbalance and psychological distress) which seem to benefit most from an AC-driven orientation.

To summarize, these results confirm the beneficial effects of belonging to profile dominated by AC, irrespective of the levels of AC observed in this profile, while also demonstrating the often-overlooked importance of NC's synergistic effect on work outcomes (Meyer & Parfyonova, 2010). These results also support our initial expectations regarding the likely role, and salience, of NC, CC, and their combination, for specialized employees occupying socially valued occupations. In this context CC, when experienced on its own, appear to create a burden due to the important costs associated with leaving the occupation. In contrast, an awareness of these costs, when coupled with an impression of being invested in a socially important mission, appears to help allay the risks associated with these feelings of entrapment.

### **Limitations and Future Directions**

A first limitation of the current study is related to our inability to assess the generalizability of the results beyond the current sample of French-Canadian school principals. The fact that our profiles match those obtained from prior dual-commitment studies (Meyer et al., 2019; Morin et al., 2015) is encouraging, but these studies also focused on a similar line of work (teaching) to the one considered here. More studies are needed across a broader range of occupations to establish cross-sample stability of the identified profiles to distinct occupations, organization settings, and cultural groups. In particular, although some interpretations invoke the social prestige and level of specialization associated with the school principal occupation, these speculations require verification in the context of studies considering a far wider range of occupations varying along these two possibly crucial dimensions. Furthermore, previous scholars have suggested that the importance of various commitment mindsets, particularly NC, may vary across cultures. In particular, NC, as well as the AC/NC combination (i.e., moral commitment) seems to be particularly important in Asian societies and collectivistic cultures (e.g., Morin et al., 2015). Although this could possibly explain why this combination did not emerge in the present study, it also reinforces the importance to more carefully consider the cross-cultural generalizability of results. In addition, it appears critical for future studies to consider a wider range of predictors designed to better capture the psychological processes underpinning these effects at different stages of employees' career.

In terms of prediction, the limited range of effects associated with predictors should not be taken as contradicting SDT expectations (Ryan & Deci, 2017) regarding the role of need supportive work environment characteristics. Indeed, our results did support the beneficial role of interpersonal relationships (i.e., need for relatedness) as a predictor of membership into more desirable commitment profiles. However, the lack of effects associated with the remaining predictors (schoolboard transformational leadership and involvement in decisions) might indicate that these measures, referring to schoolboard practices, may have failed to capture critical components of basic need satisfaction for school principals. Future research considering a wider range of predictors (such as principals' self-efficacy, or feelings of being impeded or supported in their work by the school staff or even governmental policies, union representatives and the community) is required to more thoroughly investigate these questions.

Our study is also limited by its reliance on self-report measures, and would have benefited from more objective measures, such as actual turnover data, objective measures of school performance, and/or a combination of self-report and informant-report measures. Although, as we noted in the introduction, the need for person-centered research focusing primarily on occupational commitment profile was important, it would also be interesting for future research to more extensively verify whether the profiles identified change or not when other targets of commitment are simultaneously considered. In particular, commitment to ones' colleagues, supervisor, customers, or even personal life appear to have suffered from a relative neglect within commitment research (Meyer & Morin, 2016; Perreira et al., 2016).

Lastly, any longitudinal study faces a difficult interpretation of time as a variable of interest, one that merits investigation and replication. The current study focused on a relatively long-time interval, two years, based on the a priori expectation that the nature of occupational commitment profiles should persist for long periods of time, while also maximising the chances of observing profile transitions. However, a clear limitation of relying on longer time intervals (i.e. two years) is the possibility that employees might have transitioned back and forth between profiles, rendering our conclusions of within-profile stability imprecise

at best. Moreover, it is possible that such a lengthy time lapse between data waves led to an increase in attrition, thus limiting the number of participants who answered the questionnaire at both time points to only 30% of the current sample, and thus the generalizability of our results. Thus far, evidence for within-profile stability is limited to the current study (occupational commitment), and to that of Kam et al. (2016; organizational commitment) who found within-profile stability over an eight-month period. More studies are needed to explore within-profile stability of commitment profiles, using different time intervals, or possibly, more than two time-points in the LTA. Importantly, although we found no evidence that the predictors considered here could play a role in influencing profile transitions, future studies should look deeper into psychological, organizational, and even familial changes occurring over time which could possibly help to understand the key drivers of profile transitions.

### Concluding Remarks

It is somewhat disconcerting, when one stops to think about the implications of occupational commitment, that so few academics have chosen to focus their attention to this specific construct. Indeed, from a social perspective, occupational commitment lies at the core of critically important societal issues such as labor shortages in specific occupations (e.g., teachers, physicians, nurses) and systematic employee discontent across organizations dealing with the same occupation (e.g. nurses working in various sectors and work settings). For judges, nurses, teachers, politicians, soldiers, firefighters and police officers, to name but a few socially vital occupations, the decision to follow these specific vocational paths is likely to come from individuals' early identification with the core values, principles, and objectives of these occupations. From this perspective, it appears important for education systems, and society as a whole, to provide the context necessary for this process of occupational identification to flourish in a positive manner early on in the training and work trajectories of these individuals. In this sense, the practical relevance of the current study may depend on the acknowledgement that occupational commitment profiles are a necessary avenue for future research if society is to maintain an adequate influx of employees properly committed to their occupation. The current study provides a practical avenue for future interventions by demonstrating that nurturing positive social relationships at work helps to improve occupational commitment amongst high-level public sector managers. Our results also suggest that changes in commitment mindsets remain possible later in the career, even in the absence of intervention, thus increasing the likelihood of that an intervention may actually be able to influence commitment mindsets. In this regard, we hope the current study will help to guide future commitment research efforts aiming to achieve a better understanding of these key processes that influence the development and maintenance of employee commitment to socially vital occupations.

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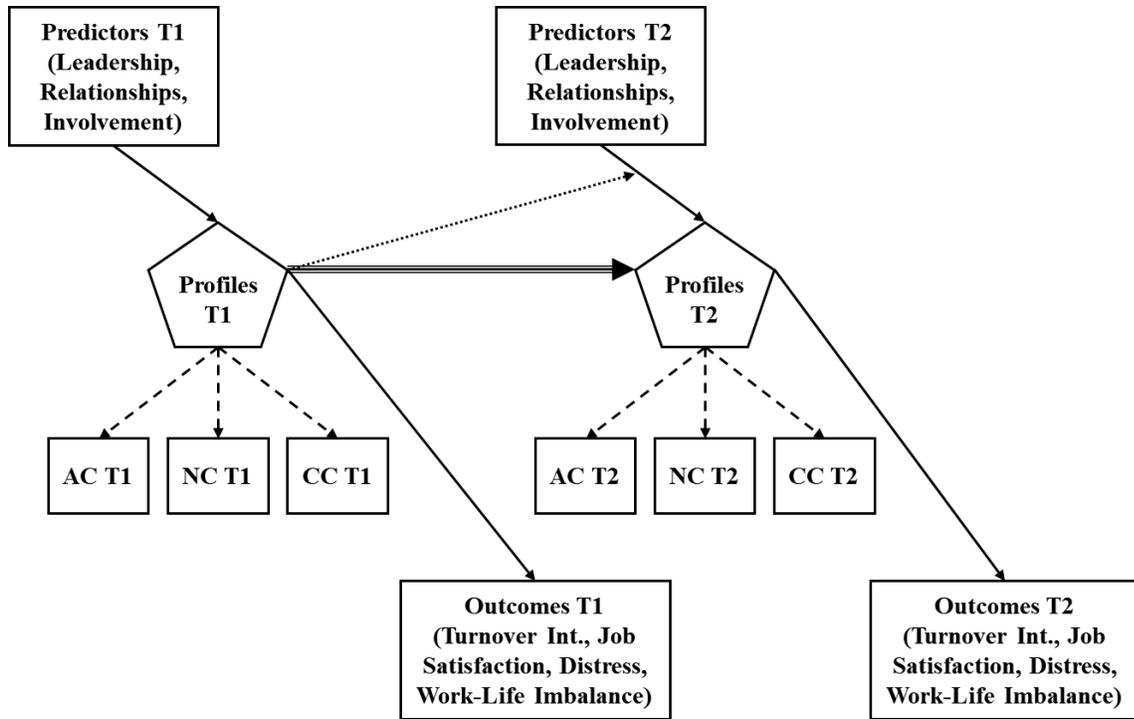
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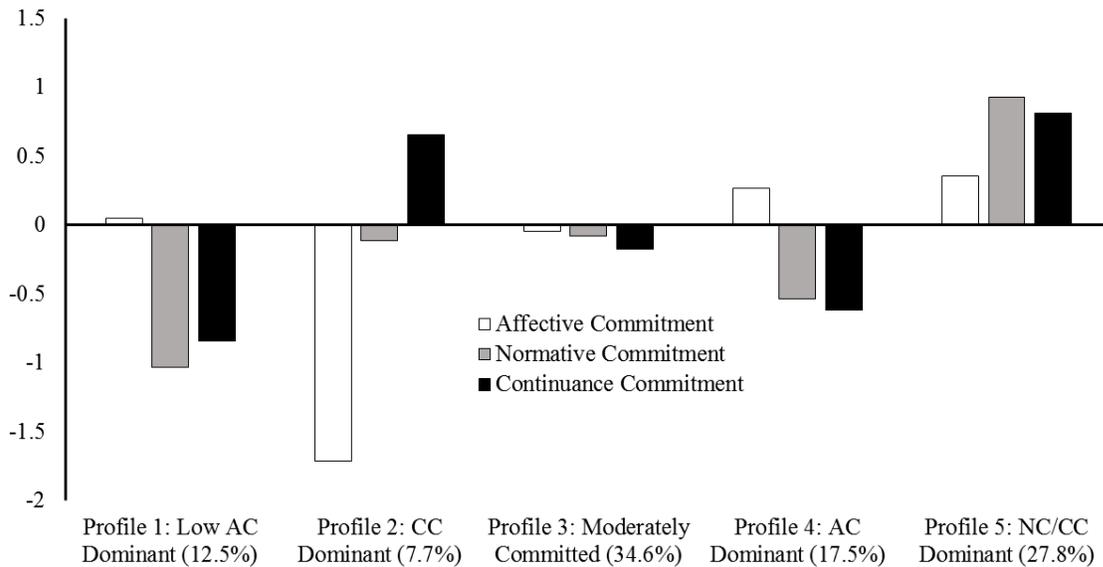
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**Figure 1.** Theoretical Model Tested in this Study.

*Note.* This model estimates a series of latent profiles (pentagons) at two time points (T1 and T2), and transitions across profiles between T1 and T2 (large arrow). At each time point, the profiles are estimated from three indicators (dashed arrows) reflecting affective (AC), normative (NC), and continuance commitment (CC) to the occupation. We will also test associations between predictors and outcomes, measured at both time points (small arrows), and profile membership, as well as the possibility (small dotted arrow) for predictors to directly influence profile transitions (i.e., for the effects of predictors on T2 profiles to be moderated by T1 profiles).



**Figure 2.** Final 5-Profile solution of distributional similarity.

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

**Table 1**  
*Results from the Latent Profile and Latent Transition Analyses*

Model	LL	#fp	S.C.	AIC	CAIC	BIC	ABIC	Entropy	aLMR	BLRT
<b>Latent Profile Analysis Time 1</b>										
1 Profile	-2032.606	6	1.269	4077.212	4108.793	4102.793	4083.747	Na	Na	Na
2 Profiles	-1758.340	13	1.442	3542.679	3611.103	3598.103	3556.838	.916	≤ .001	≤ .01
3 Profiles	-1621.039	20	1.453	3282.079	3387.347	3367.347	3303.862	.810	≤ .001	≤ .001
4 Profiles	-1565.271	27	1.217	3184.541	3326.653	3299.653	3213.948	.807	≤ .001	≤ .001
5 Profiles	-1513.759	34	1.088	3095.518	3274.473	3240.473	3132.549	.810	.062	≤ .001
6 Profiles	-1480.735	41	1.090	3043.470	3259.269	3218.269	3088.125	.835	.021	≤ .001
7 Profiles	-1448.637	48	1.065	2993.273	3245.916	3197.916	3045.552	.840	.049	≤ .001
8 Profiles	-1420.514	55	1.040	2951.029	3240.516	3185.516	3010.932	.831	≤ .001	≤ .001
<b>Latent Profile Analysis Time 2</b>										
1 Profile	-1856.446	6	1.404	3724.891	3756.472	3750.472	3731.426	Na	Na	Na
2 Profiles	-1622.858	13	3.020	3271.715	3340.139	3327.139	3285.874	.722	.410	≤ .001
3 Profiles	-1495.212	20	1.564	3030.424	3135.692	3115.692	3052.207	.832	≤ .001	≤ .001
4 Profiles	-1430.595	27	1.498	2915.189	3057.301	3030.301	2944.596	.830	.083	≤ .001
5 Profiles	-1375.925	34	1.172	2819.850	2998.806	2964.806	2856.881	.814	≤ .001	≤ .001
6 Profiles	-1339.624	41	1.369	2761.248	2977.047	2936.047	2805.903	.819	.467	≤ .001
7 Profiles	-1302.226	48	1.278	2700.452	2953.095	2905.095	2752.731	.799	.238	≤ .001
8 Profiles	-1268.864	55	1.143	2647.728	2937.214	2882.214	2707.631	.815	.033	≤ .001
<b>Latent Profile Analysis: 5 Profiles</b>										
Configural Similarity	-2892.606	68	1.203	5921.211	6279.122	6211.122	5995.273	.820	Na	Na
Structural Similarity	-2921.408	53	1.180	5948.817	6227.777	6174.777	6006.542	.772	Na	Na
Dispersion Similarity	-2947.639	38	1.330	5971.277	6171.287	6133.287	6012.665	.767	Na	Na
Distributional Similarity	-2955.381	34	1.425	5978.762	6157.718	6123.718	6015.793	.766	Na	Na
<b>Latent Transition Analysis with Demographics</b>										
Effects free across time and profiles	-6314.664	330	.667	13289.328	15026.250	14696.250	13648.747	.945	Na	Na
Effects free across time	-6358.730	150	1.427	13017.459	13806.969	13656.969	13180.831	.939	Na	Na
Predictive Similarity	-6387.866	114	1.617	13003.733	13603.760	13489.760	13127.895	.924	Na	Na
Null effects model	-6411.180	78	1.910	12978.360	13388.906	13310.906	13063.314	.921	Na	Na
<b>Latent Transition Analysis with Predictors</b>										
Effects free across time and profiles	-3653.022	135	.599	7576.044	8286.603	8151.603	7723.079	.932	Na	Na
Effects free across time points	-3674.978	75	1.074	7499.956	7894.710	7819.710	7581.642	.922	Na	Na
Predictive similarity	-3685.469	63	1.020	7496.939	7828.533	7765.533	7565.555	.922	Na	Na
<b>Latent Transition Analysis with Change in Predictor Levels</b>										
Null effects model	-2662.725	63	1.025	5451.450	5783.044	5720.044	5520.066	.924	Na	Na
Effects freely estimated	-2653.579	75	1.068	5457.157	5851.912	5776.912	5538.843	.927	Na	Na
Effects freely estimated across profiles	-2640.775	135	0.613	5551.550	6262.109	6127.109	5698.585	.934	Na	Na
<b>Latent Transition Analysis with Outcomes</b>										
Effects free across time and profiles	-7407.893	124	1.761	15063.787	15716.448	15592.448	15198.841	.922	Na	Na
Explanatory similarity	-7407.667	89	1.578	14993.334	15461.776	15372.776	15090.268	.924	Na	Na

*Note.* LL: loglikelihood; #fp: free parameters; S.C.: scaling correction; AIC: Akaike information criterion; CAIC: consistent AIC; BIC: Bayesian information criterion; ABIC: sample-size adjusted BIC; aLMR = Lo-Mendel and Rubin's likelihood ratio test; BLRT = bootstrap likelihood ratio test; NA = not applicable.

**Table 2***Transitions Probabilities for the Final Latent Transition Analysis Model*

	Transition Probabilities to Time 2 Profiles				
	Profile 1	Profile 2	Profile 3	Profile 4	Profile 5
Time 1	81	40	152	96	156
Profile 1	.220	.036	.103	.641	.000
Profile 2	.000	1.000	.000	.000	.000
Profile 3	.011	.000	.972	.017	.000
Profile 4	.302	.000	.108	.590	.000
Profile 5	.000	.000	.000	.000	1.000

*Note.* Profile 1: Low AC Dominant; Profile 2: CC Dominant; Profile 3: Moderately Committed; Profile 4: AC Dominant; Profile 5: NC/CC Dominant.

**Table 3***Results from the Multinomial Logistic and Multiple Regressions Predicting Profile Membership*

Predictors	Profile 1 vs Profile 5		Profile 2 vs Profile 5		Profile 3 vs Profile 5		Profile 4 vs Profile 5		Profile 1 vs Profile 4	
	<i>Coeff</i> (SE)	<i>OR</i>								
Relationship	-.401 (.199)*	.670	-1.065 (.199)**	.345	-.253 (.160)	.776	.255 (.177)	1.291	-.656 (.215)**	.519
Leadership	.273 (.240)	1.314	.229 (.359)	1.258	.017 (.191)	1.017	-.010 (.244)	.990	.282 (.284)	1.326
Involvement	-.238 (.244)	.789	-.225 (.387)	.799	.162 (.182)	1.175	.108 (.248)	1.114	-.346 (.285)	.708
Predictors	Profile 2 vs Profile 4		Profile 3 vs Profile 4		Profile 1 vs Profile 3		Profile 2 vs Profile 3		Profile 1 vs Profile 2	
	<i>Coeff</i> (SE)	<i>OR</i>								
Relationship	-1.321 (.233)**	.267	-.509 (.182)**	.601	-.148 (.198)	.863	-.812 (.223)**	.444	.664 (.249)**	1.943
Leadership	.239 (.389)	1.27	.027 (.249)	1.027	.256 (.241)	1.292	.213 (.358)	1.237	.043 (.382)	1.044
Involvement	-.333 (.417)	.717	.054 (.241)	1.055	-.399 (.237)	.671	-.387 (.377)	.679	-.013 (.417)	.987

*Note.* \*\*:  $p < .01$ ; \*:  $p < .05$ . SE: standard error of the coefficient; OR: Odds Ratio. The coefficients and OR reflects the effects of the predictors on the likelihood of membership into the first listed profile relative to the second listed profile; Predictors are factor scores with mean of 0 and a standard deviation of 1; Profile 1 = Low AC Dominant; Profile 2 = CC Dominant; Profile 3 = Moderately Committed; Profile 4 = AC Dominant; Profile 5 = NC/CC Dominant. Relationship: Quality of interpersonal relations with other school managers; Leadership: Transformational leadership of the schoolboard; Involvement: Involvement in decision-making processes.

**Table 4***Time-Invariant Associations between Profile Membership and the Outcomes*

	Profile 1 M [CI]	Profile 2 M [CI]	Profile 3 M [CI]	Profile 4 M [CI]	Profile 5 M [CI]	Summary of Significant Differences
Depression	-.273 [-.431; -.115]	.871 [.615; 1.127]	-.007 [-.121; .108]	-.342 [-.448; -.236]	-.016 [-.147; .114]	2 > 3 = 5 > 1 = 4
Cognitive Disturbance	-.159 [-.346; .028]	.142 [-.084; .369]	.048 [-.084; .179]	-.313 [-.428; -.198]	.088 [-.055; .231]	2 = 5 > 1 = 4; 2 = 3 = 5 > 4; 1 = 3
Anxiety	-.272 [-.457; -.087]	.496 [.253; .739]	.01 [-.113; .132]	-.328 [-.458; -.199]	.077 [-.067; .221]	2 > 3 = 5 > 1 = 4
Irritability	-.259 [-.423; -.096]	.407 [.169; .645]	.048 [-.068; .163]	-.3 [-.400; -.200]	.027 [-.108; .162]	2 > 3 = 5 > 1 = 4
Job Satisfaction	.255 [.071; .440]	-1.174 [-1.494; -.853]	-.052 [-.18; .077]	.288 [.168; .407]	.185 [.069; .302]	4 = 5 = 1 > 3 > 2
Turnover Intentions	-.066 [-.310; .177]	2.102 [1.859; 2.345]	-.166 [-.266; -.066]	-.265 [-.375; -.154]	-.29 [-.363; -.217]	2 > 1 = 3 = 4; 2 > 1 = 5 = 4; 3 > 5
Work-life Imbalance	-.4 [-.591; -.210]	.654 [.402; .906]	-.107 [-.258; .043]	-.292 [-.483; -.102]	.217 [.087; .347]	2 > 5 > 3 > 1; 2 > 5 > 4 = 1; 3 = 4

*Note.* M: Mean; [CI]: 95% Confidence Interval; Outcomes are factor scores with mean of 0 and a standard deviation of 1; Profile 1 = Low AC Dominant; Profile 2 = CC Dominant; Profile 3 = Moderately Committed; Profile 4 = AC Dominant; Profile 5 = NC/CC Dominant.

### Online Supplemental Material for:

A Latent Transition Analysis Investigating the Nature, Stability, Antecedents, and Outcomes of Occupational Commitment Profiles for School Principals

#### Preliminary Measurement Models

To ascertain the psychometric properties of all measures, as well as their longitudinal invariance (i.e., the equivalence of their psychometric properties), preliminary measurement models were estimated. All analyses were done in *Mplus* 8.2 (Muthén & Muthén, 2018) using the robust maximum Likelihood estimator (MLR), and Full Information Maximum Likelihood (FIML) to handle missing data. MLR was preferred to robust diagonally weighted least square estimation (WLSMV in Mplus) due to its greater efficiency at handling missing data (Asparouhov & Muthén, 2010) and its robustness to the use of ordinal rating scales when five or more response categories are used (Finney & DiStefano, 2013) which is the case for several of our measures.

Given the complexity of the longitudinal measurements models estimated here, three separate sets of models had to be estimated for: (i) the profile indicators themselves (AC, NC, CC), (ii) the predictors (Transformational Leadership, Involvement in Decisions, and Quality of Interpersonal Relations), and (iii) outcomes (Psychological Distress, Job Satisfaction, Turnover Intentions, and Work-life Imbalance).

Participants' ratings of occupational commitment were represented via the estimation of a three-factor (AC, NC, CC) confirmatory factor analytic (CFA) model at each separate time point, before combining both models into a six-factor longitudinal CFA model (with three factors per time point). At each time point, an orthogonal method factor was included to the model to account for the methodological artifact created by the negative wording of the first, second, and fifth items from the AC subscale (e.g., Zhang, Noor, & Savalei, 2016). For the longitudinal models, a priori correlated uniquenesses were also added between matching indicators of the factors across time points in order to avoid converging on inflated stability estimates (e.g., Marsh, 2007).

Participants' ratings on the various predictors were first represented via the estimation of a three-factor (Transformational Leadership, Involvement in Decisions, and Quality of Interpersonal Relations) CFA model at each separate time point, before combining both models into a six-factor longitudinal CFA model (with three factors per time point). As for the commitment model, a priori correlated uniquenesses were integrated between matching indicators of the factors across time points (e.g., Marsh, 2007).

Participants' ratings on the various predictors were first represented via the estimation of a seven-factor (Psychological Distress: Depression, Psychological Distress: Anxiety, Psychological Distress: Cognitive Difficulties, Psychological Distress: Irritability, Job Satisfaction, Turnover Intentions, and Work-life Imbalance) CFA model at each separate time point, before combining both models into a 14-factor longitudinal CFA model (with seven factors per time point). As for the previous models, a priori correlated uniquenesses were integrated between matching indicators of the factors across time points (e.g., Marsh, 2007). Due to the local non-identification of one of the Psychological Distress factors (Cognitive Difficulties, estimated via two items), tau-equivalence constraints were added to locally identify this factor at the centroid of the indicators (i.e., equality constraints were placed on the factor loadings of these two items; Little, Lindenberger, & Nesselroade, 1999).

These longitudinal CFA models were used to test for the measurement invariance of the latent factors across time points (Millsap, 2011). These tests were conducted in the following sequence: (i) configural invariance (same model, including the same number of factors, 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; (vi) latent mean invariance. For the outcomes model, the aforementioned essentially tau-equivalent constraints were imposed after the assessment of weak invariance. Imposing these constraints prior to tests of weak invariance would make it impossible to test for weak invariance of the Psychological

Distress: Cognitive Difficulties factor. Indeed, testing for weak invariance would involve constraining one factor loading (two essentially tau equivalent factor loadings) to equality over time while freeing up the factor's variance at Time 2 (thus resulting in locally equivalent models differing by 0 degrees of freedom (e.g., Morin & Maiano, 2011).

To empirically assess the fit of all models, we report multiple statistical indices including the chi-square test of exact fit ( $\chi^2$ ), the comparative fit index (CFI), the Tucker-Lewis index (TLI), and the root mean square error of approximation (RMSEA) and its confidence intervals (Hu & Bentler, 1999; Marsh, Hau, & Grayson, 2005). However, taking into account the well-documented sample size dependency and oversensitivity to minor misspecifications of the chi-square test of exact fit, we relied on the sample-size independent goodness-of-fit indices (CFI, TLI, RMSEA) to assess model fit (Hu & Bentler, 1999; Marsh, Hau, & Grayson, 2005). To interpret these indicators, we relied on typical interpretational guidelines (Hu & Bentler, 1999; Marsh et al., 2005) suggesting that CFI and TLI values greater than .90 and .95 respectively support adequate and excellent model fit. Comparable guidelines of the RMSEA suggest to rely on values smaller than .08 and .06 respectively to support adequate and excellent model fit. For tests of measurement invariance, we rely on guidelines established by Chen (2007; also see Cheung & Rensvold, 2002) suggesting that the invariance hypothesis can be supported when a model does not result in a decrease in CFI and TLI greater than .01, and in an increase in RMSEA greater than .015, when compared to the previous model in the sequence.

Goodness-of-fit results for all preliminary measurement models are reported in Table S1. These results confirm the full longitudinal invariance of all constructs. All three configural models fit the data well (CFI & TLI > .900, RMSEA < .06), and subsequent models did not show a decline in CFI or TLI, or increase in RMSEA exceeding the recommended interpretation guidelines ( $\Delta\text{CFI} \leq .010$ ;  $\Delta\text{TLI} \leq .010$ ;  $\Delta\text{RMSEA} \leq .015$ ; and overlapping RMSEA confidence intervals). On this basis, the latent means invariant models were retained, and factors scores were saved from these models to use as profile indicators, predictors, and outcomes. A distinct advantage of retaining a latent means invariant model is that the grand mean in this model is set to 0, with a variance of 1, which allows for the profile indicators to be interpreted as deviations from the sample mean in standardized units (Meyer & Morin, 2016). The final parameter estimates for the latent means invariant models are available in Tables S2 to S4, and correlations for all variables included in the present study are available in Table S5, alongside reliability coefficients. Overall, all factors were correctly defined as shown by acceptable factor loadings ( $M_{|\lambda|} = .756$ ) and strong composite reliability coefficients ( $\omega$ ; McDonald, 1970): (a) affective commitment ( $M_{|\lambda|} = .657$ ;  $\omega = .842$ ); (b) normative commitment ( $M_{|\lambda|} = .718$ ;  $\omega = .867$ ); (c) continuance commitment ( $M_{|\lambda|} = .710$ ;  $\omega = .814$ ); (d) relations with personnel ( $M_{|\lambda|} = .899$ ;  $\omega = .889$ ); (e) transformational leadership ( $M_{|\lambda|} = .824$ ;  $\omega = .937$ ); (f) involvement in decision process ( $M_{|\lambda|} = .685$ ;  $\omega = .925$ ); (g) turnover intentions ( $M_{|\lambda|} = .828$ ;  $\omega = .897$ ); (h) job satisfaction ( $M_{|\lambda|} = .742$ ;  $\omega = .860$ ); (i) depression ( $M_{|\lambda|} = .655$ ;  $\omega = .792$ ); (j) cognitive disturbance ( $M_{|\lambda|} = .881$ ;  $\omega = .874$ ); (k) anxiety ( $M_{|\lambda|} = .722$ ;  $\omega = .766$ ); (l) irritability ( $M_{|\lambda|} = .716$ ;  $\omega = .810$ ); (m) work-life imbalance ( $M_{|\lambda|} = .848$ ;  $\omega = .930$ ).

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**Table S1***Goodness-of-Fit Information for the Measurement Models*

Model	df	$\chi^2$	CFI	TLI	RMSEA	90% CI	$\Delta\chi^2$ (df)
<b>Organizational Commitment (AC, NC, CC)</b>							
Configural	420	788.814*	.921	.906	.041	.036;.045	
Weak	435	796.343*	.922	.911	.040	.035;.044	10.712 (15)
Strong	447	807.966*	.922	.914	.039	.035;.044	10.417 (12)
Strict	463	814.255*	.924	.919	.038	.034;.042	15.368 (16)
Latent V & CV	470	824.257*	.924	.920	.038	.034;.042	10.474 (7)
Latent means	474	825.836*	.924	.921	.038	.033;.042	1.961 (4)
<b>Involvement in Decision Process, Transformational Leadership, Relationships with Personnel</b>							
Configural	495	828.702*	.962	.957	.035	.031;.039	
Weak	509	844.639*	.962	.958	.035	.031;.039	15.357 (14)
Strong	523	858.844*	.962	.959	.034	.030;.038	13.339 (14)
Strict	540	878.264*	.961	.960	.034	.030;.038	22.144 (17)
Latent V & CV	546	900.312*	.960	.959	.034	.030;.038	21.138 (6)*
Latent means	549	906.156*	.959	.958	.034	.030;.038	6.010 (3)
<b>Job Satisfaction, Turnover Intentions, Psychological Distress</b>							
Configural	1365	2239.589*	.921	.911	.034	.032;.037	
Weak	1386	2261.720*	.921	.912	.034	.032;.037	25.051 (21)
Weak ETEC	1387	2261.122*	.921	.912	.034	.032;.037	.099 (1)
Strong	1408	2280.038*	.921	.914	.034	.031;.036	17.729 (21)
Strict	1436	2293.062*	.923	.917	.033	.031;.036	27.015 (28)
Latent V & CV	1464	2318.096*	.923	.919	.033	.030;.035	27.547 (28)
Latent means	1471	2328.435*	.923	.919	.033	.030;.035	10.276 (7)

*Note.* \*  $p < .01$ ; df: degrees of freedom; ETEC = Essentially tau-equivalent constraint; V = Variance; CV = Covariance;  $\chi^2$  = 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 Estimates for the Occupational Commitment Measurement**Model*

	Affective Commitment		Normative Commitment		Continuance Commitment	
	$\lambda$	$\delta$	$\lambda$	$\delta$	$\lambda$	$\delta$
Item 1	.618	.460	.515	.734	.674	.546
Item 2	.519	.581	.703	.505	.413	.830
Item 3	.701	.508	.729	.469	.897	.196
Item 4	.770	.406	.818	.330	.856	.267
Item 5	.514	.646	.832	.307		
Item 6	.821	.325	.710	.495		

Note.  $\lambda$ : factor loading;  $\delta$ : item uniqueness; All coefficients are statistically significant ( $p \leq .01$ ).

**Table S3***Longitudinally Invariant Standardized Parameter Estimates for the Predictors Measurement Model*

	Relationships with Personnel		Transformational Leadership		Involvement in Decision Process	
	$\lambda$	$\delta$	$\lambda$	$\delta$	$\lambda$	$\delta$
Item 1	.883	.745	.698	.512	.505	.220
Item 2	.864	.308	.858	.265	.832	.254
Item 3	.925	.375	.849	.279	.790	.145
Item 4	.905	.313	.895	.198	.829	.180
Item 5	.917	.779	.789	.377	.470	.160
Item 6			.823	.323		
Item 7			.853	.273		

Note.  $\lambda$ : factor loading;  $\delta$ : item uniqueness; All coefficients are statistically significant ( $p \leq .01$ ).

**Table S4***Longitudinally Invariant Standardized Parameter Estimates for the Outcomes CFA Measurement Model*

	Turnover Intentions		Job Satisfaction		Depression		Cognitive Disturbance		Anxiety		Irritability		Work-life Imbalance	
	$\lambda$	$\delta$	$\lambda$	$\delta$	$\lambda$	$\delta$	$\lambda$	$\delta$	$\lambda$	$\delta$	$\lambda$	$\delta$	$\lambda$	$\delta$
Item 1	.811	.342	.738	.455	.694	.518	.847	.283	.710	.496	.636	.596	.673	.548
Item 2	.820	.328	.684	.532	.675	.544	.914	.165	.665	.558	.688	.526	.813	.339
Item 3	.874	.236	.782	.388	.793	.371			.790	.377	.843	.289	.942	.112
Item 4	.805	.352	.816	.334	.571	.674					.697	.515	.963	.074
Item 5			.689	.525	.542	.706							.851	.276

Note.  $\lambda$ : factor loading;  $\delta$ : item uniqueness; All coefficients are statistically significant ( $p \leq .01$ ).

Table S5

Reliability and Correlations for the Variables used in this Study

Variables	$\alpha$	$\omega$	1	2	3	4	5	6	7	8	9	10	11
1. AC_1 (fs)	.830	.842											
2. AC_4 (fs)	.840	.842	.841**										
3. CC_1 (fs)	.773	.814	-.074	.014									
4. CC_4 (fs)	.817	.814	-.164**	-.143**	.738**								
5. NC_1 (fs)	.863	.867	.217**	.312**	.615**	.461**							
6. NC_4 (fs)	.858	.867	.044	.157**	.435**	.656**	.688**						
7. DEC_1 (fs)	.819	.925	.266**	.231**	-.104*	-.143**	.110*	-.018					
8. DEC_4 (fs)	.822	.925	.318**	.327**	-.108*	-.132**	.123**	.039	.833**				
9. LEAD_1 (fs)	.934	.937	.280**	.231**	-.080	-.117**	.124**	-.009	.764**	.731**			
10. LEAD_4 (fs)	.940	.937	.290**	.311**	-.088*	-.138**	.126**	.045	.691**	.832**	.824**		
11. PRS_1 (fs)	.955	.889	.364**	.351**	-.048	-.092*	.140**	.010	.506**	.598**	.528**	.519**	
12. PRS_4 (fs)	.952	.889	.334**	.391**	-.099*	-.134**	.082	.040	.415**	.649**	.509**	.672**	.676**
13. Sat_1 (fs)	.842	.860	.657**	.595**	-.069	-.140**	.163**	.019	.339**	.365**	.362**	.328**	.384**
14. Sat_4 (fs)	.864	.860	.606**	.696**	-.058	-.173**	.181**	.052	.275**	.370**	.307**	.351**	.346**
15. IDQ_1 (fs)	.889	.897	-.578**	-.548**	-.049	.024	-.222**	-.088*	-.197**	-.263**	-.255**	-.249**	-.285**
16. IDQ_4 (fs)	.899	.897	-.488**	-.557**	-.055	-.003	-.213**	-.136**	-.153**	-.247**	-.208**	-.252**	-.262**
17. Dep_1 (fs)	.750	.792	-.367**	-.340**	.199**	.241**	.017	.109*	-.288**	-.287**	-.269**	-.249**	-.260**
18. Dep_4 (fs)	.809	.792	-.289**	-.394**	.148**	.304**	-.017	.123**	-.249**	-.319**	-.220**	-.303**	-.210**
19. CG_1 (fs)	.855	.874	-.204**	-.132**	.125**	.156**	.053	.114**	-.191**	-.174**	-.165**	-.174**	-.119**
20. CG_4 (fs)	.891	.874	-.206**	-.224**	.105*	.205**	-.012	.072	-.194**	-.225**	-.149**	-.235**	-.110*
21. AX_1 (fs)	.737	.766	-.302**	-.293**	.186**	.262**	.03	.139**	-.278**	-.270**	-.246**	-.239**	-.223**
22. AX_4 (fs)	.802	.766	-.248**	-.324**	.138**	.286**	-.006	.133**	-.242**	-.276**	-.208**	-.263**	-.173**
23. AG_1 (fs)	.788	.810	-.285**	-.240**	.138**	.196**	.024	.122**	-.212**	-.193**	-.212**	-.162**	-.204**
24. AG_4 (fs)	.847	.810	-.237**	-.322**	.138**	.291**	.008	.139**	-.187**	-.240**	-.173**	-.238**	-.181**
25. Inf_1 (fs)	.925	.930	-.120**	-.103*	.215**	.216**	.168**	.180**	-.170**	-.129**	-.183**	-.151**	-.123**
26. Inf_4 (fs)	.935	.930	-.103*	-.077	.192**	.246**	.163**	.213**	-.134**	-.078	-.137**	-.100*	-.078

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 =  $_2$ .  $\alpha$ : alpha coefficient of scale score reliability;  $\omega$ : omega coefficient of model-based composite reliability (identical across time waves due to the complete invariance of the measurement models); AC: affective commitment; CC: continuance commitment; NC: normative commitment; DEC: involvement in decision process; LD: transformational leadership; PRS: relationships with personnel; SAT: job satisfaction; IDQ: turnover intentions; DEP: depression; CG: cognitive disturbances; AX: anxiety; AG: irritability; INF: work-life imbalance

Table S5 (Continued)

Reliability and Correlations for the Variables used in this Study

Variables	12	13	14	15	16	17	18	19	20	21	22	23	24	25
12. PRS_4 (fs)														
13. Sat_1 (fs)	.337**													
14. Sat_4 (fs)	.420**	.863**												
15. IDQ_1 (fs)	-.294**	-.560**	-.580**											
16. IDQ_4 (fs)	-.307**	-.456**	-.586**	.907**										
17. Dep_1 (fs)	-.234**	-.505**	-.440**	.330**	.289**									
18. Dep_4 (fs)	-.279**	-.395**	-.488**	.299**	.364**	.707**								
19. CG_1 (fs)	-.092*	-.363**	-.293**	.142**	.115**	.568**	.427**							
20. CG_4 (fs)	-.155**	-.332**	-.366**	.161**	.185**	.523**	.642**	.769**						
21. AX_1 (fs)	-.199**	-.456**	-.418**	.261**	.235**	.899**	.768**	.607**	.595**					
22. AX_4 (fs)	-.213**	-.376**	-.446**	.241**	.283**	.687**	.926**	.503**	.674**	.865**				
23. AG_1 (fs)	-.137**	-.363**	-.296**	.229**	.201**	.815**	.550**	.466**	.342**	.807**	.595**			
24. AG_4 (fs)	-.193**	-.303**	-.383**	.216**	.278**	.603**	.867**	.401**	.583**	.749**	.864**	.652**		
25. Inf_1 (fs)	-.109*	-.246**	-.234**	.197**	.187**	.343**	.262**	.288**	.262**	.354**	.294**	.243**	.214**	
26. Inf_4 (fs)	-.079	-.220**	-.241**	.210**	.220**	.322**	.331**	.261**	.284**	.354**	.359**	.230**	.257**	.875**

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 =  $_2$ .  $\alpha$ : alpha coefficient of scale score reliability;  $\omega$ : omega coefficient of model-based composite reliability (identical across time waves due to the complete invariance of the measurement models); AC: affective commitment; CC: continuance commitment; NC: normative commitment; DEC: involvement in decision process; LD: transformational leadership; PRS: relationships with personnel; SAT: job satisfaction; IDQ: turnover intentions; DEP: depression; CG: cognitive disturbances; AX: anxiety; AG: irritability; INF: work-life imbalance

**Table S6***Detailed Results from the Final Latent Profile Analytic Solution (Distributional Similarity).*

	Profile 1		Profile 2		Profile 3		Profile 4		Profile 5	
	Mean	CI	Mean	CI	Mean	CI	Mean	CI	Mean	CI
Affective	.046	[-.166;.258]	-1.713	[-2.233;-1.192]	-.049	[-.268;.169]	.268	[.082;.453]	.353	[.235;.470]
Normative	-1.030	[-1.056;-1.004]	-.115	[-.500;.270]	-.080	[-.236;.076]	-.533	[-.593;-.474]	.930	[.759;1.102]
Continuance	-.842	[-.859;-.826]	.652	[.198;1.106]	-.177	[-.277;-.076]	-.616	[-.660;-.562]	.808	[.609;1.007]
	Profile 1		Profile 2		Profile 3		Profile 4		Profile 5	
	Variance	CI	Variance	CI	Variance	CI	Variance	CI	Variance	CI
Affective	.672	[.335;1.008]	1.213	[.729;1.697]	.447	[.317;.577]	.211	[.077;.345]	.286	[.212;.360]
Normative	.006	[.002;.010]	.556	[.268;.844]	.201	[.161;.241]	.043	[.022;.063]	.467	[.391;.543]
Continuance	.003	[.001;.005]	.869	[.546;1.192]	.122	[.084;.159]	.030	[.024;.036]	.731	[.627;.834]

*Note.* CI = 95% Confidence Interval. The profile indicators are estimated from factor scores with mean of 0 and a standard deviation of 1. Profile 1: Low AC Dominant; Profile 2: CC Dominant; Profile 3: Moderately Committed; Profile 4: AC Dominant; Profile 5: NC/CC Dominant.

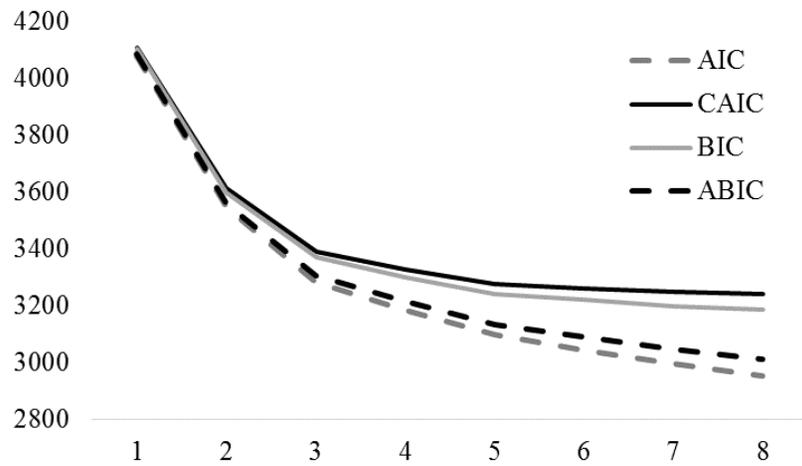


Figure S1. Elbow plot of the information criteria for the Time 1 latent profile analyses.

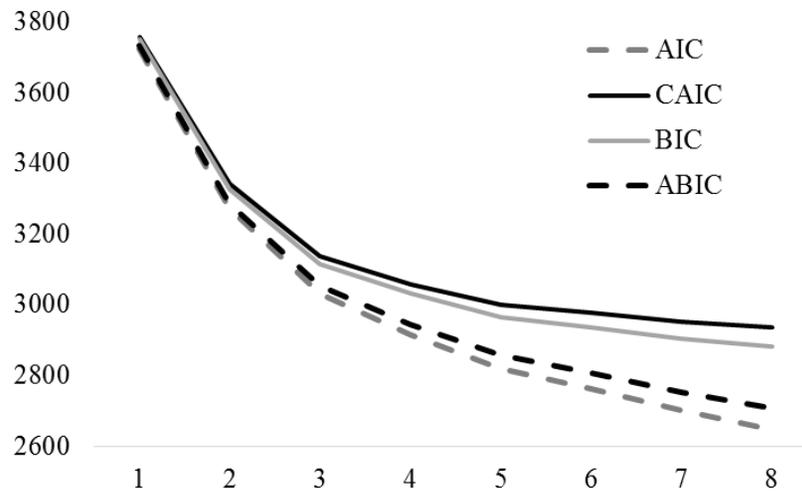


Figure S2. Elbow plot of the information criteria for the Time 2 latent profile analyses.