Newcomers' Motivation Profiles: A Review and Longitudinal Investigation

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Abstract

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Anchored in a comprehensive literature review of previous person-centered research focused on work motivation profiles, the present study seeks to validate a series of theoretical scenarios likely to drive employees' motivational orientation at work. Relying on a longitudinal study of 865 Canadian employees who started their job within the last six months, we assess the relevance of these profiles among newcomers, as well as their within-sample (generalizability over time) and within-person (profile membership and transitions) stability over a time interval of six months. To assess the construct validity of these profiles, we finally assessed their associations with need supportive and need thwarting work conditions (predictors) and a series of outcomes related to employees' work functioning (turnover intention, emotional exhaustion, job engagement, and performance). Our results revealed five distinct profiles (*Weakly Motivated Value-Driven*, *Self-Determined Value-Driven*, *Weakly Motivated*/*Amotivated*, *Strongly Motivated,* and *Self-Determined Hedonist*) which were mainly consistent with some of the proposed scenarios. We also found that participants reporting more need supportive behaviors were more likely to belong to the *Strongly Motivated* and *Self-Determined Hedonist* profiles, while those reporting more need thwarting behaviors were more likely to belong to the *Weakly Motivated Value-Driven*, *Self-Determined Value-Driven*, and *Weakly Motivated*/*Amotivated* profiles. Finally, whereas more self-determined profiles tended to report more adaptive outcomes (i.e., lower levels of emotional exhaustion and turnover intention, and higher levels of job engagement and performance), results also revealed unexpectedly high levels of emotional exhaustion and turnover intention among the *Strongly Motivated* profile.

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Contribution of Authors

This thesis was written and prepared by Yael Blechman, who benefitted from the supervision and support of her supervisor (Dr. Alexandre J.S. Morin) and two additional members of the Substantive-Methodological Synergy Research Laboratory (postdoctoral fellow William Gilbert and PhD student Simon Houle), who both provided feedback on various versions of this thesis and mentoring for the analyses. Dr. Nicolas Gillet (Université de Tours and Institut Universitaire de France) is a close collaborator of our laboratory and an established motivational researcher. His role was specifically to provide theoretical support to the first author to help position this research within broader motivational research. Although the thesis itself can be considered to be the sole work of Yael Blechman, who wrote it, edited it, conducted the literature review for it, and completed (and interpreted) all analyses, the contributions of these additional individuals will also be requested for the conversion of this thesis into a research article, and acknowledged in the authorship list of this article.

Table of Contents

List of Figures

List of Tables

Newcomers' Motivation Profiles: A Review and Longitudinal Investigation

Work motivation, as a core driver of goal-directed behaviors, is critical to performance, well-being, and retention among diversified samples of employees (e.g., Kanfer et al., 2017; Van den Broeck et al., 2021; Wang et al., 2024). Self-Determination Theory (SDT; Ryan & Deci, 2017; Ryan et al., 2022) provides what is arguably one of the currently most complete conceptualization of work motivation (Deci et al., 2017; Gagné & Deci, 2005; Van den Broeck et al., 2021). In SDT, work motivation is investigated through a focus on the reasons (i.e., behavioral regulations) underlying employees' work investment (Ryan & Deci, 2017; Van den Broeck et al., 2021).

These behavioral regulations are not mutually exclusive, so each employee can approach work based on a combination of reasons (Ryan & Deci, 2017; Vallerand, 1997). Thus far, multiple studies have sought to identify the most common work motivation profiles of various types of employees (e.g., Fernet et al., 2020; Gillet et al., 2017, 2018, 2020b; Howard et al., 2016, 2021; Tóth-Király et al., 2020a). This cumulative body of knowledge is useful given that person-centered analyses are cumulative in nature, requiring extensive replication (Meyer & Morin, 2016; Morin et al., 2016c) to differentiate core motivation profiles that emerge in most contexts from context-specific profiles or those reflecting random sampling variations. Unfortunately, the current body of evidence has yet to be integrated into a consistent whole allowing for the identification of key theoretical scenarios likely to guide upcoming research on work motivation profiles (e.g., Meyer & Morin, 2016).

Moreover, only two studies have considered the longitudinal stability of these profiles (Fernet et al., 2020; Howard et al., 2021). From a practical standpoint, evidence of stability in the nature of the profiles (within-sample stability) or profile membership (within-person stability) is important given that profiles that fluctuate too widely or that are too stable are both incompatible with interventions seeking to improve employees' motivation profiles (Meyer & Morin, 2016; Morin et al., 2016b). Profile-based interventions require confidence that profiles do not reflect transient phenomena or rigid states unlikely to respond to interventions. In the latter case, it suggests that selection procedures would do well to specifically target more desirable profiles. In addition, all but one (Fernet et al., 2020) of these previous studies has focused on established employees, thus taking a quick picture of motivation profiles at a specific career stage, without considering the critical period of job entry, when employees' work motivation profiles first

emerge (e.g., Deci et al., 2017; Dietrich et al., 2012).

In light of these limitations, the present study seeks to increase our understanding of work motivation in different ways. Given that evidence from prior research on work motivation profiles has never been formally integrated and reviewed, we first provide a review of current evidence from this research and propose a series of most likely scenarios representing work motivation profiles likely to happen in any sample. We then assess the extent to which the work motivation profiles identified in the current sample of newcomers matches these theoretical scenarios, as well as the within-sample and within-person stability of these profiles over an interval of six months. Then, to help document potential levers of interventions that can be used to support the emergence and development of more desirable motivation profiles while limiting the occurrence of less desirable ones, we assess the role of need supportive and need thwarting work conditions as predictors of motivation profiles among early career employees. Indeed, according to SDT (Gillet et al., 2012; Ryan & Deci, 2017; Ryan et al., 2022; Van den Broeck et al., 2016), work conditions seen as supporting, or interfering with, the satisfaction of employees' basic psychological needs should represent a core driver of their motivation profiles. Although this assumption is central to SDT, there is currently surprisingly little direct evidence that supports it in relation to the emergence of work motivation profiles (i.e., Franco et al., 2021). Lastly, to document the practical relevance of these profiles, we assess their associations with employees' functioning (turnover intention, emotional exhaustion, job engagement, and performance), based on SDT's expectations that more self-determined profiles should display a more optimal level of functioning (Ryan & Deci, 2017; Ryan et al., 2022; Van den Broeck et al., 2021).

The Work Motivation Continuum

SDT assumes that individuals engage in work for a variety of reasons, or behavioral regulations (Ryan & Deci, 2017; Van den Broeck et al., 2021). These reasons are assumed to follow an underlying continuum of self-determination (Howard et al., 2017, 2018, 2020; Ryan & Deci, 2017), with more self-driven motives assumed to lead to more positive functioning than less self-driven ones (Ryan & Deci, 2017; Ryan et al., 2022; Van den Broeck et al., 2021). More precisely, from the most self-determined end of that continuum to the least self-determined (e.g., Howard et al., 2020; Ryan & Deci, 2017), employees' can engage in their work because they enjoy it (*intrinsic motivation*), because it aligns with their values and they find it important

(*identified regulation*), because of internal pressures (*introjected regulation*; e.g., achieving self-esteem, avoiding guilt) or because of external pressures (*external regulation*; e.g., seeking rewards, avoiding punishment). Employees' may also feel a complete lack of willingness to invest efforts in their work for any reason (*amotivation*). Although SDT initially proposed *integrated* regulation (when work becomes a part of one's value system) as an additional behavioral regulation occurring between intrinsic and identified regulation, evidence tends to suggest that it is virtually impossible to reliably differentiate integrated and identified regulations empirically (Gagné et al., 2015; Howard et al., 2017; Van den Broek et al., 2021).

The theoretical perspective underlying the self-determination continuum is that one's global motivational orientation can be more or less self-driven based on one's position on the continuum, while retaining a unique quality captured by one's unique profile of behavioral regulations (Howard et al., 2020). Emerging evidence has supported this continuum (e.g., Howard et al., 2017) and shown that this dual nature (i.e., the global continuum and the unique quality of each behavioral regulation) could be captured by a bifactor exploratory structural equation modeling (bifactor-ESEM; Morin et al., 2016a) representation (Howard et al., 2018, 2020; Litalien et al., 2017). The ESEM component allows for the estimation of cross-loadings across factors representing each behavioral regulation to account for their conceptually related nature, which has been shown to result in a more accurate reflection of the self-determination continuum (Guay et al., 2015; Litalien et al., 2015) and of multidimensional measures more generally (Asparouhov et al., 2015). The bifactor component allows for the direct estimation of a global factor underlying all behavioral regulations that explicitly captures the self-determination continuum (i.e., strong positive loadings from the intrinsic motivation and identified regulation items, small to moderate positive loadings from the introjected regulation items, small loadings from the external regulation items, and negative loadings from the amotivation items), while jointly extracting specific factors reflecting the unique quality of each behavioral regulation (Howard et al., 2018, 2020; Litalien et al., 2017). These specific factors can then be interpreted as reflecting the quest for pleasure (or hedonism) for intrinsic motivation, a desire to uphold one's values (value-driven) for identified regulation, sensitivity to internal contingencies (internal contingency-driven) for introjected regulation, and a sensitivity to external rewards and punishments (reward-driven) for external regulation (Howard et al., 2020; Litalien et al., 2017).

A Person-Centered Representation of Work Motivation: A Review

Person-centered analyses (e.g., Meyer & Morin, 2016; Morin et al., 2018) are designed to identify qualitatively and quantitatively distinct subpopulations, referred to as latent profiles, of employees characterized by a distinct configuration on a series of variables, such as the various types of behavioral regulations that underly work motivation (Howard et al., 2018, 2020). To ensure the identification of all previous studies of employees' work motivation profiles, we conducted a search of relevant databases (Google Scholar, ProQuest, Web of Science, Scopus, PsychINFO, EBSCOhost PsycArticles) using "work", "motivation", "profiles", "clusters", and "self-determination theory" as keywords. We also inspected the reference list of studies identified in the main search and of recent SDT reviews and meta-analyses relevant to the work context (Deci et al., 2017; Howard et al., 2017, 2020; Ryan, 2023; Ryan & Deci, 2017; Ryan et al., 2022; Van den Broeck et al., 2016, 2021) and examined publications listed on the SDT website (selfdeterminationtheory.org). This search allowed us to identify a total of 21 studies of work motivation profiles, summarized in Table 1. We also identified a few additional studies in which work motivation profiles were identified while including additional profile indicators unrelated to work motivation (well-being and blurring: Lachance-Grzela et al., 2024; psychological detachment: Olafsen & Bentzen, 2020; satisfaction, meaningfulness and happiness: Qu et al., 2024). These studies were excluded from our review as these unrelated indicators made it impossible to reach clear conclusions about the nature of the work motivation profiles.

Looking at Table 1, five of these studies relied on aggregate measures of autonomous (intrinsic motivation and identified regulation) versus controlled (introjected and external regulations) motivation, including (Abós et al., 2018; Franco et al., 2021) or excluding (Van den Berghe et al., 2014; Van den Broek et al., 2013; Vanovenberghe et al., 2022) amotivation. Albeit informative, Wang et al. (2016) previously showed that these broader categories tended to obscure important distinctions. Interestingly, although the two oldest studies (Gillet et al., 2010, Moran et al., 2012) relied on separate measures of identified and integrated regulations, none of them provided evidence for the added value of integrated regulation. Similarly, although six studies (Howard et al., 2016, 2021; Ju, 2020; Meyer et al., 2022; Parker et al., 2021; Tóth-Király et al., 2021) differentiated social versus material external regulation (Gagné et al., 2015), their results did little to support the value of this distinction.

In terms of statistical methodologies, whereas 14 studies relied on latent profile analyses (allowing for the estimation of latent profiles corrected for classification errors and the direct inclusion of predictors and outcomes in the model), seven studies relied on classical cluster analyses (relying on more rigid assumptions, not corrected for classification errors, and relying on suboptimal two-step procedures to test covariate associations) (Meyer & Morin, 2016; Morin et al., 2011; Vermunt & Magidson, 2002). Six studies were able to replicate all or most of their profiles across more than one sample, although only one of those (Gillet et al., 2020b) did so while relying on formal tests of profile similarity (Morin et al., 2016c). Finally, as noted in the introduction, only two of those studies documented the stability of the identified profiles over time (Fernet et al., 2020; Howard et al., 2021), and only one of those did so while relying on a sample of early career employees (Fernet et al., 2020).

Importantly, only four studies (Fernet et al., 2020; Gillet et al., 2020b; Howard et al., 2021; Tóth-Király et al., 2021) relied on a proper bifactor operationalization of work motivation, allowing them to consider the role played by global levels of self-determination in profile definition, while assessing the additional contribution of the unique quality of specific behavioral regulations. Beyond the theoretical value of this bifactor representation (e.g., Howard et al., 2020), statistical research has demonstrated that whenever profile indicators possess a dual global/specific structure, failure to consider this duality in person-centered analyses tended to result in the erroneous estimation of profiles that primarily differed from one another on the unmodelled global construct (Morin et al., 2016, 2017). For work motivation, this means identifying profiles that primarily differ based on employees' position on the self-determination continuum, providing little ability to detect the added value of specific behavioral regulations. The results reported in Table 1 seem to support this claim, revealing clearer differences among profiles modelled based on a bifactor operationalization.

Finally, one study relying on cluster analyses identified three profiles (Gillet et al., 2010), 14 identified four profiles (Abós et al., 2018; Fernet et al., 2020; Franco et al., 2021; Gillet et al., 2017, 2018; Howard et al., 2016, 2021; Jansen in de Wal et al., 2014; Ju, 2020; Levesque-Côté et al., 2021; Parker et al., 2021; Van den Berghe et al., 2014; Van den Broek et al., 2013; Vanovenberghe et al., 2022), three identified five profiles (Chen et al., 2015; Moran et al., 2012; Tóth-Király et al., 2021), two identified six profiles (Gillet et al., 2020b; Graves et al., 2015), and one identified seven profiles (Meyer et al., 2022), for an average of 4.4 profiles and a range of

four to six profiles (if we eliminate the two extremes). No association was found between sample size and the number of profiles.

A Person-Centered Representation of Work Motivation: Theoretical Scenarios

The main scenarios identified by these studies are summarized in Table 2. The classification reported in Table 2 was done independently by all authors of the current study, and discrepancies were resolved by discussion and consensus. Considering this classification, we first need to highlight the strong similarities across studies, which converge on five main scenarios despite differences in operationalization, sample, and analysis. One additional scenario was also identified in five studies, whereas four studies also identified idiosyncratic profiles. Some studies identified more than one profile matching specific scenarios (Chen et al., 2019; Gillet et al., 2018; Howard et al., 2021; Jansen de Wal et al., 2014; Tóth-Király et al., 2021), including Meyer et al. (2022), who identified seven profiles matching five configurations, which suggests the overextraction of too many profiles.

Self-Determined. Consistent with SDT continuum hypothesis of work motivation (e.g., Howard et al., 2017, 2020), all studies identified a *Self-Determined* profile, dominated by a combination of autonomous forms of regulations (i.e., intrinsic motivation and identified regulation) and/or by high scores on the global self-determination factor for studies relying on a proper bifactor representation of work motivation. Employees with such a profile take pleasure in their work, which they see as aligned with their values and identity rather than driven by internal or external pressures. As a result, they feel that involvement in their work is volitional, which allows them to be fully invested in their work role and derive satisfaction from accomplishing their work-related tasks (Ryan & Deci, 2017).

Weakly Motivated/Amotivated. Out of 21 studies, 18 identified a profile displaying weak levels across all behavioral regulations, including the global level of self-determination when relevant. This *Weakly Motivated* profile also displayed high levels of amotivation in eight studies (Abós et al., 2018; Fernet et al., 2020; Franco et al., 2021; Howard et al., 2016; Ju, 2020; Meyer et al., 2022; Parker et al., 2021; Tóth-Király et al., 2021). These employees have no intention or desire to get involved in their job and are not prepared to truly invest efforts at work. They doubt the utility and relevance of their work and are likely to question the need to remain in their current occupation (Richer et al., 2002).

Strongly Motivated or Driven. Out of 21 studies, 15 identified a *Strongly Motivated* (or

Driven) profile displaying high levels on all behavioral regulations, including the global level of self-determination when relevant. These employees find pleasure in a work matching their interests and values, while feeling internally and externally rewarded by their job. Their tie to their occupation is also likely to entail some form of internal or external pressure to maintain productivity, if only to materially support their family. Likewise, these employees might be less interested in some aspect of their work (e.g., completing clerical tasks for nurses) that are required to be able to engage in parts of their job that they enjoy (Ryan, 2023). This last component might thus force them to expand more resources at work than their purely *Self-Determined* colleagues (Hobfoll, 2011).

Moderately Motivated or Balanced: Out of 21 studies, 12 identified a profile displaying a *Moderately Motivated* or *Balanced* approach to work, characterized by average levels on most behavioral regulations, including the global level of self-determination when relevant. These employees are those that meet the performance expectations of their organization without necessarily going, or wanting to go, overboard (Ryan, 2023), which could be made possible by a job that does not expose them to overly challenging or demanding conditions (Huyghebaert-Zouaghi et al., 2022a).

Externally Motivated or Controlled: Consistent with SDT continuum hypothesis of work motivation (e.g., Howard et al., 2017, 2020), 11 studies identified an *Externally Motivated* profile primarily driven by controlled forms of regulation (i.e., introjected and external regulations) accompanied by a low level on the global self-determination factor when relevant. These employees approach their work based on a combination of internal and external sources of pressure: to reduce feelings of guilt, shame or anxiety, to improve self-esteem, to gain prestige, admiration, support, and recognition, as well as to maintain or increase their salaries and earn promotions (Ryan & Deci, 2017). They may also feel a lack of control over their work (Van den Broeck et al., 2016).

Internally-Driven with Low External Regulation. Five studies (Gillet et al., 2017, 2018, 2020b; Graves et al., 2015; Meyer et al., 2022) found a profile driven by internal regulations (i.e., intrinsic motivation, identified regulation, and introjected regulation) accompanied by low levels of external regulation. In the only study using a bifactor representation to identify this profile, Gillet et al. (2020b) found that it displayed an average global level of self-determination. This profile shares similarity with the *Strongly Motivated*, or *Driven*, profile, but without its

sensitivity to external rewards. These employees seem to operate in a work environment characterized essentially by challenging job demands (Crawford et al., 2010; Gillet et al., 2024), which keeps them interested in their work (Ryan, 2023). These challenges might also lead them to experience a desire to prove themselves, thus enabling them to strengthen their self-esteem (Gillet et al., 2020b).

Additional Profiles. A total of four studies identified additional profiles. These profiles: (a) all differed from the previous scenarios based on the dominance, or lack of dominance, of one or two specific types of regulations; (b) primarily emerged in studies (with the exception of Moran et al., 2012) relying on a bifactor representation of work motivation (three of four bifactor studies identified one of those additional profiles). More precisely, the bifactor studies identified profiles that were primarily value-driven (Howard et al., 2021; Tóth-Király et al., 2021), driven by values and rewards (Gillet et al., 2020b), and driven by hedonism and values (Gillet et al., 2020b). Moran et al. (2012) identified a globally moderate profile with low levels of introjected regulation. Although these profiles might reflect random sampling variations, Gillet et al. (2020b) replicated two of them across four samples of participants, whereas Howard et al. (2021) replicated theirs across two time points. These results thus suggest that, when relying on a proper bifactor representation of work motivation, profiles primarily driven by values, and possibly by pleasure or hedonism, could potentially be identified.

Based on our literature review and theoretical scenarios, we propose the following hypotheses.

Hypothesis 1 (H1). Work motivation will be best represented by four to six distinct profiles.

H2. These profiles will correspond to the aforementioned theoretical scenarios: *Self-Determined*, *Weakly Motivated*, *Strongly Motivated*, *Moderately Motivated*, and *Externally Motivated*.

Research Question 1 (RQ1). Will some of the profiles match rarer configurations: *Internally-Driven with Low External Regulation, Hedonist, Value-Driven,* and *Rewards-Driven*?

Stability and Change in Motivation Profiles

Only two of the previous studies of work motivation described in Table 1 have assessed the longitudinal within-sample and within-person stability of the identified profiles (Fernet et al., 2020; Howard et al., 2021). One of them focused on early career nurses recruited within the first three years of their career (Fernet et al., 2020). Both studies provided evidence of within-sample

stability, revealing the same set of profiles, with the same structure, within-profile variability, and sizes over time. This similarity supports the value of profiles as guides for intervention by showing that they can be reliably identified over time rather than reflecting ephemeral phenomena, even in early career.

Importantly, within-person stability (the stability of profile membership) was found to be much higher (99.2% to 100%) across a period of four months in Howard et al.'s (2021) study of established employees than across the longer interval of 24 months considered in Fernet et al.'s (2020) study of early career nurses (57.6% to 69.7%). Obviously, the different time intervals complicate comparisons, as changes should be more likely to occur over longer, rather than shorter, intervals. Indeed, in the related field of employee commitment, Kam et al. (2016) found that commitment profiles remained virtually unchanged among established employees over eight months (only 2.8% of transitions), despite organizational changes. In contrast, commitment profile stability was lower over a longer interval of two years among established school principals (22% to 100%; Houle et al., 2020). However, the nature of the samples used by Fernet et al. (2020) and Howard et al. (2021) also complicates this comparison, as changes should be more likely at career start, when employees' work motivation profiles first begin to emerge and have not crystalized yet (e.g., Deci et al., 2017; Dietrich et al., 2012). Indeed, many fields of research have acknowledged the benefits of early preventive interventions occurring when psychological constructs are still developing, unfolding, and consolidating, rather than once they have crystalized (e.g., Burke, 2007; Dietrich et al., 2012; Hobfoll, 2011; Tay et al., 2023).

Considering that Fernet et al. (2020) focused on early career nurses with zero to three years of tenure followed over a longer period than in Howard et al.'s (2021) study of established employees, this study expands upon these results by considering a diversified sample of employees who started a new job within the past six months (to focus on early work motivation development) followed over a period of six months. This interval was selected as it falls between the samples considered in Kam et al.'s (2016) and Howard et al.'s (2021) studies and to better capture the impact of early career on profile stability. This timeframe was also deemed appropriate as it goes beyond daily changes, is long enough to offset memory biases (Bidee et al., 2017), and is short enough to ensure measuring stability under conditions that can generally be expected to be stable for most employees (Tucker et al., 2008).

From a theoretical standpoint, the first few months following organizational entry are a

critical period of adaptation as newcomers are likely to experience stress and uncertainty while having to learn the intricacies of their new tasks, organization, and workgroup to be able to adequately fulfill their responsibilities as early as possible (Ashforth & Saks, 1996; Houle et al., 2025; Louis, 1980). On the one hand, discovering that their new work role meets their expectations allows them to express their competencies, meet interesting colleagues, and make their own decisions, which should support their specific levels of intrinsic motivation and identified regulation (Deci & Ryan, 2000; Ryan & Deci, 2017). In contrast, struggling to learn the ropes of their new role with a lack of information or support, while experiencing internal (e.g., wanting to prove to themselves that they can do it or that their education was worth it) and external (e.g., the need to move beyond the probational period to be able to support themselves financially) pressures is likely to increase their specific levels of introjected and external regulation (Deci & Ryan, 2000; Ryan & Deci, 2017). In both scenarios, because these initial motivational orientations developed during the tumultuous period of job entry, they are likely to be more extreme and unbalanced (i.e., dominated by specific behavioral regulations) than what they would become when they crystalize into normative levels of functioning (e.g., Houle et al., 2025). As a result, motivational profiles characterized by a more extreme or unbalanced configuration dominated by a subset of specific behavioral regulations should be more prevalent earlier (i.e., Time 1) than later (i.e., Time 2), and profile transitions should primarily occur toward more balanced, less extreme, and more globally self-determined profiles over time. In contrast, observing a stable prevalence over time and transitions that do not follow a dominant pattern would support the idea that these profiles are more dispositional, or at least less contingent on external circumstances, than assumed in SDT (Deci & Ryan, 2000; Ryan & Deci, 2017).

Based on the aforementioned considerations, we propose the following hypotheses:

***H3*.** The same number of profiles, with the same structure and same level of within-profile variability, will be identified across a six-month interval.

***RQ2*.** Will the size of the profiles differ over time, and if so, will these differences be consistent with increasing levels of self-determination and a more balanced orientation?

***H4*.** Within-person stability will be moderate (~50%) to high (~70%) at the individual level.

***RQ3*.** Will profile transition follow a specific pattern, and if so, will this pattern be consistent with an ongoing adaption (i.e., increasing levels of self-determination and a more balanced

orientation)?

Need Supportive and Need Thwarting Work Conditions

A central assumption of SDT is that employees' needs for autonomy (i.e., experiencing a sense of volition), competence (i.e., experiencing a sense of efficacy and mastery), and relatedness (i.e., experiencing a sense of connection) should be fulfilled for them to experience a self-determined motivational orientation to their work and healthy functioning (Deci & Ryan, 2000; Ryan & Deci, 2017; Ryan et al., 2022; Van den Broeck et al., 2016, 2021; Vansteenkiste & Ryan, 2013). SDT sees all three needs as equally important, leading to the assumption that balanced (or global) levels of satisfaction and/or frustration of all three needs should act as the primary driver of workers' motivational orientation rather than the level of satisfaction or frustration of any specific need (e.g. Gillet et al., 2019, 2020a; Sheldon & Niemiec, 2006; Tóth-Király et al., 2019). These expectations have been generally supported in previous research on employees' work motivation profiles, showing more desirable work motivation profiles to be related to the extent to which employees feel that their needs are globally satisfied or frustrated (i.e., Abós et al., 2018; Jansen in de Wal et al., 2014; Moran et al., 2012; Van den Berghe et al., 2014; Vanovenberghe et al., 2022) and revealing few differences across needs (i.e., Abós et al., 2018; Moran et al., 2012; Van den Berghe et al., 2014).

However, an equally central assumption of SDT is that work motivation and need fulfillment should emerge from exposure to work conditions seen as supporting or thwarting these psychological needs (Gillet et al., 2012; Ryan & Deci, 2017; Ryan et al., 2022; Van den Broeck et al., 2016). Unfortunately, despite its centrality, there is currently little direct evidence supporting this assumption in relation to work motivation profiles. Indirect evidence shows that exposure to work conditions theoretically seen as able to support the fulfillment of employees' needs did help support membership into profiles characterized by a more *Self-Determined* or *Strongly Motivated* orientation (e.g., job resources in Fernet et al., 2020; communication and support in Gillet et al., 2017; social support and justice in Gillet et al., 2018; social support in Gillet et al., 2020b and in Graves et al., 2015; job autonomy and task significance in Howard et al., 2021; authentic leadership in Levesque-Côté et al., 2021; job autonomy and social support in Moran et al., 2012). Likewise, tentative evidence suggests that exposure to work conditions theoretically seen as having the potential to interfere with the fulfillment of employees' needs should support membership in *Externally* or *Weakly Motivated* profiles (i.e., workload in Gillet et

al., 2020b; organizational politics in Graves et al., 2015).

However, Fernet et al. (2020) found that once conditions likely to support need fulfillment (i.e. job resources) were considered, conditions likely to interfere with them (i.e., job demands) did not predict profile membership, a conclusion that was not replicated by Graves et al. (2015; social support and organizational politics) or Gillet et al. (2020b; social support and workload), who found both to be equivalently important. Despite these indirect results, direct evidence that work characteristics seen by employees' as relevant to the fulfillment of their needs may predict profile membership is currently limited to a single study. In this study, Franco et al. (2021) found that perceived exposure to work characteristics seen as interfering with need fulfillment increased employees' likelihood of membership into a *Weakly Motivated* profile, with limited differences attributed to specific needs.

Based on these theoretical proposals and empirical results, exposure to need supportive behaviors at work should facilitate the development of profiles characterized by the highest levels of self-determination and autonomous motivation (e.g., *Self-Determined* and *Strongly Motivated* profiles) relative to the other profiles, as well as into profiles displaying moderate levels of self-determination and autonomous motivation (e.g., *Moderately Motivated*) relative to the remaining profiles. In contrast, exposure to need thwarting behaviors at work should be associated with profiles displaying the highest levels of controlled motivation (e.g., *Externally Motivated* and *Strongly Motivated*), as well as with a lower likelihood of membership into the *Self-Determined* profile (Ryan & Deci, 2017). Furthermore, need thwarting behaviors at work lead to a frustration of psychological needs that translates into an increase in amotivation (Huyghebaert-Zouaghi et al., 2023a, 2023b) and should thus increase employees' likelihood of membership into a *Weakly Motivated* profile. We thus propose that:

H5. Perceptions of exposure to need supportive behaviors at work will predict a higher likelihood of membership into the *Self-Determined* and *Strongly Motivated* profiles relative to profiles with lower levels of self-determination and autonomous regulations (*Weakly Motivated*, *Moderately Motivated*, and *Externally Motivated*), while also increasing their likelihood of membership into the *Moderately Motivated* profile relative to the *Weakly* and *Externally Motivated* ones.

H6. Perceptions of exposure to need thwarting behaviors at work will predict a higher likelihood of membership into the *Weakly Motivated*, *Strongly Motivated*, and *Externally*

Motivated profiles relative to the *Self-Determined* and *Moderately Motivated* profiles.

It would be premature to formulate hypotheses on the likely effects of need supportive and need thwarting behaviors in relation to membership in the *Internally-Driven with Low External Regulation, Hedonist, Value-Driven,* and *Rewards-Driven* profiles. Nevertheless, need supportive behaviors could support *Value-Driven* and *Hedonist* profiles because they are part of an organizational culture that emphasizes transparency, honesty, and sharing (Gillet et al., 2012), which help employees feel that their work can be properly recognised, pleasant, and consistent with their personal values (Van den Broeck et al., 2016). Conversely, need thwarting behaviors are not compatible with employees' enthusiasm and pleasure, who rather feel frustrated and controlled when exposed to such behaviors (Ryan, 2023), which can be perceived as incompatible with their personal values (Ryan & Deci, 2017). This could lead to less work fulfillment and more doubts about the values of the organization, and thus result in a lower likelihood of membership into the *Value-Driven* and *Hedonist* profiles.

RQ4. Will need supportive and need thwarting behaviors predict membership into the *Internally-Driven with Low External Regulation, Hedonist, Value-Driven,* and *Rewards-Driven* profiles?

Outcomes of Profile Membership

A crucial part of establishing the construct validity and practical significance of work motivation profiles is to demonstrate that they have well-differentiated relations with theoretically-relevant outcomes (Marsh et al., 2009; Meyer & Morin, 2016; Muthén, 2003). To investigate the construct validity of our work motivation profiles and generalize results from previous research, we consider associations between employees' work motivation profiles and the four outcomes most frequently considered in prior investigations on work motivation profiles: engagement (Abós et al., 2018; Fernet et al., 2020; Gillet et al., 2017, 2018; Howard et al., 2016; Levesque-Côté et al., 2021; Parker et al., 2021; Van den Broek et al., 2013), performance (Chen et al., 2019; Fernet et al., 2020; Gillet et al., 2010, 2020b; Howard et al., 2016, 2021; Levesque-Côté et al., 2021; Meyer et al., 2022; Moran et al., 2012), burnout (Franco et al., 2021; Gillet et al., 2018; Howard et al., 2016; Tóth-Király et al., 2021; Van den Broek et al., 2013; Van den Berghe et al., 2014), and turnover intention (Fernet et al. (2020); Gillet et al., 2020b; Howard et al., 2021; Ju, 2020; Levesque-Côté et al., 2021); Meyer et al., 2022).

These outcomes are important as they are linked to individual and organizational success.

Defined as employees' conscious and deliberate willingness to leave the organization or the occupation (Tett & Meyer, 1993), turnover intention is viewed as a core component of work dissatisfaction, imposing a high cost for organizations due to its strong links with voluntary turnover (Rubenstein et al., 2018). Emotional exhaustion refers to the emotional strain resulting from chronic exposure to work stressors, carries a heavy burden for organizations and employees, and is the most important component of burnout (Maslach et al., 2001). Encompassing physical, cognitive, and emotional components (Rich et al., 2010), job engagement occurs when employees channel their personal resources toward work (Kahn, 1990), and it helps drive performance, well-being, and positive functioning (e.g., Tao et al., 2022). Finally, in-role performance refers to employees' engagement in the behaviors required to accomplish the tasks directly included in their job description (Motowidlo, 2003), and represents a key indicator of its performance, success, and sustainability (Delbridge et al., 2024).

From a theoretical perspective, SDT assumes that different behavioral regulations should lead to distinct affective, cognitive, and behavioral outcomes (Ryan & Deci, 2017; Ryan, 2023). More precisely, it assumes that desirable outcomes (e.g., performance and engagement) should emerge from autonomous forms of regulations, whereas undesirable ones (e.g., turnover intention and emotional exhaustion) should emerge from controlled forms of regulations or amotivation (Deci et al., 2017; Gagné & Deci, 2005; Ryan & Deci, 2017). Indeed, self-determined employees tend to find their work pleasurable, interesting, and valuable, which motivates them to invest themselves at work (Sandrin et al., 2019). Moreover, they can do so and face their job demands without expending all their personal resources, which they partially regain by positively experiencing their work (Ryan & Deci, 2017; Van den Broeck et al., 2016). In contrast, employees working for more controlled reasons view their work as disconnected from their interests and values, but rather primarily driven by internal or external pressures, leading them to expend more of their personal resources while having fewer opportunities to regain them (Gillet et al., 2023; Ryan & Deci, 2017).

The person-centered studies described in Table 1 have generally supported these assertions, by demonstrating that the *Self-Determined* profile tended to be associated with the most desirable outcomes, while the *Externally Motivated* or *Weakly Motivated* profiles tended to display the least desirable outcomes, with the remaining profiles falling in between these two extremes. Interestingly, person-centered research has demonstrated that when they are experienced jointly

with high levels of autonomous motivation, controlled forms of regulations (i.e., as in a *Strongly Motivated* profile) are also associated with generally desirable outcomes (e.g., Fernet et al., 2020; Gillet et al., 2017, 2020b; Moran et al., 2012), suggesting that controlled regulations can be experienced differently on their own (i.e., resulting solely from pressures) than in combination with autonomous regulations (i.e., as an additional source of motivation, for instance as a way to build up self-esteem and earn a salary, while having fun). These results do not suggest that a *Strongly Motivated* profile will always necessarily be desirable for all outcomes, simply that it might be preferable to a work orientation that feels forced (*Externally Motivated*) or that involves a complete lack of desire, drive, or reason to invest energy (*Weakly Motivated*) (Deci et al., 2017). Thus, we propose that:

H7. The highest level of performance and engagement, and the lowest levels of emotional exhaustion and turnover intention, will be observed in the *Self-Determined* profile, followed by the *Strongly Motivated* profile, then by the *Moderately Motivated* profile, and finally by the *Weakly Motivated and Externally Motivated* profiles.

RQ5. We leave as an open question whether and how outcomes will differ across *Internally-Driven with Low External Regulation, Hedonist, Value-Driven,* and *Rewards-Driven* profiles.

Methods

Participants and Procedures

Participants were recruited by Sago (Schlesinger Group Ltd.), a professional firm specialized in online data collection based in Canada, from within the AskingCanadians™ panel. For present purposes, we recruited a convenience sample of 865 Canadian employees who had started their jobs within the past six months at Time 1 (T1) (0 to 183 days; M = 93.03 days; SD = 59.26 days). These participants were aged between 19 and 75 years old (M = 40.30; SD = 14.13), 58.4% of them self-identified as women (41.6% self-identified as male), 77.2% self-identified as a member of the Canadian majority in terms of ethnicity (22.8% self-identified as a member of a cultural minority group), 64.4% had a full-time position, and 65.1% had a permanent position. In terms of education, 16.1% had completed a secondary education or less, 28.5% had a college degree, 38.4% had an undergraduate university degree, and 17.0% had a graduate university degree. In terms of family, 70.5% had a regular romantic partner, and 30.8% had one or more children (13.7% had one, 11.6% had two, and 5.5% had three or more).

Six months after T1, all participants were contacted to complete the same questionnaires a

second time (T2), and 495 (57.23%) agreed to do so (52.6% women; 65.8% full-time; 61.7% permanent; 70.0% ethnic majority group; 70.0% with a romantic partner; 30.5% with one or more children; age: M = 42.07, SD = 14.12; tenure at T1: M = 84.90 days, SD = 56.42 days; 16.4% secondary education or less, 25.7% college education, 38.8% undergraduate education, and 19.2% graduate education).

At both time points, all participants actively consented to participate, completed the questionnaires in English, and were compensated (using AskingCanadians™ reward program) a value of $2.50. To be included in the dataset provided by Sago to the research team, participants had to be at least 18 years old, having started a job within the past six months, and having successfully completed three attention checks included in the questionnaire. The research protocol of the present study was approved by the university research ethics committee of the last author's institution (#30009559).

Measures

Work Motivation. All participants completed the 19 items from the Multidimensional Work Motivation Scale (Gagné et al., 2015). This questionnaire measures the motives behind employees' effort at work. Following a stem asking them to indicate "*To what extent are the following propositions reasons for you to make efforts/to get involved in your job?*", participants used a seven-point response scale (1-strongly disagree to 7-strongly agree) to rate items related to: (a) intrinsic motivation (3 items; α_{T1} = .871, α_{T2} =.919; e.g., *because the work I do is interesting*); (b) identified regulation (3 items; α_{T1} = ..689, α_{T2} =.830; e.g., *because putting efforts in this job aligns with my personal values*); (c) introjected regulation (4 items; α_{T1} = .625, α_{T2} =.658; e.g., *because it makes me feel proud of myself*); (d) external regulation (6 items; α_{T1} = .756, α_{T2} =.792; e.g., *to get others' approval*); and (e) amotivation (3 items; α_{T1} = .822, α_{T2} =.807; e.g., *I don't, because I really feel that I'm wasting my time at work*).

Need Thwarting and Need Supportive Behaviors. Participants completed the work-related version of the Interpersonal Behaviours Questionnaire (Rocchi et al., 2017; Tóth-Király et al., 2022a) to measure the extent to which they felt that the people in their workplace supported (12 items; α_{T1} = .923, α_{T2} =.939) or thwarted (12 items; α_{T1} = .915, α_{T2} =.929) the satisfaction of their basic psychological needs for autonomy (support: 4 items; α_{T1} = .857, α_{T2} =.885; e.g., *give me the freedom to make my own choices*; thwarting: 4 items; α_{T1} = .811, α_{T2} =.875; e.g., *pressure me to do things their way*), competence (support: 4 items; α_{T1} = .795, α_{T2} =.831; e.g., *encourage me*

to improve my skills; thwarting: 4 items; α_{T1} = .826, α_{T2} =.877; e.g., *doubt my capacity to improve*), and relatedness (support: 4 items; α_{T1} = .846, α_{T2} =.869; e.g., *are interested in what I do*; thwarting: 4 items; α_{T1} = .836, α_{T2} =.872; e.g., *do not care about me*). All of these items were rated on a 1 (strongly disagree) to 6 (strongly agree) response scale.

Turnover Intention. Turnover intention was assessed using a three-item subscale (α_{T1} = .769, α_{T2} =.756; e.g., *I often think about resigning*) developed by Morin et al. (2011; also see Perreira et al., 2018) from items initially proposed by Becker and Billings (1993). These items were rated using a 1 (strongly disagree) to 6 (strongly agree) response scale.

Emotional Exhaustion. The relevant 5-item subscale (α_{T1} = .922, α_{T2} =.942; e.g., *I feel emotionally drained from my work*) from the Maslach Burnout Inventory (Maslach et al., 1996) was used. Participants completed this measure using a rating scale ranging from 0 (never) to 6 (everyday).

Job Engagement. Participants completed the 9-item short form (α_{T1} = .914, α_{T2} =.933) of the Job Engagement Scale (JES^9; Houle et al., 2022), which includes three 3-item subscales: (a) physical (α_{T1} = .803, α_{T2} =.830; e.g., *I devote a lot of energy to my job*), emotional (α_{T1} = .882, α_{T2} =.914; e.g., *I feel energetic about my job*), and cognitive (α_{T1} = .835, α_{T2} =.872; e.g., *At work, I concentrate on my job*). All items were rated on a 1 (strongly disagree) to 6 (strongly agree) response scale.

Performance. Participants self-reported their performance (in-role) using the relevant four-item subscale (α_{T1} = .824, α_{T2} =.903) from a questionnaire originally developed by Boudrias et al. (2009, 2014; also see Perreira et al., 2018). Participants were asked to "*Indicate how frequently you have demonstrated the following behaviors over the past six months*" (e.g., *assume my work-related responsibilities*) on a rating scale ranging from 1 (never) to 6 (very often).

Analyses

Preliminary Analyses

A series of preliminary analyses were first realized to verify the psychometric properties (factor structure, measurement invariance over time) of all questionnaires included in this study. Our main analyses were estimated using factor scores estimated in standardized units (*SD* = 1; *M* = 0) from the most invariant measurement models to ensure consistent measurement over time (Millsap, 2011; Morin et al., 2016c). Factor scores also have the advantage of preserving the

nature of the measurement model from which they are extracted (factor structure, bifactor, invariance; Morin et al., 2016b, 2017) and of incorporating a partial correction for unreliability (Skrondal & Laake, 2001).

Estimation. Preliminary analyses were conducted using the Mplus 8.10 statistical package (Muthén & Muthén, 2023) and the weighted least squares mean- and variance-adjusted (WLSMV) estimator. This estimator is best suited to the ordinal response scales following asymmetric thresholds used in our study (Finney & DiStefano, 2013). This decision follows from recent recommendations from studies focusing on the structure of motivation measures linked to Self-Determination Theory in the work area (e.g., Blechman et al., 2024; Fernet et al., 2020; Tóth-Király et al., 2021), as well as in other domains (Gillet et al., 2017; Guay et al., 2015; Litalien et al., 2015; Šakan et al., 2024; Tóth-Király et al., 2020b, 2022b, 2023). Given the way our online questionnaires were programmed, there was no missing data within each wave. Yet, given that WLSMV relies on slightly less efficient missing data procedures (Asparouhov & Muthén, 2010), factor scores were not saved at Time 2 for participants who did not complete this time point to handle attrition as part of our main analyses. This allowed us to rely on Full Information Maximum Likelihood (FIML) procedures to handle missing data in our main analyses (Enders, 2022). FIML provides estimates as accurate as multiple imputation, while being more efficient (Enders, 2022). As FIML relies on missing at random (MAR) assumptions, therefore allowing missingness to be conditioned on all variables included in the analytic model (thus including the same variables measured at previous time points in longitudinal analyses), it is known to be particularly robust to attrition (Enders, 2022). Attrition analyses revealed no differences between participants who completed, or not, T2 on any of the variables considered in this study.

Given the complexity of our analyses, involving multiple variables and time points, we estimated four distinct sets of measurement models for (1) motivation (profile indicators); (2) need supportive behaviors (predictors); (3) need thwarting behaviors (predictors); and (4) the outcomes (turnover intention, emotional exhaustion, job engagement, and performance). To ensure that all construct definitions remained stable over time, tests of longitudinal measurement invariance were performed separately for these four sets of measurement models. These tests were conducted in the following sequence (Millsap, 2011): (1) configural invariance (same factor structure), (2) weak invariance (same factor loadings), (3) strong invariance (same factor

loadings and response thresholds), (4) strict invariance (same factor loadings, response thresholds, and item uniquenesses); (5) invariance of the latent variances and covariances (same factor loadings, response thresholds, item uniquenesses, and latent variances-covariances), and (6) latent mean invariance (same factor loadings, response thresholds, item uniquenesses, latent variances-covariances, and latent means).

Model Fit Assessment. Given the known oversensitivity of the chi-square test of exact fit (χ^2) to minor model misspecifications, sample size, and omitted variables (Marsh et al., 2005), we only report this indicator to ensure a complete disclosure of all results but rely on goodness-of-fit indices for purposes of model fit assessment. More precisely, values ≥ .90 and .95 on the comparative fit index (CFI) and Tucker-Lewis Index (TLI) respectively indicate an adequate or excellent level of fit to the data, whereas values ≤ .08 and .06 on the root mean square error of approximation (RMSEA) also respectively indicate an adequate or excellent level of fit to the data (Hu & Bentler, 1999; Marsh et al., 2005; Yu, 2002). In model comparisons (e.g., tests of measurement invariance), a decrease in CFI or TLI > .10 or an increase in RMSEA >.015 indicates that the invariance hypothesis should be rejected (Chen, 2007; Cheung & Rensvold, 2002). We finally report model-based omega (ω) coefficients of composite reliability (McDonald, 1970) based on the standardized parameter estimates from the most longitudinally invariant solution (Morin et al., 2020).

Work Motivation. Although there is now ample evidence supporting the superiority of a bifactor exploratory structural equation modeling (bifactor-ESEM) representation of work motivation (Blechman et al., 2024; Fernet et al., 2020; Gillet et al., 2020b; Howard et al., 2018, 2021; Tóth-Király et al., 2021; for a conceptual review, see Howard et al., 2020), we still followed recommendations from Morin et al. (2016, 2017, 2020; also see Morin, 2023) to contrast correlated factors and bifactor confirmatory factor analyses (CFA), and ESEM representations, if only to ensure that previous conclusions also reflected the nature of the current dataset. These four alternative solutions (CFA, ESEM, bifactor-CFA, and bifactor-ESEM) were thus first estimated separately at each time point. In CFA, each factor was defined by its *a priori* indicators, cross-loadings were constrained to be zero, and factors were allowed to freely correlate with one another. In ESEM, each factor was defined as in CFA by its *a priori* indicators, but cross-loadings were freely estimated and assigned a target value of 0 through the implementation of a confirmatory target rotation procedure (Browne, 2001). In bifactor-CFA, all

items were used to define one global factor (G-factor) in addition to their respective a priori specific factors (S-factors), cross-loadings between the S-factors were constrained to be zero, and all factors were specified as orthogonal as per typical bifactor representations (Morin, 2023; Morin et al., 2020). In bifactor-ESEM, factors were defined as in bifactor-CFA, but cross-loadings between S-factors were freely estimated and assigned a target value of zero using a confirmatory orthogonal bifactor target rotation procedure (Reise, 2012). Bifactor models provide a disaggregation of construct relevant variance into one global component underlying responses to all items (the G-factor) from the variance uniquely associated with each S-factor beyond that explained by the G-factor. For measures of work motivation anchored in self-determination theory, the G-factor typically reflects an underlying continuum of self-determination, with strong positive loadings from the intrinsic motivation and identified regulation items, small to moderate positive loadings from the introjected regulation items, small loadings from the external regulation items, and negative loadings from the amotivation items (Blechman et al., 2024; Fernet et al., 2020; Gillet et al., 2020b; Howard et al., 2018, 2021; Tóth-Király et al., 2021). It is thus referred to as reflecting participants' global levels of self-determination (Howard et al., 2020).

As noted by Morin and colleagues (Morin, 2023; Morin et al., 2016, 2017, 2020), model fit is not sufficient to guide the comparison of CFA, ESEM, bifactor-CFA, and bifactor-ESEM solutions, as this comparison needs to remain primarily anchored in an examination of parameter estimates. The CFA and ESEM solutions are first compared. In this comparison, beyond observing that the ESEM solution fits the data better, well-defined factors (i.e., high target loadings and satisfactory composite reliability), reduced factor correlations, and cross-loadings that do not interfere with proper interpretation all support the ESEM solution. The retained solution (CFA vs ESEM) is then contrasted with its bifactor counterpart. Beyond model fit, a well-defined G-factor accompanied by at least a subset of well-defined S-factors (i.e., high target loadings and satisfactory composite reliability) and slightly reduced cross-loadings all support the bifactor solution. The optimal solution will then be retained for tests of longitudinal invariance. Importantly, it is frequent for a subset of S-factors to retain a limited amount of specificity, suggesting that the items used to measure these S-factors primarily define the G-factor, without retaining specificity beyond this global contribution (Morin et al., 2020). Morin et al. (2020; also see Perreira et al., 2018) thus noted that typical interpretation guidelines for reliability cannot be

directly applied to S-factors because bifactor solutions separate reliable variance into two distinct factors. They thus argued for leniency, suggesting that omega values approaching .500 should be considered acceptable for S-factors (Morin et al., 2020; Perreira et al., 2018). Moreover, when factor scores taken from a bifactor solution are used in the estimation of latent profile analyses (LPA), the only likely effect of including a weakly defined S-factor would be to identify profiles that are not differentiated by this S-factor (i.e., which would remain close to average across profiles; Drouin Rousseau et al., 2024; Fernet al., 2023). Beyond this lack of differentiation, it is also possible for a weak S-factor to retain some specificity limited to a subset of participants (i.e., one or two profiles), in which case it would emerge as a defining characteristic of these profiles (Drouin Rousseau et al., 2024; Fernet al., 2023). In any case, this characteristic of bifactor models reinforces the need to rely on analytical methods providing some degree of control for unreliability (e.g., factor scores).

Need Supportive and Thwarting Behaviors. Due to severe convergence issues, it was not possible to combine our measures of exposure to need supportive and need thwarting behaviors at work into the same measurement models. These were thus separated into two distinct sets of measurement models. Within each of these sets of models, need supportive or need thwarting behaviors were represented by a bifactor-ESEM solution matching previous recommendations suggesting the relevance of this operationalization for the measurement of need supportive or need thwarting behaviors (Huyghebaert-Zouaghi et al., 2023; Tóth-Király et al., 2022a) as well as of need satisfaction and frustration (Blechman et al., 2024; Fernet et al., 2023; Gillet et al., 2019, 2020a; Huyghebaert-Zouaghi et al., 2022b; Sánchez-Oliva et al., 2017). Our primary goal was to achieve a global (G-factor) estimate of need supportive and need thwarting behaviors (to assess our hypotheses) while accounting for the specificity (S-factors) associated with each need covered in these instruments (autonomy, relatedness, and competence; but our goal was not to include these S-factors in our main analyses). As for work motivation, these bifactor-ESEM solutions were estimated using a confirmatory orthogonal bifactor target rotation procedure (Reise, 2012).

Outcomes. All outcomes were jointly considered in the same set of measurement models. In these models, turnover intention, emotional exhaustion, and performance were each estimated using correlated CFA factors, while job engagement was operationalized via the bifactor-ESEM representation advocated by Houle et al. (2022) for this measure. As for our predictors, our goal

was simply to obtain a global (G-factor) estimate of job engagement while accounting for the specificity associated with each job engagement subscale (physical, emotional, and cognitive), without retaining these S-factors for our main analyses. This bifactor-ESEM specification was estimated using a confirmatory orthogonal bifactor target rotation procedure (Reise, 2012).

Latent Profile Analyses (LPA)

Our main analyses relied on the maximum likelihood robust (MLR) estimator implemented in Mplus 8.10 (Muthén & Muthén, 2023) and FIML to handle attrition. Latent profile analyses (LPA) summarize a multivariate distribution of scores on a series of indicators (i.e., motivation factor scores) by extracting a finite number of latent profiles representing subpopulations of participants displaying different configurations of scores on these indicators (McLachlan & Peel, 2000; Morin et al., 2018). In LPA, all participants have a probability of membership in all prototypical profiles, resulting in LPA solutions that are corrected for classification errors (Morin et al., 2018). At each time point, LPA solutions including 1 to 8 profiles were estimated, allowing the mean and variance of all indicators to be freely estimated across profiles (Diallo et al., 2016; Peugh & Fan, 2013). These solutions, as well as all longitudinal solutions, were estimated using 10,000 random starts, 1000 iterations, 1000 second stage optimizations, and 100 final stage optimizations (Hipp & Bauer, 2006; Morin & Litalien, 2019).

At each time point, the process of selecting the optimal number of profiles should rely on theoretical alignment, meaningfulness, and statistical adequacy (Marsh et al., 2009; Morin, 2016). Statistical indices can support this decision (Marsh et al., 2009; McLachlan & Peel, 2000). More precisely, lower scores on the Akaïke information criterion (AIC), the consistent AIC (CAIC), the Bayesian information criterion (BIC), and the sample-size adjusted BIC (SSABIC) indicate a better fit to the data. Statistically significant adjusted Lo, Mendell, and Rubin's (2001) likelihood ratio test (aLMR) and bootstrap likelihood ratio test (BLRT) indicate better fit relative to a solution including fewer profiles. However, statistical research has demonstrated that the aLMR and AIC tended to be biased indicators of the number of profiles present in a solution, whereas the CAIC, BIC, ABIC, and BLRT were more trustworthy (e.g., Diallo et al., 2016, 2017). We thus only rely on the latter set of indicators to inform our decision, while still reporting the AIC and aLMR to ensure full disclosure. We also report the entropy (ranging from 0 to 1) as a descriptive indicator of classification accuracy. Although the entropy should not be used in of itself to guide model selection, Diallo et al. (2017) demonstrated that the

SSABIC and BLRT should be favored in conditions of low entropy (close to .60 or lower), whereas the BIC and CAIC should be favored in conditions of high entropy (close to .80 or higher). We thus place more emphasis on CAIC/BIC or SSABIC/BLRT depending on the entropy.

Longitudinal Tests of Profile Similarity and Latent Transition Analyses (LTA)

Once the optimal number of profiles is identified at each time point, and assuming that this number is the same over time (i.e., configural similarity), both time-specific solutions were combined into a single longitudinal LPA to test their within-sample profile similarity over time (Morin & Litalien, 2017; Morin et al., 2016c). These tests are conducted sequentially. From an initial model of configural similarity (same number of profiles with no added constraints), equality constraints are progressively imposed on the indicator means (structural similarity), indicator variances (dispersion similarity), and profile size (distributional similarity). Each type of similarity is supported when two out of the CAIC, BIC, and SSABIC are reduced relative to the previous model (Morin et al., 2016c). The most similar longitudinal LPA was then converted to a latent transition analysis (LTA; allowing profile membership at T2 to be conditioned on profile membership at T1) to estimate within-person stability and profile transitions (Collins & Lanza, 2010). This solution and all upcoming analyses were estimated using the recommended manual three-step approach (Asparouhov & Muthén, 2014; Morin & Litalien, 2017).

Predictors and Outcomes of Profile Membership

We first investigated the need to control for demographic covariates (gender, age, tenure, education, full-time/part-time, permanence, culture, partner, and children) in upcoming analyses. These variables were directly incorporated to the final LTA through a multinomial logistic regression link, and four alternative specifications were contrasted using the CAIC, BIC, and ABIC (Morin & Litalien, 2019; Morin et al., 2016c). First, a null model assumed no relation between demographics and the profiles. Second, we freely estimated the relations between demographics and the profiles at T1 and T2, and T2 predictions were allowed to vary across T1 profiles (i.e., reflecting effects on profile transitions). Third, we only allowed associations to differ over time. Fourth, we constrained associations to equality over time (predictive similarity). Associations between the profiles and the main predictors (need support and need thwarting) were then examined in the same sequence.

Time-specific outcomes (turnover intention, emotional exhaustion, job engagement, and

performance) were also incorporated to the final LTA and allowed to vary across profiles and time points. In these analyses, T2 outcomes are controlled for their variance shared with T1 outcomes (i.e., stability). In a second model, profile-outcome associations were fixed to equality over time (explanatory similarity). The statistical significance of outcome differences across profiles was tested using the multivariate delta method (MODEL CONSTRAINT; Raykov & Marcoulides, 2004).

Results

Preliminary Analyses

Work Motivation. The model fit results associated with time-specific work motivation measurement models are reported in Table 3, whereas the parameter estimates from these models are reported in Tables 4 (Time 1) and 5 (Time 2). These results first indicated that, at both time points, the CFA and bifactor-CFA were unable to achieve a satisfactory level of fit to the data based on all (CFA and bifactor CFA at Time 1, CFA at Time 2) or two out of three (bifactor-CFA at Time 2) goodness-of-fit indices. In contrast, the ESEM and bifactor-ESEM solutions achieved an adequate level of fit to the data at both time points. Moreover, the bifactor-ESEM solutions resulted in slight (Time 2: ΔCFI = +.005; ΔTLI = +.004; ΔRMSEA = -.003) to marked (Time 1: ΔCFI = +.011; ΔTLI = +.017; ΔRMSEA = -.013) increases in model fit relative to the ESEM solution. These results provided early support to the bifactor-ESEM solution, followed by the ESEM solution.

Turning our attention to the parameter estimates from these solutions, the results revealed that all factors were well-defined by satisfactory factor loadings and reliable in the CFA (λ_{T1} = .446 to .887, ω_{T1} = .693 to .898; λ_{T2} = .391 to .935, ω_{T2} = .686 to .942) and ESEM (λ_{T1} = .104 to .895, ω_{T1} = .569 to .862; λ_{T2} = .172 to .883, ω_{T2} = .695 to .929) solutions. Moreover, factor correlations were markedly reduced in ESEM ($|r|$ = .065 to .582, M = .269) relative to CFA ($|r|$ = .023 to .871, M = .472), supporting the superiority of an ESEM, relative to CFA, solution. Although most cross-loadings remained reasonably small in this solution ($|\lambda|_{T1}$ = 0 to .576, M = .119; $|\lambda|_{T2}$ = .001 to .474, M = .148), some of them were high enough to be noteworthy (9 were between .200 and .300 at Time 1 and 15 at Time 2) and even to interfere with the proper interpretation of the factors (3 were higher than .300 at Time 1 and 7 at Time 2). The presence of these cross-loadings highlights the value of an ESEM solution (indicating how a solution excluding these cross-loadings is likely to result in biased parameter estimates), while also suggesting the

presence of an unmodelled G-factor (Asparouhov et al., 2015; Morin et al., 2020).

This ESEM solution was then contrasted to its bifactor-ESEM counterpart. In this solution, the G-factor was reliable (ω_{T1}= .904; ω_{T2}= .936) and appropriately defined by strong factor loadings from the intrinsic motivation items (λ_{T1} = .764 to .805; λ_{T2} = .814 to .865), moderate to strong factor loadings from the identified regulation items (λ_{T1} = .590 to .709; λ_{T2} = .690 to .728), weak to moderate factor loadings from the introjected regulation items (λ_{T1} = -.105 to .874; λ_{T2} = -.049 to .778), weak factor loadings from the external regulation items (λ_{T1} = -.257 to .209; λ_{T2} = -.249 to .350), and moderate negative factor loadings from the amotivation items (λ_{T1} = -.647 to -.541; λ_{T2} = -.729 to -.569). The S-factors were also reasonably well-defined (Morin et al., 2020; Perreira et al., 2018): intrinsic motivation (λ_{T1} = .310 to .441, ω_{T1} = .622; λ_{T2} = .317 to .439, ω_{T2} = .761), identified regulation (λ_{T1} = .025 to .456, ω_{T1} = .368; λ_{T2} = .380 to .429, ω_{T2} = .637), introjected regulation (λ_{T1} = .275 to .769, ω_{T1} = .772; λ_{T2} = .155 to .734, ω_{T2} = .719), external regulation (λ_{T1} = .496 to .710, ω_{T1} = .809; λ_{T2} = .522 to .790, ω_{T2} = .877), and amotivation (λ_{T1} = .526 to .639, ω_{T1} = .779; λ_{T2} = .432 to .564, ω_{T2} = .729). Cross-loadings were also smaller in this solution ($|\lambda|_{T1}$ = .001 to .432, *M* = .094; $|\lambda|_{T2}$ = 0 to .352, *M* = .105; 8 were between .200 and .300, and 2 higher than .300 at Time 1; 7 were between .200 and .300, and 3 higher than .300 at Time 2; those mainly occurred between S-factors with adjacent locations on the self-determination continuum) than in the previous ESEM solution. The bifactor-ESEM solution was thus retained.

The results from the longitudinal tests of measurement invariance conducted on this solution are reported in the top section of Table 6. These results supported the configural, weak and strong invariance of this solution, but not its strict invariance (ΔCFI = -.011; ΔTLI = -.012). Parameter estimates from the supported strong invariance solution and modification indices from the failed strict invariance solution suggested that this lack of strict invariance seemed limited to a subset of four items which had a slightly higher level of item reliability (i.e., slightly lower uniquenesses) at Time 2, potentially reflecting the increased work experience of the participants (see Table 7 for estimates). Once equality constraints on the uniquenesses of these four items were relaxed, the resulting solution of partial strict invariance was supported, as well as the next solutions of latent variance-covariance and latent mean invariance. The final retained solution of latent mean invariance (with partial strict invariance) was used to generate the factor scores for our main analyses. The results from this solution are reported in Table 7, and reveal a reliable G-

factor (ω_{T1}= .911; ω_{T2}= .924) appropriately defined by strong factor loadings from the intrinsic motivation items (λ_{T1} = .772 to .846; λ_{T2} = .815 to .846), moderate to strong factor loadings from the identified regulation items (λ_{T1} = .665 to .767; λ_{T2} = .665 to .767), weak to moderate factor loadings from the introjected regulation items (λ_{T1} = -.033 to .701; λ_{T2} = -.033 to .833), weak factor loadings from the external regulation items (λ_{T1} = -.217 to .252; λ_{T2} = -.220 to .252), and moderate negative factor loadings from the amotivation items (λ_{T1} = -.696 to -.560; λ_{T2} = -.596 to -.560). The S-factors were also reasonably well-defined (Morin et al., 2020; Perreira et al., 2018): intrinsic motivation (λ_{T1} = .302 to .367, ω_{T1} = .591; λ_{T2} = .302 to .412, ω_{T2} = .688), identified regulation (λ_{T1} = .128 to .424, ω_{T1} = .488; λ_{T2} = .128 to .424, ω_{T2} = .488), introjected regulation (λ_{T1} = .199 to .764, ω_{T1} = .686; λ_{T2} = .236 to .764, ω_{T2} = .722), external regulation (λ_{T1} = .527 to .757, ω_{T1} = .822; λ_{T2} = .527 to .786, ω_{T2} = .852), and amotivation (λ_{T1} = .478 to .637, ω_{T1} = .758; λ_{T2} = .478 to .637, ω_{T2} = .758).

Need Supportive and Need Thwarting Behaviors. The results from the tests of longitudinal invariance conducted on the models underlying participants' ratings of need supportive and need thwarting behaviors are reported in the second and third section of Table 6. These results first supported the adequacy of both bifactor-ESEM solutions based on the excellent level of fit to the data of the model of configural invariance (CFI/TLI ≥ .95; RMSEA ≤ .06). Moreover, they also supported the complete invariance of these solutions (ΔCFI/TLI ≤ .010, ΔRMSEA ≤.015). Parameter estimates from the most invariant solutions reported in Table 8 revealed well-defined factors for global need support (λ = .621 to .844, ω = .954) and global need thwarting (λ = .673 to .779, ω = .949; the S-factors were not retained for the main analyses).

Outcomes. The results from the tests of longitudinal invariance conducted on the measurement model underlying the outcomes are reported in the bottom section of Table 6. These results revealed an excellent level of fit to the data (CFI/TLI ≥ .95; RMSEA ≤ .06) and supported the complete invariance of this solution (ΔCFI/TLI ≤ .010; ΔRMSEA ≤.015). Parameter estimates from the most invariant solution are reported in Table 9 and reveal well-defined and reliable factors for turnover intention (λ = .671 to .947, ω = .914), emotional exhaustion (λ = .852 to .912, ω = .943), and performance (λ = .780 to .876, ω = .901), as well as for participants' global levels of job engagement (λ = .681 to .872, ω = .956; the engagement S-factors were not retained for the main analyses). Correlations among all variables used in this study are reported in Table 10.

Latent Profile Analyses (LPA)

The model fit of all LPA solutions is reported in Table 11. At T1, the CAIC and BIC reached their lowest point for the five-profile solution, whereas the SSABIC was slightly lower for the six-profile solution, immediately followed by the five-profile solution. The BLRT failed to support any specific solution. At T2, the CAIC was lowest for the one-profile solution, while the BIC was lowest for the two-profile solution. In contrast, the SSABIC reached its lowest point for the six-profile solution, immediately followed by the five-profile solution, whereas the BLRT seemed to support a four-profile solution. Given the generally low entropy associated with most solutions (T1: .363 to .757; T2: .457 to .744), information obtained from these last two indicators should be favored. Given these results, solutions including three to seven profiles (i.e., the suggested solutions including four to six profiles, as well as the adjacent solutions) were more thoroughly inspected. At both time points, solutions already evidenced a high level of similarity. In addition, at both time points, additional profiles had a meaningful contribution to the solution up to the five-profile solution. More precisely, if we consider the solution illustrated in Figure 1, Profiles 1, 3, and 5 were already present in the three-profile solution, Profile 4 was added in the four-profile solution, and Profile 2 was added in the five-profile solution. In contrast, adding additional profiles only led to the arbitrary division of existing profiles into very small ones corresponding to less than 1% of the sample. On this basis, the five-profile solution was retained at both time points, thus supporting H1.

Longitudinal tests of profile similarity conducted on this solution are reported in the middle of Table 11. Relative to the initial solution of configural similarity, the solutions of structural, dispersion, and distributional similarity all resulted in lower BIC, CAIC, and SSABIC values, and were thus supported. These results support H3, while providing a negative response to RQ2. The final model of *distributional* similarity is displayed in Figure 1, and results are reported in Tables 12 and 13. Although this model is associated with a low entropy (.462; which does improve when covariates are included as shown in the remaining sections of Table 11), profile-specific rates of classification accuracy (see Table 13) remain satisfactory for all profiles (63.2% to 75.6% at T1; 51.6% to 77.1% at T2). The lowest levels of classification accuracy were associated with Profile 3 at T2 (51.6%), followed by Profile 2 at T1 (63.2%) and T2 (63.3%). This simply means that efforts to assign participants to a single dominant profile would lack precision for these specific profiles. However, and importantly, classification errors are fully

controlled for in LPA.

Profile 1 displayed very low levels of global self-determination and specific intrinsic motivation, moderately low to average levels of specific amotivation and specific external regulation, moderately high levels of specific introjected regulation, and high levels of specific identified regulation. This *Weakly Motivated Value-Driven* profile corresponded to 11.08% of the sample at both time points. Profile 2 displayed high levels of global self-determination, moderately high levels of specific identified regulation, close to average levels of specific introjected regulation, low levels of specific intrinsic motivation and specific external regulation, and very low levels of specific amotivation. This *Self-Determined Value-Driven* profile was the smallest, corresponding to 6.33% of the sample. Profile 3 displayed low levels of global self-determination and specific identified regulation, close to average levels of specific introjected regulation, and moderately high levels of specific intrinsic motivation, specific external regulation, and specific amotivation. This *Weakly Motivated*/*Amotivated* profile was the largest, corresponding to 38.48% of the sample. Profile 4 displayed moderately high to very high levels on most global and specific indicators, with the highest levels found for global self-determination and specific introjected regulation, and the lowest for specific amotivation. This *Strongly Motivated* profile was the second largest, corresponding to 25.85% of the sample. Finally, Profile 5 displayed high levels of global self-determination and specific intrinsic motivation, and low to very low levels on other specific indicators. This *Self-Determined Hedonist* profile was the third largest, corresponding to 18.26% of the sample.

By confirming the presence of two *Weakly Motivated* profiles, one *Strongly Motivated* profile, and two *Self-Determined* profiles, these results partially support H2 (as no *Moderately Motivated* or *Externally Motivated* profiles was identified). In response to RQ1, they also revealed the presence of two profiles displaying a *Value-Driven* orientation and one profile displaying a *Hedonist* orientation. However, these orientations did not occur on their own, but rather served to differentiate between two *Weakly Motivated* profiles (one of which displayed the expected combination with *Amotivation*, while the other one appeared to be *Value-Driven*) and between the two *Self-Determined* profiles (one of which displayed a *Value-Driven* orientation and the other a *Hedonist* orientation).

Latent Transition Analyses (LTA)

The transition probabilities from the LTA are reported in Table 14. Membership into Profiles 1

(*Weakly Motivated Value-Driven*: Stability of 92.8%), 3 (*Weakly Motivated*/*Amotivated*: Stability of 97.1%), and 5 (*Self-Determined Hedonist*: Stability of 85.8%) was highly stable over time. For members of the *Weakly Motivated Value-Driven* [1] profile at T1, the main transition was toward the *Self-Determined Value-Driven* [2] profile at T2 (7.2%). For members of the *Weakly Motivated*/*Amotivated* [3] profile at T1, the main transition was toward the *Strongly Motivated* [4] profile at T2 (2.5%). For members of the *Self-Determined Hedonist* [5] profile at T1, the main transition was toward the *Strongly Motivated* [4] profile at T2 (14.2%). Membership into Profile 4 (*Strongly Motivated*: Stability of 72.8%) was also stable over time, although less than for Profiles 1-3-5, and entailed more transitions over time. More precisely, for members of the *Strongly Motivated* [4] profile at T1, the main transition was toward the *Weakly Motivated*/*Amotivated* [3] profile at T2 (16.1%), although transitions toward the *Self-Determined Value-Driven* [2: 7.9%] and *Self-Determined Hedonist* [5: 3.3%] profiles at T2 were also observed. Finally, the *Self-Determined Value-Driven* [2] profile was the least stable over time, with a stability of only 40.4%. For members of this profile [2] at T1, a very common transition (46.1%) was toward the *Strongly Motivated* [4] profile at T2. A second common transition (13.5%), albeit less so than the previous one, was toward the *Weakly Motivated*/*Amotivated* [3] profile at T2. These results partially support H4, and provide a positive response to RQ3, being consistent with a pattern of ongoing adaptation.

Predictors of Profile Membership

In relation to the demographic characteristics, the results reported in Table 11 showed that all information criteria were at their lowest for the null effects model, indicating a lack of associations between the demographic controls and the profiles at both time points, a conclusion that was also consistent with the parameter estimates from these models. For these reasons, demographic controls were not retained for the next stages of analyses. However, the results reported in Table 3 were consistent with associations between predictors and profile membership that generalized over time.

The results from this model of predictive similarity are reported in Table 15[1]. These results indicated that higher levels of perceived exposure to need supportive behaviors at work were

[1] To ensure that the correlations between the need support and thwarting factors (r = -.606 at T1 and -.710 at T2) did not interfere with our results, we re-estimated these predictive models including only one of these predictors at a time, and found that results remained unchanged, which supports the robustness of these findings.

associated with a higher likelihood of membership into the *Strongly Motivated* [4] and *Self-Determined Hedonist* [5] profiles relative to the *Weakly Motivated Value-Driven* [1], *Self-Determined Value-Driven* [2], and *Weakly Motivated*/*Amotivated* [3] profiles at both time points. They were also associated with membership into the *Self-Determined Value-Driven* [2] and *Weakly Motivated*/*Amotivated* [3] profiles relative to the *Weakly Motivated Value-Driven* [1] profile at both time points. In contrast, higher levels of perceived exposure to need thwarting behaviors at work were associated with a higher likelihood of membership into the *Weakly Motivated Value-Driven* [1], *Weakly Motivated*/*Amotivated* [3], and *Strongly Motivated* [4] profiles relative to the *Self-Determined Value-Driven* [2] and *Self-Determined Hedonist* [5] profiles at both time points. They were also associated with membership into the *Weakly Motivated*/*Amotivated* [3] profile relative to the *Strongly Motivated* [4] profile at both time points. These results support H5 and H6 and are consistent with RQ4.

Outcomes of Profile Membership

As shown in the bottom section of Table 11, the lowest values for all information criteria were found for the model of explanatory similarity, thus consistent with outcome associations that generalized over time. The results from this final model of explanatory similarity are reported in Table 16. The results first revealed that levels of turnover intention were highest in the *Weakly Motivated Value-Driven* [1] profile, followed equally by the *Weakly Motivated*/*Amotivated* [3] and *Strongly Motivated* [4] profiles (which did not differ from one another), and finally equally by the *Self-Determined Value-Driven* [2] and *Self-Determined Hedonist* [5] profiles (which also did not differ from one another). Results were very similar for emotional exhaustion, except for a statistically significant difference between Profiles 3 and 4. Thus, levels of emotional exhaustion were highest in the *Weakly Motivated Value-Driven* [1] profile, followed by the *Strongly Motivated* [4] profile, then by the *Weakly Motivated*/*Amotivated* [3] profile, and finally equally by the *Self-Determined Value-Driven* [2] and *Self-Determined Hedonist* [5] profiles, which did not differ from one another.

Global levels of job engagement were highest in the *Self-Determined Value-Driven* [2] profile, followed by the *Strongly Motivated* [4] profile, then by the *Self-Determined Hedonist* [5] profile, and were equally lowest in the *Weakly Motivated Value-Driven* [1] and *Weakly Motivated*/*Amotivated* [3] profiles, which did not differ from one another. Similar results were found for performance, except for a non-significant difference between Profiles 4 and 5. Thus,

self-reported performance was highest in the *Self-Determined Value-Driven* [2] profile, followed equally by the *Strongly Motivated* [4] and *Self-Determined Hedonist* [5] profiles which did not differ from one another, and equally lowest in the *Weakly Motivated Value-Driven* [1] and *Weakly Motivated*/*Amotivated* [3] profiles, which also did not differ from one another. These results partially support H7, while being consistent with RQ5.

Discussion

Work motivation is a critical driver of desirable outcomes for employees and their organization (e.g., Kanfer et al., 2017; Van den Broeck et al., 2021; Wang et al., 2024), making it essential to understand the mechanisms underpinning its development among newcomers when they first start to adapt to their new work settings (e.g., Deci et al., 2017; Dietrich et al., 2012). According to SDT (Ryan & Deci, 2017; Van den Broeck et al., 2021), employees can be motivated to engage in their work for a combination of reasons, or behavioral regulations, that need to be jointly considered to fully grasp their complete motivational orientation (Ryan & Deci, 2017; Vallerand, 1997). Beyond reinforcing the importance of grasping these overarching motivational orientations, or profiles, Howard et al. (2021) highlighted the need to move beyond a consideration of established employees undergoing normatively unchanging conditions to focus on "*samples of organizational newcomers, or samples of employees who undergo career changes or promotions*" (p. 55) to attain a more comprehensive understanding of the mechanisms underpinning development and changes in employees' work motivation profiles.

Although abundant research, anchored in SDT, has started to investigate the nature of the most commonly occurring motivational profiles (e.g., Fernet et al., 2020; Gillet et al., 2017, 2018, 2020b; Howard et al., 2016, 2021; Tóth-Király et al., 2020a), this research still presents several limitations, including a lack of longitudinal research focusing on newcomers (Howard et al., 2021) and a lack of research relying on a proper disaggregation of employees' global level of self-determination (capturing their overarching motivational orientation) from the unique quality associated with each specific type of behavioral regulations (Howard et al., 2020). Arguably, the most critical limitation stems from a lack of integration of previous results to generate a set of theoretical scenarios likely to guide our understanding of work motivation configurations and future research in this area.

This study sought to address these limitations, thereby contributing to our understanding of work motivation in the following ways. First, we conducted a systematic review of previous

person-centered studies of work motivational profiles anchored in SDT to propose a comprehensive typology of motivational scenarios to help guide future research in this area. Second, we validated this typology in a sample of newcomers who started their job within the last six months while relying on a conceptualization of work motivation allowing us to distinguish employees' global self-determination levels from their specific levels of intrinsic motivation, identified regulation, introjected regulation, external regulation, and amotivation (Howard et al., 2020). Third, we also verify a core assumption of SDT suggesting that employees' motivational profiles should be predicted by the extent to which their work environment acts to support or thwart the satisfaction of their basic psychological needs (Ryan & Deci, 2017; Ryan et al., 2022; Van den Broeck et al., 2016), an assumption that has thus far received very little scientific attention. Fourth, to assess the construct validity and practical relevance of these profiles, we considered their associations with a series of theoretically relevant outcome variables traditionally associated with work motivation (i.e., turnover intention, emotional exhaustion, job engagement, and performance). Finally, we achieved these objectives while relying on a longitudinal design, allowing us to assess the generalizability or replicability of these profiles and of their associations with predictors and outcomes (within-sample stability), as well as the stability of profile membership (within-person stability and transitions), across a time interval of six months.

Employee's Work Motivation Profiles: A Systematic Review

Our systematic review of the literature allowed us to identify a total of 21 previous person-centered studies of employees' work motivation profiles. The results from these studies, presented in Table 1, allowed us to converge on a set of six scenarios that seemed to underpin employees' motivational orientations toward their work in multiple previous studies, irrespective of their operationalization of motivation, methodological design, or type of analysis. A first scenario described employees with a primarily *Self-Determined* approach to their work (21 studies identified such a profile), dominated either by high global levels of self-determination and/or of specific levels of intrinsic motivation and identified regulation. A second scenario described employees with a *Weakly Motivated/Amotivated* approach to their work (18 studies identified such a profile), characterized by low global levels of self-determination, low specific levels across all types of behavioral regulations and high specific levels of amotivation. A third scenario described *Strongly Motivated* or *Driven* employees characterized by high global levels

of self-determination coupled with high specific levels on most behavioral regulations (15 studies identified such a profile). A fourth scenario described *Moderately Motivated* or *Balanced* employees characterized by average global levels of self-determination coupled with average specific levels on most behavioral regulations (12 studies identified such a profile). A fifth scenario described *Externally Motivated* or *Controlled* employees (11 studies identified such as profile), whose motivational orientation was dominated by high specific levels of introjected and external regulations coupled with a low global level of self-determination and similarly low levels on the remaining behavioral regulations. The sixth scenario was only identified in five previous studies and described employees who are *Internally Driven with Low External Regulation*, that is dominated by high specific levels on internal forms of behavioral regulations (intrinsic motivation, identified regulation, and introjected regulation) accompanied by low specific levels of external regulation and average global levels of self-determination.

Beyond these six typical scenarios, additional profiles were sometimes identified, primarily in emerging studies relying on the recommended bifactor representation of work motivation (Howard et al., 2020). These profiles were typically dominated by a specific type of behavioral regulation, displaying either a (a) value-driven (identified regulation), (b) value and rewards driven (identified and external regulations), (c) pleasure (hedonism) and values (intrinsic motivation and identified regulation), or (d) displayed an average configuration across most indicators except for low levels of introjected regulation. As three of these additional profiles were replicated across samples (b and c in Gillet et al., 2020b) or over time (a in Howard et al., 2021) and relied on the relatively new bifactor operationalization of work motivation, it would have been premature to discard them at this stage.

Newcomers' Work Motivation Profiles: Empirical Results

Our results first confirmed emerging evidence from person-centered studies relying on a bifactor representation of work motivation (Fernet et al., 2020; Gillet et al., 2020b; Howard et al., 2021; Tóth-Király et al., 2021) in revealing profiles differing from one another both in terms of their global levels of self-determination and of their specific levels of behavioral regulations, providing additional support to the relevance of this distinction. Moreover, the number, structure, variability, and size of the profiles identified in this study were also perfectly replicated across a time interval of six months, providing evidence of generalizability and replicating previous demonstrations of longitudinal stability (Fernet et al., 2020; Howard et al., 2021). Importantly,

the latter result indicates that newcomers' likelihood of adopting specific motivation profiles remains largely unchanged over a 6-month period in which many of them are potentially still in the process of adapting to their new job (e.g., Houle et al., 2024, 2025). On its own, this result suggests that the motivational profiles may be less sensitive to work conditions than previously assumed in SDT (e.g., Ryan & Deci, 2017; Ryan et al., 2022). Evidently, replication is needed across longer periods covering the whole period ranging from employees' entry into their new job to the end of their early learning and adaptation period, which is likely to take longer than the period considered in this study (Houle et al., 2024, 2025).

Our results revealed that five profiles, mainly matching our theoretical scenarios, seemed to summarize the work motivation configurations observed in the present sample of newcomers. These profiles showed slight deviations from the scenarios that could reflect both the value of relying on a proper disaggregation of global and specific levels of work motivation, as well as the reality of newcomers who need to develop and adjust their motivational orientation based on their new work reality. More precisely, three of those profiles displayed high to very high global levels of self-determination, whereas two displayed low to very low global levels of self-determination.

Turning our attention to the former set of three profiles, it was interesting to note that one of them perfectly matched the *Strongly Motivated*, or *Driven*, scenario, displaying high global and specific levels of motivation across indicators. The remaining profiles both shared similarity with the *Self-Determined* scenario as well as with the *Internally Driven with Low External Regulation* scenario, as both were dominated by high global levels of self-determination and low specific levels of external regulation. These profiles also captured some of the finer grained distinctions outlined in the rarer set of recent studies also relying on a bifactor operationalization of work motivation, revealing either a value-driven orientation anchored in identified regulation (*Self-Determined Value-Driven* profile) or a hedonistic orientation anchored in intrinsic motivation (*Self-Determined Hedonist* profile). Taken together, these results suggest that, among newcomers at least, profiles dominated by a global level of self-determination may need to be anchored in at least one dominant type of behavioral regulation, and that personal values and pleasure may be particularly important to consider in early career stages (Doden et al., 2023; Gkorezis & Kastritsi, 2017; Houle et al., 2025; Martin, 2016), although the profile primarily driven by values remained far less prevalent (6.33%) than the one driven by pleasure (18.26%). The *Strongly*

Motivated profile was the second largest identified in this study (25.85%), which might be consistent with the high levels of efforts often deployed by newcomers seeking to experience a successful entry in their new organization (Houle et al., 2025; Kammeyer-Mueller & Wanberg, 2003). Overall, our results suggest that some employees seem to thrive in facing the challenges of their new occupation (e.g., Crawford et al., 2010; Gillet et al., 2024; Ryan, 2023), either because they enjoy it (*Self-Determined Hedonist*), find what they do important (*Self-Determined Value-Driven*), or both in combination with internal and external pressures (*Strongly Motivated*).

The remaining profiles both displayed a globally weak global level of self-determination. One of them perfectly matched our theoretical *Weakly Motivated/Amotivated* scenario, whereas the other one also captured the value-driven (identified regulation) component highlighted in recent studies having adopted a similar bifactor operationalization of work motivation (*Weakly Motivated Value-Driven*). It was particularly concerning to note the high prevalence of the *Weakly Motivated/Amotivated* profile, which corresponded to 38.48% of our sample who seemed to lack any form of drive to truly engage in their work (Richer et al., 2002). If we consider the nature of this profile in more detail, the only remaining ties these employees have with their work seem to stem from external contingencies (external regulation) or pleasure (intrinsic motivation), whose specific levels remain above average. In this regard, this profile shares some similarities with the *Externally Motivated or Controlled* scenario. This specific configuration may thus describe employees who primarily undertook a new undesirable job to pay the bills, or who might have faced an important value conflict (low specific levels of identified regulation) when entering their new organization (e.g., Deci et al., 2017), leaving them to engage in a job that they could enjoy but in a workplace or role that they see as problematic.

In contrast, the slightly less prevalent (11.08%) *Weakly Motivated Value-Driven* employees displayed the lowest global level of self-determination and specific levels of intrinsic motivation observed in this study but maintained their drive to engage in their work based on its congruence with their personal values (identified regulation). This profile suggests a particularly difficult integration to a workplace that may not have matched expectations (Houle et al., 2025), while remaining consistent with an occupational role that was chosen from a value-based perspective (Chong et al., 2024). Interestingly, these specific results do suggest that personal values (in the *Weakly Motivated Value-Driven* profile) and pleasure (*Weakly Motivated/Amotivated* profile) do seem to play a particularly important role among new employees (Doden et al., 2023; Martin,

2016), even among those who may feel disappointed by their new job or primarily driven by economic reasons.

The two largest profiles were also the most extreme ones, as well as the most stable over time. More precisely, Profile 3 (*Weakly Motivated*/*Amotivated*) had the highest levels of amotivation, while Profile 4 (*Strongly Motivated)* had the strongest levels of motivation across all types of behavioral regulations as well as one of the strongest global levels of self-determination. This observation is consistent with the idea that early efforts at adapting to a new job should be accompanied by a greater prevalence of more extreme motivational states (e.g., Houle et al., 2025), while suggesting that six months is not enough to complete this initial period of adaptation. Moreover, and contrary to our expectations, we did not identify a profile corresponding to the *Moderately Motivated* or *Balanced* scenario. This observation also supports the idea that a moderate, or balanced, motivational orientation could be something that emerges over time, once the challenges of integrating a new workplace are progressively resolved (Houle et al., 2024, 2025). Efforts are required to start a new occupation (Kammeyer-Mueller & Wanberg, 2003), and thus the onboarding period is more likely to involve extremes, or imbalanced, motivational orientations (Houle et al., 2025). However, it is important to acknowledge that a *Moderately Motivated* profile was identified by Fernet et al. (2020) in their study of early career public nurses. Arguably, the nurses forming their sample had a longer tenure (zero to three years) and were followed for a longer period (two years) than the new employees recruited for this study, which might have been enough time for some of them to achieve a more balanced orientation to their work. Working in the public sector, the nurses forming their samples are also likely to face more rigorously defined work conditions, and to have been better prepared to meet these conditions as part of their training (Houle et al., 2024) than the current sample. Obviously, these interpretations will need to be verified pending replication studies conducted among more diversified (in terms of tenure, occupations, cultures, and types of organizations) samples. Importantly, these results (i.e., the stability of the most extreme profiles and the absence of a moderate profile) all highlight the need to consider a longer period to properly assess the process via which motivational orientations become progressively crystalized over time (e.g., 3-4 years; Houle et al., 2024).

Although we previously argued that our *Weakly Motivated/Amotivated* profile shared some similarities with the *Externally Motivated* or *Controlled* scenario, it is important to acknowledge that

these similarities were minimal, and that this profile cannot be considered to provide evidence for this scenario. Once again, it is likely that the nature of the current sample of newcomers could explain part of this result, suggesting that a purely controlled motivational orientation may only develop after a prolonged exposure to unsatisfactory work conditions (Trépanier et al., 2015). Newcomers are typically hopeful when starting a new job (Houle et al., 2025), and as our results show, pleasure and values seem to play a key role for them (Doden et al., 2023; Gkorezis & Kastritsi, 2017). This interpretation, however, is supported by the fact that no such profile was identified by Fernet et al. (2020) in their sample of early career nurses. Once again, replication efforts are required to validate this interpretation.

Moreover, our results demonstrated that profile membership was highly stable across time points for four of the five profiles identified (ranging from 72.8% to 97.1% across profiles), despite the challenging nature of the onboarding period. However, the smallest *Self-Determined Value-Driven* profile displayed weaker within-profile stability, with 60.60% of its members shifting to another profile at the second time of measurement. The most common transition was toward the *Strongly Motivated* profile (46.10%), followed by the *Weakly Motivated*/*Amotivated* profile (13.50%). These transitions are consistent with some of our previous interpretations suggesting that controlled forms of regulation (which were highest in these two profiles) may take time to develop among newcomers. Indeed, employees may begin their new occupation feeling enthusiastic, then progressively lose this fresh outlook when facing the challenges and pressures of their new job (Houle et al., 2024, 2025; Kammeyer-Mueller & Wanberg, 2003). These transitions are also consistent with the fragility of purely autonomous forms of motivation in suboptimal work contexts (Gillet et al., 2012; Vansteenkiste & Ryan, 2013). Employees who are strongly driven by their values may find it hard to live up to their standards over a prolonged period of facing challenges and the need to adapt to a new work reality. This transition is expected to happen often by SDT given the proximity of identified and introjected regulations on the motivation continuum (Howard et al., 2018, 2020). However, the high stability of the *Self-Determined Hedonist* profile also serves as a reminder that autonomous motivation can be maintained over time, possibly under the influence of more stable individual factors (Levine et al., 2021) or satisfactory onboarding conditions (Houle et al., 2024, 2025).

In sum, these profiles thus provide evidence of validity, supporting the value of most of our hypothetical scenarios as providing a useful theoretical framework to guide upcoming research

into the nature of the most commonly occurring work motivation profiles (e.g., Gillet et al., 2020b), in addition to providing evidence of their generalizability across two different times points taken six months apart among employees in the process of adapting to their new workplaces. Moreover, evidence of generalizability seems particularly strong as it is also supported by correspondence with profiles identified in previous research, even though these previous studies relied on distinct operationalizations of work motivation, methodological designs, types of samples, and types of analyses (see Table 1). This evidence of generalizability lends support to the value of profile-based interventions, showing that motivational profiles do not reflect ephemeral phenomena, and that profile membership is unlikely to change on its own in the absence of intervention. More generally, this strong evidence of generalizability across samples and over time indicates that our scenarios seem to capture some core mechanisms involved in employees' work motivation (e.g., Gillet et al., 2020b).

The Role of Need Supportive and Need Thwarting Work Conditions

Considering that every workplace entails work conditions that can either support or interfere with employee motivation (Gagné & Deci, 2005), our results provide new insights on perceived exposure to how need supportive and need thwarting behaviors in the workplace are associated with newcomers' motivational profiles. As expected, we found that employees who reported higher need supportive behaviors at work were more likely to belong to motivation profiles characterized by higher global levels of self-determination and/or motivation (*Self-Determined Hedonist*, *Strongly Motivated,* and *Self-Determined Value-Driven*). Conversely, employees who reported higher need thwarting behaviors at work were more likely to belong to motivation profiles characterized by lower global levels of self-determination and/or motivation (*Weakly Motivated Value-Driven* and *Weakly Motivated/Amotivated*). These employees were also least likely to belong to a *Self-Determined* profile.

In relation to the rarer scenarios covered in RQ2, our results showed that perceptions of need supportive behaviors at work were associated with a higher likelihood of membership into profiles with a *Hedonist* orientation, whereas perceptions of need thwarting behaviors at work did not seem to be primarily associated with profiles characterized by a *Value-Driven* or *Hedonist* orientation. These results are consistent with the theoretical perspective (Ryan & Deci, 2017; Ryan et al., 2022; Van den Broeck et al., 2016) that need supportive behaviors should promote the development of autonomous forms of motivation, particularly intrinsic motivation

(Huyghebaert-Zouaghi et al., 2023a), whereas need thwarting behaviors should be primarily associated with less desirable types of profiles.

Associations Between Work Motivation Profiles and Outcomes

Our results are generally aligned with expectations based on past research supporting the role of work motivation profiles in the prediction of various outcomes (e.g., Fernet et al., 2020; Gillet et al., 2018). As expected (Deci et al., 2017; Ryan, & Deci, 2017), employees belonging to the *Weakly Motivated Value-Driven* and *Weakly Motivated*/*Amotivated* profiles displayed among the highest levels of turnover intention and emotional exhaustion, and the lowest levels of job engagement and performance. Conversely, employees belonging to the *Self-Determined Value-Driven*, *Strongly Motivated*, and *Self-Determined Hedonist* profiles displayed among the lowest levels of turnover intention and emotional exhaustion, and the highest levels of job engagement and performance.

However, it should be kept in mind that employees from the *Strongly Motivated* profile reported higher levels of emotional exhaustion than those from the *Weakly Motivated/Amotivated*, *Self-Determined Value-Driven*, and *Self-Determined Hedonist* profiles. These observations suggest that a strong motivational orientation combining autonomous (intrinsic motivation and identified regulation) and controlled (introjected and external regulations) forms of motivation can potentially be harmful to employees' psychological health. Indeed, employees corresponding to this profile tend to invest a great deal, if not too much, in their work because they face multiple forms of internal and external pressures to do something that they see as fun and important. The likely result of this unmitigated drive to work is a progressive depletion of personal resources, which is known to have detrimental effects on health due to insufficient recovery processes (e.g., Parker et al., 2021).

Furthermore, employees from the *Self-Determined Hedonist* profile reported lower levels of job engagement and performance than those from the *Strongly Motivated* profile. In fact, for both outcomes, the highest levels were found in the *Self-Determined Value-Driven* profile. These observations suggest that a motivational orientation anchored in more than pure pleasure may be particularly important when engagement and performance at work are considered (Gillet et al., 2020b; Howard et al., 2021). Importantly, global levels of self-determination were lower in the *Self-Determined Hedonist* profile than in the *Strongly Motivated* and *Self-Determined Value-Driven* profiles, further highlighting the critical importance of this global motivational

orientation (Howard et al., 2018, 2020). Altogether, these results clearly support the value of global levels of self-determination in employee well-being functioning, as well as the value of a motivational orientation that encompasses values and/or more than pure pleasure (Doden et al., 2023; Martin, 2016). The distinction between the two *Self-Determined* profiles in terms of outcomes reinforces the idea that the unique qualities of specific behavioral regulations observed in each profile are likely to subtly or dramatically influence behaviors (e.g., Howard et al., 2018, 2020, 2021).

Limitations and Future Directions

Our results contribute to a more in-depth understanding of the joint effects of global and specific components of work motivation, how these components differentially combine for different profiles of employees, their associations with need supportive and need thwarting practices, and their implications for theoretically relevant outcomes. However, although these findings offer promising avenues of research and hold practical significance, this study is not without limitations. First, data was gathered using exclusively self-report measures, which are associated with various risks of social desirability and self-evaluation biases. Future research could use different sources of data (e.g., supervisor's performance ratings, objective records of sick leave or turnover) to increase objectivity and widen the scope of our findings. Second, our results are based on a sample of Canadian employees who started a new job a maximum of six months ago. It would thus seem important to consider replicating this study across different cultures, career stages or transitions, and while specifically differentiating entry into the workforce (i.e., youth entering the work market for the first time) versus entry into a new job for adults already working. Likewise, it would be important to extend our results to multiple time points to better grasp how work motivation truly evolves over time using a more intensive longitudinal design. Third, the methodological and analytical design used in this study precludes conclusions regarding the directionality, causality, or associations between predictors, profiles, and outcomes, which had to be assumed based on theory and are likely to be reciprocal in nature (Mbanga et al., 2024). These questions would need to be more thoroughly examined in future studies relying on methodological designs allowing for tests of directionality or causality. Fourth, although we considered critically important predictors from the perspective of SDT (e.g., Ryan & Deci, 2017), further research remains necessary to understand how many other factors help shape these motivation profiles (e.g., job demands, organizational values, socialization practices,

leadership behaviors; Gillet et al., 2024; Houle et al., 2025; Huyghebaert-Zouaghi et al., 2023b) on their own or in interaction with need supportive and need thwarting conditions.

Implications for Practice

Organizations and managers may want to pay attention to work conditions and take action to facilitate the implementation of need supportive behaviors, while limiting need thwarting behaviors. Indeed, need supportive conditions were found to support the emergence of profiles characterized by higher global levels of self-determination and displaying generally more desirable motivational configuration from an outcome perspective. Actions aimed at directly changing supervisors' behaviors may be implemented (e.g., via seminars where they could be made aware of the positive effects of need supportive behaviors and harmful effects of need thwarting behaviors). Supervisors could then be trained in best practices to facilitate the satisfaction of employees' psychological needs for autonomy, competence, and relatedness (Huyghebaert-Zouaghi et al., 2023b). Interestingly, need-supportive interventions have been successfully implemented and can be useful in reinforcing supervisors' training and development (for a review, see Slemp et al., 2021). For instance, Reynders et al. (2019) have shown that supervisors can become more skilled in adopting need supportive behaviors, to the benefit of individuals' autonomous motivation, by following a training program involving a workshop spanning four sessions on how to incorporate need supportive behaviors (e.g., a theoretical and empirical background about need-related supervisory behaviors followed by skill-based workshops). Organizations could also limit the development of need thwarting behaviors through cultural change and by hiring supervisors who demonstrate behaviors consistent with recognition of employees' abilities, support and attention to subordinates, and initiative and openness to constructive exchanges (Deci et al., 2017). Even when under pressure, leaders need to ensure that their emotions and ideas do not interfere with employees' psychological needs. They further need to be prepared to receive critical feedback on their own behaviors (Gabriel et al., 2014).

Despite our focus on need supportive and need thwarting behaviors as predictors of motivation profiles, other types of leadership behaviors (e.g., leader-member exchange; Henderson & Jeong, 2024) or job demands and resources (e.g., role ambiguity, workload, role conflict, organizational support; Gillet et al., 2016) represent other possible drivers of work motivation, and could deserve a focal role in intervention in their own right. Thus, from a generic intervention perspective, the present findings emphasize the importance of providing early

interventions to nurture a stronger global sense of self-determination among newcomers, which in turn is associated with the most positive outcomes (Deci et al., 2017; Fernet et al., 2020). In this regard, from an organization-wide intervention perspective, organizations and managers can also take measures to reduce employees' work-related stress by promoting good work relationships and creating a safe, friendly, and supportive work environment (e.g., increased open communication, positive leadership, encouragement; Caesens et al., 2020). Supervisor support is also a way for newcomers to modify and shape their work environment to make it less difficult and to be able to cope with the demands they face (Caesens et al., 2023). For instance, supervisors could strive to set realistic deadlines for their staff by considering complexity, resources, and priorities. While trying to avoid overburdening employees with unrealistic deadlines, which can lead to stress and frustration, they could also ensure that deadlines are clearly communicated. Moreover, a variety of tools, such as checklists and procedures, can be provided by supervisors to help newcomers dealing with stressful conditions (Houle et al., 2025).

From a targeted intervention perspective, our results suggest that it might be valuable to target newcomers with low specific levels of intrinsic motivation and identified regulation. However, our results showed that the benefits of higher specific levels of intrinsic motivation and identified regulation only emerged when newcomers already displayed a high global level of self-determination. This is illustrated by the above-average specific levels of intrinsic motivation in the *Self-Determined Hedonist* and *Weakly Motivated/Amotivated* profiles that are associated with much better outcomes in the *Self-Determined Hedonist* profile compared to the *Weakly Motivated/Amotivated* profile, because the former is characterized by significantly higher global levels of self-determination than the latter. Similarly, the above-average specific levels of identified regulation in the *Self-Determined Value-Driven* and *Weakly Motivated Value-Driven* profiles are associated with much better outcomes in the *Self-Determined Value-Driven* profile compared to the *Weakly Motivated Value-Driven* profile, because the former is characterized by significantly higher global levels of self-determination than the latter. Thus, it seems preferable to propose interventions aimed at fostering the development of the most favorable motivation profiles (characterized by a stronger global level of self-determination) by focusing on strategies directed at specific behavioral regulations, such as intrinsic motivation (pleasure) and identified regulation (values), both of which were found to play an important role among the current sample of newcomers. Such actions aimed at promoting the overall sense of self-determination,

through pleasure and values, may be more effective than those aimed at reducing the pressures felt by newcomers (Gillet et al., 2017). Practitioners may want to do so while considering how they can foster employees' basic psychological needs for autonomy, competence, and relatedness. Fortunately, validated interventions to foster need satisfaction already exist (Gagné et al., 2022; Slemp et al., 2021). Likewise, established interventions to increase positive emotions could also prove useful (e.g., positive psychology interventions, mindfulness; Donald et al., 2020).

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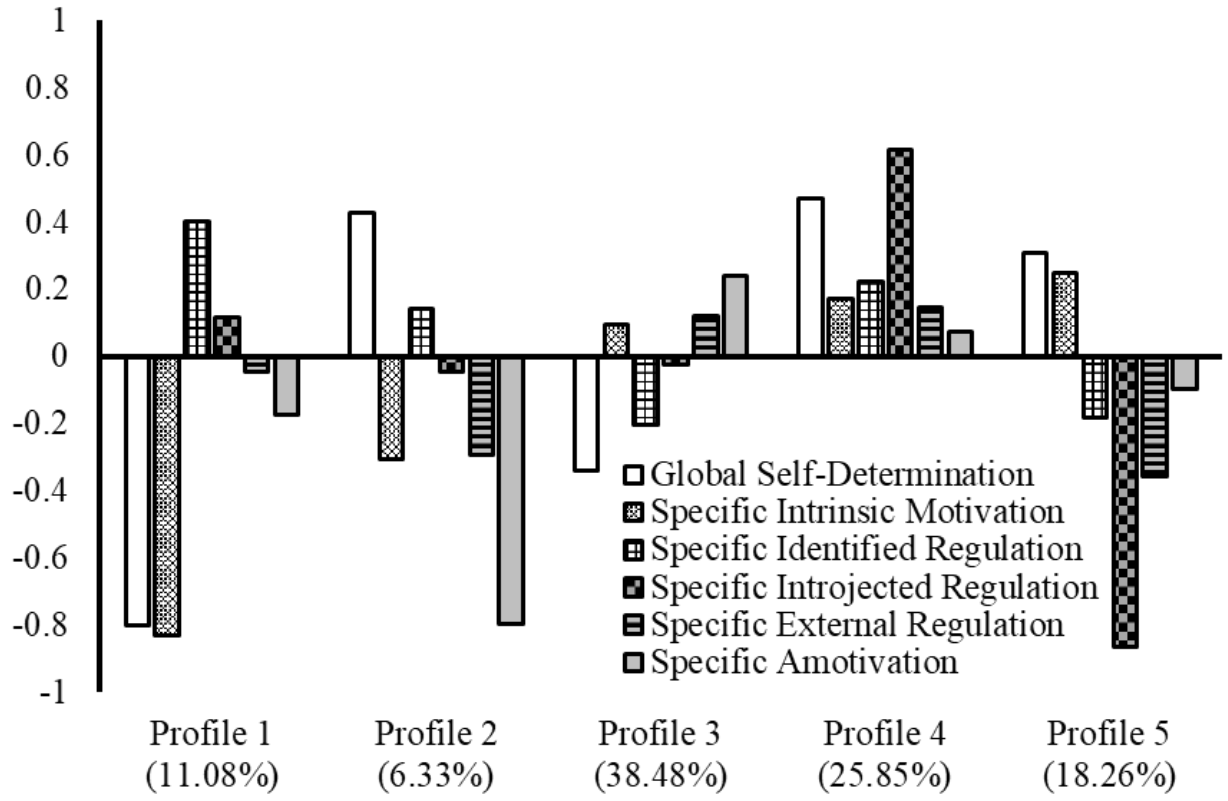

Figure 1. Final Five-Profile Solution (Distributional Similarity)
Note. Profile indicators are factor scores estimated in standardized units ($M = 0$; $SD = 1$); Profile 1: *Weakly Motivated Value-Driven*; Profile 2: *Self-Determined Value-Driven*; Profile 3: *Weakly Motivated*/*Amotivated*; Profile 4: *Strongly Motivated*; and Profile 5: *Self-Determined Hedonist.*

Table 1

Previous Person-Centered Studies of Work Motivation: Description

Study	Sample	Design	Analysis	Bifactor	Indicators	Profiles
Gillet et al. (2010)	188 French employees. Copper industry	CS	CA	No	Amotivation External Introjected Identified Integrated Intrinsic	1. *Low* (low-average on all regulations) 2. *Moderate* (low amotivation, and average-high on other regulations) 3. *Self-determined* (high identified, integrated, and intrinsic, average introjected and external, and low amotivation)
Moran et al. (2012)	225 Chinese employees. Variety of sectors	CS	CA	No	External Introjected Identified Integrated Intrinsic	1. *Low introjection* (low introjected and average on other regulations) 2. *Moderate* (average on all regulations) 3. *Low autonomy* (low integrated and intrinsic, and average on other regulations) 4. *Self-determined* (low external and high on other regulations) 5. *Motivated* (high on all regulations)
Van den Broeck et al. (2013)	S1: 1797 Belgian, various sectors S2: 287 Belgian, community organization S3: 270 Dutch, call centers	CS	CA No test of profile similarity across samples.	No	Autonomous Controlled	1. *High autonomous-High controlled* (high autonomous and controlled) 2. *High autonomous-Low controlled* (high autonomous and low controlled) 3. *Low autonomous-High controlled* (low autonomous and high controlled) 4. *Low autonomous-Low controlled* (low autonomous and controlled)
Jansen in de Wal et al. (2014)	2360 Dutch secondary teachers	CS	LPA	No	External Introjected Identified Intrinsic	1. *Extremely autonomous* (low external, average introjected, and high identified and intrinsic) 2. *Mod. motivated* (mod. high identified and intrinsic, and mod. low external and introjected) 3. *Highly autonomous* (high identified and intrinsic, average introjected, and low external) 4. *Externally regulated* (mod. low-low on all regulations)
Van den Berghe et al. (2014)	201 Belgian physical education teachers	CS	CA	No	Autonomous Controlled	1. *Poor quality* (low autonomous and high controlled) 2. *Low quantity* (mod. low autonomous and low controlled) 3. *High quantity* (mod. high autonomous and high controlled) 4. *Good quality* (high autonomous and low controlled)
Graves et al. (2015)	321 US managers	CS	LPA	No	External Introjected Identified Intrinsic	1. *Very low internal* (average external, and very low introjected, identified, and intrinsic) 2. *Low internal* (average external, and low introjected, identified, and intrinsic) 3. *Mod. low internal* (average external, and mod. low introjected, identified, and intrinsic) 4. *Mod. high* (mod. high on all regulations) 5. *High internal* (average external, and high introjected, identified, and intrinsic) 6. *Self-determined* (low external, mod. low introjected, and high identified and intrinsic)

Study	Sample	Design	Analysis	Bifactor	Indicators	Profiles
Howard et al. (2016)	S1: 723 Canadian, various sectors S2: 286 Belgian, various sectors	CS	LPA No test of profile similarity across samples.	No	Amotivation External-material External-social Introjected Identified Intrinsic	1. *Amotivated* (very high amotivation and average-low on other regulations) 2. *Mod. autonomous* (very low external-social and external-material, low amotivation and introjected, and average-slightly above average identified and intrinsic) 3. *Highly motivated* (low amotivation, and average-high on other regulations) 4. *Balanced* (average on all regulations)
Gillet et al. (2017)	S1: 567 French soldiers S2: 839 French soldiers	CS	LPA No test of profile similarity across samples.	No	External Introjected Identified Intrinsic	1. *Low* (low on all regulations) 2. *Moderate* (low to average on all regulations) 3. *Self-determined* (high intrinsic, mod. high identified, and low introjected and external) 4. *Mixed* (high intrinsic, identified, and introjected, and mod. low external)
Abós et al. (2018)	584 Spanish secondary teachers	CS	CA	No	Autonomous Controlled Amotivation	1. *Amotivation* (very low autonomous, average controlled, and very high amotivation) 2. *Relatively controlled motivation* (low amotivation, average autonomous, and high controlled) 3. *Combined controlled-autonomous* (high autonomous and controlled, and low amotivation) 4. *Relatively autonomous motivation* (high autonomous, and very low controlled and amotivation)
Gillet et al. (2018)	S1: 328 French, various sectors S2: 521 French, various sectors	CS	LPA No test of profile similarity across samples.	No	External Introjected Identified Intrinsic	1. *High autonomous-low introjected / external* (high intrinsic and identified, and low introjected and external) 2. *High autonomous / introjected-low external* (high intrinsic, identified, and introjected, and low external) 3. *Low autonomous / introjected / external* (low scores on all regulations) 4 (Sample 1). *Mod. autonomous / introjected / external* (average on all regulations) 4 (Sample 2). *Mod. autonomous-high introjected-mod. external* (high introjected, and average on other regulations)
Chen et al. (2019)	S1: 842 Chinese, various sectors S2: 630 Chinese, various sectors	CS	LPA No test of profile similarity across samples.	No	External Introjected Identified Intrinsic	1. *Intrinsic motivation-dominant* (low external, average introjected, and high identified and intrinsic) 2. *Intrinsic motivation-minor* (average external, and very low introjected, identified, and intrinsic) 3. *Low-midrange motivations* (average-low on all regulations) 4. *High-midrange motivations* (average- mod. high on all regulations) 5. *Dominant motivations* (high on all regulations)

Study	Sample	Design	Analysis	Bifactor	Indicators	Profiles
Fernet et al. (2020)	438 new public nurses, Canada. 0-3 years of tenure	L. Two time points. 2-year interval.	LPA/LTA Profile similarity over time.	Yes	Global S-Intrinsic S-Identified S-Introjected S-External S-Amotivation	1. *Mod. motivated* (mod. high global, average amotivation, identified, introjected, and external, and mod. low intrinsic) 2. *Poorly motivated* (low global, average introjected, external, identified, and intrinsic, and mod. high amotivation) 3. *Self-determined motivated* (mod. high intrinsic, average global and identified, and low introjected, external, and amotivation) 4. *Strongly motivated* (very high global, high identified, introjected, and external, mod. high amotivation, and average intrinsic)
Gillet et al. (2020b)	S1: 291 French managers S2: 249 French hospital employees S3: 237 French nurses S4: 373 French physiotherapists	CS	LPA. Profile similarity across samples.	Yes	Global S-Intrinsic S-Identified S-Introjected S-External S-Amotivation	1. *Self-driven introjected* (very high introjected, mod. high global and intrinsic, average external, and mod. low identified and amotivation) 2. *Externally driven* (very low global and intrinsic, low identified, and high introjected, external, and amotivation) 3. *Mod. intrinsically motivated* (mod. high intrinsic, mod. low global, identified, external, and amotivation, and low introjected) 4. *Highly intrinsically motivated* (high intrinsic, average amotivation, mod. low global and identified, and low introjected and external) 5. *Value-reward self-driven* (mod. high global, identified, and external, average amotivation, and mod. low intrinsic and introjected) 6 (Sample 3: Nurses). *Self-driven hedonist* (very high intrinsic, high global and amotivation, average identified, and low introjected and external) 6 (Samples 1-2-4). *Self-driven hedonist* (high global and identified, average amotivation, mod. low introjected, and low intrinsic and external)
Ju (2020)	475 Chinese safety construction employees	CS	LPA	No	Amotivation External-material External-social Introjected Identified Intrinsic	1. *Amotivated* (very high amotivation, and average-low on other regulations) 2. *Balanced* (average scores on all regulations) 3. *Mod. autonomous* (very low amotivation, external-material, and external-social, average introjected and intrinsic, and high identified) 4. *Highly motivated* (average amotivation, and high on other regulations)
Franco et al. (2021)	105 Argentinian physical education teachers	CS	CA	No	Autonomous Controlled Amotivation	1. *Poor-quality* (mod. low autonomous, mod. high controlled, and high amotivation) 2. *Low-quantity* (low autonomous and controlled, and average amotivation) 3. *High-quantity* (high controlled, mod. high autonomous, and low amotivation) 4. *Good-quality* (high autonomous, low amotivation, and very low controlled)
Howard et al. (2021)	510 US employees. Variety of sectors	L. Two time points. 4-month interval.	LPA/LTA Profile similarity over time.	Yes	Global S-Intrinsic S-Identified S-Introjected S-External-social S-External-material S-Amotivation	1. *Highly self-determined* (high global, mod. high intrinsic, and average external-material, external-social, introjected, and identified) 2. *Identified* (average on all regulations) 3. *Low self-determined* (low global, and average on other regulations) 4. *Externally regulated* (mod. high external-material, external-social, and introjected, and average identified, intrinsic, and global)

Study	Sample	Design	Analysis	Bifactor	Indicators	Profiles
Levesque-Côté et al. (2021)	501 Canadian employees. Manufacturing and services sectors	CS	LPA	No	External Introjected Identified Intrinsic	1. *Self-determined* (very high intrinsic, high identified, low introjected, and very low external) 2. *Unmotivated* (very low intrinsic and identified, low introjected, and average external) 3. *Highly motivated* (very high to high on all regulations) 4. *Mod. motivated* (average on all regulations)
Parker et al. (2021)	551 UK employees. Variety of sectors	L./CS Profiles only at Time 1	LPA	No	Amotivation External-material External-social Introjected Identified Intrinsic	1. *Amotivated* (high amotivation and average-low on other regulations) 2. *Amotivated/external motivation* (high amotivation, mod. high external, and average-low on other regulations) 3. *Highly motivated* (low amotivation and mod. high-high on other regulations) 4. *Autonomous* (high intrinsic and identified, and average-low on other regulations)
Tóth-Király et al. (2021)	955 Hungarian employees. Variety of sectors	CS	LPA	Yes	Global S.Intrinsic S.Identified S.Introjected S.External-social S.External-material S.Amotivation	1. *Intrinsically motivated* (mod. high intrinsic, average global, identified, introjected, and external-social, and low amotivation) 2. *Poorly motivated* (slightly lower than average global and identified, higher than average amotivation, and average on other regulations) 3. *Driven* (high global, identified, introjected and external-material, average intrinsic, external-social, and amotivation) 4. *Conflicted* (lower than average global and intrinsic, slightly higher than average identified and amotivation, and average on other regulations) 5. *Self-determined* (high global, and average on other regulations)
Meyer et al. (2022)	444 US employees. Variety of sectors	CS	LPA	No	Amotivation External-material External-social Introjected Identified Intrinsic	1. *Amotivation* (very high amotivation and low on other regulations). 2. *Mod. amotivation* (high amotivation and average on other regulations) 3. *Mod. amotivation with introjected regulation* (high amotivation, average external and introjected, and low identified and intrinsic) 4. *Introjected regulation* (high introjected, low intrinsic, and average on other regulations) 5. *Full motivation* (low amotivation and high on other regulations) 6. *Autonomous motivation with introjected regulation* (high identified and intrinsic, average introjected, and low amotivation and external) 7. *Autonomous motivation* (high identified and intrinsic, and average-low on other regulations)
Vanovenbergh e et al. (2022)	336 Belgian employees. Variety of sectors	CS	CA	No	Autonomous Controlled	1. *Autonomous* (high autonomous and low controlled) 2. *Controlled* (low autonomous and high controlled) 3. *Lowly motivated* (low autonomous and controlled) 4. *Highly motivated* (high autonomous and controlled)

Note. CS: Cross-sectional; L.: Longitudinal; CA: Cluster analysis; LPA: Latent profile analysis; LTA: Latent transition analysis; S: Sample; S-: Specific; and mod.: Moderate.

Table 2

Previous Person-Centered Studies of Work Motivation: Summary

Study	Self-Determined	Weakly Motivated/ Amotivated	Strongly Motivated or Driven	Moderately Motivated or Balanced	Externally Motivated or Controlled	Internally-Driven with Low External Regulation	Others
Gillet et al. (2010)	1	1	0	1	0	0	
Moran et al. (2012)	1	0	1	1	1	0	Low Introjection
Van den Broeck et al. (2013)	1	1	1	0	1	0	
Jansen in de Wal et al. (2014)	2	1	0	1	0	0	
Van den Berghe et al. (2014)	1	1	1	0	1	0	
Graves et al. (2015)	1	1	1	1	1	1	
Howard et al. (2016)	1	1	1	1	0	0	
Gillet et al. (2017)	1	1	0	1	0	1	
Abós et al. (2018)	1	1	1	0	1	0	
Gillet et al. (2018)	1	1	0	1 (Sample 1)	0	1 + 1 (Sample 2)	
Chen et al. (2019)	1	2	1	1	0	0	
Fernet et al. (2020)	1	1	1	1	0	0	
Gillet et al. (2020b)	1	0	0	1	1	1	Value-Reward (global, identified, external) Self-Driven Hedonist (global, intrinsic, identified)
Ju (2020)	1	1	1	1	0	0	
Franco et al. (2021)	1	1	1	0	1	0	
Howard et al. (2021)	1	0	0	0	2	0	Identified
Levesque-Côté et al. (2021)	1	1	1	1	0	0	
Parker et al. (2021)	1	1	1	0	1	0	
Tóth-Király et al. (2021)	2	1	1	0	0	0	Identified-Amotivated
Meyer et al. (2022)	1	2	1	0	1	2	
Vanovenberghe et al. (2022)	1	1	1	0	1	0	
Total number of studies	21	18	15	12	11	5	4

Table 3

Goodness-of-Fit for the Alternative Time-Specific Motivation Measurement Models

	χ^2	df	CFI	TLI	RMSEA (90% CI)
Work Motivation					
Five-factor CFA (Time 1)	3161.078*	142	.786	.742	.157 (.152, .162)
Five-factor ESEM (Time 1)	470.342*	86	.973	.946	.072 (.066, .079)
Bifactor CFA (Time 1)	2501.189*	133	.832	.784	.144 (.139, .149)
Bifactor ESEM (Time 1)	290.797	72	.984	.963	.059 (.052, .067)
Five-factor CFA (Time 2)	2180.378*	142	.851	.821	.170 (.164, .177)
Five-factor ESEM (Time 2)	417.116*	86	.976	.952	.088 (.080, .097)
Bifactor CFA (Time 2)	2209.891*	133	.916	.892	.178 (.057, .070)
Bifactor ESEM (Time 2)	327.752*	72	.981	.956	.085 (.076, .094)

Note: * $p < .01$; CFA: Confirmatory factor analysis; ESEM: Exploratory structural equation modeling; χ^2: Robust chi-square test of exact fit; df: Degrees of freedom; CFI: Comparative fit index; TLI: Tucker-Lewis index; RMSEA: Root mean square error of approximation; 90% CI: 90% confidence interval of the RMSEA.

Table 4

Standardized Parameter Estimates from the Time 1 Measurement Models of Work Motivation

	CFA		ESEM						B-CFA			B-ESEM						
	(λ)	δ	IM (λ)	IDR (λ)	IR (λ)	ER (λ)	AM (λ)	δ	GM (λ)	S (λ)	δ	GM (λ)	IM (λ)	IDR (λ)	IR (λ)	ER(λ)	AM(λ)	δ
Intrinsic motivation (IM)																		
Item 1	**.887****	.214	**.674****	.164**	-.034	.055**	-.152**	.222	**.828****	**-.288****	.231	**.805****	**.348****	.072	-.053*	.029	-.053*	.219
Item 2	**.858****	.263	**.788****	.057*	.057**	-.019**	-.095**	.231	**.780****	**-.422****	.214	**.764****	**.441****	.029	.012	-.030	-.030	.219
Item 3	**.844****	.480	**.680****	.167**	.131**	-.132**	-.090**	.284	**.778****	**-.299****	.589	**.767****	**.310****	.047	.084**	-.108**	-.021	.295
ω	.898		.862							.502			.622					
Identified regulation (IDR)																		
Item 1	**.658****	.567	.164**	**.378****	.027	.085**	-.219**	.571	**.628****	**-.182**	.572	**.590****	.070**	**.456****	-.004	.113**	-.054	.423
Item 2	**.729****	.469	.172**	**.403****	.232**	-.086**	-.259**	.447	**.688****	**-.722**	.006	**.633****	.053	**.387****	.220**	-.026	-.110**	.385
Item 3	**.722****	.478	.193**	**.596****	-.129**	.092**	-.057	.419	**.725****	**.062**	.470	**.709****	-.001	**.025**	.012	.096**	.002	.487
ω	.746			.569						.457				.368				
Introjected regulation (IR)																		
Item 1	**.557****	.690	.221**	.140**	**.219****	.365**	.112*	.640	**.275****	**.396****	.767	**.246****	.120**	.090*	**.275****	.432**	.131**	.638
Item 2	**.875****	.234	.299**	.576**	**.104***	.008	.046	.380	**.720****	**.221****	.433	**.874****	-.263**	-.176**	**.288****	.043	.222**	.001
Item 3	**.492****	.758	.096**	-.128**	**.768****	.092**	-.003	.396	**.008**	**.835****	.303	**-.022**	.061	-.020	**.765****	.261**	-.035	.341
Item 4	**.446****	.801	-.022**	-.031	**.834****	.005	.061*	.294	**-.084***	**.780****	.385	**-.105***	.012	.162*	**.769****	.222**	.033	.321
ω	.693				.684					.691					.772			
External regulation (ER)																		
Item 1	**.542****	.707	-.267**	.020	.180**	**.439****	.101*	.598	**-.270****	**.572****	.600	**-.257****	-.101**	.072*	.254**	**.496****	.089**	.599
Item 2	**.494****	.756	.187**	-.202**	-.150**	**.667****	.114*	.568	**-.031**	**.537****	.710	**-.022**	.106**	-.180**	-.071*	**.605****	.114**	.572
Item 3	**.510****	.739	.122**	-.063	-.179**	**.684****	-.085*	.579	**.182****	**.539****	.677	**.159****	.109**	-.072	-.088**	**.613****	-.027	.574
Item 4	**.730****	.467	.078**	.001	.140**	**.642****	-.024	.492	**.166****	**.703****	.479	**.139****	.023	.008	.219**	**.661****	.041	.494
Item 5	**.625****	.609	-.367**	.115**	.229**	**.483****	.047	.483	**-.224****	**.640****	.540	**-.219****	-.176**	.118**	.324**	**.556****	.063*	.490
Item 6	**.769****	.409	-.071	.151**	.101**	**.694****	-.136	.395	**.252****	**.732****	.401	**.209****	-.049	.128**	.207**	**.710****	-.021	.391
ω	.785					.807				.788						.809		
Amotivation (AM)																		
Item 1	**.787****	.381	.048*	.035	-.002	.000	**.895****	.272	**-.546****	**.655****	.272	**-.541****	.023	-.061*	.047	-.012	**.639****	.283
Item 2	**.881****	.224	-.238**	.035	.017	.037	**.696****	.298	**-.667****	**.497****	.307	**-.647****	-.145**	.079**	.045	-.109	**.526****	.259
Item 3	**.821****	.325	.095**	-.162**	.082**	-.058	**.801****	.300	**-.600****	**.559****	.328	**-.597****	.042	-.125**	.080**	-.022	**.561****	.304
ω	.859						.729		.619	.631		.904					.779	

Note. * $p < .05$; ** $p < .01$; CFA: Confirmatory factor analysis; ESEM: Exploratory structural equation modeling; GM: Global self-determined motivation; S: Specific factors; λ: Factor loading; δ: Item uniqueness; ω: model-based composite reliability; target factor loadings are in bold.

Table 5

Standardized Parameter Estimates from the Time 2 Measurement Models of Work Motivation

	CFA		ESEM						B-CFA			B-ESEM						
	(λ)	δ	IM (λ)	IDR (λ)	IR (λ)	ER (λ)	AM (λ)	δ	GM(λ)	S (λ)	δ	GM (λ)	IM (λ)	IDR (λ)	IR (λ)	ER(λ)	AM(λ)	δ
Intrinsic motivation (IM)																		
Item 1	**.921****	.152	**.747****	.198**	.118**	-.098**	-.078**	.167	**.826****	**.381****	.172	**.814****	**.402****	.056	.084**	-.123**	.003	.156
Item 2	**.928****	.138	**.883****	.054	.063**	.031	-.042	.105	**.805****	**.490****	.111	**.832****	**.439****	-.063	.015	.011	.043	.117
Item 3	**.909****	.175	**.776****	.123**	-.033	.019	-.115**	.169	**.810****	**.409****	.177	**.865****	**.317****	-.062	-.065*	-.010	.048*	.147
ω	.942		.929							.781			.761					
Identified regulation (IDR)																		
Item 1	**.828****	.314	.094*	**.608****	.099**	.084**	-.254**	.309	**.746****	**-.432****	.257	**.690****	.000	**.429****	.065	.070*	-.115**	.299
Item 2	**.890****	.207	.092*	**.623****	.180**	.080**	-.287**	.206	**.800****	**-.389****	.208	**.728****	.011	**.410****	.153**	.065*	-.139**	.222
Item 3	**.806****	.351	.203**	**.569****	.220**	-.046	-.134**	.350	**.742****	**-.238****	.392	**.698****	-.020	**.380****	.210**	-.079*	.017	.326
ω	.880			.789						.567				.637				
Introjected regulation (IR)																		
Item 1	**.584****	.659	.355**	.060	**.487****	.182**	.162**	.505	**.429****	**.498****	.567	**.415****	-.049	-.070*	**.557****	.118**	.278**	.386
Item 2	**.953****	.092	.474**	.361**	**.172****	.095**	-.096**	.283	**.862****	**.143****	.236	**.778****	.157**	.170**	**.155****	.064	.037	.281
Item 3	**.391****	.847	-.203**	.174**	**.533****	.120**	-.090*	.577	**.186****	**.550****	.662	**.032**	.059	.184**	**.520****	.134**	-.187**	.527
Item 4	**.387****	.850	-.053*	.127*	**.755****	.091**	.274**	.297	**.044**	**.895****	.197	**-.049**	.002	.135**	**.734****	.107**	.145**	.313
ω	.686				.695					.724					.719			
External regulation (ER)																		
Item 1	**.552****	.695	-.280**	.128**	.096*	**.545****	.169**	.521	**-.133****	**.677****	.523	**-.249****	.093	.211**	.052	**.590****	-.005	.447
Item 2	**.389****	.849	-.042	.348**	-.391**	**.615****	.429**	.366	**-.045**	**.446****	.799	**-.062**	.037	.279**	-.340**	**.581****	.324**	.439
Item 3	**.681****	.536	.055	.072	-.120**	**.710****	-.071	.515	**.303****	**.591****	.558	**.327****	-.233**	.007	-.134**	**.715****	.089*	.385
Item 4	**.803****	.356	-.003	-.228**	.138**	**.778****	-.158**	.310	**.183****	**.787****	.347	**.107**	-.019	-.200**	.145**	**.761****	-.124**	.310
Item 5	**.668****	.554	-.288**	.014	.366**	**.506****	.032	.383	**-.058**	**.703****	.503	**-.172****	-.020	.073*	.352**	**.522****	-.071*	.378
Item 6	**.839****	.297	.230**	-.248**	.045	**.820****	-.238**	.219	**.414****	**.739****	.283	**.350****	.079*	-.247**	.041*	**.790****	-.143**	.231
ω	.825					.872				.838						.877		
Amotivation (AM)																		
Item 1	**.860****	.261	-.058	-.156**	.049*	-.001	**.810****	.190	**-.671****	**.607****	.182	**-.692****	-.026	-.044	.076*	.018*	**.564****	.199
Item 2	**.935****	.125	-.211**	-.236**	.200**	-.072**	**.640****	.214	**-.754****	**.444****	.234	**-.729****	-.161**	-.119**	.242**	-.060*	**.452****	.200
Item 3	**.636****	.596	.089*	-.188**	.056	.095*	**.694****	.474	**-.456****	**.550****	.490	**-.569****	.280**	-.052	.055*	.121**	**.432****	.382
ω	.858						.840		.786	.739		.936					.729	

Note. * $p < .05$; ** $p < .01$; CFA: Confirmatory factor analysis; ESEM: Exploratory structural equation modeling; GM: Global self-determined motivation; S: Specific factors; λ: Factor loading; δ: Item uniqueness; ω: model-based composite reliability; target factor loadings are in bold.

Table 6

Goodness-of-Fit for the Longitudinal Measurement Invariance Measurement Models for Work Motivation, Need Support and Thwarting, and Outcomes

	χ^2	df	CFI	TLI	RMSEA (90% CI)	$\Delta\chi^2$	Δdf	ΔCFI	ΔTLI	ΔRMSEA
Work Motivation										
Configural invariance	771.750*	450	.986	.978	.029 (.025, .032)	---	---	---	---	---
Weak invariance	908.363*	528	.984	.978	.029 (.026, .032)	188.238*	78	-.002	.000	.000
Strong invariance	1058.580*	587	.980	.976	.030 (.028, .033)	177.219*	59	-.004	-.002	+.001
Strict invariance	1320.328*	606	.969	.964	.037 (.034; .040)	279.543*	19	-.011	-.012	+.007
Partial strict invariance	1222.006*	602	.973	.969	.035 (.032, .037)	187.227*	15	-.007	-.007	+.005
Latent variance-covariance invariance	1323.368*	623	.970	.966	.036 (.033, .039)	120.931*	21	-.003	-.003	+.001
Latent mean invariance	1330.936*	629	.970	.966	.036 (.033, .039)	19.918*	6	.000	.000	.000
Need Support										
Configural invariance	532.644*	164	.981	.968	.051 (.046, .056)	---	---	---	---	---
Weak invariance	515.044*	196	.984	.977	.043 (.039, .048)	99.512*	32	+.003	+.009	-.008
Strong invariance	611.654*	240	.981	.978	.042 (.038, .046)	122.953*	44	-.003	+.001	-.001
Strict invariance	783.619*	252	.973	.970	.049 (.045, .053)	135.488*	12	-.008	-.008	+.007
Latent variance-covariance invariance	739.650*	262	.975	.974	.046 (.042, .050)	60.621*	10	+.002	+.004	-.003
Latent mean invariance	767.325*	266	.974	.973	.047 (.043, .051)	22.614*	14	-.001	-.001	+.001
Need Thwarting										
Configural invariance	318.365*	164	.992	.986	.033 (.028, .038)	---	---	---	---	---
Weak invariance	370.630*	196	.991	.987	.032 (.027, .037)	68.019*	32	-.001	+.001	-.001
Strong invariance	407.627*	240	.991	.990	.028 (.024, .033)	60.822*	44	.000	+.003	-.004
Strict invariance	485.454*	252	.988	.986	.033 (.028, .037)	74.992*	12	-.003	-.004	+.005
Latent variance-covariance invariance	515.371*	262	.987	.986	.033 (.029, .038)	36.731*	10	-.001	.000	.000
Latent mean invariance	573.730*	266	.984	.983	.037 (.032, .041)	29.177*	4	-.003	-.003	+.004
Outcomes										
Configural invariance	1675.694*	701	.975	.969	.040 (.038, .043)	---	---	---	---	---
Weak invariance	1756.089*	724	.974	.969	.041 (.038, .043)	119.140*	724	-.001	.000	+.001
Strong invariance	1866.342*	800	.973	.971	.039 (.037, .042)	157.818*	76	-.001	+.002	-.002
Strict invariance	2037.347*	821	.969	.967	.041 (.039, .044)	178.140*	21	-.004	-.004	+.002
Latent variance-covariance invariance	2056.331*	843	.969	.968	.041 (.039, .043)	128.189*	22	.000	+.001	.000
Latent mean invariance	2090.368*	850	.968	.968	.041 (.039, .043)	35.427*	7	-.001	.000	.000

Note. * $p < .01$; χ^2: Robust chi-square test of exact fit; df: Degrees of freedom; CFI: Comparative fit index; TLI: Tucker-Lewis index; RMSEA: Root mean square error of approximation; 90% CI: 90% confidence interval of the RMSEA; $\Delta\chi^2$: WLSMV chi-square difference test (calculated using the Mplus DIFFTEST function); Δ: Change in model fit in relation to the comparison model.

Table 7

Standardized Parameter Estimates from the Latent Mean Invariant with Partial Strict Invariance Measurement Models of Work Motivation

	GM (λ)	IM (λ)	IDR (λ)	IR (λ)	ER (λ)	AM (λ)	δ
Intrinsic motivation (IM)							
Item 1	**.846****	**.302****	.003	-.021	-.029	-.027	.192
Item 2 Time 1	***.772****	***.367****	*-.011*	*-.027***	*.009*	*.018**	*.268*
Item 2 Time 2	***.868****	***.412****	*-.012*	*-.030***	*.010*	*.021**	*.074*
Item 3	**.815****	**.323****	-.031	.035	-.080**	-.035	.221
ω Time 1		.591					
ω Time 2		.688					
Identified regulation (IDR)							
Item 1	**.665****	-.009**	**.423****	.039	.102**	-.041	.365
Item 2	**.706****	-.030**	**.424****	.209**	.025	-.094**	.267
Item 3	**.767****	-.142	**.128****	.090**	.026	.049	.364
ω Time 1			.488				
ω Time 2			.488				
Introjected regulation (IR)							
Item 1	**.312****	.108**	.046**	**.327****	.392**	.165**	.601
Item 2 Time 1	***.701****	*.051**	*.049**	***.199****	*.067***	*.050***	*.457*
Item 2 Time 2	***.833****	*.060**	*.058**	***.236****	*.080***	*.059***	*.234*
Item 3	**.046**	-.044	.030**	**.695****	.277**	-.022	.436
Item 4	**-.033**	-.080**	.111	**.764****	.278**	.113**	.306
ω Time 1				.686			
ω Time 2				.722			
External regulation (ER)							
Item 1	**-.217****	-.092*	.155**	.202**	**.533****	.153**	.572
Item 2	**.059**	-.232**	-.180**	-.105**	**.527****	.330**	.513
Item 3	**.252****	-.115**	-.042	-.064*	**.609****	.081**	.540
Item 4 Time 1	***.116****	*.007*	*-.058***	*.214***	***.675****	*-.005*	*.482*
Item 4 Time 2	***.135****	*.008*	*-.068***	*.250***	***.786****	*-.006*	*.297*
Item 5 Time 1	***-.194****	*-.005*	*.211***	*.327***	***.566****	*.042*	*.488*
Item 5 Time 2	***-.220****	*-.006*	*.240***	*.371***	***.642****	*.048*	*.343*
Item 6	**.237****	.140**	.078**	.159**	**.757****	-.074**	.315
ω Time 1					.822		
ω Time 2					.852		
Amotivation (AM)							
Item 1	**-.604****	.024	-.016	.025	.065**	**.637****	.224
Item 2	**-.696****	-.102**	.007	.094**	.078**	**.478****	.262
Item 3	**-.560****	.099**	-.103**	.110**	.072**	**.525****	.373
ω Time 1	.911					.758	
ω Time 2	.924					.758	

Note. * $p < .05$; ** $p < .01$; parameters associated with the non-invariant uniquenesses differ over time and are marked in italics; GM: Global self-determined motivation; λ: Factor loading; δ: Item uniqueness; ω: model-based composite reliability; target factor loadings are in bold.

Table 8

Standardized Parameter Estimates from the Latent Mean Invariant Measurement Model of Need Support and Thwarting

	GS (λ)	AS (λ)	CS (λ)	RS (λ)	GT (λ)	AT (λ)	CT (λ)	RT (λ)	δ
Autonomy support (AS)									
Item 1	**.621****	**.552****	-.043	.172**					.279
Item 2	**.797****	**.284****	.029	.060*					.364
Item 3	**.844****	**.195****	.039	-.042					.359
Item 4	**.715****	**.499****	-.003	-.159**					.424
ω		.320							
Competence support (CS)									
Item 1	**.667****	-.080*	**.408****	-.134**					.280
Item 2	**.697****	.141**	**.257****	.060					.277
Item 3	**.794****	-.008	**.025**	.035					.247
Item 4	**.724****	-.033	**.308****	.099**					.368
ω			.459						
Relatedness support (RS)									
Item 1	**.793****	.033	-.047	**.093**					.312
Item 2	**.817****	-.067**	.018	**.226****					.215
Item 3	**.761****	.001	-.061*	**.325****					.371
Item 4	**.736****	.063**	.045	**.263****					.383
ω	.954			.391					
Autonomy thwarting (AT)									
Item 1					**.686****	**.429****	-.013	.038	.344
Item 2					**.712****	**.237****	-.085*	-.151**	.268
Item 3					**.731****	**.400****	.002	.022	.381
Item 4					**.757****	**.237****	.012	.003	.368
ω						.555			
Competence thwarting (CT)									
Item 1					**.711****	-.051	**.471****	-.049	.407
Item 2					**.691****	.042	**.377****	.105**	.189
Item 3					**.720****	-.008	**.418****	.050	.304
Item 4					**.673****	.002	**.435****	-.028	.448
ω							.682		
Relatedness thwarting (RT)									
Item 1					**.727****	.046	-.015	**.296****	.305
Item 2					**.779****	-.036*	.006	**.451****	.326
Item 3					**.709****	.069	-.032	**.208****	.371
Item 4					**.774****	.010	.085**	**.258****	.358
ω					.949			.520	

Note. * $p < .05$; ** $p < .01$; GS: Global need support GT: Global need thwarting; λ: Factor loading; δ: Item uniqueness; ω: model-based composite reliability; target factor loadings are in bold.

Table 9

Standardized Parameter Estimates from the Latent Mean Invariant Measurement Model of the Outcomes

	GE (λ)	S-E (λ)	FO (λ)	δ
Physical job engagement				
Item 1	.826*	.113*		.305
Item 2	.736*	.221*		.235
Item 3	.846*	.205*		.430
ω		.230		
Emotional job engagement				
Item 1	.702*	.501*		.208
Item 2	.825*	.500*		.256
Item 3	.768*	.708*		.035
ω		.854		
Cognitive job engagement				
Item 1	.872*	-.239*		.262
Item 2	.727*	-.321*		.307
Item 3	.681*	-.232*		.185
ω	.956	.454		
Turnover intention				
Item 1			.673*	.547
Item 2			.943*	.110
Item 3			.671*	.550
ω			.813	
Emotional exhaustion				
Item 1			.879*	.228
Item 2			.871*	.241
Item 3			.871*	.242
Item 4			.852*	.274
Item 5			.912*	.169
ω			.943	
Performance				
Item 1			.780*	.392
Item 2			.876*	.233
Item 3			.833*	.306
Item 4			.843*	.290
Ω			.901	

Note. * $p < .01$; GE: Global job engagement; SE: Specific factors for the job engagement model; FO: First-order factors for turnover intention, emotional exhaustion, and performance; λ: Factor loading; δ: Item uniqueness; ω: model-based composite reliability.

Table 10

Correlations for the Variables used in this Study

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Sex															
2. JBTM	-.181**														
3. JBTYP	-.008	-.207**													
4. REL	-.063	.054	.003												
5. ETHN	.003	.056	.009	-.032											
6. Age	-.262**	-.087*	.161**	.060	-.173**										
7. Educ.	.031	.070*	.125**	.010	.199**	-.141**									
8. Job tenure	.195**	-.024	-.206**	.072*	.100**	-.305**	.079*								
9. Kids	-.023	.103**	-.109**	.228**	.020	.109**	-.029	.008							
10. GLOM T1	.048	-.024	-.039	.114**	.065	.016	.070*	.069*	.078*						
11. IMOT T1	.035	-.127**	-.019	.006	.048	-.168**	.013	.093**	-.022	0					
12. IDEN T1	.123**	.002	-.008	-.020	.030	-.033	.005	.081*	-.008	0	0				
13. INTR T1	.136**	-.011	-.015	.019	.018	-.111**	.061	.109**	.012	0	0	0			
14. EXMS T1	-.020	.090**	.025	-.031	.101**	-.141**	.083*	-.005	-.021	0	0	0	0		
15. AMOT T1	-.059	.026	.045	.005	.087*	-.060	-.008	-.033	.007	0	0	0	0	0	
16. GLNS T1	-.001	-.037	-.037	.096**	.016	-.017	.013	.021	.061	.610**	.158**	-.091**	-.059	-.007	-.079*
17. GLNT T1	.000	.047	.019	-.103**	.101**	-.085*	.054	.017	-.043	-.475**	-.031	.079*	.137**	.162**	.256**
18. TI T1	.083*	-.013	.049	-.094**	.025	-.122**	.025	.046	-.066	-.572**	-.078*	.096**	.126**	.079*	.265**
19. EE T1	.205**	.025	-.094**	-.047	.069*	-.356**	.048	.222**	-.047	-.264**	.028	.078*	.185**	.161**	.102**
20. PF T1	-.118**	.030	.044	.001	-.114**	.265**	.019	-.219**	.084*	.352**	-.243**	.068*	-.024	.017	-.142**
21. GLOBJ T1	.082*	-.068*	-.005	.085*	.028	.083*	-.011	.049	.095**	.699**	.100**	.084*	.027	-.034	-.110**
22. GLOM T2	.072	-.029	-.078	.076	-.024	.029	.082	.119**	.020	.621**	.018	.068	.013	-.022	-.131**
23. IMOT T2	.006	-.104*	.031	.014	.086	-.074	-.008	.023	-.034	.258**	.776**	-.307**	-.101*	-.097*	.052
24. IDEN T2	.095*	-.012	-.050	-.016	.028	-.021	-.019	.063	.019	.016	-.230**	.440**	.119**	.028	-.060
25. INTR T2	.168**	-.025	-.016	-.033	.046	-.193**	.069	.161**	-.031	-.005	.083	.034	.482**	.122**	-.064
26. EXMS T2	-.002	.106*	-.007	-.016	.071	-.065	.132**	-.037	.026	-.061	-.165**	-.194**	.103*	.544**	.035
27. AMOT T2	-.108*	.046	.084	-.080	.032	-.061	-.007	-.006	-.007	-.230**	.245**	.220**	.078	.061	.373**
28. GLNS T2	.025	.010	-.022	.106*	.015	-.081	.030	.088	.011	.391**	.071	-.102*	.027	-.001	-.123**
29. GLNT T2	-.057	.029	.046	-.110*	-.004	.040	.024	-.055	.024	-.345**	.016	.088*	.026	.088	.194**
30. TI T2	.037	.019	.038	-.105*	.009	-.113*	.011	.002	.026	-.490**	-.069	.082	.118**	.126**	.209**
31. EE T2	.115*	.090*	-.078	-.089	.043	-.274**	.055	.093*	.019	-.279**	-.081	.132**	.180**	.142**	.064
32. PF T2	.121**	-.019	-.110*	.076	-.030	.089*	.065	.094*	.056	.388**	-.165**	.125**	-.026	-.011	-.177**
33. GLOBJ T2	.091*	-.055	-.040	.027	-.014	.056	.036	.104*	.035	.504**	.034	.044	-.011	.032	-.125**

Note. * $p < .05$; ** $p < .01$; T1: Time 1; T2: Time 2; JBTM: Full vs part time; JBTYP: Temporary vs permanent employment; REL: Relationship type; ETHN: Ethnicity; Educ: Highest education level; Kids: Number of kids; GLOM: Global motivation; IMOT: Intrinsic motivation; IDEN: Identified regulation; INTR: Introjected regulation; EXMS: External regulation; AMOT: Amotivation; GLNS: Global need support; GLNT: Global need thwarting; TI: Turnover intention; EE: Emotional exhaustion; PF: Performance; GLOBJ: Global job engagement; variables 10 to 33 are longitudinally invariant factor scores estimated with M= 0 and SD = 1.

Table 10 (Continued)

	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
17. GLNT T1	-.606**																
18. TI T1	-.484**	.586**															
19. EE T1	-.293**	.396**	.523**														
20. PF T1	.298**	-.311**	-.315**	-.323**													
21. GLOBJ T1	.464**	-.303**	-.357**	-.072*	.379**												
22. GLOM T2	.456**	-.360**	-.366**	-.210**	.335**	.550**											
23. IMOT T2	.240**	-.132**	-.203**	-.136**	-.139**	.169**	0										
24. IDEN T2	-.044	.057	.059	.085	.096*	.036	0	0									
25. INTR T2	-.014	.116**	.086	.199**	-.041	.001	0	0	0								
26. EXMS T2	.018	.136**	.097*	.105*	.041	-.074	0	0	0	0							
27. AMOT T2	-.117**	.348**	.295**	.127**	-.162**	-.114*	0	0	0	0	0						
28. GLNS T2	.500**	-.441**	-.307**	-.151**	.178**	.309**	.625**	.252**	.010	-.006	.113*	-.129**					
29. GLNT T2	-.397**	.603**	.370**	.211**	-.174**	-.227**	-.467**	-.173**	-.006	.071	.046	.365**	-.710**				
30. TI T2	-.411**	.483**	.622**	.396**	-.253**	-.379**	-.602**	-.272**	.024	.130**	-.006	.296**	-.564**	.543**			
31. EE T2	-.270**	.355**	.380**	.580**	-.248**	-.179**	-.292**	-.212**	.078	.170**	.068	.190**	-.312**	.395**	.555**		
32. PF T2	.260**	-.279**	-.226**	-.077	.522**	.439**	.510**	-.106*	.129**	-.003	-.025	-.249**	.294**	-.286**	-.343**	-.155**	
33. GLOBJ T2	.374**	-.286**	-.276**	-.123**	.293**	.605**	.732**	.136**	.163**	.087	.064	-.108*	.469**	-.329**	-.467**	-.160**	.507**

Note. * $p < .05$; ** $p < .01$; T1: Time 1; T2: Time 2; JBTM: Full vs part time; JBTYP: Temporary vs permanent employment; REL: Relationship type; ETHN: Ethnicity; Educ: Highest education level; Kids: Number of kids; GLOM: Global motivation; IMOT: Intrinsic motivation; IDEN: Identified regulation; INTR: Introjected regulation; EXMS: External regulation; AMOT: Amotivation; GLNS: Global need support; GLNT: Global need thwarting; TI: Turnover intention; EE: Emotional exhaustion; PF: Performance; GLOBJ: Global job engagement; variables 10 to 33 are longitudinally invariant factor scores estimated with M= 0 and SD = 1.

Table 11

Results from the Latent Profile Analyses

Model	LL	#fp	Scaling	AIC	CAIC	BIC	SSABIC	Entropy	aLMR	BLRT
Time 1: Latent Profile Analyses										
1 Profile	-6173.780	12	1.052	12371.560	12440.712	12428.712	12390.603	Na	Na	Na
2 Profiles	-6114.340	25	1.097	12278.680	12422.748	12397.748	12318.354	.363	.001	< .001
3 Profiles	-6075.636	38	1.186	12227.271	12446.255	12408.255	12287.577	.510	.190	< .001
4 Profiles	-6048.121	51	1.112	12198.242	12492.141	12441.141	12279.178	.548	.117	.013
5 Profiles	-6022.437	64	1.122	12172.874	12236.874	12172.874	12274.441	.622	.263	.030
6 Profiles	-5998.320	77	1.044	12150.640	12594.370	12517.370	12272.838	.636	.221	< .001
7 Profiles	-5977.012	90	1.025	12134.024	12652.669	12562.669	12276.852	.757	.217	.030
8 Profiles	-5956.578	103	1.183	12119.156	12712.717	12609.717	12282.616	.657	.604	< .001
Time 2: Latent Profile Analyses										
1 Profile	-3486.166	12	1.054	6996.332	7058.787	7046.787	7008.699	Na	Na	Na
2 Profiles	-3442.446	25	1.120	6934.892	7065.006	7040.006	6960.656	.457	.019	< .001
3 Profiles	-3415.643	38	1.148	6907.285	7105.058	7067.058	6946.446	.637	.413	.040
4 Profiles	-3389.632	51	1.163	6881.264	7146.697	7095.697	6933.822	.587	.365	.020
5 Profiles	-3366.768	64	1.049	6861.536	7194.627	7130.627	6927.490	.653	.071	.061
6 Profiles	-3346.656	77	1.068	6847.313	7248.064	7171.064	6926.664	.684	.303	.214
7 Profiles	-3330.038	90	1.064	6840.076	7308.486	7218.486	6932.824	.700	.207	< .001
8 Profiles	-3310.354	103	1.015	6826.708	7362.777	7259.777	6932.853	.744	.895	< .001
Longitudinal Tests of Profile Similarity										
Configural similarity	-9389.206	128	1.086	19034.411	19772.041	19644.041	19237.545	.519	Na	Na
Structural similarity	-9419.796	98	1.097	19035.592	19600.340	19502.340	19191.117	.499	Na	Na
Dispersion similarity	-9448.157	68	1.284	19032.314	19424.180	19356.180	19140.229	.488	Na	Na
Distribution similarity	-9454.281	64	1.314	19036.562	19405.377	19341.377	19138.129	.462	Na	Na
Model with Demographic Variables										
Null	-9286.291	78	.828	18728.582	19178.074	19100.074	18852.366	.617	Na	Na
Free over time + Time 1 profiles	-9103.945	330	.634	18867.890	20769.591	20439.591	19391.596	.751	Na	Na
Free over time	-9196.699	150	.672	18693.399	19557.808	19407.808	18931.447	.759	Na	Na
Predictive similarity	-9255.223	114	.898	18738.446	19395.397	19281.397	18919.362	.634	Na	Na
Model with Predictors										
Null	-5131.315	38	.798	10338.629	10557.613	10519.613	10398.935	.618	Na	Na
Free over time + Time 1 profiles	-4966.137	94	.622	10120.275	10661.971	10567.971	10269.451	.640	Na	Na
Free over time	-4991.349	54	.871	10090.698	10401.886	10347.886	10176.396	.681	Na	Na
Predictive similarity	-5004.417	46	.972	10100.834	10365.919	10319.919	10173.835	.642	Na	Na
Models with Outcomes										
Free over time	-8397.257	104	1.102	17002.514	17601.837	17497.837	17167.560	.754	Na	Na
Explanatory similarity	-8427.245	84	1.215	17022.490	17506.559	17422.559	17155.796	.747	Na	Na

Note. LL: Model loglikelihood; #fp: Number of free parameters; Scaling: Scaling correction factor associated with robust maximum likelihood estimates; AIC: Akaïke information criteria; CAIC: Constant AIC; BIC: Bayesian information criteria; SSABIC: Sample size adjusted BIC; aLMR: p-value for the adjusted Lo-Mendel-Rubin likelihood ratio test; BLRT: p-value for the bootstrap likelihood ratio test.

Table 12

Detailed Parameter Estimates from the Final Latent Profile Analysis Solution (Distributional Similarity)

	Profile 1		Profile 2		Profile 3		Profile 4		Profile 5	
	Mean	CI	Mean	CI	Mean	CI	Mean	CI	Mean	CI
Global Self-Determination	-.803	[-1.097; -.509]	.428	[.296; .560]	-.339	[-.504; -.173]	.469	[.239; .698]	.308	[-.320; .936]
Specific Intrinsic Motivation	-.833	[-1.056; -.610]	-.306	[-.775; .162]	.096	[.003; .189]	.171	[.028; .314]	.250	[.039; .462]
Specific Identified Regulation	.403	[.099; .707]	.141	[-.140; .421]	-.202	[-.309; -.095]	.223	[.103; .343]	-.181	[-.367; .004]
Specific Introjected Regulation	.118	[-.243; .478]	-.048	[-.466; .370]	-.025	[-.179; .129]	.615	[.298; .932]	-.866	[-1.111; -.622]
Specific External Regulation	-.047	[-.437; .343]	-.295	[-.652; .062]	.122	[.009; .234]	.145	[-.041; .330]	-.356	[-.568; -.144]
Specific Amotivation	-.175	[-.426; .075]	-.796	[-.963; -.629]	.238	[.127; .348]	.075	[-.059; .210]	-.097	[-.265; .071]
	Profile 1		Profile 2		Profile 3		Profile 4		Profile 5	
	Variance	CI	Variance	CI	Variance	CI	Variance	CI	Variance	CI
Global Self-Determination	.735	[.419; 1.050]	.059	[.019; .098]	.579	[.424; .733]	.600	[.444; .756]	1.011	[.273; 1.750]
Specific Intrinsic Motivation	.536	[.262; .810]	.470	[-.188; 1.129]	.269	[.201; .338]	.435	[.338; .532]	.453	[.263; .642]
Specific Identified Regulation	.689	[.462; .917]	.356	[.147; .565]	.255	[.205; .305]	.409	[.324; .495]	.419	[.273; .565]
Specific Introjected Regulation	1.040	[.755; 1.325]	.920	[.592; 1.248]	.277	[.203; .351]	.457	[.266; .647]	.313	[.199; .428]
Specific External Regulation	1.115	[.719; 1.511]	1.125	[.644; 1.606]	.355	[.236; .475]	.909	[.656; 1.162]	1.078	[.858; 1.297]
Specific Amotivation	1.064	[.755; 1.374]	.052	[.005; .100]	.490	[.394; .585]	.541	[.402; .679]	.495	[.321; .668]

Note. CI = 95% confidence interval; profile indicators are factor scores estimated in standardized units ($M = 0$; $SD = 1$); Profile 1: *Weakly Motivated Value-Driven*; Profile 2: *Self-Determined Value-Driven*; Profile 3: *Weakly Motivated*/*Amotivated*; Profile 4: *Strongly Motivated*; and Profile 5: *Self-Determined Hedonist.*

Table 13

Classification Accuracy: Average Probability of Membership into Each Latent Profile (Column) as a Function of the Most Likely Profile Membership (Row)

	Profile 1	Profile 2	Profile 3	Profile 4	Profile 5
Time 1					
Profile 1	.756	.017	.086	.076	.065
Profile 2	.036	.632	.082	.131	.119
Profile 3	.045	.010	.716	.129	.100
Profile 4	.058	.037	.149	.719	.037
Profile 5	.042	.037	.123	.066	.732
Time 2					
Profile 1	.771	.008	.075	.092	.054
Profile 2	.069	.633	.096	.148	.054
Profile 3	.086	.042	.516	.210	.145
Profile 4	.046	.030	.146	.729	.049
Profile 5	.054	.039	.128	.076	.703

Note. Profile 1: *Weakly Motivated Value-Driven*; Profile 2: *Self-Determined Value-Driven*; Profile 3: *Weakly Motivated/Amotivated*; Profile 4: *Strongly Motivated*; and Profile 5: *Self-Determined Hedonist.*

Table 14

Transitions Probabilities

	To Profile 1 at T2	To Profile 2 at T2	To Profile 3 at T2	To Profile 4 at T2	To Profile 5 at T2
From Profile 1 at T1	.928	.072	.000	.000	.000
From Profile 2 at T1	.000	.404	.135	.461	.000
From Profile 3 at T1	.004	.000	.971	.025	.000
From Profile 4 at T1	.000	.079	.161	.728	.033
From Profile 4 at T1	.000	.000	.000	.142	.858

Note. T1: Time 1; T2: Time 2; Profile 1: *Weakly Motivated Value-Driven*; Profile 2: *Self-Determined Value-Driven*; Profile 3: *Weakly Motivated*/*Amotivated*; Profile 4: *Strongly Motivated*; and Profile 5: *Self-Determined Hedonist.*

Table 15

Effects of the Predictors on the Likelihood of Profile Membership into the First Listed Profile Relative to the Second Listed One (Model of Predictive Similarity)

	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	
	Coef. (SE)	OR	Coef. (SE)	OR	Coef. (SE)	OR	Coef. (SE)	OR	Coef. (SE)	OR
Need Support	-3.319 (.805)**	.036	-.836 (.419)*	.433	-1.349 (.434)**	.259	.212 (.284)	1.236	-3.532 (.710)**	.029
Need Thwarting	1.046 (.497)*	2.846	-.201 (.354)	.818	1.595 (.363)**	4.928	.821 (.306)**	2.273	.225 (.431)	1.252
	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	
	Coef. (SE)	OR	Coef. (SE)	OR	Coef. (SE)	OR	Coef. (SE)	OR	Coef. (SE)	OR
Need Support	-1.049 (.326)**	.350	-1.561 (.326)**	.210	-1.971 (.514)**	.139	.512 (.315)	1.669	-2.483 (.636)**	.083
Need Thwarting	-1.021 (.318)**	.360	.775 (.311)*	2.171	-.549 (.304)	.578	-1.796 (.324) **	.166	1.247 (.427)**	3.480

Note. * $p < .05$; ** $p < .01$; SE: Standard error of the coefficient; OR: Odds ratio; the coefficients and OR reflect the effects of the predictors on the likelihood of membership into the first listed profile relative to the second listed profile; need support and need thwarting are factor scores with M = 0 and SD = 1; Profile 1: *Weakly Motivated Value-Driven*; Profile 2: *Self-Determined Value-Driven*; Profile 3: *Weakly Motivated*/*Amotivated*; Profile 4: *Strongly Motivated*; and Profile 5: *Self-Determined Hedonist.*

Table 16

Associations between Profile Membership and the Outcomes

	Profile 1		Profile 2		Profile 3		Profile 4		Profile 5		Summary of
	M	CI	M	CI	M	CI	M	CI	M	CI	Significant Differences
Turnover intention	1.256	[1.017; 1.495]	-.871	[-1.110; -.631]	.360	[.228; .492]	-.075	[-.253; .103]	-.724	[-.929; -.519]	1 > 3 = 4 > 2 = 5
Emotional exhaustion	.954	[.558; 1.351]	-.699	[-1.089; -.308]	.084	[-.070; .239]	.262	[.027; .497]	-.763	[-.959; -.567]	1 > 4 > 3 > 2 = 5
Job engagement	-.799	[-1.145; -.453]	.862	[.609; 1.115]	-.509	[-.627; -.392]	.502	[.386; .618]	.178	[-.001; .357]	2 > 4 > 5 > 1 = 3
Performance	-.333	[-.613; -.054]	1.110	[.795; 1.424]	-.460	[-.574; -.346]	.182	[.033; .332]	.205	[-.121; .531]	2 > 4 = 5 > 1 = 3

Note. M: Mean; CI: 95% confidence interval; turnover intention, emotional exhaustion, job engagement, and performance are factor scores with M = 0 and SD = 1; Profile 1: *Weakly Motivated Value-Driven*; Profile 2: *Self-Determined Value-Driven*; Profile 3: *Weakly Motivated*/*Amotivated*; Profile 4: *Strongly Motivated*; and Profile 5: *Self-Determined Hedonist.*