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Causality orientations, coaching-based leadership and emotional exhaustion: a dual-pathway model based on self-determination theory

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Abstract

Purpose – This study examines how individuals' causality orientations formed early in life and coaching-based leadership (CBL) jointly predict emotional exhaustion (EE) among Generation Z employees in China. Drawing on Self-Determination Theory (SDT) and its sub-theory, Causality Orientations Theory (COT), the research explores how personal dispositions and leadership styles affect the satisfaction or frustration of basic psychological needs (autonomy, competence and relatedness) and how these need experiences shape motivational regulation and emotional well-being.

Design/methodology/approach – Using survey data from 200 Chinese Gen Z employees and structural equation modeling, the study reveals three key findings.

Findings – (1) Autonomous orientation predicts need satisfaction, while control orientation predicts need frustration; (2) CBL enhances need satisfaction and mitigates need frustration; and (3) need satisfaction fosters autonomous motivation and reduces EE, whereas need frustration fuels controlled motivation and heightens exhaustion. These findings underscore the distinct roles of need satisfaction and need frustration as separate pathways (hindrance versus resource-building) to EE. CBL emerged as a critical contextual factor that not only promotes motivation and psychological resilience but also buffers against the detrimental effects of controlling work environments.

Practical implications – Practically, the findings suggest that organizations should adopt autonomy-supportive leadership practices to reduce EE and promote sustainable autonomy orientation among younger workers.

Originality/value – The study advances SDT and COT by integrating dispositional and contextual factors into a unified framework. It highlights the psychological vulnerability of Gen Z employees in China, where controlled causality orientations may be more culturally reinforced.

Keywords Coaching-based leadership, Emotional exhaustion, Need satisfaction, Need frustration, Self-determination

Paper type Research article

Introduction

The modern workplace increasingly strains employee well-being, with emotional exhaustion (EE) emerging as a critical concern. EE refers to a state of feeling emotionally drained and overextended due to the depletion of emotional resources (Liang *et al.*, 2022). This phenomenon has serious implications, negatively affecting outcomes such as employee well-

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being, value co-creation behavior and job performance (Jia *et al.*, 2023). Generation Z (Gen Z) employees are particularly vulnerable in this context. Research indicates that Gen Z experiences elevated levels of anxiety and depression compared to previous generations, partly due to constant exposure to digital technologies and social media, which contribute to technology addiction and attention deficits (Pichler *et al.*, 2021). Moreover, Gen Z's strong desire for meaningful work and social recognition heightens their susceptibility to EE when these needs are unmet (Aggarwal *et al.*, 2022). They are drawn to inclusive, supportive workplaces that respect work–life boundaries, favor mentorship-based structures over rigid hierarchies and prioritize personal development and collective well-being (Dwivedula, 2025; Loring and Wang, 2021; Sakdiyakorn *et al.*, 2021). Focussing on Generation Z is theoretically necessary because their unique developmental experiences and distinct motivational profiles may influence how dispositional orientations and leadership styles shape need satisfaction, need frustration and EE. This allows us to test whether STD and COT mechanisms operate similarly for a cohort with heightened sensitivity to autonomy support and meaningful work.

Self-determination theory (SDT) posits that the satisfaction of autonomy, competence and relatedness needs is essential for sustaining motivation, performance and well-being, while protecting against EE (Deci and Ryan, 1985; Ryan and Deci, 2017). These needs are theorized as universal psychological nutrients (Ryan, 1995) and cross-cultural research demonstrates that autonomy satisfaction predicts well-being across individualist and collectivist contexts (Ryan *et al.*, 2022). However, existing SDT research has predominantly emphasized need satisfaction and has paid comparatively less attention to how culturally embedded control systems shape the co-occurrence of need satisfaction and need frustration (Bartholomew *et al.*, 2011; Gillet *et al.*, 2012), particularly among younger cohorts socialized in hierarchical environments. As a result, the mechanisms through which normative control translates into burnout remain insufficiently theorized.

China's collectivist and high power distance context (Hofstede, 2001; China Individualism score 20 and Power distance 80), providing a theory-stressing setting for examining these mechanisms. Cultural norms emphasizing conformity, obedience and hierarchical authority (Hofstede, 2001; Akaliyski *et al.*, 2025) may structurally constrain Gen Z's growing desire for autonomy and self-expression, fostering stronger controlled-causality orientations. This is illustrated in causality orientation theory (COT), which shows that those from environments that thwart these needs tend to develop a stronger control-causality orientation (Ryan and Deci, 2024). While autonomy orientation is associated with need satisfaction, control orientation heightens vulnerability to need frustration (Gagné and Deci, 2005). However, SDT has not fully explained whether and how need satisfaction and need frustration operate through distinct pathways under such conditions, nor whether controlled regulation becomes more psychologically costly when generational values misalign with prevailing cultural norms. Addressing this gap, we advance a dual-pathway model grounded in SDT that distinguishes between resource-building and hindrance-based processes and clarifies their joint relevance to EE in culturally constrained work environments.

First, we conceptualize need satisfaction as a resource-building pathway. Integrating Self-Determination Theory with Conservation of Resources logic, satisfaction of the needs for autonomy, competence and relatedness operates as an accumulative reservoir of psychological resources that facilitates adaptive self-regulation and autonomous motivation (AM), thereby reducing EE (Gagné and Deci, 2005; Robertson *et al.*, 2020). Within Chinese organizational contexts characterized by high performance pressure and long working hours (Qiu *et al.*, 2022), these need-based resources enable employees – particularly Generation Z – to internalize work demands and appraise them as meaningful challenges rather than coercive stressors. Autonomy-supportive coaching-based leadership (CBL) and autonomy causality orientation promote this pathway by facilitating internalization, learning and self-regulation, thereby replenishing psychological energy and buffering EE.

Second, we conceptualize need frustration as a hindrance-based pathway that is theoretically and empirically distinct from low need satisfaction. Need frustration reflects

employees' active experiences of coercion, incompetence and social exclusion, which directly deplete psychological energy and undermine self-regulation. These experiences foster externally regulated, controlled forms of motivation (Gillet *et al.*, 2012), which in turn heighten EE. In the Chinese context, normatively controlling managerial practices, hierarchical surveillance and implicit expectations of obedience – rooted in high collectivism and high power-distance orientations (Hofstede, 2001) – may systematically elicit need frustration, even when employees display surface-level compliance. Moreover, a controlled causality orientation cultivated through early socialization further amplifies this hindrance pathway by predisposing individuals to interpret work demands as controlling and pressure-laden, thereby intensifying controlled motivation (CM) and EE.

Critically, we argue that burnout among Chinese Gen Z employees arises not from workload alone, but from the coexistence of weak resource-building mechanisms and strong hindrance mechanisms. Employees may experience limited autonomy satisfaction while simultaneously facing high autonomy frustration, creating a "double burden" that accelerates EE. By explicitly distinguishing these dual pathways, the present study extends SDT by clarifying how culturally embedded control systems shape burnout processes.

Leadership plays a critical role in shaping these processes. Autonomy-supportive, CBL can serve as a contextual counterbalance, weakening hindrance pathways and strengthening resource-building pathways, even in hierarchical settings. Accordingly, by examining how causality orientations and CBL jointly predict need satisfaction, need frustration and EE among Chinese Gen Z employees, this study moves beyond geographic replication to refine the scope conditions of SDT and COT. In doing so, it clarifies when, how and for whom CM becomes particularly detrimental, thereby extending the explanatory power of motivational theory in culturally constrained work environments.

Theoretical background

Self-determination theory (SDT)

Developed by Deci and Ryan in the 1980s, SDT is a comprehensive and empirically supported framework for understanding human motivation. It has been widely applied across diverse domains, including organizational settings, education, healthcare and social psychology (Deci *et al.*, 2017). In contrast to earlier needs-based theories, such as Maslow's Hierarchy of Needs (1943) and McClelland's Need Theory (1960), which conceptualize motivation in broad or hierarchical terms, SDT offers a more nuanced, multidimensional perspective on the mechanisms that drive motivation and well-being. It conceptualizes motivation along a continuum of relative autonomy, known as the relative autonomy continuum (RAC). This continuum ranges from a complete lack of self-determination to full self-determination in understanding why individuals invest effort in their actions.

The continuum illustrates a progression from controlled regulation (external, introjected) to autonomous regulation (identified, integrated, intrinsic), with amotivation representing a complete lack of regulation. Of the six types of motivations, three (integrated, amotivation and introjected) were not considered in the current study. First, integrated regulation was excluded because its measurement items often overlap with those for identified regulation or intrinsic motivation. As a result, Van den Broeck *et al.* (2021) suggest that integrated regulation should be put on hold until more precise measurement tools are developed. Second, some scholars have argued that individuals typically possess at least some form of motivation to perform their work, rendering the study of amotivation less relevant in workplace contexts (Gagné *et al.*, 2015). Third, introjected regulation occupies a conceptual space between controlled and AM. Because of this ambiguity, it tends to yield both positive and negative outcomes, making its effects difficult to isolate or interpret clearly (Van den Broeck *et al.*, 2021).

Mahmoud *et al.* (2021) identified generational differences in work motivation among Canadian employees: Generation Z is primarily driven by material rewards (external regulation), whereas Generations X and Y are more affected by personal values and goals (identified regulation). These

findings support the use of higher-order constructs (HOCs); CM (e.g. external and introjected regulation) and AM (e.g. identified and intrinsic regulation) in employee behavior research. Indeed, several studies have adopted this simplified structure, using key motivational types (controlled versus autonomous) to represent broader constructs (e.g. De Cooman *et al.*, 2013).

At its core, SDT posits that all individuals possess three basic psychological needs: autonomy, competence and relatedness, which are essential for optimal functioning and well-being (Deci and Ryan, 2000; Ryan and Deci, 2017; Vansteenkiste *et al.*, 2020).

(1) Autonomy refers to the experience of volition and self-endorsement; when satisfied, individuals feel authentic and self-directed, whereas frustration of autonomy leads to pressure and inner conflict.

(2) Competence reflects the perception of effectiveness and mastery; its satisfaction stems from successful engagement, while its frustration results in feelings of ineffectiveness and failure.

(3) Relatedness involves feelings of connection and significance to others; its frustration is marked by alienation and loneliness.

When these psychological needs are satisfied, individuals are energized to engage in tasks through AM. In contrast, when these needs are deprived or actively frustrated, individuals are more likely to adopt controlled forms of motivation, driven by external pressures and demands rather than intrinsic interest (Deci *et al.*, 2017). Importantly, need frustration is conceptually distinct from low need satisfaction, as it reflects active psychological need thwarting rather than the mere absence of need fulfillment (Vansteenkiste *et al.*, 2020). Nevertheless, existing SDT research has predominantly focused on need satisfaction, with comparatively limited attention given to the dual-path co-occurrence of need satisfaction and need frustration within the same motivational context (Bartholomew *et al.*, 2011; Gillet *et al.*, 2012).

Deci *et al.* (2017) introduced a workplace-specific model of Self-Determination Theory (SDT), as illustrated in Figure 1, which highlights two key predictors of employee motivation and well-being: social context (e.g. leadership style) and individual differences (e.g. personality traits). These factors either support or thwart employees' basic psychological needs for autonomy, competence and relatedness. When employees value autonomy and managers actively support it, individuals are more likely to feel connected to others and confident in their abilities. This facilitates AM, engaging in work willingly and with a sense of volition, which, in turn, enhances performance, well-being and vitality while reducing ill-being. Conversely, when employees suppress their need for autonomy and managerial practices restrict job autonomy, individuals may feel disconnected and less competent. This

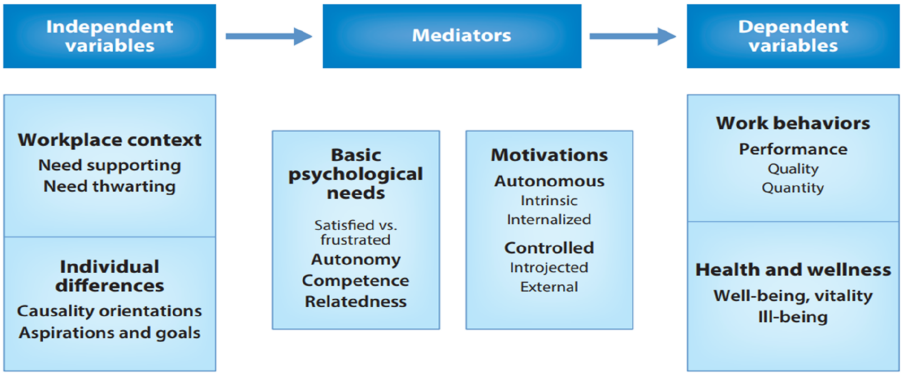

Figure 1. Basic SDT model in the workplace (Deci *et al.*, 2017)

fosters CM, in which behavior is driven by external rewards or pressure, increasing the risk of ill-being. Collectively, SDT offers a comprehensive framework for understanding organizational behavior by emphasizing how workplace environments can either support or undermine employees' basic psychological needs (Sheldon *et al.*, 2003), which, in turn, lead to different motivational processes and work outcomes, suggesting a dual pathway of resource building versus resource hindrance. Need satisfaction is a resource-building pathway; autonomy, competence and relatedness satisfaction function as accumulative psychological resources that support AM, which, in turn, leads to reduced EE (Gagné and Deci, 2005; Robertson *et al.*, 2020). Central to this perspective is the assumption that individuals possess an inherent tendency toward growth and integration, which may be facilitated or obstructed by contextual and personal factors (Van den Broeck *et al.*, 2021).

Grounded in the SDT workplace model, this study examines how CBL (as a contextual factor) and causality orientations (an individual difference factor) jointly predict psychological need satisfaction or frustration, subsequent motivational regulation, and ultimately, EE among Chinese Generation Z employees.

Causality orientation theory (COT)

Causality orientation theory (COT), a sub-theory within the broader SDT framework, explains individual differences in general regulatory styles, or how people perceive the causes of their behavior and how these perceptions shape their motivation and responses to external events (Halvari and Olafsen, 2020; Ryan *et al.*, 2022). COT posits two primary orientations, autonomy and control, which show how individuals interpret and react to their workplace environment. These orientations are not mutually exclusive; instead, all individuals possess both to varying degrees, and their relative expression may fluctuate across different life domains and contexts.

Causality orientations develop through early life experiences. Individuals raised in environments that consistently support their basic psychological needs for autonomy, competence and relatedness are more likely to develop a stronger autonomy causality orientation. Conversely, those from environments that thwart these needs tend to develop a stronger control causality orientation (Ryan and Deci, 2024). Kasser *et al.* (1995) demonstrated that a controlling or emotionally distant maternal style predicted adolescents' pursuit of extrinsic goals or controlled causality orientation. As a result, people differ in how they experience need satisfaction or frustration, depending on their personal traits and developmental histories (Moller and Deci, 2010).

An autonomous causality orientation (ACO) is characterized by self-determination and choice, in which individuals create options and possibilities aligned with their personalities (Halvari and Olafsen, 2020). Autonomy-oriented individuals perceive themselves as the origin of their actions, prefer to make their own choices and are guided by internal values and intrinsic interests. In contrast, control-oriented individuals view their behavior as governed by external pressures or expectations and often prefer structured environments with clear directives. These orientations align closely with intrinsic and extrinsic value orientations (Ryan and Deci, 2024).

Although causal orientations are considered relatively stable individual differences, they are not entirely fixed and can be influenced by social-contextual factors in the workplace (Halvari and Olafsen, 2020). A need-supportive work environment that nurtures autonomy, competence and relatedness can gradually promote a shift toward a more autonomy-oriented motivational style. This highlights a reciprocal relationship: while individuals bring pre-existing causality orientations into the workplace, the work environment itself can reinforce or reshape these orientations over time.

Hypotheses development

Personal causality orientation and needs satisfaction/frustration

COT distinguishes between autonomy and control orientations, which represent stable personality tendencies in how individuals regulate behavior and interpret external events

(Hagger and Hamilton, 2021). Control-oriented or extrinsic value orientation individuals perceive behavior as driven by external factors, a focus on external rewards such as money, recognition, prestige and status (Merriman, 2017). Merriman (2017) reported that US employees with a stronger extrinsic value orientation benefited more from competence-supportive feedback. In other words, extrinsically motivated employees tend to work harder and perform better when they receive feedback that enhances their sense of competence, compared to those who receive lower feedback. This finding supports Cerasoli *et al.*'s (2014) argument that extrinsic and intrinsic orientations operate synergistically rather than competitively to enhance performance.

However, research also points to potential downsides: individuals with a strong extrinsic focus neglect their psychological needs, which ultimately undermine their well-being (Niemiec *et al.*, 2006). In a study of Belgian employees, Vansteenkiste *et al.* (2007) reported that employees with an extrinsic orientation reported lower life satisfaction, greater work–family conflict and higher EE. Although employees experienced temporary positive emotions from achieving external goals, these feelings are often unstable and short-lived. Unlike their intrinsically motivated counterparts, extrinsically motivated employees felt more drained after work, which negatively affected their family lives.

A control-oriented approach stimulates pressure-based regulation, which in turn frustrates employees' need for autonomy. This autonomy frustration serves as a key underlying mechanism through which CM can lead to unfavorable outcomes, such as stress, ill-health and exhaustion over time (Van den Broeck *et al.*, 2010; Olafsen *et al.*, 2017). It is evident that because controlled goals are externally dependent, they perpetuate sustained autonomy frustration and undermine employee well-being (Manganelli *et al.*, 2018). In work settings, externally imposed demands, such as strict deadlines, exemplify this dynamic by limiting perceived choice and volition, thereby weakening AM.

China's Individualism score of 49.4 (Akaliyski *et al.*, 2025) and 20 (Hofstede, 2001) reflect a collectivist culture emphasizing in-group loyalty and conformity over personal autonomy. Although SDT identifies autonomy, competence and relatedness as universal needs, their expression is culturally shaped. In China, norms of obedience may foster controlled causal orientations, in which behavior is regulated by external expectations rather than personal endorsement. While culturally normative, such control-oriented regulation may conflict with Gen Z's autonomy needs, leading to need frustration. The above-described empirical studies consistently show that control-oriented employees exhibit greater need frustration. We propose the following hypothesis:

H1. Control causality orientation is positively related to needs frustration.

An autonomy orientation leads individuals to interpret external cues as supportive rather than controlling, promoting self-determined regulation and interpreting their environment as providing choice and meaningful feedback (Ryan and Deci, 2024; Ryan *et al.*, 2022). A recent study found that employees with an autonomous orientation were more likely to perceive external cues and workplace events as supportive of their psychological needs, which, in turn, fostered prosocial and intrinsic motivation, ultimately enhancing innovative behavior at work (Papachristopoulos and Arvanitis, 2024). Similarly, studies reported that autonomy-oriented employees are more concerned with helping others and making meaningful contributions and are more likely to relate to colleagues in a truthful, authentic manner (Van den Broeck *et al.*, 2010; Vansteenkiste *et al.*, 2007). This interpretive lens facilitates the satisfaction of core psychological needs: perceived choice directly fulfills autonomy, proactive engagement with challenges enhances competence and authentic, prosocial interactions foster relatedness (Van den Broeck *et al.*, 2010; Vansteenkiste *et al.*, 2007). Through these mechanisms, autonomy orientation strengthens intrinsic and prosocial motivation, which in turn yields adaptive outcomes such as higher engagement, performance, innovation and well-being (Halvari and Olafsen, 2020; Manganelli *et al.*, 2018; Papachristopoulos and Arvanitis, 2024). Based on the above-described theoretical and experimental support, we propose the following hypothesis:

H2. ACO is positively related to needs satisfaction.

Coaching-based leadership and needs satisfaction/frustration

Various organizational factors contribute to employees' basic need satisfaction, including leadership style, peer support, job design and opportunities for skill development (Van den Broeck *et al.*, 2010). Studies reported that autonomy-supportive leaders who acknowledge employees' perspectives, offer meaningful choices, encourage self-regulation and consistently foster higher need satisfaction and intrinsic motivation, while minimizing the obstruction of needs (Gillet *et al.*, 2012; Deci *et al.*, 2017). Leader and peer support functions as a social resource that cultivates relatedness by affirming employees' value and connection (Shulga, 2021). Leaders who assign jobs that allow for decision-making and task control fulfil the need for autonomy. At the same time, skill development opportunities function as competence-supportive resources that enhance employees' sense of effectiveness and capability (Manganelli *et al.*, 2018).

CBL is a developmental leadership approach that supports employees in achieving their growth goals by fostering strong working alliances, promoting open communication, facilitating learning and development and monitoring progress (Peláez Zuberbühler *et al.*, 2023). CBL is positively related to psychological capital, workplace engagement and extra-role performance (Peláez Zuberbühler *et al.*, 2023) and negatively related to need thwarting (Gillet *et al.*, 2012). In other words, when supervisors did not support autonomy by being controlling, dismissive or overly directive, employees were more likely to experience frustration with their basic needs. This need thwarting, in turn, negatively impacted the workplace outcomes. These findings underscore leadership's dual role: autonomy-supportive behaviors foster need satisfaction, whereas autonomy-thwarting leadership induces need frustration, undermining employees' motivation and psychological well-being.

CBL, which emphasizes autonomy-supportive and need-supportive behaviors (Olafsen *et al.*, 2017), was found to reduce employees' or athletes' need frustration by fostering environments that satisfy the basic psychological needs for autonomy, competence and relatedness. This signifies that need frustration arises when individuals feel ineffective, pressured or rejected due to direct interference with their psychological needs. For instance, being demeaned by a leader constitutes need thwarting. Similarly, studies reported that CBL's supportive nature is fundamentally incompatible with conditions that cause frustration (Bartholomew *et al.*, 2011; Olafsen *et al.*, 2017) because CBL nurtures rather than undermines these needs; therefore, we predict a negative relationship between CBL and needs frustration and propose the following hypothesis:

H3. CBL is negatively related to Needs Frustration.

CBL is expected to enhance need satisfaction by directly nurturing autonomy, competence and relatedness. Specific coaching behaviors, such as offering choice, providing constructive feedback and showing authentic care, serve as "psychological nutrients" and positively impact employee well-being, motivation and performance (Manganelli *et al.*, 2018). In particular, Generation Z employees place greater value on autonomy, achievement and career development and respond positively to leaders who combine freedom with guidance and opportunities for growth (Sakdiyakorn *et al.*, 2021; Barhate and Dirani, 2021). Similarly, Sakdiyakorn *et al.* (2021) studied Generation Z university business students in Thailand. They value self-direction, achievement and security, making them independent, goal-oriented, yet cautious in their actions. Leadership styles such as CBL, which promote autonomy, freedom and achievement while providing a sense of security, are the most suitable styles to meet their needs. A study by Barhate and Dirani (2021) also reported that Generation Z employees are highly assertive about their career development and expect their organizations to support their growth through learning, mentorship and development opportunities. They place strong expectations on supervisors to provide meaningful mentorship that facilitates their career progression, further underscoring the relevance of CBL in addressing Gen Z's aspirations.

CBL is characterized by strong working alliances, open communication, a focus on learning and development and regular progress tracking (Peláez Zuberbühler *et al.*, 2023). The extant literature reported that coaching-based leaders support employees' psychological needs in multiple ways. First, coaching-based leaders build trusting working alliances with employees, empowering them to make decisions about the activities and projects they undertake, and thereby fulfilling their need for autonomy. Second, through open communication, employees feel safe to express their concerns and develop closer relationships with their leaders, meeting their need for relatedness. Finally, by emphasizing learning, development and progress tracking, CBL helps employees strengthen their skills and sense of effectiveness, satisfying their need for competence. A study by Gillet *et al.* (2012) found that basic psychological need satisfaction fully mediated the positive effects of perceived supervisor autonomy support on work outcomes, including job satisfaction, happiness and self-realization. In line with SDT, leaders who provide autonomy-supportive and informational feedback, involve employees in decision-making and foster meaningful connections create conditions for sustained need satisfaction and AM (Ryan and Deci, 2024; Olafsen *et al.*, 2017). Based on the above-described theoretical and experimental support, we propose the following hypothesis:

H4. CBL is positively related to Needs Satisfaction.

Motivational type mediates the relationship between needs satisfaction/frustration and emotional exhaustion

Extensive research has demonstrated that need frustration predicts maladaptive outcomes, including employee burnout and disengagement (Gillet *et al.*, 2012; Vander Elst *et al.*, 2012). Vander Elst *et al.* (2012) reported that job insecurity negatively affects work-related well-being by frustrating employees' basic psychological needs through autonomy, belongingness and competence frustration. While all three needs played a mediating role, autonomy frustration was highly significant in explaining this relationship. Importantly, need frustration is conceptually distinct from low need satisfaction; it represents active psychological need thwarting rather than the mere absence of fulfillment (Vansteenkiste *et al.*, 2020). While the two constructs are negatively related, a study found that the presence of frustration signals active undermining of needs and is a stronger predictor of ill-being (Bartholomew *et al.*, 2011).

When employees' psychological needs are frustrated, they shift toward the controlled forms of motivation as a coping mechanism (Olafsen *et al.*, 2017). Controlled regulation consumes greater psychological resources, fosters rigid coping patterns and heightens the vulnerability to stress (Vansteenkiste *et al.*, 2020). Similarly, CM is positively associated with higher levels of stress and EE because it involves performing tasks under pressure rather than with genuine engagement and satisfaction (Manganelli *et al.*, 2018). This type of motivation is less effective in promoting well-being and is associated with burnout and turnover intentions (Vansteenkiste *et al.*, 2007). For instance, a study in which participants were school principals found that CM was positively related to exhaustion (Deci *et al.*, 2017). Similarly, a study conducted by Tremblay *et al.* (2009) in the context of Canada found that non-self-determined motivation (calculated by summing the means of introjected regulation, external regulation and amotivation) was negatively related to citizenship behaviors and positively related to deviant behaviors, suggesting that individuals with higher CM are more prone to antisocial or counterproductive organizational behaviors.

In organizational contexts, extrinsic motivation was positively related to negative employee outcomes. When employees are primarily extrinsically motivated, they feel less control over their behavior, making them more vulnerable to burnout (Kuvaas *et al.*, 2017), greater stress and higher turnover intentions (Vansteenkiste *et al.*, 2007). Basic psychological need frustration mediates the relationship between CM and EE, such that CM heightens need frustration, leading to greater exhaustion (Gagné *et al.*, 2022). Similarly, a couple of

longitudinal studies confirmed that an increase in need frustration corresponds to an increase in CM, which in turn predicts EE, a core dimension of burnout (Deci *et al.*, 2017; Manganelli *et al.*, 2018; Vansteenkiste *et al.*, 2020). When employees experience active need thwarting, such as micromanagement, social exclusion or persistent failure, they are more likely to rely on controlled forms of regulation, which deplete their energy and result in exhaustion. A study found that Gen Z employees are more sensitive toward Amotivation than Gen X and Gen Y (Mahmoud *et al.*, 2021). Amotivation is a state in which individuals are not connected with outcomes of their behaviors as being associated with their initial behaviors. In other words, Amotivation refers to the absence of both extrinsic and intrinsic motivation and represents a complete lack of volition and self-determination concerning the target behaviors (Ryan and Deci, 2000). Mahmoud *at al.* (2021) also found that intrinsic motivation contributes more to the Generation Z employees' overall work motivation than Generation X and Generation Y. Similarly, a recent study applied the SDT motivation on emerging workforce (i.e. Generation Z) found that the two most autonomous forms of motivation including intrinsic motivation and identified regulation are significantly correlated with Generation Z employees' motivation (Dwivedula, 2025). In line with the SDT workplace model (Deci *et al*., 2017), we propose that Generation Z employees in China who experience psychological need frustration are more likely to exhibit CM and, in turn, higher levels of EE, thereby constituting a resource-hindrance pathway. Although SDT conceptualizes autonomy, competence and relatedness as universal psychological needs, the mechanisms that support or thwart these needs are culturally patterned. Within the Chinese cultural context, where obedience, conformity and hierarchical control are socially reinforced, employees, particularly younger cohorts, are more likely to experience autonomy need frustration with accelerated resource depletion, which subsequently heightens EE. Hence, we propose the following mediation hypothesis:

H5. CM mediates the relationship between need frustration and EE.

AM includes intrinsic and identified regulation, both of which are related to higher employee engagement, performance and psychological well-being (Tremblay *et al.*, 2009; Manganelli *et al.*, 2018). AM arises when individuals perceive their actions as aligned with intrinsic interests or personal values (Dwivedula, 2025). Similarly, Tremblay *et al.* (2009) conducted a study in Canada. They found self-determined motivation (calculated by summing the means of intrinsic motivation, integrated regulation and identified regulation) positively related to employee organizational involvement, commitment and citizenship behaviors and negatively related to employee deviant behaviors, suggesting that individuals with higher levels of AM are more inclined to engage in constructive actions toward both their organization and colleagues. Extending the same line of inquiry, a study of employees in the gas station and finance sectors in Norway found that intrinsic motivation was positively related to favorable outcomes, including higher job performance and stronger affective organizational commitment (Kuvaas *et al.*, 2017).

Satisfying basic psychological needs directly fosters the emergence of AM (e.g. Gagné and Deci, 2005). Relationship satisfaction enhances access to valuable resources such as information, guidance, support, feedback and shared commitment, which, in turn, facilitate purposeful action (Robertson *et al.*, 2020). This purposeful action mediates the effect of relationship satisfaction on increased work meaningfulness and AM. Similarly, Van den Broeck *et al.* (2010) reported that, across samples of Belgian and Dutch employees, satisfaction with each of the three basic needs (autonomy, competence and relatedness) was positively related to AM.

A couple of meta-analytic and cross-cultural evidences also reported that need satisfaction fosters AM, which in turn reduces the EE (Gagné and Deci, 2005; Deci *et al.*, 2017; Manganelli *et al.*, 2018). Similarly, drawing on data from 689 Belgian employees across 12 service organizations, De Cooman *et al.* (2013) provided empirical support for a full mediation model based on SDT. Findings from this study reported that job resources, such as strategic impact and skill utilization, are positively related to need satisfaction, which in turn predicts

AM and subsequently higher levels of work effort. These results highlighted the mediating role of AM in translating the needs satisfaction into positive employee outcomes. A couple of studies narrow the discussion to Gen Z employees and report that the meaningfulness (i.e. positive impact on society) of work is a strong predictor of motivation among Gen Z employees (Kirchmayer and Fratričová, 2020; Kuzior *et al.*, 2022; Torn-laapio and Ekonen, 2021). Similarly, studies also found that Gen Z employees prioritize personal life goals over their career and professional success (Dreyer and Stojanova, 2023; Binczycki *et al.*, 2023), which signals that Gen Z employees focus on happiness, family life and autonomy to pursue their passions rather than the labor market (Chala *et al.*, 2022). In addition to personal life and meaningfulness at work, Gen Z employees value workplace flexibility (Jung and Yoon, 2021; Satpathy *et al.*, 2019) and the opportunity to work from home (Prund, 2021). Similarly, studies also reported that personal and professional development opportunities play a crucial role in Gen Z employees' engagement and retention (Binczycki *et al.*, 2023; Achmad *et al.*, 2023). In line with the SDT workplace model (Deci *et al.*, 2017), we propose that Generation Z employees whose psychological needs are satisfied accumulate psychological resources, are more likely to exhibit AM and consequently experience lower levels of EE, thereby reflecting a resource-building pathway. Thus, we propose the following mediation hypothesis:

H6. AM mediates the relationship between need satisfaction and EE.

Method

Measurement

The constructs included in this study were measured using validated scales from prior studies. ***Control and autonomous causality orientations*** were each assessed with 11 items adapted from Halvari and Olafsen (2020). ***Coaching-based leadership*** was modeled as a formative construct comprising four reflective constructs: work alliance (3 items), open communication (4 items), learning and development (4 items) and progress and results (4 items), all adapted from Peláez Zuberbühler *et al.* (2023). ***Needs frustration*** was operationalized as a higher-order formative construct with three reflective subdimensions: autonomy, competence and relatedness (4 items each), adapted from Bartholomew *et al.* (2011). ***Needs satisfaction*** was modeled as a higher-order formative construct with three dimensions: autonomy (6 items), competence (4 items) and relatedness (6 items), drawn from Van den Broeck *et al.* (2010).

Motivation types were modeled as formative HOCs. ***Controlled motivation*** comprised extrinsic regulation (social and material), each measured with three items adapted from Gagné *et al.* (2015). ***Autonomous motivation*** was specified as a formative construct composed of identified regulation and intrinsic motivation (three items each; Gagné *et al.*, 2015). This formative specification is theoretically aligned with SDT (Deci and Ryan, 1985, 2000), which conceptualizes intrinsic motivation (IM) and identified regulation (IR) as distinct yet complementary forms of AM arising from distinct psychological processes and shaped by different antecedents. Because these dimensions are not interchangeable and can vary independently (e.g. a task may be personally important without being inherently enjoyable), a reflective specification would incorrectly assume high redundancy. Our empirical diagnostics further support the formative structure: the correlation between IM and IR was moderate ($r = 0.67$), VIF values were below recommended thresholds (IM = 1.798; IR = 2.236) and bootstrapped weights indicated that each dimension contributed unique variance to the HOC (IR = 0.25, $p = 0.000$; IM = 0.81, $p = 0.000$). Similar formative operationalizations of higher-order motivation have been used in prior research (e.g. De Cooman *et al.*, 2013). EE was measured using seven items from the Work-related Burnout Scale by Kristensen *et al.* (2005). Table 1 summarizes all constructs and their corresponding items.

Additionally, several control variables were selected following recommendations in organizational and SDT research that structural factors (e.g. firm size, firm age) and individual demographics (e.g. tenure, position, gender, age) may predict employee perceptions of

Table 1. Constructs and indicators of the study

Construct	Indicator (from 1- strongly disagree to 5-strongly agree)	Reference
Control Causality Orientation (CCO)	Imagine: You are asked to participate in a new work project you are unfamiliar with CCO1^: You feel that you have to do it to satisfy your manager Imagine: Your manager has informed you that you should set goals for your work CCO2: You feel pressured to set yourself goals Imagine: Your manager has informed you about using new procedures at work that can improve performance CCO3: The first thing you think is that I will feel pressured to do as the manager says Imagine: Your manager suggests new routines to improve work performance CCO4^: You will probably: feel I must do this to satisfy my manager Imagine: Your work has not been performed to its usual standard. To do something about this CCO5^: You will probably: go to your manager so they can decide what you should do Imagine: You are in your manager's office and discover something they are not satisfied with regarding your work CCO6^: Your first reaction will probably be:I will get a bad conscience and feel that I have to improve Imagine: Your manager wants you to be more self-driven and independent CCO7^: The first thing you think will probably be: Feel pressure to do as my manager says Imagine: Your manager has asked you to do something about your interest in work, which has been a bit low lately CCO8^: You will probably feel pressured to do something to satisfy your manager Imagine: Your manager has asked you to take a course to strengthen your work competence CCO9^: You probably feel: I must do it to satisfy my manager Imagine: Your manager has suggested that you work with a more experienced employee to increase your job skills CCO10: You will probably feel: pressured to do it to keep my work tasks and job Imagine: Your manager has asked you to cooperate more with your colleagues at work CCO11^: You will probably feel: pressured to cooperate on something I prefer to do alone	Halvari and Olafsen (2020)
Coaching-Based Leadership (CBL) (Formative)	*Working alliance* (WA) WA1: My manager and I have mutual respect for one another WA2: I believe that my manager truly cares about me WA3: I believe that my manager feels a sense of commitment to me *Open communication* (OC) OC1: My manager asks questions that help me to understand my situation better, identify causes, and see possible actions for improvement OC2: My manager pays close attention when I talk to them OC3: My manager listens patiently when I tell them about my problems OC4: When I am going through a difficult time, my manager tries to be caring toward me *Learning and development* (LD) LD1: Employees' learning and development is one of my manager's main responsibilities LD2: My manager actively provides opportunities for me to take more responsibility in my work LD3: My manager constantly provides feedback to improve my performance LD4: My manager finds it easy to identify strengths in the employees LD5: I appreciate my manager's perceptions about my strengths because they help me to do my work better *Progress and results* (PR) PR1: The objectives my manager and I set are ambitious but achievable PR2: My manager is very good at helping me develop clear, simple, achievable action plans PR3: My manager always asks me to inform them about the progress on my objectives PR4: My manager adequately follows up and evaluates my progress toward my goals	Peláez Zuberbühler *et al*. (2023)

(*continued*)

Table 1. Continued

Construct	Indicator (from 1- strongly disagree to 5-strongly agree)	Reference
Autonomous Causality Orientation (ACO)	Imagine: You are asked to participate in a new work project you are unfamiliar with. How likely is it that you think/feel ACO1^: You will likely feel that: trying something new will be interesting Imagine: Your manager has informed you that you should set goals for your work ACO2^: You will probably: set your own challenging goals Imagine: Your manager has informed you about using new procedures at work that can improve performance ACO3^: You think: this will be interesting and important for me to try Imagine: Your manager suggests new routines to improve work performance ACO4: You will probably feel: it will be vital for me to try this to see if it improves my work Imagine: Your work has not been performed to its usual standard. To do something about this ACO5^: You will probably: find out where the problem lies so that you can set yourself new goals Imagine: You are in your manager's office and discover something they are not satisfied with regarding your work ACO6: Your first reaction will probably be: I want to talk with my manager to figure out what I can do to carry out my job in the best way possible Imagine: Your manager wants you to be more self-driven and independent ACO7^: The first thing you think will probably be: It will be vital for me to try this and see if it works Imagine: Your manager has asked you to do something about your interest in work, which has been a bit low lately ACO8: You will probably think/feel: I want to talk to my manager to see if we can find a good solution Imagine: Your manager has asked you to take a course to strengthen your work competence ACO9: You will probably feel: that this will be interesting and exciting Imagine: Your manager has suggested that you work with a more experienced employee to increase your job skills ACO10^: You will probably feel: that this will be important for me Imagine: Your manager has asked you to cooperate more with your colleagues at work ACO11^: You will probably: want to find out who I should collaborate with and contact them	
Needs Frustration (NeedsFru) (Formative)	*Autonomy* (Auto) Auto1: I feel prevented from making choices about the way I work Auto2: I feel pushed to behave in certain ways Auto3: I feel obliged to follow the working decisions made for me Auto4:. I feel under pressure to agree with the working schedule I am provided *Competence* (Comp) Comp1: Rarely, I feel incompetent because others impose unrealistic expectations upon me Comp2: There are times when I am told things that make me feel incompetent Comp3: There are situations where I am made to feel inadequate Comp4: I feel inadequate because I am not given opportunities to fulfil my potential *Relatedness* (Rela) Rela1: I feel those around me reject me Rela2: I feel others can be dismissive/rude to me Rela3: I feel other people dislike me Rela4: I feel some of the colleagues around me are envious when I achieve success	Bartholomew *et al.* (2011)

(*continued*)

Table 1. Continued

Construct	Indicator (from 1- strongly disagree to 5-strongly agree)	Reference
Needs Satisfaction (NeedsSat) (Formative)	*Need for autonomy* (NFA) NFA1: I feel like I can be myself at my job NFA2: At work, I often feel like I have to follow other people's commands (R) NFA3^: If I could choose, I would do things at work differently (R) NFA4: The tasks I have to do at work align with what I want to do NFA5: I feel free to do my job the way I think it could best be done NFA6: In my job, I feel forced to do things I do not want to do (R) *Need for competence* (NFC) NFC1: I have master my tasks at my job NFC2: I feel competent at my job NFC3: I am good at the things I do in my job NFC4: I have the feeling that I can even accomplish the most difficult tasks at work *Need for relatedness* (NFR) NFR1: I don't feel connected with other people at my job (R) NFR2: At work, I feel part of a group NFR3: I don't mix with other people at my job (R) NFR4: At work, I can talk with people about things that matter to me NFR5: I often feel alone when I am with my colleagues (R) NFR6: Some people I work with are close friends of mine	Van den Broeck *et al.* (2010)
Controlled Motivation (CM) (Formative)	*Extrinsic regulation—social* (ERS); Why do you or would you put efforts into your current job? ERS1: To get others' approval (e.g. supervisor, colleagues, family, clients . . .) ERS2: Others will respect me more (e.g. supervisor, colleagues, family, clients . . .) ERS3: To avoid being criticized by others (e.g. supervisor, colleagues, family, clients . . .) *Extrinsic regulation—material* (ERM) ERM1: Because others will reward me financially only if I put enough effort into my job ERM2: Because others offer me greater job security if I put enough effort into my job ERM3: I risk losing my job if I don't put enough effort into it	Gagne *et al.* (2015)
Autonomous Motivation (AM) (Formative)	*Identified regulation* (IR); Why do you or would you put efforts into your current job? IR1: Because I consider it essential to put effort into this job IR2: Because putting effort into this job aligns with my values IR3: Because putting effort into this job has personal significance to me *Intrinsic motivation* (IM): Why do you or would you put effort into your current job? IM1: Because I have fun doing my job IM2: Because what I do in my work is exciting IM3: Because the work I do is interesting	Gagne *et al.* (2015)
Emotional Exhaustion (EE)	EE1: Do you feel worn out at the end of the working day? EE2: Are you exhausted in the morning at the thought of another day at work? EE3: Do you feel that every working hour is tiring for you? EE4^: Do you have enough energy for family and friends during leisure time? (R) EE5: Is your work emotionally exhausting? EE6: Does your work frustrate you? EE7^: Do you feel burnt out because of your work?	Kristensen *et al.* (2005)

Note(s): ^ dropped after measurement testing; R Reversed item

leadership, motivation and strain (Aguinis and Edwards, 2014; Gagné and Deci, 2005; Van den Broeck *et al.*, 2008). Controlling for these variables helps ensure that observed relationships among psychological constructs are not confounded by organizational context or demographic differences (Podsakoff *et al.*, 2012).

Sample, data collection and demographics

We conducted an online questionnaire survey targeting Gen Z employees in China. The survey was initially developed in English through a comprehensive literature review and underwent five revisions to ensure validity. Following Douglas and Craig's (2007) back-translation

method, the survey was translated into Chinese and verified by two bilingual researchers to ensure accuracy.

Data were collected electronically via www.wenjuan.com, a leading Chinese online panel platform. To enhance response quality, we applied the total design method (Dillman, 1978) and implemented multiple screening procedures. These included pre-survey qualification checks, two instructed-response attention checks, several indicators of careless responding (long-string analysis and straight-lining detection) and removal of cases with unrealistically short completion times.

Based on a maximum of two predictors pointing at a construct in our model, a minimum of 130 responses was required to detect an R^2 of 0.10 at $p < 0.001$ (Hair *et al.*, 2022). This requirement was exceeded as we collected 200 valid responses from Gen Z professionals across various industries in China. Additionally, post hoc statistical power was computed in G*Power 3.1.9.7 for the most demanding structural equation models. Cohen's f^2 was calculated from the observed R^2 values ($f^2 = R^2/(1-R^2)$). For the equation predicting CM ($R^2 = 0.10$, $f^2 = 0.111$) with one predictor and sample size $N = 200$, the achieved power ($\alpha = 0.05$) was 0.99. For the equation predicting NeedsFru ($R^2 = 0.29$, $f^2 = 0.408$) with two predictors and $N = 200$, the achieved power was 0.97. These results demonstrate that our sample provides adequate power to detect effects of the observed sizes.

The sample exhibited diverse firm and respondent characteristics, comprehensively representing the target population. The participating organizations varied in size, with 18.5% classified as small firms (<50 employees), 56% as medium-sized (50–249 employees) and 25.5% as large firms (250 or more employees). Regarding firm age, 14.5% were relatively young (<5 years old), while a majority (43%) had been operating for 5–10 years and another 43.5% were well-established (>10 years old). The sample covered multiple industry sectors, with the highest representation from technology, energy, utilities and communication (38.5%), followed by professional services (17%), hospitality and food and beverage (12.5%), retail and wholesale (11.5%), medical and life insurance (7.5%) and other sectors (13%).

Most participants (87%) were frontline employees, while 13% were in managerial roles. The gender distribution was relatively balanced, with 44.5% male and 55.5% female respondents. Regarding respondents' tenure, 42% had been with their firms for less than 3 years, 40% for 3–4 years and 18% for more than 4 years. The age distribution reflected a predominantly young workforce, with 63% aged 24–26, 25.5% aged 27–29 and 11.5% under 23.

Non-response bias and common method bias

To assess potential non-response bias, we conducted an independent-samples *t*-test comparing early respondents ($n = 110$) and late respondents ($n = 90$). No statistically significant differences emerged across key study variables, suggesting that non-response bias was not a substantive concern.

To mitigate common method bias (CMB), we followed procedural remedies recommended by Podsakoff *et al.* (2012), including (a) assuring participants of anonymity and confidentiality to reduce evaluation apprehension; (b) using clear and concise item wording to minimize ambiguity; and (c) separating predictor and criterion constructs within the survey layout to reduce the likelihood of respondents forming implicit associations during completion.

After data collection, we implemented two complementary statistical tests. First, using the marker-variable technique (Lindell and Whitney, 2001), with tenure as a theoretically unrelated variable, we found that controlling for the marker did not meaningfully change the significance or magnitude of the focal relationships (Table 3), indicating minimal CMB impact. Second, Harman's single-factor test revealed that the first unrotated factor accounted for only 24.7% of the total variance, well below the commonly accepted threshold of 50% (Podsakoff *et al.*, 2024), suggesting that no single latent factor dominated the covariance among items.

Taken together, the procedural safeguards and statistical diagnostics indicate that common-method bias is unlikely to have a substantial impact on the results. Importantly, because the mediation analysis relies on multiple distinct paths rather than a single bivariate association, the pattern of significant indirect effects, combined with the non-significance of the marker-variable adjustment, further suggests that CMB is unlikely to affect our hypothesized relationships.

Model testing and results

Evaluation of the measurement model and the structural model

SmartPLS 4 software was used to test the hypotheses through PLS path modeling. Consistent with the recommendations of Gefen *et al.* (2011), Ringle *et al.* (2012) and Hair *et al.* (2019), PLS was selected due to the inclusion of formative constructs and the exploratory nature of the proposed theoretical framework. The reflective measurement model demonstrated satisfactory psychometric properties. Indicator reliability, internal consistency (composite reliability), convergent validity and discriminant validity all met recommended standards, with HTMT values meeting the lenient threshold of 0.90 (Benitez *et al.*, 2020), as summarized in Tables 2–4. Following Hair *et al.* (2017), composite reliability rather than Cronbach's alpha was used, as it accounts for the varying contributions of indicators, whereas Cronbach's alpha assumes equal weighting.

Additionally, five HOCs were evaluated for collinearity, indicator weights and indicator loadings (Hair *et al.*, 2022), as summarized in Table 5. There was no collinearity issue because all indicators' variance inflation factor (VIF) values were below the suggested threshold value of 5. Although six outer weights were insignificant, their outer loadings were above 0.5 and significant. Thus, the formative measurement model was deemed satisfactory (Hair *et al.*, 2022).

The structural model (Figure 2) was validated based on satisfactory values for the coefficient of determination (R^2), path coefficients (β) and VIF scores. The R^2 values of all constructs range from 10% to 50%. All standardized path coefficients were significant, and the VIF values for all constructs were below the recommended threshold of 5 (Hair *et al.*, 2022; Benitez *et al.*, 2020).

The findings provide empirical support for the hypothesized relationships (Table 6). Specifically, the positive effect of control causality orientation (CCO) on Needs Frustration (NeedsFru) is confirmed (H1: $\beta = 0.37$, $p = 0.000$). Furthermore, ACO is found to have a significant positive impact on NeedsSat (H2: $\beta = 0.32$, $p = 0.000$). Similarly, the anticipated negative association between CBL and NeedsFru is supported (H3: $\beta = -0.30$, $p = 0.000$). The hypothesized positive relationship between CBL and Needs Satisfaction (NeedsSat) is also validated (H4: $\beta = 0.50$, $p = 0.000$).

The mediating effects were tested using bootstrapping with 5,000 samples via SmartPLS 4. Results show that CM significantly mediates the relationship between NeedsFru and EE (H5: $\beta = 0.08$, $p = 0.035$), while AM mediates the relationship between NeedsSat and EE (H6: $\beta = -0.34$, $p = 0.000$).

Regarding the magnitude and type of mediation, the indirect effect through AM (β = −0.34) was substantially stronger than that through controlled motivation (β = 0.08), suggesting that the resource-building pathway may be a more pronounced explanatory mechanism in this sample. In both cases, the direct paths from NeedSat and NeedFru to EE remained significant when the mediators were included (see Figure 3), suggesting partial rather than full mediation. Thus, AM and CM account for part, but not all, of the associations between need experiences and emotional exhaustion.

To gain deeper insights into whether the hypothesized relationships hold across different levels of work experience, additional analyses using the multigroup analysis (MGA) technique were conducted based on work experience categories (A: two years or less versus B: three years or more). MICOM (Table 7) confirmed partial measurement invariance, allowing valid

Table 2. Convergent validity and internal consistency reliability

Construct	Indicator	Loading	Indicator reliability	Composite reliability	Average variance extracted (AVE)
Auto	Auto1	0.84	0.71	0.89	0.72
	Auto2	0.87	0.76		
	Auto4	0.83	0.69		
ACO	ACO4	0.68	0.46	0.81	0.51
	ACO6	0.75	0.56		
	ACO8	0.71	0.50		
	ACO9	0.72	0.52		
CCO	CCO2	0.76	0.58	0.75	0.50
	CCO3	0.76	0.58		
	CCO10	0.59	0.35		
Comp	Comp1	0.79	0.62	0.86	0.61
	Comp2	0.79	0.62		
	Comp3	0.79	0.62		
	Comp4	0.74	0.55		
EE	EE1	0.87	0.76	0.93	0.72
	EE2	0.86	0.74		
	EE3	0.83	0.69		
	EE5	0.83	0.69		
	EE6	0.86	0.74		
ERS	ERS1	0.85	0.72	0.85	0.65
	ERS2	0.78	0.61		
	ERS3	0.78	0.61		
ERM	ERM1	0.78	0.61	0.78	0.54
	ERM2	0.80	0.64		
	ERM3	0.60	0.36		
IM	IM1	0.85	0.72	0.89	0.72
	IM2	0.83	0.69		
	IM3	0.89	0.79		
IR	IR1	0.77	0.59	0.83	0.62
	IR2	0.76	0.58		
	IR3	0.83	0.69		
LD	LD1	0.76	0.58	0.88	0.61
	LD2	0.75	0.56		
	LD3	0.85	0.72		
	LD4	0.80	0.40		
	LD5	0.73	0.53		
NFA	NFA1	0.72	0.52	0.84	0.52
	NFA2	0.69	0.48		
	NFA4	0.53	0.28		
	NFA5	0.80	0.64		
	NFA6	0.82	0.67		
NFC	NFC1	0.76	0.58	0.79	0.55
	NFC2	0.74	0.55		
	NFC3	0.73	0.53		
NFR	NFR1	0.80	0.64	0.88	0.56
	NFR2	0.77	0.59		
	NFR3	0.75	0.56		
	NFR4	0.66	0.44		
	NFR5	0.79	0.62		
	NFR6	0.71	0.50		

(*continued*)

Table 2. Continued

Construct	Indicator	Loading	Indicator reliability	Composite reliability	Average variance extracted (AVE)
OC	OC1	0.83	0.69	0.88	0.66
	OC2	0.80	0.64		
	OC3	0.81	0.66		
	OC4	0.80	0.64		
PR	PR1	0.72	0.52	0.83	0.56
	PR2	0.80	0.64		
	PR3	0.63	0.40		
	PR4	0.81	0.66		
WA	WA1	0.74	0.55	0.84	0.65
	WA2	0.83	0.69		
	WA3	0.84	0.71		

comparisons (Henseler *et al.*, 2015). MGA results (Table 8) revealed significant differences between the two groups. For brevity, only statistically significant differences are reported.

The findings reveal significant group differences in the paths from ACO to need satisfaction and from CBL to need satisfaction. Specifically, the positive effect of ACO on need satisfaction weakens as work experience increases. While ACO significantly predicts need satisfaction among employees with two years or less of experience, this relationship becomes non-significant among those with three years or more. In contrast, the influence of CBL on need satisfaction strengthens with greater work experience; although significant in both groups, the effect is more pronounced among more experienced employees. Furthermore, the mediation pathway (ACO → need satisfaction → autonomous motivation → emotional exhaustion) differs significantly across groups, with stronger and significant indirect effects observed only among less experienced employees, and non-significant effects among their more experienced counterparts. Taken together, these findings suggest that ACO reduces emotional exhaustion indirectly through need satisfaction and autonomous motivation only among employees with two years or less of experience, but not among those with three or more years. These results further imply that, as Generation Z employees accumulate work experience, the influence of their initial ACO gradually diminishes, while leadership behavior becomes increasingly salient in shaping perceptions of need satisfaction. Over time, leaders appear to play a more central role in shaping employees' interpretive frameworks by reinforcing experiences that fulfill their needs for autonomy, competence and relatedness.

None of the control variables showed significant effects. Although these control variables were not statistically significant in the present model, this should not be interpreted as evidence that demographic or structural factors are unimportant. Rather, within this sample and model specification, their explanatory power was comparatively limited relative to the focal psychological constructs. Given the cross-sectional design and sample characteristics, these findings should be interpreted cautiously.

This pattern aligns with findings from SDT-based studies, which consistently show that psychological mechanisms, particularly need satisfaction and frustration (Van den Broeck *et al.*, 2008; Trépanier *et al.*, 2015), leader behaviors (Slemp *et al.*, 2015) and motivational orientations (Gagné and Deci, 2005; Fernet *et al.*, 2004), are stronger and more proximal predictors of employee well-being and strain than demographic or structural characteristics. Research on burnout further indicates that demographic variables typically explain minimal variance (Maslach *et al.*, 2001; Schaufeli *et al.*, 2009). Thus, the non-significant control effects in our model indicate that the psychological processes central to SDT rather than firm or demographic characteristics, primarily drive variation in emotional exhaustion.

Table 3. Descriptive statistics, correlations and average variance extracted

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1-AWO	*0.72*																
2-Auto	−0.20	*0.85*															
3-CWO	−0.26	0.45**	*0.71*														
4-Comp	−0.09ns	0.71**	0.40**	*0.78*													
5-ERM	0.15ns	0.15ns	0.10ns	0.24**	*0.73*												
6-ERS	−0.03ns	0.26**	0.24**	0.35**	0.57**	*0.80*											
7-EE	−0.33**	0.59**	0.40**	0.56**	0.13ns	0.19**	*0.85*										
8-LD	0.45**	−0.38**	−0.23**	−0.28**	−0.01ns	0.01ns	−0.46**	*0.86*									
9-IM	0.46**	−0.4**	−0.35**	−0.29**	0.09ns	0.07ns	−0.54**	0.55**	*0.86*								
10-NFA	0.47**	−0.45**	−0.24**	−0.34**	0.05ns	−0.06ns	−0.47**	0.58**	0.64**	*0.72*							
11-NFC	0.48**	−0.26**	−0.20**	−0.20**	0.18ns	0.02ns	−0.29**	0.48**	0.50**	0.51**	*0.74*						
12-NFR	0.37**	−0.50**	−0.30**	−0.44**	0.10ns	−0.08ns	−0.44**	0.48**	0.43**	0.44**	0.56**	*0.77*					
13-OC	0.40**	−0.36**	−0.22**	−0.24**	−0.05ns	0.02ns	−0.46**	0.64**	0.60**	0.57**	0.47**	0.40**	*0.87*				
14-PR	0.46**	−0.37**	−0.27**	−0.26**	0.08ns	0.07ns	−0.38**	0.66**	0.57**	0.56**	0.44**	0.36**	0.67**	*0.78*			
15-IR	0.45**	−0.26**	−0.22**	−0.12ns	0.34**	0.20*	−0.37**	0.5**	0.67**	0.49**	0.48**	0.46**	0.51**	0.44**	*0.79*		
16-Rela	−0.18**	0.61**	0.35**	0.64**	0.05ns	0.22**	0.45**	−0.3**	−0.2**	−0.28**	−0.30**	−0.53**	−0.21**	−0.26**	−0.21**	*0.87*	
17-WA	0.40**	−0.34**	−0.28**	−0.28**	0.0ns	0.03ns	−0.48**	0.64**	0.69**	0.60**	0.47**	0.45**	0.67**	0.66**	0.59**	−0.25**	*0.80*
Tenure	0.10ns	0.08ns	0.09ns	0.01ns	−0.04ns	0.00ns	0.06ns	0.06ns	0.05ns	0.08ns	0.01ns	−0.08ns	0.10ns	0.15ns	−0.07ns	0.07ns	0.10ns

Note(s): *$p < 0.05$, **$p < 0.01$ (two-tailed); ns-not significant; the diagonal elements (in italic) represent the square root of AVE

Table 4. Discriminant validity – Heterotrait-monotrait ration (HTMT)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1-AWO																	
2-CWO	0.53																
3-Comp	0.18	0.61															
4-EE	0.39	0.56	0.66														
5-LD	0.61	0.42	0.36	0.54													
6-IM	0.70	0.52	0.36	0.61	0.76												
7-OC	0.60	0.37	0.36	0.55	0.89	0.79											
8-PR	0.67	0.43	0.35	0.44	0.89	0.78	0.89										
9-IR	0.63	0.40	0.17	0.45	0.74	0.88	0.75	0.64									
10-WA	0.60	0.43	0.38	0.56	0.89	0.88	0.89	0.89	0.83								
11-Auto	0.28	0.68	0.89	0.70	0.51	0.50	0.50	0.45	0.36	0.45							
12-ERM	0.21	0.25	0.38	0.21	0.16	0.13	0.13	0.24	0.51	0.14	0.24						
13-Nfa	0.59	0.44	0.56	0.58	0.65	0.70	0.65	0.60	0.54	0.70	0.65	0.18					
14-Nfc	0.79	0.44	0.33	0.43	0.73	0.70	0.71	0.64	0.80	0.74	0.47	0.34	0.71				
15-Nfr	0.52	0.44	0.50	0.49	0.57	0.52	0.51	0.45	0.60	0.53	0.60	0.22	0.53	0.77			
16-Rela	0.20	0.56	0.87	0.56	0.42	0.26	0.33	0.33	0.26	0.32	0.85	0.16	0.48	0.48	0.60		
17-ERS	0.22	0.37	0.47	0.26	0.14	0.21	0.19	0.18	0.28	0.22	0.34	0.85	0.27	0.20	0.19	0.33	

Table 5. HOC validation

HOC construct	Indicators	VIF	Out weights	*p*-value	Out loadings	*p*-value
AM	IM	1.798	0.81	0.000	0.98	0.000
	IR	2.236	0.25	0.042	0.79	0.000
CBL	LD	4.896	0.66	0.002	0.97	0.000
	OC	4.468	0.33	0.097	0.94	0.000
	PR	4.118	0.20	0.198	0.81	0.000
	WA	3.440	0.24	0.127	0.89	0.000
CM	ERM	1.471	0.06	0.845	0.61	0.012
	ERS	1.471	0.96	0.000	0.99	0.000
NeedsFru	Auto	2.524	0.59	0.001	0.95	0.000
	Comp	2.586	0.36	0.093	0.90	0.000
	Rela	2.236	0.15	0.409	0.80	0.000
NeedsSat	NFA	1.369	0.52	0.000	0.85	0.000
	NFC	1.616	0.44	0.000	0.84	0.000
	NFR	1.510	0.27	0.007	0.73	0.000

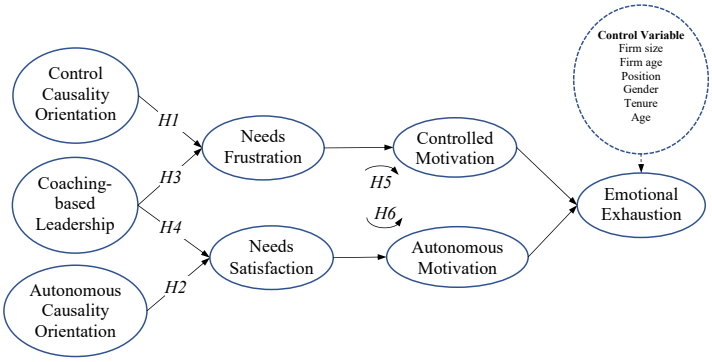

Figure 2. Research model

Discussions

Our findings revealed a positive association between control-causality orientation and need frustration, consistent with the predictions of COT. Individuals with a control causality orientation tend to be driven by external pressures and rewards, often feeling obligated to meet deadlines and conform to external demands, conditions that undermine the satisfaction of autonomy, competence and relatedness (Halvari and Olafsen, 2020; Olafsen *et al.*, 2017). Indeed, those with a controlled value orientation who tend to pursue money as a means of social comparison to enhance self-esteem frequently experience frustration of their basic psychological needs (Manganelli *et al.*, 2018). When employees perceive their behavior as externally regulated, their sense of autonomy is particularly compromised (Van den Broeck *et al.*, 2010).

In contrast, an ACO was positively associated with the satisfaction of basic psychological needs, consistent with Halvari and Olafsen's (2020) findings. Individuals with an autonomous orientation tend to act in accordance with their personal values and perceive their work environment as supportive of their psychological needs, thereby fostering the satisfaction of autonomy, competence and relatedness (Deci *et al.*, 2017). They are more likely to interpret external cues and workplace events as autonomy-supportive (Papachristopoulos and Arvanitis, 2024), experiencing a sense of choice and psychological freedom in their

Table 6. Summary results of hypothesis testing

Hypothesized path	β or indirect effect	p-value	Bias-corrected 95% confidence intervals	Empirical evidence
H1: CCO → NeedsFru	0.37	0.000	[0.230, 0.524]	Supported
H2: ACO → NeedsSat	0.32	0.000	[0.176, 0.482]	Supported
H3: CBL → NeedsFru	−0.30	0.000	[−0.167, −0.488]	Supported
H4: CBL → NeedsSat	0.50	0.000	[0.377, 0.642]	Supported
H5: NeedsFru → CM → EmoExh	0.08	0.035	[0.010, 0.233]	Supported
H6: NeedsSat → AM → EmoExh	−0.34	0.000	[−0.061, −0.489]	Supported

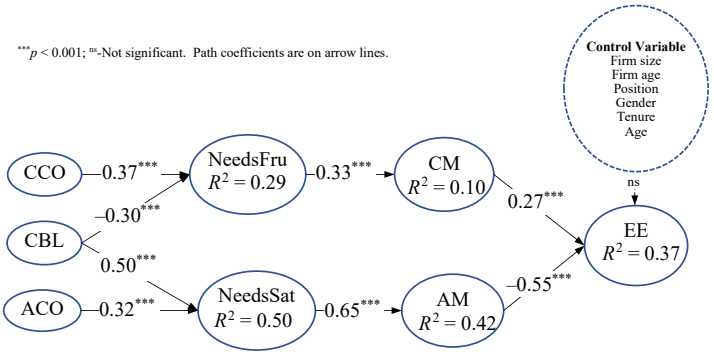

Figure 3. Empirical results

Table 7. Results of measurement invariance of composite models (MICOM)

	Original correlation	Correlation permutation mean	5.0%	Permutation p value
ACO	0.983	0.986	0.960	0.260
AM	0.999	0.983	0.936	0.844
CBL	0.913	0.950	0.866	0.157
CCO	0.994	0.968	0.908	0.838
CM	0.958	0.845	0.437	0.616
EmoExh	0.999	0.999	0.997	0.225
NeedsFru	0.959	0.939	0.826	0.501
NeedsSat	0.950	0.968	0.909	0.223

activities, key conditions for fulfilling the need for autonomy (Van den Broeck *et al.*, 2010). Additionally, they are more inclined to pursue challenging tasks and engage in skill development, which helps satisfy their need for competence (Vansteenkiste *et al.*, 2007).

We also found a negative association between CBL and need frustration. By fostering autonomy, competence and relatedness, CBL helps prevent the active thwarting of these basic psychological needs. These findings are consistent with those of Gillet *et al.* (2012) and Olafsen *et al.* (2017), who reported that autonomy-supportive leadership is negatively associated with need frustration. Supportive leadership can buffer individuals against feelings of pressure, ineffectiveness or rejection that arise when their psychological needs are undermined (Olafsen

Table 8. Results of the MGA

	Original (A)	Original (B)	Difference (A-B)	2-Tailed (A vs B) *p* value
Path coefficient				
ACO → NeedsSat	0.502	0.140	0.362	0.005
CBL → NeedsSat	0.331	0.695	−0.364	0.002
Total indirect effect				
ACO → AM	0.346	0.088	0.258	0.005
ACO → EmoExh	−0.199	−0.048	−0.151	0.011
Specific indirect effect				
ACO → NeedsSat → AM → EmoExh	−0.199	−0.048	−0.151	0.011

Note(s): A (n = 84): two years or less; B (n = 116): three years or more

et al., 2017). By creating a need-supportive environment, CBL alleviates psychological strain and reduces the conditions that give rise to need frustration, thereby protecting individuals from its adverse outcomes. Cultural reinforcement of control does not negate SDT universality; rather, it shapes how autonomy is experienced and expressed (e.g. relational or interdependent autonomy rather than individualistic autonomy). CBL may function as a contextual counterbalance, offering micro-level autonomy support within macro-level control-oriented environments, thereby buffering needs frustration despite broader cultural pressures.

Our findings reveal a positive association between CBL and need satisfaction, highlighting the pivotal role of leadership in shaping employees' motivational experiences. Unlike traditional supervisory approaches, CBL fosters environments that support growth and well-being, promoting autonomous motivation and optimal functioning (Manganelli *et al.*, 2018; Van den Broeck *et al.*, 2010). CBL leaders cultivate strong working relationships, maintain open communication, support continuous learning and monitor developmental progress. Generation Z employees who highly value autonomy, achievement and career advancement respond particularly well to leaders who provide both freedom and developmental guidance. CBL aligns closely with Gen Z's developmental, psychological and work-value characteristics. Gen Z favors frequent feedback, individualized development and collaborative problem-solving over directive supervision (Sakdiyakorn *et al.*, 2021; Barhate and Dirani, 2021). By emphasizing facilitation, reflection and joint goal-setting (Peláez Zuberbühler *et al.*, 2023), CBL more effectively satisfies autonomy and competence needs than transactional or authoritarian styles. By supporting internalization, self-regulation and learning, CBL leaders replenish psychological energy and buffer against emotional exhaustion. As early-career professionals, Gen Z individuals are still developing their professional identities and self-regulatory capacities. CBL provides scaffolding that supports the internalization of motivation, helping them shift from a controlled to an autonomous orientation.

MGA revealed significant differences between employees with lower versus higher work experience. ACO significantly predicts need satisfaction among those with two years or less of experience, but not among those with three years or more. In contrast, CBL positively influences need satisfaction in both groups, with a stronger effect observed among more experienced employees. These findings suggest that, as Generation Z employees accumulate work experience, the influence of their ACO diminishes, while leadership behavior becomes increasingly influential in shaping need satisfaction. This pattern indicates that career stage, rather than generational membership alone, may better explain the observed effects, highlighting an important avenue for future research.

We also found evidence supporting the articulation of a dual-pathway model grounded in SDT that distinguishes between resource-building and hindrance-based mechanisms. Our findings are consistent with the mediating role of autonomous motivation in the relationship between need satisfaction and emotional exhaustion, demonstrating a resource-building pathway. Drawing on SDT and conservation of resources logic, autonomy, competence and relatedness satisfaction appear to function as psychological resources that accumulate over time, fueling autonomous motivation and are associated with lower emotional exhaustion. In Chinese organizations, where high-performance pressure and long working hours are prevalent, such resources enable employees, particularly Generation Z, to reinterpret demands as meaningful challenges rather than coercive stressors. Consistent with prior research, need satisfaction was found to foster autonomous motivation, which in turn serves as a protective factor against emotional exhaustion (Gagné and Deci, 2005; Deci *et al.*, 2017; Manganelli *et al.*, 2018). Similar mediation effects were observed by De Cooman *et al.* (2013), who demonstrated that job resources (such as strategic impact and skill utilization) were positively associated with need satisfaction, which, in turn, predicted autonomous motivation and, ultimately, greater work effort. The fulfillment of basic psychological needs (autonomy, competence and relatedness) has been reliably linked to higher autonomous motivation (Deci *et al.*, 2017), and employees with greater autonomous motivation tend to report lower levels of burnout and psychological distress (Manganelli *et al.*, 2018).

We also clarify that need frustration is a hindrance pathway, emphasizing that it involves more than the absence of resources. Our findings are consistent with the mediating role of controlled motivation in the relationship between need frustration and emotional exhaustion. Consistent with prior research, need frustration depletes psychological energy, disrupts optimal functioning and increases vulnerability to ill-being (Olafsen *et al.*, 2017). Controlled motivation driven by internal pressures such as guilt or by external contingencies like rewards has been consistently associated with negative workplace outcomes, including burnout (Manganelli *et al.*, 2018; Deci *et al.*, 2017). Need frustration actively depletes psychological energy by signaling coercion (autonomy frustration), incompetence (competence frustration) or social exclusion (relatedness frustration). In the Chinese context, normatively controlling practices, hierarchical monitoring and implicit expectations of obedience may systematically trigger need frustration, even when employees outwardly comply.

It is worth contextualizing the distinction between needs frustration and satisfaction within Chinese management practices. Chinese employees may experience needs frustration without overtly showing them, particularly in normatively controlling environments where compliance is expected and rarely contested. Need frustration (e.g. feeling coerced, incompetent or rejected) represents a qualitatively different experience that is more strongly associated with emotional exhaustion and ill-being. This distinction is significant in the Chinese context, where surface-level harmony may conceal deeper psychological strain.

Theoretical implications

This study advances the understanding of SDT (Deci and Ryan, 1985) and its sub-theory, COT (Deci and Ryan, 1985), by clarifying how individual dispositions and leadership behaviors jointly shape employees' basic psychological needs, motivation types and emotional exhaustion. Specifically, we extend SDT and COT by empirically validating distinct resource-building and hindrance pathways through which autonomous and controlled causality orientations are associated with need satisfaction and frustration, which, in turn, are linked to motivational regulation and emotional exhaustion.

Consistent with COT, we found that a control-causality orientation was positively associated with need frustration, which in turn was associated with greater controlled motivation and, subsequently, heightened emotional exhaustion. This supports the notion that control-oriented individuals are more attuned to external contingencies and interpret workplace demands as pressuring and autonomy-thwarting (Halvari and Olafsen, 2020),

providing support for the hindrance pathway. Notably, our findings reinforce SDT's proposition that need frustration is not merely the absence of need satisfaction but a qualitatively distinct construct that uniquely predicts maladaptive outcomes (Vansteenkiste *et al.*, 2020).

Conversely, autonomous orientation was positively associated with need satisfaction, aligning with SDT's view that self-determined individuals perceive and interact with their environment in ways that support autonomy, competence and relatedness. These positive perceptions were linked to higher autonomous motivation and lower emotional exhaustion. This provides empirical support for the "resource-building" pathway in SDT, wherein supportive dispositions and environments are associated with upward spirals of well-being and optimal functioning (Deci *et al.*, 2017).

Our findings further support COT's assertion that causal orientations serve as perceptual filters: while control-oriented individuals are more vulnerable to environments perceived as controlling, autonomous individuals are more likely to perceive their context as supportive of needs. These orientations shape how employees interpret and respond to the same work environment, influencing their motivational experiences and well-being.

In addition to dispositional factors, we identified CBL as a key contextual predictor of need satisfaction and a buffer against need frustration. While prior studies have emphasized CBL's role in fostering positive outcomes, our findings highlight its protective function in preventing active need thwarting, thereby reducing controlled motivation and emotional exhaustion. This dual role underscores the potential of leadership not only to promote psychological thriving but also to shield employees from harmful motivational dynamics, thereby enriching SDT's conceptualization at the workplace.

Moreover, our study addresses a notable gap in SDT research by testing the mediating roles of both autonomous and controlled motivation in the link between need experiences and emotional exhaustion. While SDT has long proposed motivation types as proximal determinants of well-being, few studies have explicitly examined these dual mediation pathways. By demonstrating that need satisfaction enhances autonomous motivation, thereby reducing emotional exhaustion, and that need frustration increases controlled motivation, thereby exacerbating exhaustion, we offer a more comprehensive account of the motivational mechanisms underlying burnout. This dual-pathway (hindrance versus resource-building) model strengthens SDT's explanatory power in accounting for both positive and negative psychological outcomes in the workplace.

Importantly, we provide empirical validation for the SDT workplace model (Deci *et al.*, 2017), which posits that need satisfaction and autonomous motivation mediate the effects of supportive leadership and adaptive personality traits on well-being and performance, while need frustration and controlled motivation mediate the path to ill-being. Our findings show this framework holds even among Chinese Gen Z employees, a population socialized in a culture that emphasizes compliance and restraint. While cultural norms may shape causality orientations toward control, our results suggest that the fundamental psychological needs for autonomy, competence and relatedness remain universally relevant. Even in collectivist, high-power-distance cultures, individuals are intrinsically motivated to fulfill these needs to experience genuine engagement and reduced emotional exhaustion. Cultural programming may impact the expression of motivation, but it does not diminish the importance of psychological need fulfillment for well-being.

That is, the burnout epidemic in China emerges from the coexistence of weak resource-building mechanisms and strong hindrance mechanisms rather than from workload alone. Employees may experience limited autonomy satisfaction while simultaneously experiencing high autonomy frustration, creating a "double burden" that accelerates emotional exhaustion. Our findings empirically support this theoretical distinction by showing that need satisfaction and frustration exert asymmetric, non-substitutable effects, thereby reinforcing SDT's proposition that reducing frustration is not equivalent to increasing satisfaction.

By incorporating MGA, this study advances the emerging literature on Generation Z in the workplace by demonstrating that observed differences are better explained by underlying

career-stage effects. This insight refines generational debates by suggesting that early-career dynamics, rather than cohort-based traits alone, may more accurately account for variability in motivation and well-being outcomes. Furthermore, the study shows that the relative influence of dispositional and contextual factors on need satisfaction is dynamic rather than static across career stages. Specifically, ACO, as a stable individual disposition, exerts a stronger influence among less experienced employees, whereas CBL, as a contextual factor, becomes increasingly influential with greater work experience. This underscores the evolving interplay between personality and environmental factors in shaping motivational processes.

In sum, this study advances SDT and COT in several ways. First, it differentiates the distinct roles of need satisfaction and need frustration in shaping employee outcomes. Second, it integrates dispositional and contextual antecedents into a unified motivational framework. Third, it identifies distinct motivational mediators that explain both the attenuation and intensification of emotional exhaustion in the workplace. Finally, it demonstrates that early-career dynamics, rather than cohort-based traits alone, may more accurately account for variability in motivation and work outcomes.

Practical implications

This study offers several valuable implications for managers, particularly in the context of high power distance and collectivist societies. In organizational settings, it is recommended to shift away from traditional control-based management styles and adopt CBL approaches. Leaders who provide autonomy, constructive feedback and developmental opportunities to their employees help foster an environment that satisfies employees' basic psychological needs (autonomy, competence and relatedness), thereby enhancing self-determined motivation and reducing emotional exhaustion. This is especially salient for Generation Z employees, who highly prioritize individuality, achievement and opportunities for meaningful growth at their workplace. Leadership development programs should help managers identify and avoid controlling behaviors, such as excessive criticism, punitive evaluations or rigid rule enforcement, while promoting behaviors that support psychological needs.

Findings from our study suggest that organizations should take proactive steps to address individual differences in causal orientations when designing work systems. Employees with a stronger control orientation are more responsive to external demands and they are more susceptible to rigid compliance structures and high performance pressure. Monitoring and evaluation are more prevalent in these environments. This kind of environment is highly likely to intensify the psychological need frustration and controlled motivation, thereby elevating the risk of burnout. To mitigate this effect, organizations can introduce targeted structural and relational interventions, such as reducing micromanagement, increasing employee discretion in how tasks are carried out and reframing performance goals to emphasize skill development, mastery and personal growth rather than external rewards or sanctions. Hence, HR departments should review performance management, appraisal and reward systems to ensure they do not inadvertently intensify need frustration and burnout risk.

In addition, the findings suggest that a one-size-fits-all approach to motivation may be ineffective, particularly for Generation Z employees at different career stages. For early-career employees, providing opportunities for self-directed learning, meaningful task engagement and early autonomy can help sustain their natural motivational tendencies and reduce the risk of emotional exhaustion. In contrast, as employees gain work experience, leadership behavior becomes increasingly influential in shaping need satisfaction. Managers should therefore adopt CBL practices, such as providing constructive feedback, facilitating skill development and fostering supportive relationships, to strengthen employees' fulfillment of autonomy, competence and relatedness needs.

The findings have important implications for the Chinese education system, particularly the need to reconsider highly exam-oriented, compliance-driven learning environments. Such approaches may unintentionally strengthen control-oriented motivational patterns and

exacerbate psychological need frustration, increasing students' risk of burnout and disengagement. To address these risks, educational institutions are encouraged to integrate more student-centered pedagogical practices that promote autonomy, curiosity and creative engagement alongside academic rigor. Teachers play a central role in shaping students' motivational development; therefore, teacher training and professional development programs should emphasize need-supportive instructional behaviors, including acknowledging students' perspectives, offering meaningful choices within clear structures and delivering competence-enhancing feedback without excessive evaluative pressure.

The findings also suggest that organizations should enhance employee well-being and sustainable engagement by systematically assessing motivational profiles and using this information to tailor interventions that promote psychological need satisfaction and reduce need frustration. Importantly, while Chinese organizational culture traditionally emphasizes hierarchy, authority and group harmony, these cultural characteristics do not negate the universal importance of autonomy, competence and relatedness. Accordingly, even within collectivist and high power-distance contexts, organizational practices that support these fundamental needs remain essential for protecting mental health and fostering long-term motivation and engagement.

In conclusion, whether in the workplace or school, supporting basic psychological needs is essential to fostering self-determined motivation and protecting against emotional exhaustion. Leadership practices and educational policies must evolve to balance the cultural expectations with the universal psychological foundations of employee well-being. Findings of our study indicate that aligning organizational and educational environments with the core principles of SDT can strengthen individuals' capacity for resilient, meaningful and sustained participation in work. For Chinese organizations in particular, such alignment is especially relevant for supporting Generation Z employees, whose expectations emphasize autonomy, purpose and personal development. It is recommended that managers embed need-supportive practices into organizational policies, leadership approaches and everyday management practices to foster more adaptive motivation and long-term engagement among Generation Z employees.

Limitations and suggestions for future studies

Despite its contributions, this study is not without limitations. First, the cross-sectional nature of our study limits causal interpretation among the causal orientations, psychological need experiences, motivational regulation and emotional exhaustion. Although the hypothesized relationships are theoretically grounded in SDT and COT, the design does not allow for conclusions regarding temporal ordering or directionality. Therefore, longitudinal, multi-wave and experimental approaches are suggested for future researchers to test the proposed relationships more rigorously and examine how changes in leadership behaviors, as well as fluctuations in need satisfaction and need frustration, shape motivational and well-being trajectories over time.

Second, our study relied on self-reported data, which raises concerns about common method variance (CMV) and social desirability bias. Although we used procedural remedies to mitigate these risks (e.g. guaranteeing anonymity and separating constructs in the survey), the risk of inflated associations persists. Future studies could incorporate multi-source data by including supervisor or peer ratings of employee performance and well-being or by using behavioral indicators of motivation (e.g. work persistence, initiative-taking).

Third, the study was conducted among Chinese Gen Z employees, which may limit the generalizability of the findings to other age cohorts, cultural contexts or occupational groups. Gen Z may differ from previous generations in terms of values, work expectations and sensitivity to autonomy-supportive leadership. Similarly, China's collectivist and high power-distance culture may shape how autonomy, competence and relatedness are experienced. Therefore, the generalizability of our findings may be limited, as the extent to which the observed relationships apply across different socio-cultural contexts or among older workers with distinct motivational orientations remains unclear. Future research should

employ cross-cultural and cross-generational designs to assess the robustness of these relationships across diverse populations.

Fourth, while our model integrated both dispositional (causality orientations) and contextual (CBL) antecedents of psychological need experiences, other potentially important contextual factors were not examined. For example, organizational culture, job design and peer climate may also significantly predict employees' motivational experiences and emotional outcomes. Future research should adopt a multilevel approach that incorporates team- and organization-level variables to provide a more comprehensive picture of the motivational ecosystem in which employees operate. Also, excluding cultural dimensions as moderators restricts our ability to test boundary conditions of causality orientations and motivational processes. We encourage future research to directly examine how collectivism, power distance or related cultural value orientations may moderate the effects of autonomous and controlled causality orientations on need-based processes and employee well-being outcomes. Addressing this issue would further enrich the cultural sensitivity and explanatory power of SDT-based models in non-Western contexts.

Fifth, the sample consisted predominantly of younger members of Generation Z. Prior evidence suggests that younger Gen Z individuals may exhibit a stronger preference for controlled forms of motivation compared to their older counterparts (Ng *et al.*, 2024). Future research should examine whether these age-related differences persist across the broader Generation Z population to validate and extend these findings. Moreover, given the observed differences across work experience levels in this study, future research is needed to disentangle whether these patterns are primarily driven by age or by career stage.

Sixth, the sample for this study was drawn from employees across multiple industries in China, which may have introduced substantial heterogeneity in job demands, organizational cultures and contextual pressures. Such variability could have attenuated industry-specific dynamics underlying the observed relationships. Future research could therefore benefit from focusing on a single high-pressure industry (e.g. the technology sector) to examine whether these relationships remain robust or become more pronounced under conditions characterized by intensified performance demands and accelerated work pace.

Seventh, research has shown that introjection can yield inconsistent outcomes, sometimes aligning with controlled regulation (e.g. guilt-driven stress) and other times mimicking autonomous persistence (e.g. pride-driven effort). It is thus excluded from the current study. However, excluding introjected regulation may underestimate the intensity of controlled motivation in the Chinese context, where guilt, face concerns and ego involvement are prominent. That is, its omission may bias results toward a more conservative estimate of the effects of control causality orientation. Future studies should model introjection explicitly as a distinct regulatory mechanism.

Finally, we treated need satisfaction and need frustration as HOCs to enhance model parsimony. While this approach provides a simplified and holistic view, it may overlook the distinct effects of specific needs. Prior research suggests that different types of need satisfaction are associated with differential outcomes. For example, competence need satisfaction has been identified as the most potent mediator of the relationship between task-related achievement and depression. In contrast, relatedness need satisfaction was the most significant mediator of the relationship between prosocial achievement and depressivity (Kronenwett and Rigotti, 2021). Relatedness, in particular, may offer unique resources, such as information, advice, emotional and instrumental support, shared goals and social feedback, which enhance meaningful work experiences and autonomous motivation (Robertson *et al.*, 2020). Similarly, Ahmadi *et al.* (2023) developed a classification system of need-supportive behaviors that specifies specific behaviors to support each need of autonomy, competence and relatedness. Future research should therefore examine how the satisfaction and frustration of specific psychological needs (autonomy, competence and relatedness) independently contribute to various employee outcomes, including motivation quality, engagement and emotional well-being.

Conclusion

Grounded in SDT and COT (Deci and Ryan, 1985), this study deepens our understanding of how individual causality orientations and leadership behaviors interact to predict the psychological need experiences and emotional exhaustion among Chinese Generation Z employees. Our findings illuminate two distinct motivational pathways: control orientation was positively associated with need frustration, which in turn fostered controlled motivation and heightened emotional exhaustion; in contrast, autonomous orientation was positively associated with need satisfaction, which enhanced autonomous motivation and buffered against exhaustion. These results emphasize the conceptual importance of distinguishing between need satisfaction and need frustration as qualitatively different experiences, each carrying unique implications for employee functioning and well-being.

Crucially, CBL emerged as a significant contextual factor that both promotes need satisfaction and protects against need frustration. Leaders who adopt a coaching approach, characterized by autonomy support, constructive feedback and personal development, create environments that foster intrinsic motivation and psychological resilience, while simultaneously shielding employees from the negative effects of controlling or pressuring conditions. This reinforces the SDT workplace model and affirms its relevance within a high power-distance, collectivist culture such as China, underscoring the universality of autonomy, competence and relatedness as foundational psychological needs.

From a practical standpoint, the findings suggest that organizations seeking to reduce burnout and improve engagement among Gen Z employees should not only nurture autonomy-supportive leadership but also consider employees' underlying causality dispositions. Recruitment, development and retention strategies should favor environments that align with and reinforce autonomous orientations. Furthermore, interventions in earlier life domains, such as autonomy-supportive parenting and student-centered education, may help foster more resilient, intrinsically motivated individuals who are better equipped to thrive in the workplace.

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Statement

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Data availability statement

Raw data were generated at the Ajman University. Derived data supporting the findings of this study are available from the corresponding author (MNK) upon reasonable request.

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References

Achmad, L.I., Noermijati, R. and Irawanto, D.W. (2023), "Job satisfaction and employee engagement as mediators of the relationship between talent development and intention to stay in generation Z workers", *International Journal of Professional Business Review*, Vol. 8 No. 1, pp. 1-19.

Aggarwal, A., Sadhna, P., Gupta, S., Mittal, A. and Rastogi, S. (2022), "Gen Z entering the workforce: restructuring HR policies and practices for fostering the task performance and organizational commitment", *Journal of Public Affairs*, Vol. 22 No. 3, e2535, pp. 1-18, doi: 10.1002/pa.2535.

Aguinis, H. and Edwards, J.R. (2014), "Methodological wishes for the next decade and how to make wishes come true", *Journal of Management Studies*, Vol. 51 No. 1, pp. 143-174, doi: 10.1111/joms.12058.

Ahmadi, A., Noetel, M., Parker, P., Ryan, R.M., Ntoumanis, N., Reeve, J., Beauchamp, M., Dicke, T., Yeung, A., Ahmadi, M., Bartholomew, K., Chiu, T.K.F., Curran, T., Erturan, G., Flunger, B., Frederick, C., Froiland, J.M., González-Cutre, D., Haerens, L., Jeno, L.M., Koka, A., Krijgsman, C., Langdon, J., White, R.L., Litalien, D., Lubans, D., Mahoney, J., Nalipay, M.J.N., Patall, E., Perlman, D., Quested, E., Schneider, S., Standage, M., Stroet, K., Tessier, D., Thogersen-Ntoumani, C., Tilga, H., Vasconcellos, D. and Lonsdale, C. (2023), "A classification system for teachers' motivational behaviors recommended in self-determination theory interventions", *Journal of Educational Psychology*, Vol. 115 No. 8, pp. 1158-1176, doi: 10.1037/edu0000783.

Akaliyski, P., Vignoles, V.L., Welzel, C. and Minkov, M. (2025), "Individualism–collectivism: reconstructing Hofstede's dimension of cultural differences", *Journal of Personality and Social Psychology*, Vol. 130 No. 2, pp. 308-356, doi: 10.1037/pspp0000580.

Barhate, B. and Dirani, K.M. (2021), "Career aspirations of generation Z: a systematic literature review", *European Journal of Training and Development*, Vol. 46 Nos 1/2, pp. 139-157, doi: 10.1108/ejtd-07-2020-0124.

Bartholomew, K.J., Ntoumanis, N., Ryan, R.M. and Thøgersen-Ntoumani, C. (2011), "Psychological need thwarting in the sport context: assessing the darker side of athletic experience", *Journal of Sport and Exercise Psychology*, Vol. 33 No. 1, pp. 75-102, doi: 10.1123/jsep.33.1.75.

Benitez, J., Henseler, J., Castillo, A. and Schuberth, F. (2020), "How to perform and report an impactful analysis using partial least squares: guidelines for confirmatory and explanatory IS research", *Information and Management*, Vol. 57 No. 2, 103168, doi: 10.1016/j.im.2019.05.003.

Binczycki, B., Łukasinski, W. and Dorocki, S. (2023), "Determinants of motivation to work in terms of industry 4.0—the gen Z perspective", *Sustainability*, Vol. 15 No. 15, pp. 1-14, doi: 10.3390/su151512069.

Cerasoli, C.P., Nicklin, J.M. and Ford, M.T. (2014), "Intrinsic motivation and extrinsic incentives jointly predict performance: a 40-year meta-analysis", *Psychological Bulletin*, Vol. 140 No. 4, pp. 980-1008, doi: 10.1037/a0035661.

Chala, N., Poplavska, O., Danylevych, N., Ievseitseva, O. and Sova, R. (2022), "Intrinsic motivation of millennials and generation Z in the new post-pandemic reality", *Problems and Perspectives in Management*, Vol. 20 No. 2, pp. 536-550, doi: 10.21511/ppm.20(2).2022.44.

De Cooman, R., Stynen, D., Van den Broeck, A., Sels, L. and De Witte, H. (2013), "How job characteristics relate to need satisfaction and autonomous motivation: implications for work effort", *Journal of Applied Social Psychology*, Vol. 43 No. 6, pp. 1342-1352, doi: 10.1111/jasp.12143.

Deci, E.L. and Ryan, R.M. (1985), "The general causality orientation scale: self-determination in personality", *Journal of Research in Personality*, Vol. 19 No. 2, pp. 109-134, doi: 10.1016/0092-6566(85)90023-6.

Deci, E.L. and Ryan, R.M. (2000), "The 'what' and 'why' of goal pursuits: human needs and the self-determination of behavior", *Psychological Inquiry*, Vol. 11 No. 4, pp. 319-338, doi: 10.1207/s15327965pli1104_01.

Deci, E.L., Olafsen, A.H. and Ryan, R.M. (2017), "Self-determination theory in work organizations: the state of a science", *Annual Review of Organizational Psychology and Organizational Behavior*, Vol. 4 No. 1, pp. 19-43, doi: 10.1146/annurev-orgpsych-032516-113108.

Dillman, D.A. (1978), *Mail and Telephone Surveys: The Total Design Method*, Vol. 19, Wiley, New York, p. 375.

Douglas, S.P. and Craig, C.S. (2007), "Collaborative and iterative translation: an alternative approach to back translation", *Journal of International Marketing*, Vol. 15 No. 1, pp. 30-43, doi: 10.1509/jimk.15.1.030.

Dreyer, C. and Stojanova, H. (2023), "How entrepreneurial is German Generation Z vs. Generation Y? A literature review", *Procedia Computer Science*, Vol. 217, pp. 155-164, doi: 10.1016/j.procs.2022.12.211.

Dwivedula, R. (2025), "Why is generation Z motivated at work? A qualitative exploration", *Global Business and Organizational Excellence*, Vol. 44 No. 3, pp. 38-49, 10.1002/joe.22273.

Fernet, C., Guay, F. and Senécal, C. (2004), "Adjusting to job demands: the role of work self-determination and job control in predicting burnout", *Journal of Vocational Behavior*, Vol. 65 No. 1, pp. 39-56, doi: 10.1016/s0001-8791(03)00098-8.

Gagné, M. and Deci, E.L. (2005), "Self-determination theory and work motivation", *Journal of Organizational Behavior*, Vol. 26 No. 4, pp. 331-362, doi: 10.1002/job.322.

Gagné, M., Forest, J., Vansteenkiste, M., Crevier-Braud, L., Van den Broeck, A., Aspeli, A.K., Bellerose, J., Benabou, C., Chemolli, E., Güntert, S.T., Halvari, H., Indiyastuti, D.L., Johnson, P.A., Molstad, M.H., Naudin, M., Ndao, A., Olafsen, A.H., Roussel, P., Wang, Z. and Westbye, C. (2015), "The Multidimensional Work Motivation Scale: validation evidence in seven languages and nine countries", *European Journal of Work and Organizational Psychology*, Vol. 24 No. 2, pp. 178-196, doi: 10.1080/1359432x.2013.877892.

Gagné, M., Parker, S.K., Griffin, M.A., Dunlop, P.D., Knight, C., Klonek, F.E. and Parent-Rocheleau, X. (2022), "Understanding and shaping the future of work with self-determination theory", *Nature Reviews Psychology*, Vol. 1 No. 7, pp. 378-392, doi: 10.1038/s44159-022-00056-w.

Gefen, D., Rigdon, E.E. and Straub, D. (2011), "Editor's comments: an update and extension to SEM guidelines for administrative and social science research", *MIS Quarterly*, Vol. 35 No. 2, pp. iii-xiv.

Gillet, N., Fouquereau, E., Forest, J., Brunault, P. and Colombat, P. (2012), "The impact of organizational factors on psychological needs and their relations with well-being", *Journal of Business and Psychology*, Vol. 27 No. 4, pp. 437-450, doi: 10.1007/s10869-011-9253-2.

Hagger, M.S. and Hamilton, K. (2021), "General causality orientations in self-determination theory: meta-analysis and test of a process model", *European Journal of Personality*, Vol. 35 No. 5, pp. 710-735, doi: 10.1177/0890207020962330.

Hair, J.F., Hult, G.T.M., Ringle, C.M. and Sarstedt, M. (2022), *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, 3rd ed., Sage, Thousand Oaks, CA.

Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M. and Thiele, K.O. (2017), "Mirror, mirror on the wall: a comparative evaluation of composite-based structural equation modeling methods", *Journal of the Academy of Marketing Science*, Vol. 45 No. 5, pp. 616-632, doi: 10.1007/s11747-017-0517-x.

Hair, J.F., Risher, J.J., Sarstedt, M. and Ringle, C.M. (2019), "When to use and how to report the results of PLS-SEM", *European Business Review*, Vol. 31 No. 1, pp. 2-24, doi: 10.1108/ebr-11-2018-0203.

Halvari, H. and Olafsen, A.H. (2020), "Causality orientations in the work setting: scale development and validation", *Scandinavian Journal of Work and Organizational Psychology*, Vol. 5 No. 1, pp. 1-12, doi: 10.16993/sjwop.114.

Henseler, J., Ringle, C.M. and Sarstedt, M. (2015), "A new criterion for assessing discriminant validity in variance-based structural equation modeling", *Journal of the Academy of Marketing Science*, Vol. 43 No. 1, pp. 115-135, doi: 10.1007/s11747-014-0403-8.

Hofstede, G. (2001), *Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations across Nations*, Sage Publications

Jia, Y., Chen, Q., Mu, W. and Zhang, W. (2023), "Managing the value co-creation of peer service providers in the sharing economy: the perspective of customer incivility", *Heliyon*, Vol. 9 No. 6, e16820, doi: 10.1016/j.heliyon.2023.e16820.

Jung, H.S. and Yoon, H.H. (2021), "Generational effects of workplace flexibility on work engagement, satisfaction, and commitment in south Korean deluxe hotels", *Sustainability*, Vol. 13 No. 16, p. 9143, doi: 10.3390/su13169143.

Kasser, T., Ryan, R.M., Zax, M. and Sameroff, A.J. (1995), "The relations of maternal and social environments to late adolescents materialistic and prosocial values", *Developmental Psychology*, Vol. 31 No. 6, pp. 907-914, doi: 10.1037/0012-1649.31.6.907.

Kirchmayer, Z. and Fratričová, J. (2020), "What motivates generation Z at work? Insights into motivation drivers of business students in Slovakia", *In Proceedings of the Innovation Management and Education Excellence through Vision*, pp. 6019-6030.

Kristensen, T.S., Borritz, M., Villadsen, E. and Christensen, K.B. (2005), "The Copenhagen Burnout Inventory: a new tool for the assessment of burnout", *Work and Stress*, Vol. 19 No. 3, pp. 192-207, doi: 10.1080/02678370500297720.

Kronenwett, M. and Rigotti, T. (2021), "Subjective achievement experiences at work and reduced depressivity: the mediating role of psychological need satisfaction", *European Journal of Work and Organizational Psychology*, Vol. 30 No. 6, pp. 837-849, doi: 10.1080/1359432x.2020.1862086.

Kuvaas, B., Buch, R., Weibel, A., Dysvik, A. and Nerstad, C.G. (2017), "Do intrinsic and extrinsic motivation relate differently to employee outcomes?", *Journal of Economic Psychology*, Vol. 61, pp. 244-258, doi: 10.1016/j.joep.2017.05.004.

Kuzior, A., Kettler, K. and Raba¸, Ł. (2022), "Great resignation—ethical, cultural, relational, and personal dimensions of generation Y and Z employees' engagement", *Sustainability*, Vol. 14 No. 11, pp. 1-9, doi: 10.3390/su14116764.

Liang, X., Guo, G., Shu, L., Gong, Q. and Luo, P. (2022), "Investigating the double-edged sword effect of AI awareness on employee's service innovative behavior", *Tourism Management*, Vol. 92, 104564, doi: 10.1016/j.tourman.2022.104564.

Lindell, M.K. and Whitney, D.J. (2001), "Accounting for common method variance in cross-sectional research designs", *Journal of Applied Psychology*, Vol. 86 No. 1, pp. 114-121, doi: 10.1037/0021-9010.86.1.114.

Loring, A. and Wang, J. (2021), "Engaging Gen Z in professional selling: a systematic literature review", *European Journal of Training and Development*, Vol. 46 No. 5-6, pp. 413-433.

Mahmoud, A.B., Fuxman, L., Mohr, I., Reisel, W.D. and Grigoriou, N. (2021), "'We aren't your reincarnation!' workplace motivation across X, Y and Z generations", *International Journal of Manpower*, Vol. 42 No. 1, pp. 193-209, doi: 10.1108/ijm-09-2019-0448.

Manganelli, L., Thibault-Landry, A., Forest, J. and Carpentier, J. (2018), "Self-determination theory can help you generate performance and well-being in the workplace: a review of the literature", *Advances in Developing Human Resources*, Vol. 20 No. 2, pp. 227-240, doi: 10.1177/1523422318757210.

Maslach, C., Schaufeli, W.B. and Leiter, M.P. (2001), "Job burnout", *Annual Review of Psychology*, Vol. 52, pp. 397-422, doi: 10.1146/annurev.psych.52.1.397.

Merriman, K.K. (2017), "Extrinsic work values and feedback: contrary effects for performance and well-being", *Human Relations*, Vol. 70 No. 3, pp. 339-361, doi: 10.1177/0018726716655391.

Moller, A.C. and Deci, E.L. (2010), "Interpersonal control, dehumanization, and violence: a self-determination theory perspective", *Group Processes and Intergroup Relations*, Vol. 13 No. 1, pp. 41-53, doi: 10.1177/1368430209350318.

Ng, E.S., Posch, A., Köllen, T., Kraiczy, N. and Thom, N. (2024), "Do 'one-size' employment policies fit all young workers? Heterogeneity in work attribute preferences among the Millennial generation", *BRQ Business Research Quarterly*, Vol. 27 No. 4, pp. 483-504, doi: 10.1177/23409444221085587.

Niemiec, C.P., Lynch, M.F., Vansteenkiste, M., Bernstein, J., Deci, E.L. and Ryan, R.M. (2006), "The antecedents and consequences of autonomous self-regulation for college: a self-determination theory perspective on socialization", *Journal of Adolescence*, Vol. 29 No. 5, pp. 761-775, doi: 10.1016/j.adolescence.2005.11.009.

Olafsen, A.H., Niemiec, C.P., Halvari, H., Deci, E.L. and Williams, G.C. (2017), "On the dark side of work: a longitudinal analysis using self-determination theory", *European Journal of Work and Organizational Psychology*, Vol. 26 No. 2, pp. 275-285, doi: 10.1080/1359432x.2016.1257611.

Papachristopoulos, K. and Arvanitis, A. (2024), "Autonomy orientation and innovative work behavior", *European Journal of Psychology Open*, Vol. 83 No. 2, pp. 83-88, doi: 10.1024/2673-8627/a000059.

Peláez Zuberbühler, M.J., Coo Calcagni, C., Martínez, I.M. and Salanova, M. (2023), "Development and validation of the coaching-based leadership scale and its relationship with psychological capital, work engagement, and performance", *Current Psychology*, Vol. 42 No. 1, pp. 648-669, doi: 10.1007/s12144-021-01460-w.

Pichler, S., Kohli, C. and Granitz, N. (2021), "DITTO for Gen Z: a framework for leveraging the uniqueness of the new generation", *Business Horizons*, Vol. 64 No. 5, ppp. 599-610, 10.1016/j.bushor.2021.02.021.

Podsakoff, P.M., MacKenzie, S.B. and Podsakoff, N.P. (2012), "Sources of method bias in social science research and recommendations on how to control it", *Annual Review of Psychology*, Vol. 63 No. 1, pp. 539-569, doi: 10.1146/annurev-psych-120710-100452.

Podsakoff, P.M., Podsakoff, N.P., Williams, L.J., Huang, C. and Yang, J. (2024), "Common method bias: It's bad, it's complex, it's widespread, and it's not easy to fix", *Annual Review of Organizational Psychology and Organizational Behavior*, Vol. 11 No. 1, pp. 17-61, doi: 10.1146/annurev-orgpsych-110721-040030.

Prund, C. (2021), "Why generation Z is redefining the HRM processes", *Studies in Business and Economics*, Vol. 16 No. 3, pp. 190-199, doi: 10.2478/sbe-2021-0054.

Qiu, D., Li, Y., Li, R., He, J., Ouyang, F., Luo, D. and Xiao, S. (2022), "Long working hours, work-related stressors and sleep disturbances among Chinese government employees: a large population-based follow-up study", *Sleep Medicine*, Vol. 96, pp. 79-86, doi: 10.1016/j.sleep.2022.05.005.

Ringle, C.M., Sarstedt, M. and Straub, D.W. (2012), "Editor's comments: a critical look at the use of PLS-SEM", *MIS Quarterly*, Vol. 36 No. 1, pp. iii-xiv.

Robertson, K.M., O'Reilly, J. and Hannah, D.R. (2020), "Finding meaning in relationships: the impact of network ties and structure on the meaningfulness of work", *Academy of Management Review*, Vol. 45 No. 3, pp. 596-619, doi: 10.5465/amr.2015.0242.

Ryan, R.M. (1995), "Psychological needs and the facilitation of integrative processes", *Journal of Personality*, Vol. 63 No. 3, pp. 397-427, doi: 10.1111/j.1467-6494.1995.tb00501.x.

Ryan, R.M. and Deci, E.L. (2000), "Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being", *American Psychologist*, Vol. 55 No. 1, pp. 68-78, doi: 10.1037//0003-066x.55.1.68.

Ryan, R.M. and Deci, E.L. (2017), *Self-determination Theory: Basic Psychological Needs in Motivation, Development, and Wellness*, The Guilford Press.

Ryan, R.M. and Deci, E.L. (2024), "Self-determination theory", in *Encyclopedia of Quality of Life and Well-Being Research*, Springer International Publishing, Cham, pp. 6229-6235.

Ryan, R.M., Duineveld, J.J., Di Domenico, S.I., Ryan, W.S., Steward, B.A. and Bradshaw, E.L. (2022), "We know this much is (meta-analytically) true: a meta-review of meta-analytic findings evaluating self-determination theory", *Psychological Bulletin*, Vol. 148 Nos 11-12, pp. 813-842, doi: 10.1037/bul0000385.

Sakdiyakorn, M., Golubovskaya, M. and Solnet, D. (2021), "Understanding Generation Z through collective consciousness: impacts for hospitality work and employment", *International Journal of Hospitality Management*, Vol. 94, 102822, doi: 10.1016/j.ijhm.2020.102822.

Satpathy, D.I., Patnaik, D.B.C.M. and Palai, M.D. (2019), "Challenges related to multi-generational workforce in manufacturing sector", *International Journal of Mechanical Engineering and Technology*, Vol. 10 No. 1, pp. 719-724.

Schaufeli, W.B., Leiter, M.P. and Maslach, C. (2009), "Burnout: 35 years of research and practice", *Career Development International*, Vol. 14 No. 3, pp. 204-220, doi: 10.1109/emr.2010.5645750.

Sheldon, K.M., Turban, D.B., Brown, K.G., Barrick, M.R. and Judge, T.A. (2003), "Applying self-determination theory to organizational research", in *Research in Personnel and Human Resources Management*.

Shulga, L.V. (2021), "Front-line employee self-determination in value Co-Creation: generational profiles", *Journal of Hospitality and Tourism Management*, Vol. 48, pp. 479-491, doi: 10.1016/j.jhtm.2021.08.004.

Slemp, G.R., Kern, M.L. and Vella-Brodrick, D.A. (2015), "Workplace well-being: the role of leader autonomy support", *Journal of Vocational Behavior*, Vol. 89, pp. 122-131.

Torn-laapio, A. and Ekonen, M. (2021), "Meaning of work across different generations of tourism and hospitality employees", *Proceeding of the 4th International Conference on Tourism Research ICTR2021*, May, pp. 20-21, doi: 10.34190/IRT.21.031.

Tremblay, M.A., Blanchard, C.M., Taylor, S., Pelletier, L.G. and Villeneuve, M. (2009), "Work extrinsic and intrinsic motivation scale: its value for organizational psychology research", *Canadian Journal of Behavioural Science/Revue Canadienne des Sciences du Comportement*, Vol. 41 No. 4, pp. 213-226, doi: 10.1037/a0015167.

Trépanier, S.-G., Fernet, C. and Austin, S. (2015), "A longitudinal investigation of workplace bullying, basic need satisfaction, and employee functioning", *Journal of Occupational Health Psychology*, Vol. 20 No. 1, pp. 105-116, doi: 10.1037/a0037726.

Van den Broeck, A., Vansteenkiste, M., De Witte, H. and Lens, W. (2008), "Explaining the relationships between job characteristics, burnout, and engagement: the role of basic psychological need satisfaction", *Work and Stress*, Vol. 22 No. 3, pp. 277-294, doi: 10.1080/02678370802393672.

Van den Broeck, A., Vansteenkiste, M., De Witte, H., Soenens, B. and Lens, W. (2010), "Capturing autonomy, competence, and relatedness at work: construction and initial validation of the Work-related Basic Need Satisfaction scale", *Journal of Occupational and Organizational Psychology*, Vol. 83 No. 4, pp. 981-1002, doi: 10.1348/096317909x481382.

Van den Broeck, A., Howard, J.L., Van Vaerenbergh, Y., Leroy, H. and Gagné, M. (2021), "Beyond intrinsic and extrinsic motivation: a meta-analysis on self-determination theory's multidimensional conceptualization of work motivation", *Organizational Psychology Review*, Vol. 11 No. 3, pp. 240-273, doi: 10.1177/20413866211006173.

Vander Elst, T., Van den Broeck, A., De Witte, H. and De Cuyper, N. (2012), "The mediating role of frustration of psychological needs in the relationship between job insecurity and work-related well-being", *Work and Stress*, Vol. 26 No. 3, pp. 252-271, doi: 10.1080/02678373.2012.703900.

Vansteenkiste, M., Neyrinck, B., Niemiec, C.P., Soenens, B., De Witte, H. and Van den Broeck, A. (2007), "On the relations among work value orientations, psychological need satisfaction and job outcomes: a self-determination theory approach", *Journal of Occupational and Organizational Psychology*, Vol. 80 No. 2, pp. 251-277, doi: 10.1348/096317906x111024.

Vansteenkiste, M., Ryan, R.M. and Soenens, B. (2020), "Basic psychological need theory: advancements, critical themes, and future directions", *Motivation and Emotion*, Vol. 44 No. 1, pp. 1-31, doi: 10.1007/s11031-019-09818-1.

Further reading

Bartholomew, K.J., Ntoumanis, N., Mouratidis, A., Katartzi, E., Thogersen-Ntoumani, C. and Vlachopoulos, S. (2018), "Beware of your teaching style: a school-yearlong investigation of controlling teaching and student motivational experiences", *Learning and Instruction*, Vol. 53, pp. 50-63, doi: 10.1016/j.learninstruc.2017.07.006.

Loring, A. and Wang, J. (2022), "Engaging Gen Z in professional selling: a systematic literature review", *European Journal of Training and Development*, Vol. 46 Nos 5/6, pp. 413-433, doi: 10.1108/ejtd-07-2020-0120.

Umrani, W.A., Ahmad, I., Rasheed, M.I., Ahmed, U., Pahi, M.H., Jhatial, A. and Abbsai, G.A. (2022), "Managing intellectual capital: role of corporate entrepreneurship and absorptive capacity on firm performance", *Knowledge Management Research and Practice*, Vol. 20 No. 5, pp. 719-731, doi: 10.1080/14778238.2022.2041374.

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