A Metamotivational Approach to Understanding Managers' Beliefs About Motivationally

Diverse Teams in the Domain of Regulatory Mode

by

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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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Abstract

Cultivating effective teams requires managers to integrate the efforts of individuals who often vary in their backgrounds, skills, and identities. One way that team members can differ from each other is in their *motivational orientation*, or the reasons and ways that people pursue goals. Extant literature demonstrates that the complementary nature of two regulatory mode motivational orientations (locomotion and assessment) can benefit the performance of individuals and teams. Yet relatively little is known about what managers believe about how to *manage* this type of motivational diversity in teams. In this dissertation, I combine insights from the literature in motivation science, team management, and diversity to propose a novel perspective on managing motivation in teams. The first part of this dissertation (Studies 1-3) examines what people believe about the role of regulatory mode motivation in teams. Study 1 demonstrates that people, on average, recognize the differential benefits of locomotion and assessment for task performance. Using complementary methodologies, Studies 2 and 3 revealed that although people perceive motivationally diverse (vs. homogenous) teams as prone to conflict (Study 2), when prompted to describe their beliefs about motivation in teams they also recognize its potential benefits (Study 3). Following this, in the second part of this dissertation (Studies 4 and 5) I draw on recent advances in the management of team diversity to examine the strategies managers use when managing motivation in teams. In both hypothetical (Studies 4A and 4B) and consequential (Study 5) contexts, managers recognized the differential utility of different kinds of management strategies and were sensitive to intrateam dynamics in motivationally diverse and homogenous teams, but did not vary their use of different kinds of management strategies when managing motivational diversity in teams. By focusing on what managers themselves believe and do when managing motivational diversity in teams, this research offers a novel perspective

on an understudied area of team management with implications for the theoretical and practical

study of team management.

journey, and helping create wonderful memories. The strength provided by this support system is

what leads to success.

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Introduction

From playgrounds to professional sports, social board games to high-stakes military simulations, high school group projects to corporate board rooms, teams in one form or another are a ubiquitous feature of human lives. Indeed, teamwork tends to play a key role in humanity's highest and lowest points. Some of our most enduring creations, such as Stonehenge in present-day England, would have been impossible to construct without sustained teamwork. Similarly, some of our most striking failures reflect the vulnerabilities of teams. For instance, the decision to launch the Space Shuttle *Challenger* despite repeated safety concerns is cited as a prime example of the dangers of ineffective group decision-making (Janis, 1991). Understanding how to effectively create, maintain, and work in groups thus underlies nearly every part of our social lives (Baumeister & Leary, 1995).

This quest to foster effective teams is a central focus of management researchers and managers in the wild. Workplaces place a high premium on teamwork, with traits such as "collaboration" considered to be foundational employee skills (McKinsey, 2021a). Obtaining an understanding of group dynamics was among the founding pillars of research in organizational behaviour (Mayo, 1933) and social psychology more generally (Lewin, 1948; Festinger et al., 1950). In the approximately ten-year period from 2008 to 2019 alone nearly 700 peer-reviewed articles focused on team effectiveness were published in 11 influential organizational behaviour and management journals (Mathieu et al., 2019). Yet, the rise in understanding of elements that contribute to effective teamwork has been accompanied by a similar rise in thorny questions about the complexities of how best to manage teams (Kozlowski & Ilgen, 2006; Mathieu et al., 2019). Indeed, despite almost a century of efforts by psychologists, how to foster effective teams remains an elusive target. Only 15% of employees worldwide report feeling engaged at work

(Gallup, 2021) and less than half (43%) report a positive team climate (McKinsey, 2021b). Further, up to 70% of the variance in this employee engagement is attributed to managers (Gallup, 2017). Given the central role of managers in overseeing team goal pursuit (Zaccaro et al., 2001), understanding factors that affect team management remains a primary concern for researchers and everyday managers alike.

Of particular focus for behavioural researchers is how a team's members—that is, *who* makes up a team—affect team functioning, performance, and management. More specifically, teams are made up of multiple individuals who frequently differ from each other (i.e., who are diverse). In other words, because diversity in one form or another is inherent to almost any team (race, education, personality, etc.; Williams & O'Reilly, 1998), managers are tasked with integrating an array of unique individual efforts to form a well-functioning unit (Zaccaro et al., 2001). This task is not an easy challenge. People are drawn to those who are similar to them (e.g., McPherson et al., 2001) and often distrust those who are different (Allport, 1954; Dovidio & Gaertner, 2010), thereby making diverse teams prone to conflict (Van Knippenberg et al., 2004). At the same time, diverse teams can sometimes outperform homogeneous teams because of the capacity to capitalize on the varied perspectives and unique skills afforded by diversity (e.g., Phillips, 2014; Van Knippenberg et al., 2004; for a contrasting review see Eagly, 2016). Managers thus need to execute a delicate balancing act in which they can promote the benefits of diversity while simultaneously minimizing its pitfalls (Galinsky et al., 2015; Williams & O'Reilly, 1998; Homan et al., 2020).

I propose that an important, but potentially overlooked, factor in cultivating effective teams involves effectively harnessing differences or diversity in *motivational orientations* among team members. Motivational orientations can be defined as chronic or situational differences

between people in why or how they pursue goals, thus leading to fundamentally different ways of perceiving, navigating, and experiencing goal pursuit (e.g., strategies, emotions, etc.; Higgins, 2011). The idea of motivational diversity in teams has received relatively little attention, despite motivation and self-regulation being widely studied and representing one of the most proximal influences on behaviour (Austin & Vancouver, 1996; Deci & Ryan, 2018; Higgins, 2011; James, 1890). I focus on the effects of regulatory mode, a self-regulatory theory that identifies two motivational orientations with complementary, but opposing, ways of pursuing goals (Kruglanski et al., 2000). Prior work has shown that teams with complementary motivational orientations— where some members prioritize speed and efficiency and others prioritize accuracy and precision (respectively, *locomotion* and *assessment*; Kruglanski et al., 2000)—outperform teams with homogenous motivational orientations (Mauro et al., 2009). Yet relatively little is known about what managers understand about the role of motivational diversity in teams and how to manage it. Recent developments in motivation science investigating metamotivation—how people monitor and control motivational states in pursuit of their goals (Miele et al., 2020; Scholer & Miele, 2016; Scholer et al., 2018)—highlights the importance of investigating what managers understand about motivational diversity and how they may play an active role in harnessing the benefits of motivationally diverse teams (Jansen, Miele, et al., 2022).

Specifically, in my dissertation I will integrate advances in motivation science with insights from team diversity management (Homan et al., 2020) to investigate what managers believe about how to manage motivational diversity in teams and how these beliefs affect management behaviours. I first provide an overview of the types of diversity that have typically received attention in the literature on teams, pointing out the relatively understudied nature of motivational diversity. I then introduce regulatory mode theory and the role it plays in individual

and team goal pursuit, followed by a review of the effects of diversity in teams and perspectives on how best to manage it. Then, I introduce metamotivation research and the novel framework it brings to team management. These overviews provide the foundation to integrate insights from team diversity management with a metamotivational perspective to explore what managers believe about how to manage motivational diversity in teams.

Types of Diversity

Broadly speaking, "diversity" can be defined as any attribute that people use to distinguish each other (Williams & O'Reilly, 1998), and can thus refer to characteristics such as age, race, education, skills, job rank, and many more. Various ways of organizing these distinctions have been proposed, with the most frequent distinguishing the effects of surface-level and deep-level diversity (Bell, 2007; Bell et al., 2011; Williams & O'Reilly, 1998; van Knippenberg & Schippers, 2007). The term surface-level diversity has been used to refer to differences that people use—often inaccurately—as a basis for relatively immediate classification into social categories. Surface-level diversity thus incorporates demographic characteristics like race, age, gender, sexuality, and physical or non-physical disabilities. Based on research in social categorization (Fiske & Neuberg, 1990), this form of diversity is concerned with the relatively automatic categorizations people make based on observed characteristics. These categorizations emerge early in life and allow people to make sense of the plethora of information in the world, but they are also associated with negative consequences such as stereotyping and prejudice (Liberman et al., 2007). The relatively automatic nature of these categorizations can lead to errors (e.g., contextual information affects race categorization; Tskhay & Rule, 2015), and in practice much of the research on surface-level diversity in teams focuses on "primary" social categories (race, sex/gender, and age; Williams & O'Reilly, 1998). Additionally, the term "surface-level diversity" may inadvertently imply that the attributes associated with it do not carry deeper differences arising from cultural, social, and socialization factors (e.g., the term may imply that the effects of gender diversity are related to relatively superficial biological differences). However, these "surface-level" differences may reflect distinctly different "deeper" patterns of socialization and expectations. Thus, to better capture the

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characteristics intended to be encapsulated by "surface-level" diversity, I adopt the term demographic diversity throughout the dissertation.

Deep-level diversity, in contrast, primarily encapsulates non-observable characteristics such as differences in skills, personality, values, and attitudes. In other words, deep-level diversity is intended to capture underlying psychological characteristics that are not immediately apparent, only becoming observable in extended interactions and under the right conditions (Guillaume et al., 2012). For example, a board of directors may be composed of people from different economic sectors who are diverse at a deep-level, with distinct expertise and different career backgrounds. An amateur sports team may be composed of headstrong go-getters and calculated strategists, while a political cabinet may be composed of members who vary in their values and positions on social and economic policies. Based on research in information and decision-making (Gruenfeld et al., 1996), this form of diversity is presumed to arise from differences in knowledge possessed by individuals, with greater variation in the team associated with a greater pool of information/knowledge to draw on (Tziner & Eden, 1985). Research on deep-level diversity in teams has tended to focus on differences in functional and educational backgrounds (i.e., job-relevant skills or abilities; van Knippenberg & Schippers, 2007).

I propose that an additional factor that may play a role in diverse teams are differences in *motivational orientations* among team members. One of the most proximal influences on behaviour (Austin & Vancouver, 1996; Higgins, 2011), motivation is a psychological force propelling behaviour (Hull, 1932; Lewin, 1938; 1951). People can differ not only in the amount of motivation they are experiencing (i.e., high vs. low) but in the type of motivation they are experiencing (i.e., qualitative differences). Differences in motivation quality (i.e., motivational orientations) direct how people perceive the world, prefer the world, and pursue their goals

(Higgins, 2012), and can arise from both chronic and temporary sources (Higgins, 1996; 1999; Scholer et al., 2019). Differences in motivational orientations exert tangible effects in domains such as creativity (e.g., Baas et al., 2011), risk-taking (e.g., Scholer et al., 2010), academic performance (e.g., Elliot & McGregor, 2001), and well-being (e.g., Ryan & Deci, 2000). Motivational diversity can thus be conceptualized as a form of deep-level diversity that captures differences in *how* and *why* people pursue goals. Even if people share demographic and/or other deep-level characteristics, they may differ in important ways in their motivational orientations. In contrast to the literature on the effects of demographic and other types of deep-level diversity in teams, as discussed below, little is known about the effect of motivational diversity in teams. Some initial evidence points to its benefits (Chernikova et al., 2017; Mauro et al., 2009; Pierro et al., 2012), but less attention (vs. more traditional typologies of diversity) has been paid to *managing* motivational diversity in teams.

Motivational Diversity: Differences in Regulatory Mode

Regulatory mode theory (Kruglanski et al., 2000) is a self-regulatory theory focused on *how* people pursue goals. Traditional goal pursuit models, in particular phase models of goal pursuit (Gollwitzer et al., 1990; Gollwitzer, 1990), discuss two critical elements (or *phases*) of goal pursuit. First, people need to deliberate, where they consider the set of possible options, weigh their feasibility and desirability, and decide when and how to act. Second, once a decision is made, people "cross the Rubicon" into the action phase, where the decided upon course of action is implemented and goals are actively pursued. Building on this work, regulatory mode theory proposes that these phases of goal pursuit act as independent motivational orientations, such that people can be chronically or situationally inclined to different preferred ways of pursuing goals, known as *assessment* and *locomotion* (Kruglanksi et al., 2000; Pierro et al., 2018). In contrast to traditional models that view deliberation as preceding action (Gollwitzer, 1990), regulatory mode theory proposes that locomotion and assessment are orthogonal constructs that can vary chronically (i.e., individuals can be high in both, high in one and not the other, etc.) and be situationally induced (Kruglanski et al., 2013; Pierro et al., 2018). Assessment and locomotion are thus not constrained to specific phases of goal pursuit—people can be chronically or situationally inclined to either assessment or locomotion at any point during deliberation and action phases (Higgins et al., 2003; Pierro et al., 2018; Scholer & Higgins, 2012).

Locomotion is the aspect of self-regulation that involves initiating and sustaining goal-related movement and action; it is fundamentally concerned with control (Higgins, 2011) and making things happen. Pure locomotion is solely focused on the experience of psychological movement and directing change without interruption, regardless of direction. Thus, people who

are chronically high in locomotion prefer taking any action to doing nothing (Higgins et al., 2003; Kruglanski et al., 2000). Assessment, in contrast, is the comparative aspect of self-regulation that involves critically evaluating alternative means of goal pursuit to make the "right" choices; it is fundamentally concerned with truth (Higgins, 2011) and establishing what is real and correct. Pure assessment is solely focused on critically and thoroughly evaluating options to select the "right" way to pursue the "right" goals. Thus, people who are chronically high in assessment prefer doing nothing than risk doing the "wrong" thing (Higgins et al., 2003; Kruglanski et al., 2000).[1]

Moreover, each regulatory mode is associated with unique benefits and vulnerabilities. The tendency towards initiating and sustaining movement by people chronically high in locomotion (vs. assessment) is associated with a greater willingness to resolve interpersonal conflict (Webb et al., 2017), being more hopeful about the future (Di Santo et al., 2017), and a greater ability to adapt to change (Kruglanski et al., 2007). On the other hand, chronically high locomotion (vs. assessment) is also associated with decisive and impulsive action (Mauro et al., 2009), prioritizing expediency over ethical action (Kanze et al., 2021), and holding unjustifiably high self-evaluations (Komissarouk et al., 2009). In contrast, although the tendency towards thorough and careful evaluation by people chronically high in assessment (vs. locomotion) promotes thoughtful action and is associated with greater accuracy (Mauro et al., 2009), these same tendencies are also associated with greater procrastination (Pierro et al., 2011), greater rumination and decision paralysis (Chen et al., 2018; Hughes & Scholer, 2017), feeling more

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[1] With its focus on *how* people pursue goals, regulatory mode theory stands in contrast to other frequently studied motivational theories. Regulatory focus theory (Higgins, 1997), for example, distinguishes between different fundamental reasons for goal pursuit (growth and advancement vs. security and safety) which, in turn, lend themselves to different preferred strategies (eagerness vs. vigilance) that fit (vs. misfit) reasons for goal pursuit (Scholer et al., 2019). Additionally, whereas approach and avoidance motivation (Thorndike, 1932; Elliot & Thrash, 2002) involve *specific types* of outcomes—moving towards (approach) or away (avoidance) from particular end-states—regulatory mode theory considers *all* type of outcomes.

regret and less forgiveness towards the self and others (Pierro et al., 2008; 2021), and a greater

likelihood of disobeying public health guidelines during the COVID-19 pandemic (likely arising,

in part, from the onslaught of information and ambiguity surrounding the "right" course of

action; Jansen, Danckert, et al., 2022).

Finally, according to the *complementarity hypothesis*, the complementary nature of

locomotion and assessment within individuals is especially important for successful goal pursuit

(Pierro et al., 2018). A long tradition of research across a myriad of domains demonstrates that

the conjunction of relatively high chronic locomotion and assessment orientations is associated

with more successful outcomes than each orientation on its own (Kruglanksi et al., 2013; Pierro

et al., 2018). The independence of locomotion and assessment allows them to be present to

varying degrees within and between individuals, resulting in people being high in both

orientations, high on one and low on the other, low on both, or any other combination of degrees

of each orientation (Pierro et al., 2018). As a result, in some situations the tendency for

locomotion may come to the fore, while in others assessment may predominate, and/or situations

can lead both orientations to operate synergistically (Kruglanski et al., 2013). The

complementarity hypothesis proposes that the combination of relatively high locomotion and

high assessment within the same individual or between individuals results in greater success

compared to each orientation on their own or low amounts of each orientation. For example,

employees high in both locomotion and assessment have higher self-reported and supervisor-

rated performance than those high in only one orientation and those low in both (Pierro et al.,

2012). Further evidence for the benefits of regulatory mode complementarity can be found in

domains such as elite military training (Kruglanski et al., 2000), retirement savings (Kim et al.,

2017), educational achievement (i.e., grade-point averages; Kruglanksi et al., 2000), and team

performance (Mauro et al., 2009; for reviews see Kruglanski et al., 2013; Pierro et al., 2018).

Regulatory Mode Complementarity in Teams

Expanding on the complementarity hypothesis (Kruglanski et al., 2013; Pierro et al., 2018), researchers have explored whether the individual-level effects of regulatory mode complementarity extend to teams (Mauro et al., 2009; Pierro et al., 2012; Chernikova et al., 2017). Initial work by Mauro et al. (2009) situationally induced regulatory mode in participants and created three types of four-person teams: locomotion-only, assessment-only, and mixed (i.e., motivationally diverse) teams composed of two locomotors and two assessors. Each team completed a crime-solving task where they needed to identify the correct culprit among a series of suspects, with the researchers measuring team decision time (speed) and correct culprit identification (accuracy). Results revealed that locomotion-only teams were faster than assessment-only teams and that assessment-only teams were more accurate than locomotion-only teams. Most importantly, mixed teams were as fast as locomotion-only teams and as accurate as assessment-only teams; thus, the complementary nature of mixed teams allowed them to simultaneously capitalize on the unique strengths of each homogenous team and minimize their unique weaknesses, thereby outperforming them.

Taking the Mauro et al. (2009) findings one step further, Pierro and colleagues (2012) provided evidence for cross-level complementarity effects in teams across a diverse set of Italian organizations: Individuals whose chronic regulatory mode complemented the overall regulatory mode of their work team outperformed individuals with the same regulatory mode as their team. Chernikova et al. (2017) replicated these findings in a larger set of Italian organizations and further demonstrated that the benefits of cross-level complementarity in teams that arise under conditions of high task interdependence (i.e., the extent to which collaborative work is required to perform tasks; Van der Vegt & Jansen, 2003; Wageman, 1995).

Yet we also know that locomotion and assessment are simultaneously associated with unique vulnerabilities; for example, the push for progress can lead locomotors to decisive and impulsive action (Mauro et al., 2009), and the need for exhaustive evaluation can lead assessors to rumination and decision paralysis (Chen et al., 2018; Hughes & Scholer, 2017). Bringing such fundamentally different modes of goal pursuit together in teams thus risks creating a situation wherein predominantly locomotion-oriented team members perceive the world as their oyster, seizing on opportunities to spring into action and "move" as efficiently possible. At the same time, however, their assessment-oriented peers perceive the world through a magnifying glass, exhaustively comparing and evaluating their options and taking care to ensure the "right" decisions are made. Given the long-standing literature on the ways in which diversity can lead to conflict (Allport, 1954; Dovidio & Gaertner, 2010), the nature of these motivational differences between team members may lead to actual or perceived problems—the latter of which is explored further in this dissertation.[2]

This trade-off creates a conundrum for managers. On the one hand, complementary motivation is associated with performance benefits and managers would therefore do well to capitalize on the benefits of both locomotion and assessment. At the same time, however, the potential for conflict arising from tension between those with different motivational orientations may reduce team cohesion and performance. Moreover, the divergence in preferred modes of goal pursuit in motivationally diverse teams may not become apparent or problematic until teams begin actively working together, thus requiring managers to recognize the root cause of potential problems (i.e., different motivational orientations) and strategically adapt their behaviours in

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[2] Of course, regulatory mode is one of many domains in which motivational diversity in teams can or should be investigated. The pre-existing research on regulatory mode complementarity in teams makes it an ideal candidate for an initial investigation of the role of motivational diversity in teams and how to manage it.

response to these situational demands. The following sections explore the existing literature on

the effects of other forms of diversity and managing other forms of diversity as a way to glean

insights into how regulatory mode diversity can (or even should) be optimally managed.

Effects of Diversity in Teams

Considerable attention has been devoted to understanding the effects of diversity in teams and how to manage that diversity. In an effort to consolidate this work, researchers generally discuss two opposing mechanisms—information elaboration and intergroup bias—by which diversity can influence team dynamics and performance (Homan et al., 2020; Phillips et al., 2014; van Knippenberg et al., 2004; Williams & O'Reilly, 1998).

First, diversity can lead to greater *information elaboration*—the cognitive processing, exchange, and integration of information and ideas among teams (Hinsz et al., 1997). By definition, diverse teams have access to a broader pool of perspectives, skills, and backgrounds than homogenous teams, which may lead to greater information elaboration. Moreover, because diverse teams need to reconcile a variety of perspectives, this demand should lead them to engage in more thorough and critical processing of task-relevant information (i.e., *task conflict*; Jehn, 1999). Information elaboration thus allows diverse teams to outperform homogenous ones by avoiding the potential downsides of easy group consensus (e.g., overly prioritizing cohesion and avoiding critical analysis, or groupthink; Janis, 1982) and discovering optimal solutions (Cox et al., 1991; Homan et al., 2007a; van Knippenberg et al., 2004). Because deep-level diversity explicitly incorporates a variety of task-related skills, some evidence suggests it is associated with information elaboration (van Knippenberg et al., 2004; Williams & O'Reilly, 1998; see Bell, 2007 and Bell et al., 2011, for meta-analytic reviews). For example, in a field study of established work units, Jehn et al. (1999) measured the degree of deep-level diversity (here, value and informational diversity; demographic diversity was also measured) and its effect on team outcomes. Greater (vs. lower) deep-level diversity increased beneficial forms of conflict

that involve exchanging divergent task-relevant perspectives, which in turn improved team performance.

On the other hand, however, diversity can also lead to greater *intergroup bias*—selective favouritism of team members similar to the self and intrateam conflict, distrust, and disliking arising from basic social categorization processes (Brewer, 1979; Turner et al., 1987). Similarities and differences between team members are used to categorize (deliberately or not) people into "us" and "them" (Tajfel & Turner, 1986), giving rise to the potential for subgroups within teams. Because people tend to like and trust similar others more than dissimilar others (Brewer, 1979), subgroup categorization in turn leads to problematic intrateam relations that ultimately result in diverse teams underperforming homogenous ones (Simons et al., 1999; van Knippenberg et al., 2004; Triana et al; 2021). Given this, some research suggests demographic diversity is associated with intergroup bias (van Knippenberg et al., 2004; Williams & O'Reilly, 1998; but see van Dijk et al., 2012). For example, Homan et al. (2007b) manipulated the salience of demographic diversity in four-person teams through gender (50-50 vs. homogenous), bogus personality feedback (different types vs. same type), clothing colour (gender-matched vs. not), and physical distance (seated beside same-sex vs. cross-sex group members). In teams where demographic diversity was especially salient (vs. homogenous/gender-neutral teams), participants reported more relationship conflict, less team satisfaction, and a more negative team climate.

Importantly, however, the effects of the opposing "pulls" of information elaboration and intergroup bias are highly variable and sensitive to moderating influences such as task complexity, accessibility and awareness of diversity, and individual differences of team managers (e.g., personality, emotional intelligence), among many others (Homan et al., 2020;

Shemla et al., 2016; van Dijk et al., 2012). For example, Phillips and Loyd (2006) found that members of demographically diverse (vs. homogenous) groups had greater confidence in voicing dissenting deep-level perspectives, leading to greater information elaboration. Some research suggests that the negative effects of demographic diversity become muted over time as the positive effects of deep-level differences come to the fore (Harrison et al., 1998; Harrison et al., 2002), whereas other work reveals that team members themselves need to value diversity in order for its benefits to be realized (e.g., van Dick et al., 2008; Shemla et al., 2016; Homan et al., 2007a). Finally, a meta-analysis of the association between job-related and demographic diversity and team performance by van Dijk et al. (2012) suggests that previously observed associations between diversity and performance may in part be due to rater biases. When performance was rated subjectively, functional diversity (deep-level differences in job-related experiences/skills) was positively related and demographic diversity (here, included age, gender, ethnic, education) negatively related to performance; however, when performance was rated objectively, both forms of diversity were unrelated to performance. These patterns further differed based on who was rating performance: When rated by *external* team leaders, demographic diversity was negatively related and job-related diversity positively associated with performance. Yet when rated by *internal* team leaders or team members themselves, both forms of diversity were unrelated to performance. Van Dijk et al. (2012) propose that these results are due in part to the introduction of diversity-related biases into subjective ratings of performance and the greater experience internal team leaders/members (vs. external leaders) have with a given team. Overall, the findings of this meta-analysis suggest that care is needed when both selecting and interpreting assessments of performance in diverse teams, and in considering moderators of diversity effects.

Managing Diversity in Teams

Diversity thus rarely has straightforward associations with team processes and outcomes (see van Knippenberg et al., 2004, for a review). Nevertheless, diversity in one form or another is inevitable in any setting where two or more people work together and thus creates situations where managers need to find ways to effectively harness the potential promises of diversity while also minimizing its potential pitfalls (Galinsky et al., 2015; Homan et al., 2020; van Knippenberg et al., 2004; William & O'Reilly, 1998). Various literatures have documented how managers can do so, including a focus on how managers' individual differences moderate the effects of diversity in teams (e.g., Kearny & Gebert, 2009; Mohammed & Nadkarni, 2011) and ways that managers can serve as active agents in shaping and/or managing diversity-related processes (e.g., Homan et al., 2020).

One extensive area of research has championed the effects of leadership styles (i.e., managers' preferred leadership methods and behaviours), mainly through contrasting the effects of transformational and transactional leadership[3] (Bass, 1985; see Judge & Piccolo, 2004 for a meta-analytic review). Managers with a predominantly transformational leadership style focus on moving team members toward a shared vision by using charisma, inspiration, and intellectual stimulation. In contrast, managers with a predominantly transactional leadership style focus on exchange-based relationships by using contingent reward and punishment, close monitoring, and corrective action. Research generally demonstrates that transformational leadership is associated with a host of benefits over transactional leadership (Judge & Piccolo, 2004; Wang et al., 2011; but see Young et al., 2021), including the management of diverse teams. For example,

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[3] A third style, laissez-faire leadership, is also discussed (Judge & Piccolo, 2004). As the name implies, managers with a laissez-faire style are generally passive and tend to avoid taking managerial actions. Given this "absence" it is not discussed further.

transformational leadership moderates the association between national and educational diversity and team performance, such that team diversity in these domains is associated with better performance when managers are high (vs. low) in transformational leadership (Kearney & Gebert, 2009). Yet another domain of research focuses on the effects of chronic individual differences; for example, demonstrating that managers with higher (vs. lower) cultural intelligence (knowledge of how navigate different cultural settings; Ang et al., 2007) are better equipped to manage national diversity in teams (Rosenauer et al., 2016).

Recently, researchers have proposed investigating the tools managers need to effectively realize the benefits of diversity and reduce its obstacles. Specifically, the Leading Diversity model (LeaD; Homan et al., 2020) proposes that to the extent that managers can recognize and/or predict information elaboration and intergroup bias in teams, they can flexibly shift their management behaviours accordingly. When diverse teams are experiencing the effects of intergroup bias, managers should reduce its negative effects by engaging in *person-focused* behaviours that facilitate relationships between people needed for the team to work together effectively. Person-focused behaviours involve promoting mutual respect and trust, engaging in conflict management, fostering cohesion, ensuring all members have a voice, and considering each members' perspective (Homan et al., 2020). In contrast, when diverse teams are engaging in information elaboration, managers should promote its positive effects by engaging in *task-focused* behaviours that optimize the strengths of team members in ways that promote effective teamwork. Task-focused behaviours involve clarifying roles and responsibilities, giving performance feedback, ensure task-related information is communicated clearly, using rewards, and concentrating team members on the task at hand (Homan et al., 2020). According to LeaD, to effectively manage diversity in teams managers need to recognize current or upcoming team

processes (i.e., knowing that teams are experiencing or are going to experience intergroup bias vs. information elaboration), understand the behaviours required to respond to that team process (i.e., knowing which situations call for person-focused vs. task-focused behaviour), and flexibly shift their behaviours as necessary (e.g., understanding that one needs to shift from person- to task-focused behaviour). Thus, managers who possess this knowledge to a greater (vs. lesser) degree will be better equipped to predict, diagnose, and flexibly match their behaviours to processes in diverse teams.

LeaD thus provides a theoretical toolkit to investigate whether and how managers navigate the trade-offs inherent to diverse teams: the increased potential for conflict (vs. homogenous teams) can be offset by person-focused behaviours, and the increased performance potential (vs. homogenous teams) can be promoted by task-focused behaviours. The scope of the model also raises unique questions. For example, what do managers themselves believe about the normative claims of person- and task-focused behaviours? Some managers, such as those with a transactional leadership style focused on contingent reward and punishment (Bass, 1985), may believe that task-focused (vs. person-focused) behaviours provide greater benefits across situations because of their emphasis on task accomplishment. In contrast, managers with a transformational leadership style focused on charisma (Bass, 1985) may instead believe that person-focused (vs. task-focused) behaviours provide greater benefits across situations because of their emphasis on interpersonal relationships. Additionally, managers may also possess a variety of beliefs about how to manage different forms of diversity, thereby resulting in slightly different instantiations of LeaD. The readily apparent differences associated with demographic diversity, for instance, may lead some managers to believe that person-focused behaviours should be used more often than task-focused behaviours to prevent subgroup categorization.

In particular, the promise of regulatory mode complementarity in teams, the potential hazards associated with the unique vulnerabilities of locomotion and assessment, and the relatively understudied nature of motivation in teams presents a novel domain where the LeaD framework can be applied. In an initial examination of the role of motivation in teams, Chen and Kanfer (2006) proposed a multi-level systems view of the interplay between individual- and team-level motivational processes. At the individual level, team members exert a "bottom-up" influence on team processes, bringing their own goals, motivational states, and general work experiences to the table. At the team level, environments created by managers, team norms and goals, and general work design exert a "top-down" influence on team members. Chen and Kanfer (2006) propose that a complete picture of motivation in teams involves understanding the complexity of the interconnected nature of individual team members and teams as a whole, arguing that these individual- and team-level processes continually affect each other and cannot be separated. In particular, they propose that the guiding force of top-down, team-level processes have a more powerful effect on teams than bottom-up, individual-level processes, ultimately concluding that "the critical question for future research is not whether or not managers should motivate the individual, but *when* and *how* effective managers achieve a seamless integration of motivational practices across levels" (emphasis in original; Chen & Kanfer, 2006, pp. 262).

Thus, understanding what managers *believe* about how to manage motivation in teams more generally is a critical question. Indeed, advances in motivation science reveal that people's beliefs about how to manage their own motivation (Miele et al., 2020; Scholer et al., 2018) and the motivation of others (Jansen, Miele, et al., 2022) have implications for both individual performance and managerial behaviours. Bridging these advances with the efforts of management researchers to find ways for managers to promote the benefits of diversity and

avoid its vulnerabilities (i.e., LeaD and others; Galinsky et al., 2015; Homan et al., 2020; van

Knippenberg et al., 2004) can thus yield new insights into how underlying individual

differences—namely, differences in motivational orientations—drive team dynamics.

Beliefs About Managing Motivation

Recent evidence in motivation science point to the ways in which people recognize how to manage the normative trade-offs associated with different kinds of motivation when managing both the self and others, and the consequences of normatively accurate versus inaccurate knowledge. Specifically, research in *metamotivation* (Miele & Scholer, 2018; Miele et al., 2020; Scholer & Miele, 2016; Scholer et al., 2018) proposes that a critical component of effective self-regulation involves actively monitoring and controlling motivation during goal pursuit. Central to this approach is the assumption that situations and tasks are qualitatively different in their motivational affordances and thus require different types of motivation to facilitate optimal performance. The metamotivational approach proposes that people's beliefs about these motivational trade-offs plays a role in goal pursuit, such that successful self-regulation involves knowledge of the type of motivation that is most adaptive for a particular situation or task in order to create task-motivation fit (Scholer & Miele, 2016; Scholer et al., 2018). Importantly, this approach recognizes that metamotivational knowledge can be tacit or implicit (Wagner & Sternberg, 1985; Wagner, 1987; Reber, 1989), meaning that individuals may be able to effectively regulate their motivation without being able to spontaneously or explicitly articulate the processes in which they are engaged.

Across a variety of motivational domains, metamotivation research reveals that, on average, people have normatively accurate knowledge of how to create task-motivation fit for themselves (Hubley et al., in press; Nguyen et al., 2019; Nguyen et al., 2022; Scholer & Miele, 2016). For example, Scholer and Miele (2016) demonstrated that people recognize how to create task-motivation fit for themselves in the domain of regulatory focus, such that they believe engaging in activities that induce a prevention-focused state (e.g., recalling duties and

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responsibilities) would lead them to perform better on subsequent vigilant tasks compared to eager tasks (e.g., proofreading vs. brainstorming). In addition, they tend to believe that engaging in activities that induce a promotion-focused state (e.g., recalling hopes and aspirations) would lead them to perform better on subsequent eagerness tasks. Additional evidence shows that these findings hold across cultures (e.g., in Japan and the United States; Nguyen et al., 2021). Metamotivation research further reveals substantial variability in the normative accuracy of people's metamotivational knowledge, such that some people better recognize the normative trade-offs associated with different types of motivation compared to others, revealing implications for consequential choices and performance (Hubley et al., in press; Nguyen et al., 2019; Nguyen et al., 2022; Scholer & Miele, 2016).

Moving beyond the self, more recent metamotivation research has begun to examine what people know about how to manage the motivation of *others* and the ways in which knowledge of managing the others is related to and distinct from managing the self (Jansen, Miele, et al., 2022). For instance, managers, on average, have normatively accurate metamotivational knowledge of how to manage regulatory focus in others, including the spontaneous generation of normatively accurate strategies that induce promotion- and prevention-focused states in others based on task demands (Jansen, Miele, et al., 2022). Although this work represented the first investigation into metamotivation and the management of others, it was restricted to single manager-subordinate dyads. In many, if not most, management settings, managers need to manage the motivation of more than one individual. Managers must thus contend with long-standing trade-offs inherent to team management (Williams & O'Reilly, 1998; van Knippenberg et al., 2004) by harnessing the benefits of complementary motivation (i.e., the combined effects of locomotion and assessment) while simultaneously minimizing the

potential interpersonal risks associated with managing a group of people with fundamentally different ways of perceiving and navigating goals. What remains unknown, however, is what managers believe about how to manage motivational diversity most effectively. To investigate this, I combine insights from motivation science and diversity management.

Metamotivation and LeaD

The emphasis the metamotivational approach places on flexibly managing one's own motivation or the motivation of others in response to situational demands aligns with the perspective put forth by the LeaD (Homan et al., 2020) framework, which proposes that successfully managing diversity in teams involves strategically adopting different managerial strategies in response to team needs. Both metamotivation and LeaD also highlight the importance of knowledge: recognizing trade-offs associated with difference kinds of motivational orientations (Scholer et al., 2018) and recognizing trade-offs associated with diversity in teams (Homan et al., 2020). Additionally, the metamotivational approach and LeaD both propose that people can play an active role in navigating these trade-offs, with evidence from metamotivation pointing to the active role people play in managing their own and others' motivation (Miele et al., 2020) and LeaD suggesting that managers can actively promote information elaboration and minimize bias/conflict (Homan et al., 2020).

In the domain of motivational diversity in teams, the LeaD perspective provides a novel framework for examining how managers navigate the complementary nature of regulatory mode in teams. Normatively speaking, in this domain managers need to recognize the differential effects of locomotion and assessment—that is, metamotivational knowledge of the trade-offs associated with regulatory mode. Managers also need to understand how their combined nature affects diverse teams compared to regulatory mode homogeneity. Locomotion and assessment have unique strengths and vulnerabilities (Pierro et al., 2018), and their combination in teams allows for the strengths of each mode to "make up" for the vulnerabilities of the other. To the extent that managers recognize this, they can capitalize on the potential for greater information elaboration and facilitate better performance (vs. homogenous teams) by engaging in task-

focused behaviours. On the other hand, the opposing nature of locomotion and assessment can also lead team dynamics to go going awry, resulting in greater bias and conflict compared to homogenous teams. Managers would thus benefit from knowing when to engage in person-focused behaviours to alleviate the negative interpersonal risks associated with opposing modes of goal pursuit.

Bridging metamotivation and LeaD can thus provide mutually reinforcing perspectives on managing motivational diversity in teams. The metamotivational approach allows for explicit consideration of how managers' beliefs about motivation—here, the role of regulatory mode in teams—affect how motivationally diverse (vs. homogenous) teams are managed. Meanwhile, the LeaD model, with its central focus on managers, provides a rich framework to investigate how motivational diversity is managed. In my dissertation I aim to extend LeaD by using it as a framework to investigate how managers navigate the complementary nature of regulatory mode in teams, thereby offering a new perspective on team management. First, this endeavour allows LeaD to be systematically tested within a particular form of diversity in teams by examining the possible tensions arising from complementary motivation in teams. Second, my dissertation will extend work on the benefits of complementary motivation by both investigating the nature of managers' beliefs about motivation in teams—beliefs that are likely to be variable (Miele et al., 2020)—and how variation in these beliefs affect management behaviour. Third, this work represents a new direction in team management by explicitly investigating how fundamentally different ways of perceiving and pursuing goals (locomotion and assessment) affects how teams are managed. Lastly, my dissertation will also be the first to take metamotivation beyond the individual or dyad and into group contexts, thus providing new insights into the role of metamotivation in management contexts.

Overview of Studies

The studies included in this dissertation can be divided into two parts. Part 1 investigates what people believe about regulatory mode and the role of motivational diversity in teams. Study 1 takes metamotivation research into a novel domain—regulatory mode—and investigates whether people, on average, recognize the normative trade-offs associated with locomotion and assessment motivation. Following this, Study 2 formally expands into team contexts and examines (1) what people know about the role of regulatory mode in teams and whether they believe that motivational diversity has performance benefits, thereby expanding on initial efforts to investigate regulatory mode in teams (Mauro et al., 2009; Chernikova et al., 2017; Pierro et al., 2012) and (2) what people believe about the interpersonal effects of motivational diversity in teams—thus representing the first investigation of whether people believe that fundamentally different motivational orientations can lead to conflict in teams. Study 3 expands on these findings by using an open-ended paradigm and natural language processing techniques, asking managers to spontaneously describe their beliefs about motivational diversity, how it should be managed, and how it differs from or aligns with traditional conceptualizations of diversity.

Part 2 investigates how managers' knowledge and beliefs about motivational diversity is translated into their behaviour, drawing on insights from the LeaD model (Homan et al., 2020) and thereby representing the first tests of LeaD tenants regarding the management of motivational diversity in teams. Studies 4A and 4B test different manipulations of conflict in mixed and homogenous teams to determine how they affect perceptions of teams, the strategies managers use (i.e., person-focused and task-focused behaviours), and an initial exploratory test of possible antecedents to strategy use. Finally, Study 5 manipulates different types of conflict in mixed teams using a consequential paradigm, thus allowing for more targeted comparisons of

how managers respond to the needs of motivationally diverse teams in a more realistic setting. Analysis plans for all studies except Study 3 were preregistered on the Open Science Framework and can be found in Appendix A.

Study 1

Study 1 aimed to establish people's metamotivational knowledge of regulatory mode. Past work finds that, on average, people possess normatively accurate metamotivational knowledge across a variety of motivational domains (Miele et al., 2020), but has not yet investigated regulatory mode. Thus, Study 1 sought to determine if people possess normatively accurate metamotivational knowledge of regulatory mode: Do people recognize that locomotion is more beneficial than assessment for tasks that require speed and efficiency, and that assessment is more beneficial than locomotion for tasks that require accuracy and precision?

Establishing that people recognize the normative trade-offs associated with regulatory mode allows for a formal expansion into contexts that investigate what managers believe about how to manage regulatory mode in teams. That is, in order to manage motivational trade-offs in others—such as the unique strengths and vulnerabilities of locomotion- and assessment-oriented team members—people must first recognize that there *are* trade-offs associated with different kinds of motivation (Jansen, Miele, et al., 2022; Miele et al., 2020). At the very least, individuals need to recognize the motivational affordances of different kinds of tasks and what kind of motivation can facilitate task performance (Miele et al., 2020, Miele & Scholer, 2018; Scholer et al., 2018). Indeed, initial metamotivation research on managing the motivation of others in the context of regulatory focus theory (Higgins, 1997; Jansen, Miele, et al., 2022) was based on prior work showing that people have normatively accurate knowledge of the trade-offs associated with regulatory focus (Scholer & Miele, 2016). In a similar vein, then, before investigating people's beliefs about managing regulatory mode in teams it is useful to first establish that people recognize the trade-offs associated with locomotion and assessment.

To that end, Study 1 follows the same approach used in previous metamotivation research (Hubley et al., in press; Jansen, Miele, et al., 2022; Nguyen et al., 2019; Scholer & Miele, 2016) to investigate people's metamotivational knowledge. In this paradigm, participants are given a series of task descriptions, each of which is best suited for a particular kind of motivation, and are asked to rate how effective (i.e., useful, beneficial, etc.) different kinds of motivation are for performing well on each task. Study 1 participants were given descriptions of locomotion and assessment motivation. Then, they were presented with a series of tasks designed to benefit from locomotion, assessment, or both (inspired by and based on prior literature; Pierro et al., 2018). For each task, participants were asked to indicate whether locomotion or assessment motivation would be most beneficial to performance using a binary forced-choice measure and continuous ratings of the extent to which each type of motivation would benefit and undermine performance on the task, respectively.

Participants

Of 308 undergraduate students at a large Canadian university who participated for course credit, 291 provided complete data (see Table 1 for sample characteristics).

Table 1

Sample Characteristics Across Studies

	Study 1	Study 2	Study 3	Study 4A	Study 4B	Study 5
Sample size N	291	199	227	249	252	236
Years of experience: M (SD)	–	4.60 (10.16)	9.68 (8.04)	9.74 (7.95)	9.37 (7.49)	9.65 (8.59)
Number of subordinates: M (SD)	–	–	10.87 (22.02)	12.96 (30.22)	8.04 (10.62)	9.67 (19.85)
Age in years: Median (SD)	20 (3.87)	19 (3.74)	38 (10.66)	37 (10.64)	37 (10.50)	38.5 (10.87)
Annual income						
% < $10,000 to $29,999	–	–	8.8	8.0	7.5	9.7
% $30,000 to $59,000	–	–	33.4	37.3	35.7	39.8
% $60,000 to $89,999	–	–	30.4	33.3	30.6	24.6

% $90,000 or more	–	–	26.9	21.2	26.2	25.8
Gender						
% Women	83.2	74.4	43.6	49.4	48.4	50.0
% Men	15.5	19.6	54.6	48.6	49.2	47.5
% Other	1.3	5.0	1.8	2.0	2.0	2.5
Race/ethnicity						
% White	34.4	44.2	76.7	72.7	76.6	78.0
% Black	4.1	2.0	8.8	12.0	7.5	13.6
% Latino/Hispanic	1.7	22.0	4.4	8.8	8.7	3.8
% East Asian	27.5	21.6	5.7	2.4	4.0	2.5
% South Asian	22.3	18.6	1.8	2.4	2.4	2.5
% Indigenous	0	0	0.4	0	0.8	1.7
% Middle Eastern	3.1	5.0	0	0	0	0.4
% Other (not listed/specify)	6.5	6.0	2.0	1.6	0	0.8

Note: For the undergraduate sample used in Study 2, years of experience included leadership experiences such as volunteering and coaching. For self-reported income, participants were asked to select their annual income using $10,000 increments which were combined into $30,000 increments above for brevity. Totals in percentage variables may not sum to 100% due to rounding. "Other" gender includes participants who identified as non-binary or did not wish to disclose their gender. For race/ethnicity, totals also may not sum to 100% because some participants did not disclose their race/ethnicity, and because participants in Study 5 were able to select multiple ethnicities.

Procedure

Participants were told that the study investigated "how people perceive different motivational strategies that can be used for different kinds of tasks." They were then presented with the following definitions of locomotion and assessment motivation (emphasis in original):

Researchers have established that different goals require different kinds of motivation to be most effective in completing the goal. Two types of motivation are:

1. **Locomotion**, which involves initiating and maintaining as much progress as possible, taking swift action, and focusing on "getting things done."

2. **Assessment**, which involves identifying and analyzing all possible options, finding the "best" way to pursue goals, and focusing on doing things correctly.

Participants were told that the researchers "are interested in what types of motivation— locomotion or assessment—people believe are most effective for completing various tasks."

Next, participants were presented with 30 tasks—10 each of locomotion, assessment, and mixed—all in random order on individual pages (see Appendix B for full task list). Tasks were designed to have face-valid signals of the need for locomotion motivation (e.g., "Your task is to shoot basketball free-throws. You need to get as many of the basketballs as possible to go through the hoop in a limited time frame and try to beat your personal best"), assessment motivation (e.g., "Your task is to solve a crime that occurred in your city. You need to look for evidence to find out what really happened and compile a list of potential suspects"), or both types of motivation (e.g., "Your task is to control air traffic at your city's airport. You need to find appropriate paths for airplanes to take without causing delays, but you must take care to ensure you pick the safest paths to avoid collisions"). For each task, participants were first asked whether they believe it required locomotion or assessment motivation using a binary forced-choice measure in response to the question stem "Based on the definitions we provided for locomotion and assessment, do you believe the [task name] task requires:". Then, they were asked to rate the extent to which locomotion and assessment motivation would benefit versus undermine performance on the task in response to the question stem "Would engaging in the [task name] task with [**locomotion** / **assessment**] motivation:" (emphasis in original) on a seven-point scale (1 = *Not at all*; 7 = *Extremely*) as separate items for a total of four continuous ratings per task. For continuous ratings, the order each motivation was presented in was counterbalanced across tasks. Finally, on an exploratory basis participants were asked how difficult, interesting, and important they believed each task to be (three items each) on a seven-point scale (1 = *Not at all*; 7 = *Extremely*).

Results

Task type was contrast coded to compare mixed tasks to locomotion and assessment tasks together (mixed = +1, locomotion = -0.5, assessment = -0.5), with a second simultaneous contrast comparing locomotion and assessment tasks to each other (locomotion = -0.5, assessment = +0.5, mixed = 0). Two follow-up dummy coded simultaneous contrasts compared locomotion and assessment tasks (each coded +1) to mixed tasks (the reference group, coded 0). Analyses used mixed-effects models to account for the random effects of participants and tasks by estimating random intercepts for each.

Binary Forced-Choice Measure

Participants' binary choices were coded such that 0 indicated assessment motivation and +1 indicated locomotion motivation. This binary choice variable was regressed onto the task type contrasts using mixed-effects logistic regression models. Results revealed that 20% of participants indicated that locomotion motivation was required for assessment tasks, compared to 76% who indicated locomotion motivation was required for locomotion tasks; this corresponds to significantly lower odds of choosing locomotion motivation for assessment versus locomotion tasks, $OR = 0.24$, $z = -9.29$, $p < .001$, 95% CI [0.18, 0.33]. Additionally, participants were also significantly less likely to indicate that locomotion motivation was required for mixed tasks compared to both locomotion and assessment tasks, $OR = 0.67$, $z = -4.54$, $p < .001$, 95% CI [0.56, 0.80]. Follow-up dummy coded models revealed that 76% of participants indicated that locomotion motivation was required for locomotion tasks compared to only 25% who indicated locomotion motivation was required for mixed tasks, corresponding to significantly greater odds, $OR = 13.69$, $z = 8.57$, $p < .001$, 95% CI [10.15, 18.46]. Finally, participants did not differ in their

odds of choosing of locomotion motivation over assessment motivation for assessment tasks compared to mixed tasks, $OR = 0.80$, $z = -0.72$, $p = .471$, 95% CI [0.68, 0.95].

Continuous Ratings

Within each task, ratings of the extent to which locomotion motivation would benefit and undermine performance were moderately correlated ($rs = -.57$ to $-.62$), as were ratings of the extent to which assessment motivation would benefit and undermine performance ($rs = -.52$ to $-.59$). Thus, to simplify analyses, a single predicted benefit score was calculating by first reverse-scoring all "undermine" ratings and then averaging these reverse-scored ratings with all "benefit" ratings for each task and motivation. This resulted in 60 total ratings per participant (i.e., locomotion, assessment, and mixed tasks each had two ratings for each type of motivation for each individual task, resulting in 20 ratings for each task type) and six overall ratings at the task type level. Analyses regressed each predicted benefit score onto task type contrasts, with follow-up dummy coded models comparing locomotion and assessment tasks to mixed tasks (the reference group). See Table 2 for descriptive statistics and Figure 1 for results visualization.

Locomotion motivation. Participants predicted that locomotion motivation would provide significantly less benefits for performance on assessment tasks compared to locomotion tasks, $b = -1.73$, $t(27.00) = 8.71$, $p < .001$, $d = -1.13$, and for mixed tasks compared to both locomotion and assessment tasks, $b = -0.44$, $t(27.00) = 3.89$, $p < .001$, $d = -0.44$.

Follow-up dummy coded models revealed that participants predicted locomotion motivation would provide significantly more benefits for performance on locomotion tasks compared to mixed tasks, $b = 1.53$, $t(27.00) = 7.70$, $p < .001$, $d = 1.00$; assessment and mixed tasks did not differ, $b = -0.20$, $t(27.00) = 1.11$, $p = .323$, $d = -0.13$.

Assessment motivation. Participants predicted that assessment motivation would provide significantly more benefits for performance on assessment tasks compared to locomotion tasks, $b = 1.52$, $t(27.00) = 9.15$, $p < .001$, $d = 1.01$, and for mixed tasks compared to both locomotion and assessment tasks, $b = 0.45$, $t(26.99) = 4.68$, $p < .001$, $d = 0.49$.

Follow-up dummy coded models revealed that participants predicted assessment motivation would provide significantly less benefits for performance on locomotion tasks compared to mixed tasks, $b = -1.44$, $t(27.00) = 8.63$, $p < .001$, $d = -1.03$; assessment and mixed tasks did not differ, $b = 0.09$, $t(26.99) = 0.52$, $p = .608$, $d = 0.06$.

Table 2

Descriptive Statistics of the Predicted Benefits of Locomotion and Assessment Motivation in

Study 1

	Predicted benefit	
	Locomotion motivation *M* (*SD*)	Assessment motivation *M* (*SD*)
Locomotion tasks	5.33 (1.45)a	4.01 (1.53)a
Assessment tasks	3.60 (1.57)b	5.53 (1.32)b
Mixed tasks	3.80 (1.55)b	5.44 (1.29)b

Note: Within each task type, cells not sharing subscripts differ at $p < .05$.

Figure 1

Predicted Benefit of Locomotion and Assessment Motivation by Task Type in Study 1
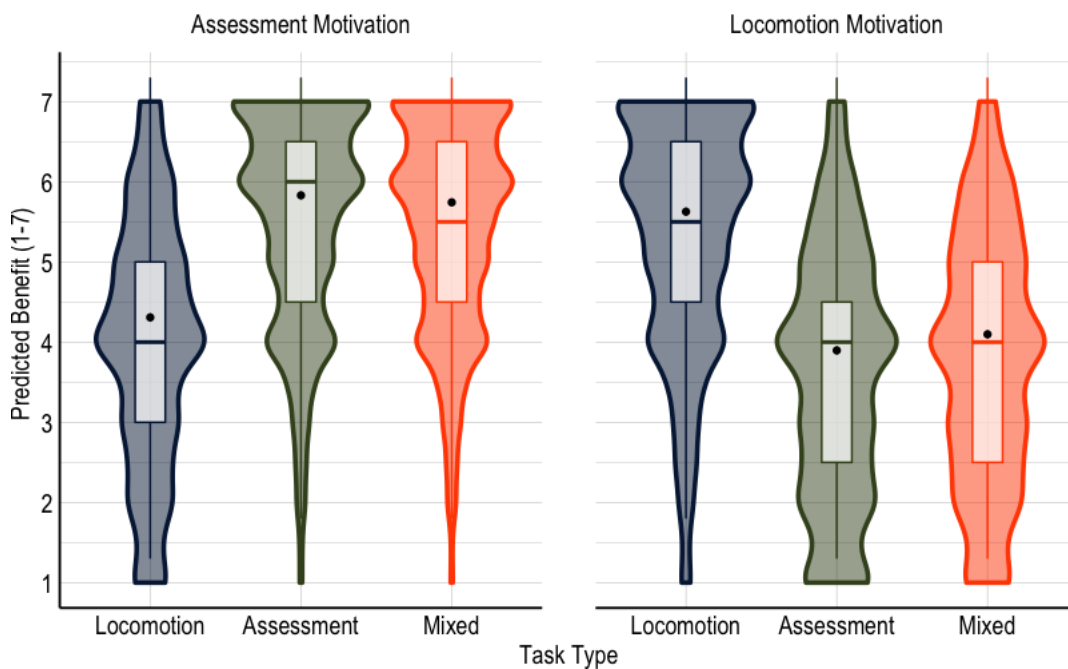
Note: Graphs represent density distributions of predicted benefit scores for each motivation and task type with boxplots, descriptive means, and 95% confidence intervals.

Discussion

Overall, Study 1 revealed that participants, on average, possessed normatively accurate

metamotivational knowledge of regulatory mode, though there was substantial variability in their

normative accuracy. As can be seen in Figure 1, participants' beliefs about how locomotion and assessment motivation would benefit task performance were highly variable. Thus, as with prior metamotivation research (e.g., Hubley et al., in press; Jansen, Miele et al., 2022; Nguyen et al., 2019; Scholer & Miele, 2016), although people possessed normatively accurate metamotivational knowledge on average, the variability observed here suggests here that not all participants recognized task-motivation fit.

Using the forced-choice measure, participants accurately chose locomotion over assessment motivation for locomotion tasks, and assessment over locomotion motivation for assessment tasks; however, they chose assessment over locomotion motivation for mixed tasks. This latter finding may suggest that when forced to choose one of two motivational options for supporting performance, people value accuracy and doing things "right" over expediency and efficiency. Another more mundane possibility is that the presentation of the mixed tasks affected these responses; participants may have been attending to assessment-focused portions of mixed tasks more than locomotion-focused portions (consciously or unconsciously). Indeed, all mixed task descriptions first described locomotion-focused portions and then assessment-focused portions (e.g., "Your task is to control air traffic at your city's airport. You need to find appropriate paths for airplanes to take without causing delays, but you must take care to ensure you pick the safest paths to avoid collisions.").

For continuous ratings, participants accurately predicted that locomotion motivation would provide the most benefit for performance on locomotion tasks compared to either assessment or mixed tasks, although the latter two did not differ. They also accurately predicted that assessment motivation would provide the most benefit for performance on assessment tasks

compared to locomotion tasks and for mixed tasks compared to locomotion tasks; mixed tasks and assessment tasks did not differ.

Study 1 provides evidence that people recognize the trade-offs associated with locomotion and assessment, extending previous metamotivation research by examining a novel motivational domain and laying a foundation to investigate what people believe about how to manage regulatory mode in teams. Given that people have normatively accurate metamotivational knowledge of motivational trade-offs of regulatory mode, they may also have normatively accurate knowledge of the benefits of complementarity in teams. However, perceptions of motivational dynamics in teams includes added complexity. People may attend to other elements of motivational diversity in teams instead of its outcome-focused performance benefits, such as interpersonal relationships between team members or the methods used to complete tasks. Study 2 represents a first attempt to investigate these possibilities.

Study 2

Study 2 expands upon the foundation laid by Study 1 by turning to beliefs about regulatory mode in teams, specifically by examining whether managers recognize that complementary (vs. homogenous) motivation in teams is associated with better team performance (Mauro et al., 2009). To effectively manage diversity in teams, according to the LeaD model, managers need to recognize or foresee when teams will exhibit information elaboration or bias (Homan et al., 2020). That is, whereas Study 1 provided an initial foundation (people recognize the trade-offs associated with locomotion and assessment), Study 2 moves onto the next phase by investigating whether people recognize the regulatory mode complementarity hypothesis (Pierro et al., 2018) as it pertains to teams.

Given Study 1 findings and past metamotivation research demonstrating that, on average, people possess normatively accurate metamotivational knowledge across a variety of motivational domains (Miele et al. 2020) and for managing the self and others (Jansen, Miele, et al., 2022), one might reasonably expect managers to, on average, recognize the benefits of motivational complementarity in teams. Additionally, the broader benefits associated with information elaboration in diverse in teams (Homan et al., 2020) should lead astute managers to recognize the benefits of motivational complementarity. Nevertheless, given other findings about the increased likelihood of conflict in diverse teams (Van Knippenberg et al., 2004) and the vulnerabilities associated with locomotion and assessment (e.g., Kanze et al., 2021; Hughes & Scholer, 2017), managers may instead focus on the potential "downsides" of complementary motivation in teams. Thus, Study 2 also seeks to establish whether motivational diversity (vs. homogeneity) affects perceived conflict in teams and whether this, in turn, affects performance perceptions.

Study 2 participants were presented with four-person mixed and homogenous teams and were asked to rate perceived conflict between all pairs of team members within each team, overall team cohesion, and perceptions of team performance.[4] Consistent with Study 1 findings, I predicted that managers would perceive the locomotion team as the fastest and the assessment team as the most accurate. Additionally, given the broader literature on metamotivation and the benefits of diversity, I predicted that managers would perceive the mixed team as the best performing overall. At the same time, however, given other literature on the potential pitfalls of diversity, managers may also perceive greater conflict between members of the mixed team than both the locomotion and assessment teams, and perceive the mixed team as the least cohesive. These perceptions of conflict and cohesion should serve as mechanisms that affect performance perceptions; that is, perceptions of conflict and cohesion should mediate the effects of team type on perceived performance, such that greater conflict/lower cohesion leads to a reduction in perceived performance in the mixed (vs. locomotion and assessment) team.

Participants

208 undergraduate students at a large Canadian university were recruited in exchange for course credit. Of these, 199 provided complete data (see Table 1 for sample characteristics).

Procedure

Participants were told that the study investigated "how managers perceive different types of teams." In random order, participants were given descriptions of one locomotion-only, one assessment-only, and one mixed team, each composed of four members, with the mixed team containing two locomotors and two assessors. All team members were described in one sentence

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[4] Data for an initial study was collected and analyzed, but a technical error in the survey programming resulted in a missing pairing for each team. Specifically, participants rated perceptions of conflict between five pairings instead of the six total possible pairings. The study presented here is a direct replication (with the programming error fixed); results of this study mirror those of the initial incorrectly programmed study.

(see Table 3) and were piloted tested (see Appendix C) to ensure they were perceived as high in locomotion or assessment, respectively. All teams were paired with a single task ("The team needs to provide an update of their company's inventory. They need to count and sort a large volume of products in a limited time frame, but need to ensure they implement a clear categorization process to organize everything.") that benefits from both locomotion and assessment motivation. This task was used in Study 1 materials and was selected because Study 1 results revealed it was nearly equally likely to be perceived as requiring both types of motivation, thus providing an ideal task that benefits from complementarity.

Table 3

Team Descriptions Used in Study 2

Locomotion-only team	
1. James describes himself as a "doer" who enjoys actively doing things, rather than watching and observing.	2. Ellen describes herself as a "busy body" who can't wait to start new projects after she finishes currents projects.
3. Anna jumps right into new projects, giving it their all right from the get-go and doing as much as they possibly can.	4. Jack is always on the go and only worries about problems if and when they arise.

Assessment-only team	
1. Lisa describes herself as a "thinker" who likes to analyze and evaluate plans for herself and others.	2. Riley likes to exhaust all their options and get a sense of what different solutions are like before making a decision.
3. Simon considers problems from every angle, unafraid to acknowledge potential issues.	4. Laura describes herself as an "analytical" person who spends a lot of time thinking about ways things could be improved.

Mixed team	
1. Anna jumps right into new projects, giving it their all from the get-go and doing as much as they possibly can.	2. Lisa describes herself as a "thinker" who likes to analyze plans for herself and others.
3. Laura describes herself as an "analytical" person who spends a lot of time thinking about ways things could be improved.	4. James describes himself as a "doer" who enjoys actively doing things, rather than watching and observing.

For each team, participants were first asked to rate perceptions of emotional and task conflict between all possible team member pairings (six pairings per team) using the Intragroup Conflict Scale (Jehn, 1995), an eight-item measure of intrateam conflict. Four items each assessed emotional (e.g., "How much friction is there between [name] and [name]?"; α = .87 to .91) and task conflict (e.g., "How frequently are there conflicts about ideas between [name] and [name]?"; α = .90 to .93) on a five-point scale (1 = *Not at all*; 5 = *A lot*). Second, participants were asked to rate perceptions of overall team cohesion using the Unitary Cohesion Index (Forsyth, 2021), a nine-item bipolar measure that asks participants to rate the degree to which

opposing statements characterize their perceptions of team cohesion on a five-point scale (e.g., "Strongly bonded" vs. Weakly bonded"; $\alpha = .89$ to .92). Last, participants rated perceptions of team performance using a self-devised scale. Four items assessed overall performance (e.g., "Do you believe [team] will be successful during the inventory update task?"; $\alpha = .84$ to .85), two items assessed speed (e.g., "Do you believe [team] will work efficiently during the inventory update task?"; $\alpha = .64$ to .78), and two assessed accuracy (e.g., "Do you believe [team] will carefully evaluate their options during the inventory update task?"; $\alpha = .78$ to .82).

Results

      Emotional and task conflict were measured for pairs of team members, with each team containing six possible pairings, and were each separately averaged across member pairings within teams resulting in three team-level variables. Analyses first used one-way repeated measures ANOVAs to determine if perceived emotional and task conflict within teams varied based on team type; follow-up analyses explored whether differences in conflict were driven by increased perceptions of conflict within mixed pairs within the mixed team. In contrast, perceptions of overall team cohesion and performance were measured for teams as a whole; analyses thus used one-way repeated measures ANOVAs to determine if perceptions of cohesion and performance varied between teams. Finally, exploratory mediation analyses were conducted to examine if perceptions of conflict and cohesion mediated the effects of team type on performance. See Table 4 for descriptive statistics of emotional and task conflict, and Table 5 for overall cohesion and performance. Table 6 provides zero-order correlations between all continuous variables.

Table 4

Descriptive Statistics for Perceived Emotional and Task Conflict by Team Type in Study 2

Team	Member pairing	Emotional conflict *M* (*SD*)	Task conflict *M* (*SD*)
Locomotion-only	James and Ellen	1.86 (0.88)	2.07 (0.94)
	James and Anna	1.86 (0.92)	1.94 (0.89)
	James and Jack	2.03 (1.01)	2.18 (1.02)
	Ellen and Anna	1.83 (0.95)	1.94 (0.97)
	Anna and Jack	2.16 (1.01)	2.30 (1.00)
	Ellen and Jack	2.03 (1.01)	2.17 (0.99)
Assessment-only	Lisa and Riley	2.12 (1.05)	2.34 (1.05)
	Lisa and Simon	2.03 (0.93)	2.07 (1.00)
	Lisa and Laura	1.95 (0.98)	2.30 (1.00)
	Riley and Simon	1.79 (0.94)	2.00 (0.99)
	Simon and Laura	1.75 (0.84)	1.99 (0.95)
	Riley and Laura	2.02 (0.91)	2.00 (0.92)
Mixed	Anna and Lisa	3.20 (1.01)	3.33 (1.05)
	Anna and Laura	3.16 (0.95)	3.23 (0.95)
	Laura and James	3.13 (0.93)	3.24 (0.95)
	Lisa and James	3.19 (1.02)	3.27 (1.06)
	Anna and James	1.78 (0.91)	1.92 (0.89)
	Lisa and Laura	1.75 (0.90)	1.97 (0.92)

Emotional Conflict

First, a one-way repeated-measures ANOVA revealed that teams significantly differed in perceived levels of emotional conflict, $F(1.87, 367.23) = 124.37$, $p < .001$, $\eta_p^2 = 0.39$. Follow-up *t*-tests revealed that participants perceived significantly more emotional conflict in the mixed team ($M = 2.71$, $SD = 0.59$) than both the locomotion-only ($M = 1.97$, $SD = 0.78$) and assessment-only ($M = 1.94$, $SD = 0.76$) teams, respectively, $t(196) = 12.41$, $p < .001$, $d = 1.77$ and $t(198) = 13.42$, $p < .001$, $d = 1.91$; the locomotion-only and assessment-only teams did not differ, $t(196) = 0.60$, $p = .546$, $d = 0.09$.

Next, analyses sought to explore pair-specific variability in perceived emotional conflict within teams, specifically to determine if greater emotional conflict in the mixed team was driven by more perceived conflict between cross-motivation pairs of team members than same-

motivation pairs. To that end, the standard deviation of all six possible member pairings within each team was calculated and averaged at the team-level. These team-level standard deviations were then submitted to a one-way repeated-measures ANOVA, which revealed that there was more variability in pair-specific ratings within the mixed team compared to homogenous teams, $F(1.87, 367.23) = 124.37$, $p < .001$, $\eta_p^2 = 0.39$. Follow-up paired t-tests revealed that while pair-specific variability between the locomotion-only and assessment-only teams did not differ, $t(196) = 0.18$, $p = .858$, there was significantly more pair-specific variability in the mixed team than both the locomotion-only and assessment-only teams, respectively, $t(196) = 12.23$, $p < .001$ and $t(197) = 12.24$, $p < .001$. In a third and final step, within the mixed team only a paired t-test compared emotional conflict in cross-motivation member pairs to same-motivation member pairs, revealing that participants perceived significantly more emotional conflict between cross-motivation ($M = 3.17$, $SD = 0.81$) than same-motivation pairs ($M = 1.76$, $SD = 0.79$), $t(197) = 16.84$, $p < .001$, $d = 2.40$ (see Figure 2).

Task Conflict

The same analytical approach used for emotional conflict was used to analyze differences in task conflict. As with emotional conflict, a one-way repeated-measures ANOVA revealed that teams significantly differed in perceived levels of task conflict, $F(1.89, 366.68) = 102.83$, $p < .001$, $\eta_p^2 = 0.35$. Participants perceived more task conflict in the mixed team ($M = 2.82$, $SD = 0.58$) than the locomotion-only team ($M = 2.10$, $SD = 0.78$), $t(194) = 11.51$, $p < .001$, $d = 1.65$, and the assessment-only team ($M = 2.08$, $SD = 0.82$), $t(195) = 11.87$, $d = 1.70$. Replicating emotional conflict, homogenous teams did not differ, $t(195) = 0.68$, $p = .499$, $d = 0.10$.

Next, calculating standard deviations of pair-specific ratings within each team and submitting these team-level variables to a one-way repeated-measures ANOVA again revealed

that teams significantly differed in pair-specific variability of perceived task conflict, $F(1.90,$
$369.13) = 104.14, p < .001, \eta_p^2 = 0.35$: There was more pair-specific variability in the mixed
team compared to the locomotion-only team, $t(194) = 11.51, p < .001$, and assessment-only
team, $t(195) = 12.14, p < .001$, but homogenous teams did not differ, $t(195) = 0.67, p = .501$. A
paired *t*-test within the mixed team revealed that participants perceived significantly more task
conflict between cross-motivation member pairs ($M = 3.27, SD = 0.84$) than same-motivation
pairs ($M = 1.95, SD = 0.76$), $t(195) = 14.89, p < .001, d = 2.13$ (see Figure 2).

Figure 2

Perceived Emotional and Task Conflict Between Mixed Team Members in Study 2
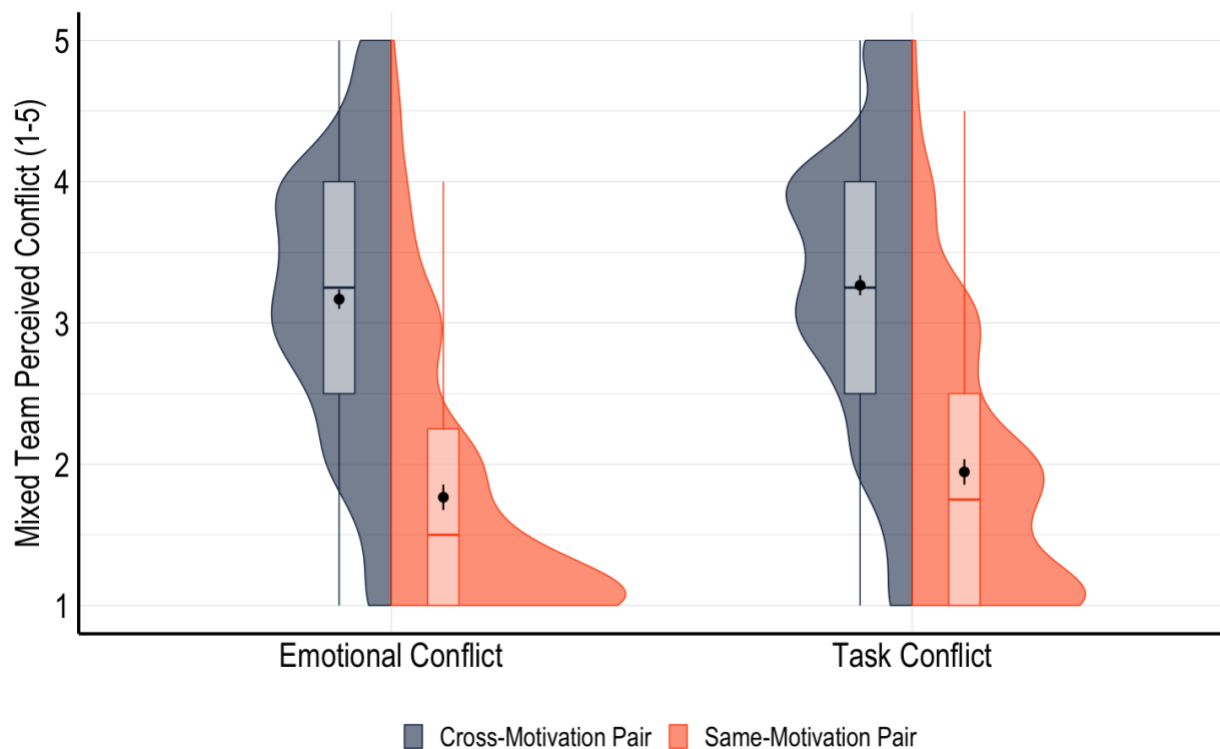
Note: Graphs represent split violin plots of perceived emotional and task conflict for each type of team member pairing within the mixed team with boxplots, descriptive means, and 95% confidence intervals.

Figure 3

Overall Perceived Emotional and Task Conflict by Team Type in Study 2
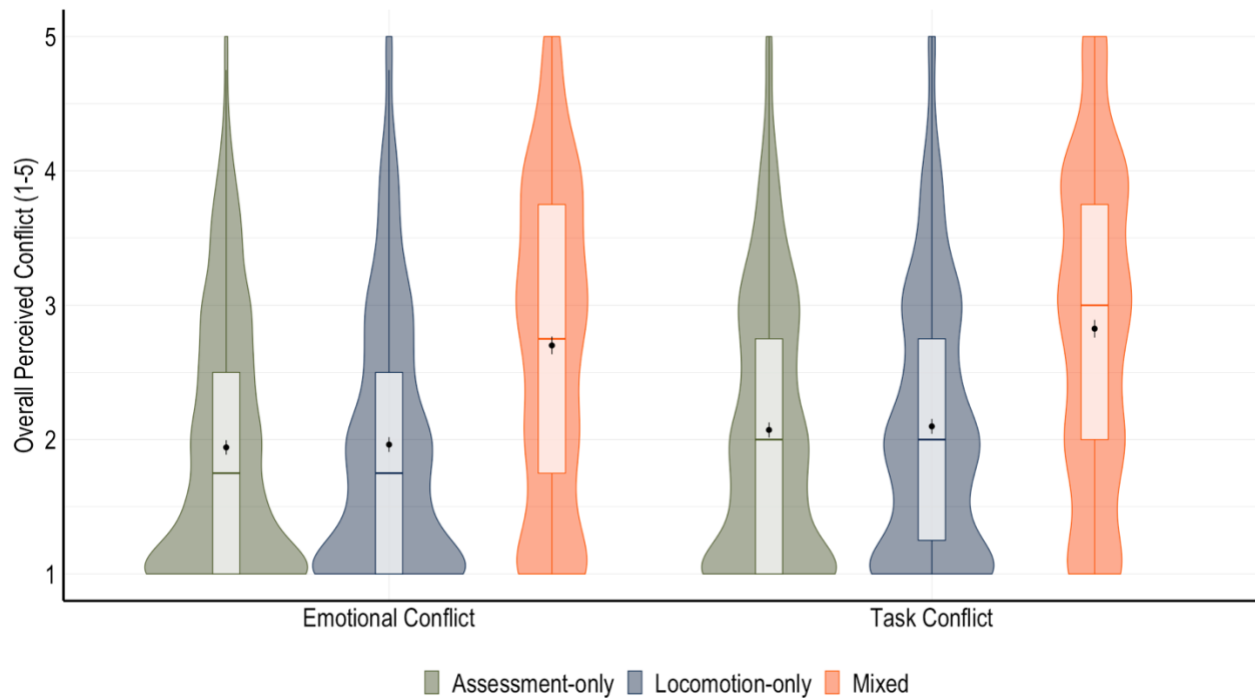
Note: Graphs represent density distributions of perceived emotional and task conflict for each team type, collapsed across team member pairings, with boxplots, descriptive means, and 95% confidence intervals.

Overall Cohesion

Teams significantly differed in perceptions of overall cohesion, $F(1.84, 358.41) = 82.45$, $p < .001$, $\eta_p^2 = .30$. Post-hoc tests revealed that participants believed that both the locomotion-only and assessment-only team were significantly more cohesive than the mixed team, respectively, $t(195) = 9.73$, $p < .001$, $d = 0.69$ and $t(195) = 10.96$, $p < .001$, $d = 0.78$; the locomotion-only and assessment-only team did not differ, $t(197) = 1.39$, $p = .165$, $d = -0.10$.

Performance

Teams significantly differed in perceptions of their overall performance, $F(1.84, 359.56) = 29.78$, $p < .001$, $\eta_p^2 = .13$. Participants believed that the assessment-only team would

outperform the mixed team, and $t(195) = 6.47$, $p < .001$, $d = 0.46$. They also believed that the assessment-only team would outperform the locomotion-only team, $t(196) = 7.42$, $p < .001$, $d = 0.52$. The locomotion-only team did not significantly differ from the mixed team, $t(195) = 0.58$, $p = .562$, $d = 0.04$.

Teams also varied in perceptions of speed, $F(2, 390) = 50.31$, $p < .001$, $\eta_p^2 = .21$, and accuracy, $F(1.83, 357.05) = 129.42$, $p < .001$, $\eta_p^2 = .40$. Post-hoc tests for perceptions of speed revealed that the locomotion-only team was perceived to be significantly faster than the assessment-only team, $t(196) = 8.74$, $p < .001$, $d = 0.62$, and the mixed team, $t(195) = 8.32$, $p < .001$, $d = 0.59$, but the mixed team did not differ from the assessment-only team, $t(195) = 1.22$, $p = .226$, $d = -0.09$. Conversely, accuracy post-hoc tests revealed that the assessment-only team was perceived to be more accurate than the locomotion-only team, $t(196) = 14.20$, $p < .001$, $d = 1.01$, and the mixed team, $t(195) = 11.04$, $p < .001$, $d = 0.79$. The mixed team was also perceived as more accurate than the locomotion-only team, $t(195) = 6.48$, $p < .001$, $d = 0.46$.

Table 5

Descriptive Statistics for Perceived Team Cohesion and Performance in Study 2

Team	Overall cohesion M (SD)	Overall performance M (SD)	Speed M (SD)	Accuracy M (SD)
Locomotion-only	3.65a (0.77)	4.67a (1.14)	5.33a (1.19)	3.96a (1.44)
Assessment-only	3.74a (0.82)	5.33b (1.17)	4.19b (1.50)	5.91b (1.23)
Mixed	2.85b (0.65)	4.60a (1.09)	4.34b (1.21)	4.74c (1.07)

Note: Within each outcome column, teams not sharing subscripts differ at $p < .05$ using LSD post-hocs.

Table 6

Correlations Between Continuous Variables in Study 2

	1	2	3	4	5
1. Emotional conflict	–				
2. Task conflict	.91***	–			
3. Cohesion	-.61***	-.64***	–		
4. Overall performance	-.35***	-.27***	.51***	–	
5. Speed	-.26***	-.28***	.42***	.45***	–
6. Accuracy	-.20***	-.22***	.33***	.68***	.08†

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$. $n = 196$

Mediation

Next, mediation analyses explored whether perceptions of conflict and cohesion mediated the effects of team type on performance perceptions. Team type was contrast coded to compare the mixed team (+2) to both the locomotion-only (-1) and assessment-only (-1) teams, with follow-up dummy codes used to compare each team against each other. Analyses were conducted using PROCESS (Model 4; Hayes, 2018) in R with a model containing all three mediators operating in parallel (see Figure 2).[5] In these models, a 95% confidence interval excluding zero indicates a significant indirect effect (Hayes, 2018).

Results (see Table 7) revealed that the mixed team was predicted to perform worse than both homogenous teams through the indirect influence of greater perceived conflict and lower perceived cohesion. Additionally, the locomotion-only and assessment-only teams were

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[5] Given an extremely high correlation between emotional and task conflict, $r(588) = .91$, $p < .001$, a separate model combined emotional and task conflict into a single average conflict score, and used average conflict and cohesion as parallel mediators. Results revealed that participants perceived greater average conflict in the mixed team versus homogenous teams, $b = 0.25$, $t(587) = 12.02$, $p < .001$. Average conflict, in turn, was negatively associated with perceived team performance, $b = -0.15$, $t(585) = 2.17$, $p = .031$. The specific indirect effect of average conflict was significant according to the Sobel z-test, although the bootstrapped confidence interval does contain zero: 95% CI [-0.08, 0.003], $z = -2.23$, $p = .034$. In combination with the model reported in the main text, this suggests that each type of conflict, in isolation, does not contribute enough unique variance to mediate effects on performance perceptions. It is possible that participants did not distinguish between each type of conflict, or that study materials did not allow for a discernment of different forms of conflict. In any case, given their theoretical separation (Jehn, 1995) and separation in planned analyses (see Appendix A2), emotional and task conflict are treated as separate mediators in the main text.

predicted to outperform the mixed team through the indirect influence of lower perceived conflict and greater perceived cohesion; the locomotion-only and assessment-only teams did not differ from each other (i.e., the 95% CI for the total indirect effect contained zero). A similar pattern was observed for perceptions of team speed and accuracy (see Table 7).

Interestingly, after accounting for the effect of these mediators, the direct effect of team type on performance predictions indicated that the mixed team was predicted to outperform homogenous teams, $b = 0.10$, $t(584) = 2.97$, $p = .003$, a reversal of the effects observed without accounting for these particular mediators. This finding suggests that perceptions of conflict and cohesion play a major role in how managers perceive the performance of mixed teams.

Figure 4

Mediation Diagram for Mixed vs. Homogenous Teams in Study 2
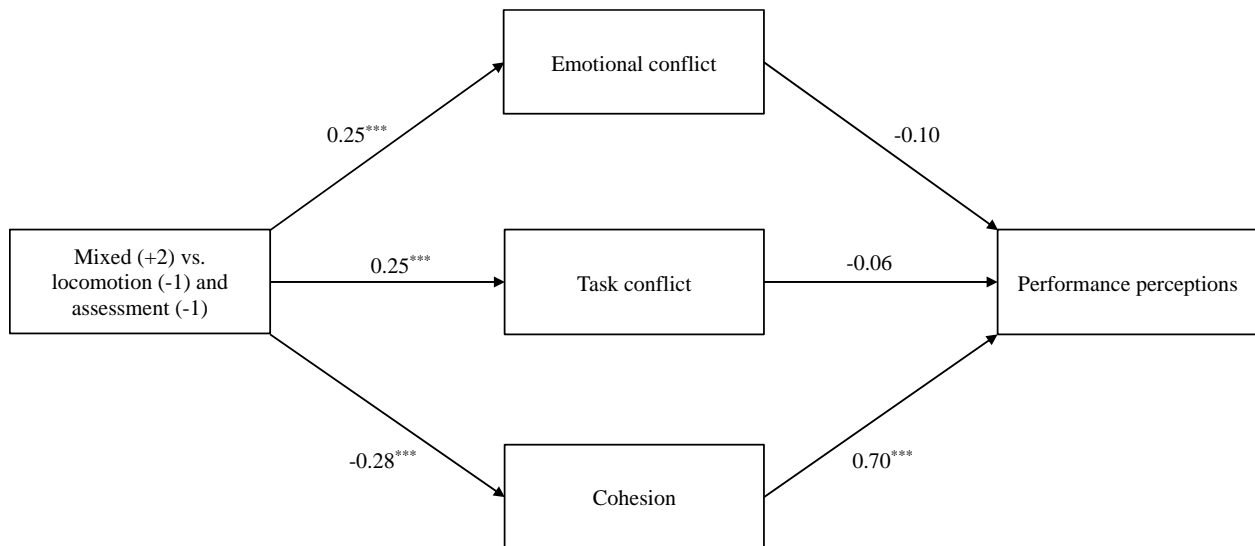
$^\dagger p < .10, ^* p < .05, ^{**} p < .01, ^{***} p < .001$

Table 7

Estimates for the Indirect Effects of Team Type on Performance Perceptions Through

Perceptions of Conflict and Cohesion in Study 2

Team comparison	Indirect effect	Overall performance B [95% CI]	Speed B [95% CI]	Accuracy B [95% CI]
Mixed (+2) vs. homogenous (-1)	Total	**-0.23** **[-0.28, -0.19]**	**-0.22** **[-0.26, -0.16]**	**-0.20** **[-0.25, -0.15]**
	Emotional conflict	-0.02 [-0.09, 0.05]	0.02 [-0.06, 0.10]	-0.01 [-0.10, 0.10]
	Task conflict	-0.01 [-0.09, 0.06]	-0.04 [-0.12, 0.05]	-0.009 [-0.12, 0.09]
	Cohesion	**-0.20***** **[-0.25, -0.15]**	**-0.19***** **[-0.25, -0.15]**	**-0.18***** **[-0.24, -0.12]**
Locomotion (1) vs. mixed (0)	Total	**0.66** **[0.52, 0.80]**	**0.63** **[0.48, 0.79]**	**0.54** **[0.39, 0.69]**
	Emotional conflict	0.07 [-0.11, 0.26]	-0.07 [-0.29, 0.14]	0.04 [-0.20, 0.26]
	Task conflict	0.04 [-0.15, 0.24]	0.11 [-0.11, 0.34]	0.03 [-0.19, 0.27]
	Cohesion	**0.55***** **[0.41, 0.70]**	**0.59***** **[0.44, 0.75]**	**0.47***** **[0.34, 0.62]**
Assessment (1) vs. mixed (0)	Total	**0.72** **[0.58, 0.88]**	**0.69** **[0.53, 0.86]**	**0.59** **[0.44, 0.75]**
	Emotional conflict	0.08 [-0.12, 0.27]	-0.08 [-0.29, 0.15]	0.04 [-0.21, 0.26]
	Task conflict	0.04 [-0.15, 0.26]	0.12 [-0.12, 0.35]	0.03 [-0.19, 0.28]
	Cohesion	**0.60***** **[0.45, 0.77]**	**0.65***** **[0.49, 0.82]**	**0.52***** **[0.37, 0.69]**
Locomotion (1) vs. assessment (0)	Total	-0.06 [-0.19, 0.06]	-0.06 [-0.19, 0.06]	-0.05 [-0.16, 0.05]
	Emotional conflict	-0.002 [-0.03, 0.02]	0.002 [-0.03, 0.03]	-0.001 [-0.03, 0.03]
	Task conflict	-0.002 [-0.04, 0.02]	0.005 [-0.05, 0.03]	-0.001 [-0.04, 0.02]
	Cohesion	-0.06 [-0.17, 0.05]	-0.06 [-0.18, 0.05]	-0.05 [-0.15, 0.04]

Note: Dummy-coded comparisons included the other team's dummy code as a covariate. Boldface indicates significant indirect paths with 95% bootstrap CIs excluding zero (Hayes, 2018). † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$ (Sobel test).

Discussion

Results revealed that, on average, participants perceived the locomotion-only team as the fastest and least accurate, and the assessment-only team as the most accurate. However, they perceived the mixed team as performing worse than the assessment-only team, slower than the locomotion-only team, and less accurate than the assessment-only team. Although prior research reveals the performance benefits of mixed teams (Mauro et al., 2009) and regulatory mode complementarity more generally (Pierro et al., 2018), participants did not seem as sensitive to the potential performance benefits of mixed versus homogenous teams. Instead, participants seemed to be especially sensitive to the possibility of conflict within mixed teams: They perceived less cohesion and greater emotional and task conflict in the mixed team compared to homogenous teams and, within the mixed team, cross-motivational pairings differed from motivationally homogenous team member pairings.

Subsequent mediation analyses revealed that these perceptions of reduced cohesion and increased conflict mediated the effects of team type on performance, such that perceiving less cohesion and more conflict led to lower overall performance perceptions, less speed, and less accuracy in the mixed team (vs. homogenous teams). This result further points to how participants' sensitivity to interpersonal dynamics in teams with compared to without motivational diversity affected their beliefs about team performance. Moreover, after accounting for the effect of these mediators, the mixed team was perceived to outperform homogenous teams. Thus, sensitivity to conflict in the mixed team may not have fully clouded participants' recognition that complementarity could support performance.

In previous work assessing regulatory mode dynamics in teams (Chernikova et al., 2017; Mauro et al., 2009; Pierro et al., 2012), potential interpersonal costs of complementarity were not

directly assessed. In other words, although perceptions of the potential for increased conflict in the complementary versus homogeneous teams track evidence in the broader literature on the relation between diversity and conflict (Shemla et al., 2016), prior work has not documented these effects in the domain of regulatory mode complementarity specifically. However, it seems reasonable to posit that these perceptions do reflect a valid increased likelihood of conflict in motivationally diverse teams (in certain, if not all, circumstances). Further, these data suggest that managers may have greater sensitivity to the potential for conflict versus the potential for performance benefits, at least in terms of how it was assessed in this study. Namely, it was only after accounting for the variance associated with perceptions of conflict and cohesion that one could observe a positive relation between complementarity and performance.

One limitation of this conclusion and Study 2 more generally, however, was the use of a non-manager sample of undergraduate participants. Although this population does not lack managerial experience per se ($M = 4.60$ years in this sample, see Table 1), they nevertheless generally lack experience with traditional managerial roles—most research in management and organizational behaviour focuses on primarily white-collar work settings where teams of employees are managed, a point returned to in the General Discussion—and therefore may not draw on the same elements in their perceptions of teams as "real" managers. For instance, given their lack of traditional management experience, participants may have focused their attention on interpersonal relationships between team members instead of other management-related components, such as performance, thereby affecting observed results.

However, prior research finds mixed evidence for the role of experience in management (Hoffman et al., 2011), with overall effects pointing to a weak association between experience and effective management, but a stronger association in low-level management settings and in

particular industries. Additionally, initial work on metamotivation and managing the motivation of others (Jansen, Miele, et al., 2022) did not find consistent evidence for an association between managerial experience and normative accuracy in knowledge of how to manage the regulatory focus motivation of others, nor did this work find differences in the normative accuracy of metamotivational knowledge between manager and non-manager samples. These null findings suggest that contextual factors, such as the type of management setting and not specifically "being a manager," may affect how motivation in teams is perceived and managed. For instance, because lower-level managers are more directly involved with team oversight, they might hold a different set of beliefs about motivation in teams than higher-level managers who are less involved with direct team oversight and more focused on high-level team or organizational outcomes. For the former, direct engagement with teams may attune them to interpersonal relationships between team members, while for the latter, a focus on outcomes may attune them to what teams are doing (tasks, strategies, etc.).

In summary, Study 2 revealed that participants were sensitive to the role of regulatory mode in teams by recognizing the differential benefits of locomotion and assessment and the potential downsides of motivational diversity. However, the "top-down" approach taken in Study 2, where participants were provided with a set of specific constructs to rate teams with, raises questions about people's more general, spontaneous beliefs about the role of motivation in teams. If researcher-imposed measurement constraints are removed, people may reveal additional nuances in their beliefs about motivational diversity. Study 3 aimed to do so by using an open-ended paradigm.

Study 3

Although Study 2 participants were normatively accurate in recognizing the differential effectiveness of locomotion and assessment teams, they did not perceive performance benefits in the mixed team. Indeed, the results of Study 2 suggest that managers may focus on the potential "downsides" of mixed teams—seeing these teams as prone to greater conflict than homogenous teams, which in turn affects their perceptions of team performance. In other words, managers may be focusing on the potential pitfalls of complementarity in teams more than its potential promises. The use of a non-traditional manager sample in Study 2, however, potentially limits the conclusions that can be drawn; for example, as discussed above, the lack of traditional management experiences may have attuned Study 2 participants to focus more on interpersonal dynamics than team performance. One may initially think that the pattern of results in Study 2 could be attributed to sample type (e.g., perhaps students versus managers are more likely to focus on downsides of mixed teams). However, the replication of Study 2 described in Footnote #4, which used a sample of managers, showed the same pattern of results as Study 2. Thus, it seems likely that this focus on downsides in Study 2 is not attributable solely to this sample characteristic.

Instead, it may be that the paradigm employed in Study 2 poses constraints. Specifically, managers only completed measures of conflict and cohesion, and the nature of close-ended measures may have limited what was captured in participants' beliefs. One limitation of close-ended measures is the potential for an inadvertent imposition of psychological constructs onto participants' perceptions of situations (i.e., asking about conflict, even in a subtle manner, can lead participants to look for conflict in experiential situations). Additionally, close-ended measures are, by design, narrow in scope because they are intended to capture specific

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constructs; one consequence of this, however, is that participants are not able to provide additional information about their perspectives, thereby potentially overlooking other potentially relevant insights. Thus, Study 3 takes a broader, "bottom-up" perspective by asking managers to describe their beliefs about motivation in teams in an open-ended format.

In doing so, Study 3 will further explore tenants of the LeaD model (Homan et al., 20220) and how it relates to motivational diversity in particular. Whereas Study 1 laid an initial foundation by revealing normatively accurate metamotivational knowledge of regulatory mode in general, and Study 2 provided initial insights into how motivational diversity in teams is perceived, Study 3 takes this inquiry one step further by asking managers themselves to describe what they believe about motivational diversity in teams. Based on the LeaD model, effective managers need to recognize specific team processes and dynamics (i.e., bias and information elaboration) in order to accurately respond to them. Study 3 thus allows for an investigation of whether, and to what extent, managers spontaneously perceive bias and information elaboration as covarying with motivational diversity in teams.

Study 3 also provides an opportunity to examine how managers' beliefs about motivational diversity are similar to or different from traditional conceptualizations of diversity (i.e., demographic and deep-level). Given that motivational diversity can be conceptualized as a form of deep-level diversity, managers may perceive the same opportunities and obstacles in managing teams with regulatory mode diversity as with other forms of more traditional deep-level diversity (e.g., differences in educational background, such as science vs. the humanities). However, based on the results of Study 2, it is also possible that managers will be especially sensitive to the possibilities of conflict arising from motivational differences.

Finally, Study 3 allows for an initial exploration of whether and how differences in managers' beliefs may be related to individual differences, specifically managers' own chronic regulatory mode, perceived malleability of motivation (King, 2019), and social dominance orientation (SDO; Ho et al., 2015). For instance, given that previous research finds a positive association between chronic locomotion and conflict resolution (Webb et al., 2017), managers whose own regulatory mode is predominantly locomotion-oriented may be less likely to focus on the potential for conflict, consequently affecting what they believe about motivational diversity in teams. The perceived malleability of motivation (King, 2019) may also play a role, with managers who believe motivation is a malleable construct (vs. managers who do not) more likely to be optimistic about managing motivational diversity in teams because they believe motivation can be shaped and molded. Finally, social dominance orientation (SDO) describes people's attitudes towards group-based hierarchy and inequality, with higher (vs. lower) SDO associated with greater support of group-based inequality and the dominance of one's ingroup (Ho et al., 2015). A fairly extensive literature demonstrates that SDO is associated with opposition to diversity-related policies and discrimination towards outgroups, particularly in the domain of demographic diversity (Ho et al., 2015). Thus, managers higher in SDO may view motivational diversity differently than managers lower in SDO, with the former having more negative perceptions than the latter. The measure of SDO used (Ho et al., 2015) distinguishes between SDO-egalitarianism (SDO-E), a preference for group-based hierarchy maintained by subtle hierarchy-enhancing ideologies, and SDO-dominance (SDO-E), a preference for group-based hierarchy that is maintained through the forceful "dominance" of lower-status groups.

Participants in management positions were given descriptions of the same three teams used in Study 2 (one locomotion-only, one assessment-only, one mixed). Using open-ended

responses, participants were asked to describe their beliefs about each team's effectiveness and how they would manage the dynamics of each team to optimize their performance. These responses were then scored using natural language processing techniques. In the last part of the study, participants were asked a series of close-ended questions about their beliefs about different types of diversity (demographic, deep-level, and motivational), and, on an exploratory basis, individual differences related to motivation and diversity.

Participants

Using CloudResearch, 250 participants whose occupation involves supervising others (a clear indication of management) and who reside in the United States were recruited in exchange for US $5.00. To reduce the influence of bots or "survey farmers" (Bai, 2018), responses were excluded if they came from duplicate GPS coordinates. Additionally, a trained research assistant screened open-ended responses to identify whether participants copied study materials into their responses (thereby rendering them invalid for analysis) and whether responses contained otherwise unusable responses (e.g., one-word answers, nonsense responses). After these exclusions the final sample size comprised 227 participants (see Table 1 for sample characteristics).

Procedure

The study contained three parts. In Part 1, participants provided open-ended responses and answered close-ended questions about their team management beliefs. Specifically, they were first shown the same three team descriptions as Study 2. Then, for each team they were asked: "In your opinion, is Team [A / B / C] an effective team? Why or why not?". Following this, they were asked to describe how they would manage each team in response to the prompt "How would you manage the dynamics of Team [A / B / C] to optimize their performance?"

Participants were then asked about their beliefs about team management more generally, first describing their beliefs about the differences between effective and ineffective teams, then describing how the motivation of individual team members impacts team effectiveness.

Next, participants were asked close-ended questions about team management. They were given the following definitions of deep-level, surface-level, and motivational diversity (emphasis in original):[6]

> Researchers have established that different factors affect how well a team performs.
>
> Some research examines how different ways of problem-solving affect team performance—known as **deep-level diversity**. For example, differences in educational training or work-specific skillsets.
>
> Other research examines how different demographic backgrounds affect team performance—known as **surface-level diversity**. For example, different ethnic backgrounds and age groups.
>
> And yet other research examines how different ways of pursuing goals affect team performance—known as **motivational diversity**. For example, some people prefer to take swift action and focus on "getting things done," while others prefer to carefully analyze all possible options and focus on doing things the "right" way.

Following these definitions, participants were asked to rate their beliefs about each type of diversity on seven-point continuous scales: "How beneficial is [diversity type] for team performance?", "How difficult is it to manage teams with [diversity type]?", "How likely are

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[6] Study materials used the term "surface-level diversity," a decision made prior to this dissertation adopting the term "demographic diversity."

teams with [diversity type] to experience conflict?", and "How much would you prefer to manage teams with [diversity type]?"

Finally, participants were given definitions of quantitative (i.e., amount) and qualitative (i.e., type) aspects of motivation (emphasis in original):

There are different ways to think about motivation. One way focuses on the **quantity** or **amount** of motivation: When a person or team has the right *amount* of motivation, their performance improves. In other words, the *quantity* of motivation is concerned with how *much* motivation a person or team has, how motivated they are to pursue a goal, having the right *amount* of motivation to pursue a goal, etc.

Another way to think about motivation is to focus on the **quality** or **type** of motivation: When a person or team has the right *kind* of motivation, their performance improves. For example, being motivated because you are inherently interested in a task is different from being motivated because you want to get a cash reward. In other words, the *quality* of motivation is concerned with what *type* of motivation a person or team has, what *kind* of motivation they have for a goal, having the right *kind* of motivation to pursue a goal, etc.

They were then asked to rate how important each of them is for team performance on a seven-point continuous scale.

In Part 2, to explore whether individual differences in chronic motivational orientations, beliefs about the malleability of motivation, and beliefs about social hierarchy/equality affected participants' beliefs about how to manage motivation, participants completed three individual difference measures: the chronic regulatory mode scale (Kruglanksi et al., 2000), a malleability of motivation scale (King, 2019), and the social dominance orientation scale (Ho et al., 2015).

In the last part of study, participants provided demographic information related to their managerial experiences (years of experience, number of subordinates, extent of managerial duties, position in organizational hierarchy, job title and sector) and general demographics (age, gender, primary racial/ethnic group, education level, and income).

Results

Open-ended responses were scored using four natural language processing techniques. First, sentiment analysis sought to determine the frequency of positive and negative word use in participant responses. Past research (e.g., Mauro et al., 2009) reveals the potential upsides of complementary motivation in teams, but Study 2 suggested managers may focus more on their potential downsides. Sentiment analysis thus provide a window—though only suggestive—into the extent to which managers' beliefs about mixed teams are positive or negative. Second, Linguistic Inquiry Word Count (LIWC; Pennebaker et al., 2015) software, a program that counts the frequency of word use in a given text based on pre-defined categories, was used to determine how frequently managers discussed speed and accuracy using a custom dictionary (expanding on Kanze et al., 2021). The complementary nature of locomotion (focusing on speed) and assessment (focusing on accuracy) contributes to better performance when the two are combined (Kruglanski et al., 2000; Pierro et al., 2018), and Study 1 revealed that people recognize this trade-off and possess normatively accurate knowledge of task-motivation fit. LIWC analyses thus examined the extent to which managers' beliefs about regulatory mode in teams spontaneously discussed speed and accuracy. Third, the term frequency-inverse document frequency (*tf-idf*) statistic was calculated, a weighted statistic intended to quantify how important a word is to a piece of text by decreasing the weight given to common words and increasing the weight given to uncommon words. Because of their uniqueness, these uncommon words are

presumed to carry more important, in-depth information about a given piece text compared to commonly used words. Fourth, machine learning analyses sought to train algorithms to identify particular features that differentiate responses; if these models can accurately differentiate responses, this achievement would suggest these features represent focal points of managers' beliefs about each team's effectiveness and how to manage them.

Sentiment Analysis

Sentiment analysis was conducted for responses to perceptions of team effectiveness only. There was a significant difference in the number of positive and negative words used in responses to each team, $\chi^2(2) = 53.55$, $p < .001$ (see Table 8 for a breakdown of word counts by team type). Significantly fewer negative words were used in responses to the mixed team compared to both the locomotion team, $\chi^2(1) = 40.07$, $p < .001$, and the assessment team, $\chi^2(1) = 31.45$, $p < .001$. Conversely, more positive words were used in responses to the mixed team compared to both the locomotion team, $\chi^2(1) = 2.96$, $p = .085$, and assessment team, $\chi^2(1) = 16.12$, $p < .001$, though the difference was not statistically significant for locomotion. Moreover, within responses to the mixed team, significantly more positive than negative words were used, $\chi^2(1) = 43.69$, $p < .001$. The opposite pattern was observed for the assessment team, $\chi^2(1) = 8.89$, $p = .003$, although positive versus negative word frequencies for the locomotion team did not differ, $\chi^2(1) = 2.05$, $p = .153$.

Table 8

Number of Negative and Positive Words Used in Participant Responses by Team Type

Team type	Negative words	Positive words
Locomotion	206	178
Assessment	191	137
Mixed	96	212

Expanding on the work of Kanze et al. (2021), a custom dictionary was created that contained 95 "speed" word stems to capture locomotion language and 82 "accuracy" word stems to capture assessment language (see Appendix D).

LIWC Results—Team Effectiveness. Total word count did not significantly differ across team types, $F(2, 452) = 0.82$, $p = .442$, $\eta_p^2 = .004$. The frequency of accuracy words significantly varied across teams, $F(2, 252) = 24.91$, $p < .001$, $\eta_p^2 = .10$ (see Figure 3). Managers used significantly more accuracy words in responses to the assessment team than locomotion team, $t(226) = 6.46$, $p < .001$, $d = 0.43$, and in responses to the mixed team compared to the locomotion team, $t(226) = 6.06$, $p < .001$, $d = 0.40$; responses to the assessment and mixed teams did not differ, $t(226) = 0.79$, $p = .432$, $d = 0.05$. A different pattern was observed for the frequency of speed word use, $F(2, 252) = 3.47$, $p = .032$, $\eta_p^2 = .02$ (see Figure 2). Managers used significantly more speed words in responses to the locomotion team than assessment team, $t(226) = 2.32$, $p = .021$, $d = 0.15$, and in responses to the locomotion team compared to the mixed team, $t(226) = 2.22$, $p = .027$, $d = 0.15$; responses to the assessment and mixed teams did not differ, $t(226) = 0.27$, $p = .786$, $d = 0.02$.

LIWC Results—Team Management. Unlike beliefs about team effectiveness, total word count did vary across team types, $F(1.87, 423.62) = 3.49$, $p = .034$, $\eta_p^2 = .02$. Participants used significantly more words in responses to how they would manage the assessment team ($M = 38.42$, $Mdn = 34$, $SD = 21.32$) than the mixed team ($M = 35.83$, $Mdn = 32$, $SD = 19.10$), $t(226) = 2.87$, $p = .005$, $d = 0.19$. They also used marginally more words in responses to how they would manage the locomotion team ($M = 37.49$, $Mdn = 33$, $SD = 20.76$) compared to the mixed team ($M = 35.83$, $Mdn = 32$, $SD = 19.10$), $t(226) = 1.75$, $p = .082$, $d = 0.12$. Finally and in contrast to

beliefs about the effectiveness of each team, the frequency of both accuracy and speed words did not vary across teams, respectively, $F(1.91, 430.96) = 0.78$, $p = .454$, $\eta_p^2 = .003$, and $F(1.66, 374.73) = 0.17$, $p = .806$, $\eta_p^2 < .001$ (see Figure 3).

Figure 5

Frequency of Speed and Accuracy Word Use by Team Type and Question

Note: Graphs represent violin plots of the density distribution of word frequency for each regulatory mode, task type, and open-ended question with boxplots, descriptive means, and 95% confidence intervals.

tf-idf

First, for beliefs about team effectiveness, the most important words managers used when describing the effectiveness of the locomotion team were focused on perceived mistakes (e.g., "mistakes," "weak," "errors"), whereas the most important words for the assessment team were focused on perceived lack of action (e.g., "paralysis," "exhaust," "bogged"). In contrast, for the mixed team, the most important words suggested a focus on complementarity (e.g., "half", "healthy", "equal"; see Figure 4).

Figure 6

tf-idf Scores by Team Type for Managers' Beliefs About Team Effectiveness
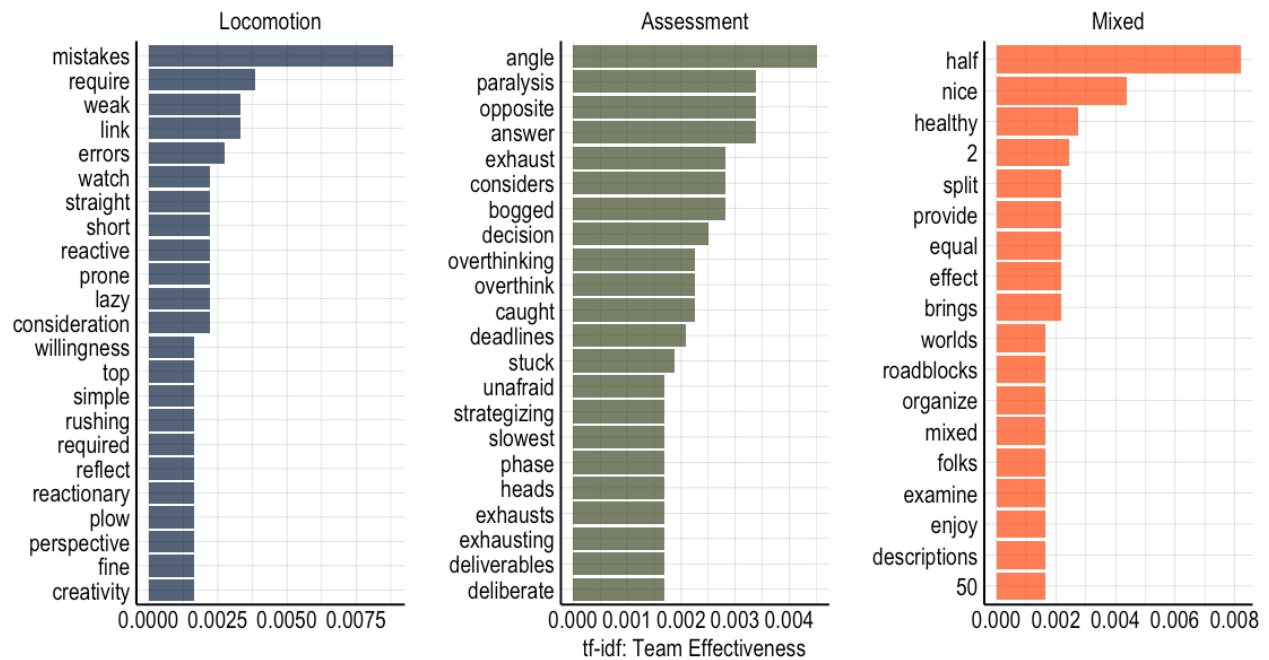
Second, for beliefs about how to manage each team, the most important words managers used in responding to homogenous teams suggested a focus on the vulnerabilities of each team (see Figure 5). In responses to the locomotion team, words such as "jumping," "checkpoints", and "control" suggest a focus on reigning in the potentially decisive actions of those high in locomotion, while words such as "completion," "limits," and "push" in responses to the assessment team suggest a focus on minimizing overly exhaustive deliberation. Finally, responses to the mixed team again suggested a spontaneous focus on complementarity via words such as "balanced", "rounded", and "50" (see Figure 5).

Figure 7

tf-idf Scores by Team Type for Managers' Beliefs About How to Manage Team Dynamics to

Optimize Performance
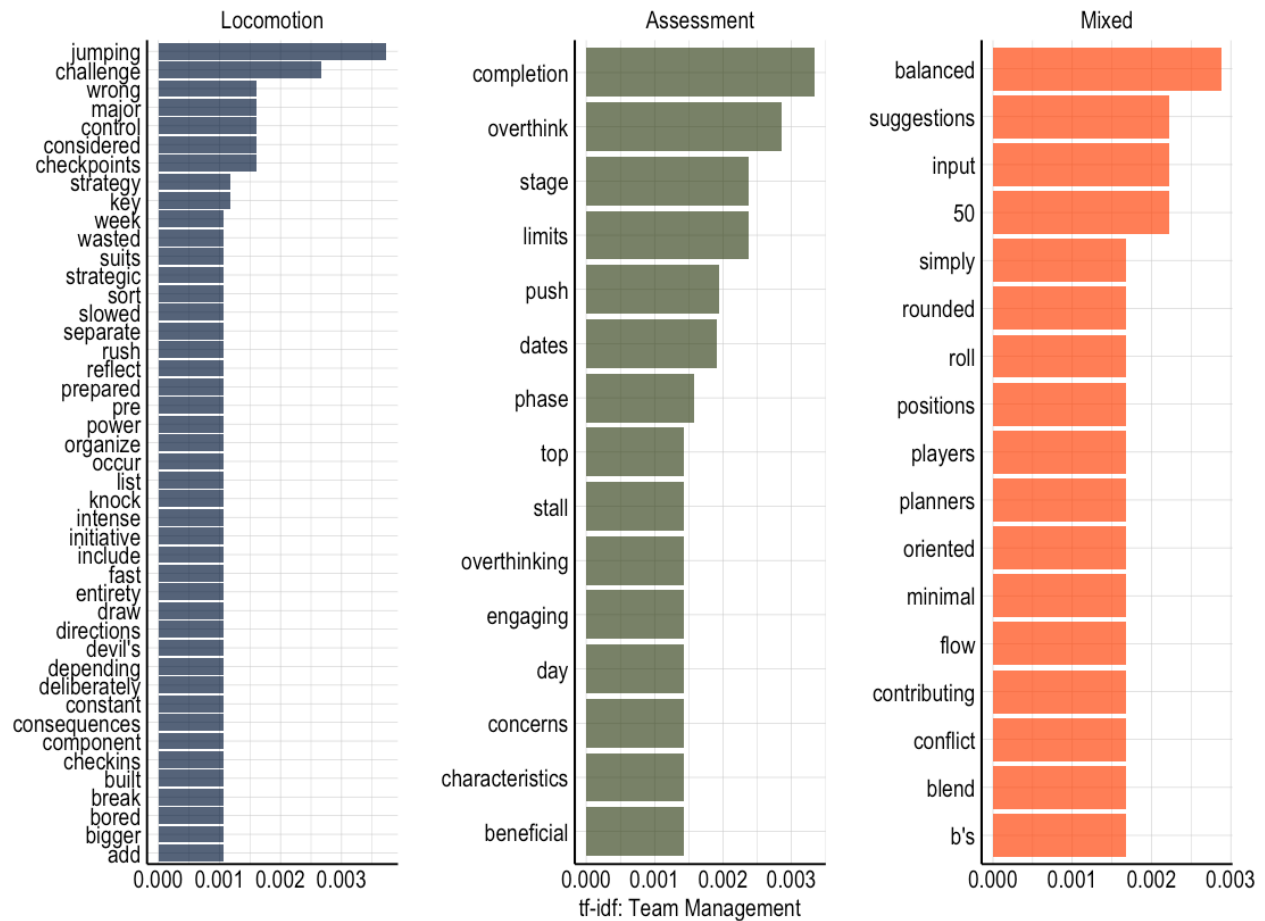
Machine Learning

Finally, machine learning analyses sought to train an algorithm to classify participants' responses based on words that provide the clearest differentiation between team types, thereby identifying focal points of managers' beliefs about regulatory mode in teams. Specifically, a Naïve Bayes classifier (Jurafsky & Martin, 2021) was trained to sort responses based on procedures outlined by Donnellan and colleagues (2022). Naïve Bayes classifiers are a form of supervised machine learning, so-called because they use labelled datasets to train algorithms to classify observations into one or more discrete categories (*C*) based on the probability of

observations being part of a category or not (in contrast to unsupervised machine learning, where algorithms are trained on unlabelled datasets; Jurafky & Martin, 2021). In this study, the discrete categories are team types: classifying responses into locomotion, assessment, and mixed teams using word stems that uniquely identify responses to each type of team.

As outlined by Donnellan and colleagues (2022), after initial data processing an algorithm was trained on a randomly selected *labelled* subset of data. In this step, statistical software searches for word stems (i.e., features, denoted *f*) whose presence (1) or absence (0) provide maximum differentiation between labelled categories (denoted *C*) to create an algorithm that can classify responses as accurately as possible. As in Donnellan et al. (2022), cross-validation is used during training by diving the training dataset into smaller pseudo-test sets to systematically "test" the algorithm during training to select optimal word stems using only training data. Once training is completed, the algorithm is formally tested on the *unlabelled* remaining data to determine whether it can accurately classify responses into team types for unseen data based on the conditional probabilities of word stems identified in the training set. To make its prediction, the algorithm computes the probability that each observation belongs to each team type. In this study, because there are three teams (locomotion-only, assessment-only, mixed) the category (i.e., team) with a probability $> .33$ is the predicted team type. Accuracy can then be determined by calculating the proportion of correct predictions in the unseen test data.

This procedure was conducted for each open-ended question that asked about each team type: "In your opinion, is Team [A / B / C] an effective team? Why or why not?" and "How would you manage the dynamics of Team [A / B / C] to optimize their performance?". Data were restructured to the response-level, resulting in two columns of responses (one for each question) and three rows per participant (one for each team). As such, two algorithms were trained: one to

classify responses to perceptions of team effectiveness, and one two classify responses to how participants would manage teams. During training, a pre-determined list of word stems contained in the study materials (team member names, the word stem "team," and participant-facing single-letter team labels) was removed from participant responses to minimize their influence on the algorithm and better capture participants' organic beliefs (see Donnellan et al., 2022). For each algorithm the eight-step process outlined in Table 9 was followed.

Table 9

Overview of Study 3 Machine Learning Procedure

Step	Description
Step #1: Subset data	Data are randomly subsetted into a training set (2/3 of the total sample) and a test set (1/3 of the total sample).
Step #2: Pre-process **training** data	Training data are converted into a **labelled** text corpus. Spelling mistakes are corrected, stop words and punctuation are removed, word stems created, and (if applicable) a pre-determined list of word stems are removed.
Step #3: Feature selection	Search for features (word stems) that distinguish responses to each labelled category in the training data.
Step #4: Create optimum trained classifier	Select the optimal distinguishing features from Step #3 and build the algorithm.
Step #5: Pre-process **test** data	Test data are converted into an **unlabelled** text corpus. Spelling mistakes are corrected, stop words and punctuation are removed, and word stems created.
Step #6: Classify test data	Use the algorithm created in Step #4 to classify the test data.
Step #7: Evaluate classifier performance	Test the accuracy of classification in Step #6.
Step #8: Calculate conditional probabilities	Obtain conditional probabilities of word stem presence or absence for each team type.

Algorithm Results—Team Effectiveness. The classifier identified 21 words that provided maximum differentiation among responses and was accurate at classifying participant responses into team types. In testing data, 60.5% of responses were accurately classified (see

Table 10), a level significantly above chance ($p < .001$, 95% CI [0.539, 0.669]) that demonstrates

the algorithm was able to distinguish between team types in participants' unlabelled responses.

Table 11 shows the conditional probabilities for word stems used by the classifier as calculated

from training data and is ranked by the absolute difference between mixed and homogenous

teams: $|\text{P}(C = \text{mixed}|f_k = 1) - [\text{P}(C = \text{locomotion}|f_k = 1) + \text{P}(C = \text{assessment}|f_k = 1)]|$, where f_k

represents a given feature/word stem. Word stems with larger absolute differences are thus more

valuable for discriminating between responses to mixed and homogenous teams and thus reveal

focal points of managers' beliefs about regulatory mode in teams. In these data, three of the top

five most discriminative word stems revealed a spontaneous focus on complementary: "balanc,"

"two", and "mix."

Table 10

Correct Classifications by Team Type in Testing Datasets

Dataset	Total	Assessment	Locomotion	Mixed
Team effectiveness	138/228 (60.5%)	41/76 (54.0%)	53/76 (69.7%)	44/76 (57.9%)
Team management	115/228 (50.4%)	32/76 (42.1%)	35/76 (46.1%)	48/76 (63.2%)

Note. Each test dataset contains $n = 76$ participants who each provided three responses (228 per dataset)

Table 11

Conditional Probabilities of Word Stems Used by the Team Effectiveness Classifier

Word stem	P(*Team* | f_k = 1) word stem present		
	Assessment	Locomotion	Mixed
lot	.405	.524	.071
two	.052	.079	.868
balanc	.117	.052	.831
mix	.107	.071	.821
without	.212	.606	.182
much	.569	.241	.190
take	.500	.296	.204
one	.273	.473	.255
issu	.368	.342	.289
go	.289	.421	.289
action	.450	.250	.300
solut	.538	.154	.398
jump	.088	.596	.316
also	.421	.263	.316
believ	.241	.379	.379
analyz	.403	.210	.387
best	.375	.219	.406
can	.197	.342	.461
thinker	.389	.080	.531
yes	.176	.351	.473
differ	.341	.182	.477

Note: rows may not sum to 1 due to rounding.

Algorithm Results—Team Management. The second algorithm, created in response to the question "How would you manage the dynamics of Team [A / B / C] to optimize their performance?", identified 22 words that provided maximum differentiation among responses. The classifier was less accurate at classifying participant responses than the preceding algorithm at 50.4% (see Table 10), but this rate is still significantly above chance for classification into three categories, $p < .001$, 95% CI [0.438, 0.571], and demonstrates the algorithm was able to distinguish between team types among unlabelled and unseen data. Table 12 shows the conditional probabilities for word stems used by the classifier as calculated from training data, again ranked by the absolute difference between mixed and homogenous teams, with larger

absolute differences indicating more valuable word stems for discriminating between responses

to mixed and homogenous teams. In these data, the most discriminative word stems revealed a

spontaneous focus on minimizing the vulnerabilities of assessment (e.g., "deadlin") and

locomotion (e.g., "focus") teams, and again revealed a focus on complementary in the mixed

team (e.g., "balanc").

Table 12

Conditional Probabilities of Word Stems Used by the Team Management Classifier

Word stem	$P(Team \mid f_k = 1)$ word stem present		
	Assessment	Locomotion	Mixed
deadlin	.725	.150	.125
time	.552	.310	.138
progress	.571	.289	.143
balanc	.107	.036	.857
problem	.348	.500	.152
move	.615	.231	.154
complet	.500	.333	.167
jump	.069	.759	.172
tri	.412	.412	.176
keep	.389	.417	.194
go	.360	.440	.200
focus	.244	.537	.220
like	.391	.370	.239
solut	.481	.259	.259
make	.352	.376	.272
plan	.391	.326	.283
check	.222	.481	.296
thinker	.175	.125	.700
need	.453	.221	.326
good	.457	.171	.371
group	.435	.174	.391
work	.270	.336	.394

Note: rows may not sum to 1 due to rounding.

Close-Ended Beliefs

How do managers' perceptions of deep-level, demographic, and motivational diversity

differ? For all four questions, managers' beliefs significantly varied across diversity types, all *F*s

> 4.38, all ps < .013 (see Table 13). Managers perceived both traditional deep-level diversity and motivational diversity as more beneficial for team performance than demographic diversity, $t(226) = 9.72$, $p < .001$, $d = 0.65$ and $t(226) = 9.39$, $p < .001$, $d = 0.62$, respectively; deep-level and motivational diversity did not differ, $t(226) = 0.39$, $p = .695$, $d = -0.03$. A similar pattern was observed for perceptions of how difficult each type of diversity is to manage, with both deep-level and motivational diversity perceived as more difficult to manage than demographic diversity, $t(226) = 3.23$, $p = .001$, $d = 0.21$ and $t(226) = 2.71$, $p = .007$, $d = 0.18$, respectively; deep-level and motivational diversity did not differ, $t(226) = 0.18$, $p = .857$, $d = 0.01$. When it came to management preferences, managers had a greater preference for managing deep-level than demographic diversity, $t(226) = 2.91$, $p = .004$, $d = 0.19$. Deep-level and motivational diversity did not differ, $t(226) = 1.65$, $p = .101$, $d = 0.11$, nor did motivational and demographic diversity, $t(226) = 1.36$, $p = .176$, $d = 0.09$.

Interestingly, deep-level and motivational diversity only differed in one domain: Managers perceived a greater likelihood of conflict in teams with motivational diversity compared to deep-level diversity, $t(226) = 3.14$, $p = .002$, $d = 0.21$. Similarly, managers also perceived conflict as more likely in teams with motivational diversity compared to demographic diversity, $t(226) = 3.23$, $p = .001$, $d = 0.21$. Perceptions of conflict likelihood in teams with deep-level versus demographic diversity did not differ, $t(226) = 0.72$, $p = .473$, $d = 0.05$.

Table 13

Managers' Close-Ended Ratings of Deep-Level, Demographic, and Motivational Diversity

Dimension	Deep-level M (SD)	Demographic M (SD)	Motivational M (SD)
Performance benefit	5.83 (1.20)a	4.63 (1.70)b	5.87 (1.36)a
Conflict likelihood	4.33 (1.43)a	4.23 (1.62)a	4.70 (1.63)b
Difficult to manage	3.99 (1.59)a	3.59 (1.68)b	3.97 (1.85)a
Management preference	5.17 (1.51)a	4.74 (1.69)b	4.94 (1.67)ab

Note: Within each dimension, cells not sharing subscripts differ at $p < .05$ using LSD post-hocs.

Associations with individual differences. On an exploratory basis to examine associations with individual differences and perceived importance of motivational quantity and quality for team performance, composite scores were created to gauge managers' positivity towards each type of diversity. Managers' ratings of how difficult they believe each type of diversity is to manage and their perceived likelihood of conflict were reverse coded and then combined with performance perceptions and management preferences, resulting in three exploratory variables: Positivity towards deep-level ($\alpha = .67$), demographic ($\alpha = .67$), and motivational ($\alpha = .64$) diversity. As shown in Table 14, positive beliefs about motivational diversity were positively correlated with positive beliefs about deep-level diversity, $r(225) = .32$, $p < .001$, but not demographic diversity, $r(225) = .10$, $p = .122$. Positive beliefs about motivational diversity were also positively correlated with the perceived benefits of motivational *quality* for team performance, $r(225) = .19$, $p = .004$, the perceived malleability of motivation, $r(225) = .14$, $p = .040$, and managers' chronic locomotion, $r(225) = .16$, $p = .016$, but not their chronic assessment, $r(225) = -.01$, $p = .912$. No other correlations with positive beliefs about motivational diversity were significant.

Table 14

Correlations Between Positive Beliefs About Diversity and Individual Differences in Study 3

	1	2	3	4	5	6	7	8	9
1. Deep-level diversity beliefs	–								
2. Demographic diversity beliefs	.10	–							
3. Motivational diversity beliefs	.32***	.07	–						
4. Quantity of motivation	.09	.11†	.07	–					
5. Quality of motivation	.14*	.10	.19**	.01	–				
6. Chronic locomotion	.19**	< .01	.16*	.23**	.31***	–			
7. Chronic assessment	.19**	.02	-.01	.11	.22**	.06	–		
8. Malleability of motivation	.11	.11	.14*	.16*	.21**	.43***	-.04	–	
9. SDO-E	-.13†	-.37***	-.09	-.08	-.12†	.03	.04	-.21**	–
10. SDO-D	-.08	-.35***	-.11	.02	.09	.04	.09	-.24**	.78***

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$. $n = 227$

Discussion

Taking a bottom-up, broad approach revealed new insights about managers' beliefs about motivation in teams, how to manage it, and how managers perceive motivational diversity relative to traditional forms of diversity. Based on the frequency of speed and accuracy word use, participant responses to perceived team effectiveness used the most speed-related and fewest accuracy-related words for the locomotion-only team, and more accuracy-related words for the assessment-only team compared to the locomotion-only team, although word frequency for the mixed team did not differ compared to the assessment-only team. The algorithm trained via machine learning further bolsters this conclusion by revealing that words related to speed and accuracy were most predictive of responses to the perceived effectiveness of locomotion-only and assessment-only teams, respectively. This pattern suggests a replication of Study 2:

Managers recognized that locomotion teams have speed-related benefits but accuracy-related drawbacks, and vice-versa for assessment teams. Additional natural language processing techniques provide additional evidence for a replication of Study 2 results in an open-ended format. Managers used words related to speed and accuracy when describing how they would manage assessment-only and locomotion-only teams, respectively, in both *tf-idf* scores and machine learning, suggesting a focus on addressing the vulnerabilities of each regulatory mode when they operate in isolation.

In contrast to Study 2, however, Study 3 did not explicitly ask participants about perceptions of cohesion and conflict in each team, and the open-ended paradigm gave participants the flexibility to describe their spontaneous beliefs about the role of motivation in teams. Using sentiment analysis, this approach revealed that managers used more positive words when describing the effectiveness of the mixed team—compared to both negative words and to positive words used in response to each homogenous team. This result suggests a divergence from the close-ended format with explicit questions about team dynamics in Study 2, where participants perceived the mixed team as having performance deficits due to dysfunctional interpersonal dynamics. Indeed, *tf-idf* and machine learning analyses demonstrated that managers spontaneously mentioned words related to complementarity (e.g., "balance") in both their beliefs about mixed team effectiveness and how this team should be managed. Overall, these results suggest that managers recognize the benefits and vulnerabilities of each regulatory mode and are at least somewhat sensitive to the potential benefits of complementarity in teams.

Lastly, a series of close-ended questions asked managers to rate their beliefs about motivational, demographic, and deep-level diversity. Interestingly, results of this measure showed that managers perceived motivational diversity as differing from deep-level diversity in

only one way: Teams with motivational diversity were seen as the most prone to conflict out of the three types of diversity surveyed. Thus, managers may recognize that motivational diversity is a form of deep-level diversity (as outlined in the Introduction), but perceive a difference in the likelihood of conflict, perhaps due to the opposing nature of different modes of goal pursuit. Managers also perceived both deep-level and motivational diversity as more difficult to manage than demographic diversity. However, it is possible that the label participants were presented with to represent demographic diversity—"surface-level"—may have affected participants' judgements, as the label itself carries the connotation of features that are superficial. As noted in the introduction, the "surface-level" label itself potentially minimizes the role of deeper sociocultural factors that underlie or covary with demographic differences.

Studies 1-3 uncovered new insights into people's beliefs about regulatory mode and its role in teams. People recognized the differential benefits of locomotion and assessment in general (Study 1), expanding metamotivation research into a novel domain and a crucial first step needed to manage these motivational dynamics in teams. Yet as Study 2 demonstrated, people's sensitivity to the interpersonal dynamics associated with motivational diversity in teams affects how teams are perceived: Participants perceived more conflict and less cohesion in mixed compared to homogenous teams, which in turn led them to perceive reduced performance. It was only after accounting for the variance associated with conflict and cohesion that perceptions of complementarity were positively related to performance. Finally, in the absence of explicit questions about the social and performance effects of motivation in teams, Study 3 further demonstrated managers' sensitivity to each regulatory mode. Managers spontaneously described the unique benefits and vulnerabilities of locomotion and assessment in homogenous teams, and also spontaneously recognized their complementarily nature in the mixed team. Managers also

perceived motivational diversity as unique from traditional conceptualizations of deep-level diversity in only one aspect: an increased potential for conflict when teams have motivational diversity.

Overall, then, these studies provide evidence for the knowledge base people have when it comes to managing regulatory mode in teams and thereby lead to a critical juncture in this investigation as a whole—what do managers *do* when managing motivational diversity in teams? As metamotivation research demonstrates (Miele et al., 2020), knowledge of trade-offs does not necessarily mean people know how to effectively manage them, thus necessitating an examination of the strategies managers use when managing motivational diversity in teams.

Studies 4A and 4B

The goal of Study 4 was to move beyond people's knowledge of the dynamics of motivationally mixed teams and turn to what managers believe about how to effectively *manage* motivational diversity in teams. Specifically, the first aim was to examine what managers know about the differential utility of person- and task-focused behaviours (Homan et al., 2020). A related second aim was to examine how managers deploy person- and task-focused behaviours when teams with versus without motivational diversity are experiencing conflict versus not. A third aim of this study was to explore some possible antecedents of strategy use—are some managers better able to switch between strategies in response to situational demands than others? Study 4 thus represents an investigation of the strategies managers use when managing regulatory mode in teams, a first test of elements of the LeaD model (Homan et al. 2020) as it pertains to motivational diversity in teams, and an initial examination of possible antecedents of strategy use—each of which is elaborated upon below.

As noted above, a major goal of Study 4 was to investigate what managers believe about the differential utility of person- and task-focused behaviours broadly, and specifically in relation to managing motivational diversity in teams. As discussed earlier, recognizing motivational trade-offs is not the same as knowing how to implement effective strategies to manage these trade-offs (Miele et al., 2020). Studies 1-3 suggest that managers may recognize that regulatory mode complementarity in teams could lead to both performance benefits and to interpersonal costs. According to the LeaD model (Homan et al., 2020), what is critical is whether managers know when to implement person- versus task-focused strategies in order to facilitate performance and minimize interpersonal tension. The LeaD model further argues that person-focused strategies are best in situations where teams are experiencing bias or interpersonal

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conflict and tension, whereas task-focused strategies are best in situations where teams are experiencing information elaboration and need an extra "push" to realize their full potential. Thus, in the domain of motivational diversity, the LeaD model would suggest that effective managers should be especially likely to endorse person-focused strategies for managing diverse regulatory modes in teams facing conflict and should be especially likely to endorse task-focused strategies for managing diverse regulatory modes in teams not facing conflict. Although one can expect that effective managers may also differentially endorse the use of person versus task-focused strategies for homogenous teams facing conflict or not, I predict that such strategy differentiation should be even stronger for mixed teams, if managers hold beliefs that align with the LeaD model.

Another aim of Study 4 was to explore antecedents of managers' strategy use. Individual differences may better equip some managers than others to manage the dynamics of regulatory mode in teams. One such individual difference is cultural intelligence (CQ), a multi-dimensional construct aimed at capturing the ability to effectively navigate culturally diverse settings (Ang et al., 2007). The construct of cultural intelligence was originally conceptualized in reference to individual differences in people's ability to navigate culturally diverse settings by building on intelligence research more broadly (Ang et al., 2007). Yet people who score high on this measure may generally be sensitive to differences in how other perceive and navigate the world and integrate this knowledge into their own behaviour. Indeed, in introducing the LeaD model, Homan et al. (2020 posit that managers with greater (vs. lower) cultural intelligence may be better equipped to manage diversity in teams because of a heightened understanding of how diversity affects people's interactions. In the domain of regulatory mode, managers high (vs. low) in general CQ may be better equipped to manage complementary motivation in teams due

to their ability to adapt to, consider, and integrate team members' fundamentally different ways of pursuing goals. On the other hand, it is possible that possessing CQ alone is not enough. In the same way that knowledge of motivational trade-offs is not the only ingredient needed to manage those trade-offs (Miele et al., 2020), CQ on its own may not be the only ingredient needed to flexibly adopt strategies to manage complementary motivation in teams. Instead, the additive effects of CQ and metamotivational knowledge of regulatory mode trade-offs may be critical ingredients: Managers may need to both recognize how to adapt to diverse settings (CQ) *and* recognize the trade-offs associated with the particular domain of diversity to be managed (metamotivational knowledge).

Additionally, one other possible moderator may be general sensitivity to the differential effects of person- and task-focused behaviours in different situations (i.e., *person-task strategy sensitivity*). To that end, an original measure was created based on Homan et al.'s (2020) theorizing and review of the literature that person-focused behaviours (e.g., promoting mutual respect and trust) would be most effective in situations of interpersonal conflict, whereas task-focused behaviours (e.g., clarifying roles and responsibilities) would be most effective in situations without conflict where teams need an extra "push" to realize their full potential. The measure was designed to assess whether managers had normatively accurate recognition of when to use each type of behaviour in general team settings unrelated to motivational diversity (or diversity in general). In other words, does managers' knowledge of person- and task-focused strategies in general—and not their specific application to diverse teams—reflect normative claims by researchers? Managers who score high on this measure—those who generally recognize that teams experiencing interpersonal conflict require person-focused behaviours *and*

that teams experiencing information elaboration require task-focused behaviours—may be particularly well-equipped to use these behaviours in teams with motivational diversity.

To fulfill these aims, Study 4 manipulates conflict in mixed and homogenous teams. According to the LeaD model, person-focused versus task-focused strategies should be better when teams are experiencing conflict, especially in a diverse (vs. homogenous) team (Homan et al., 2020). Thus, to be effective in managing motivational diversity in teams, managers should prefer person-focused over task-focused behaviours under conditions of team conflict, but even more strongly for diverse versus homogenous teams. When team conflict is absent, however, the preferred strategies should be task-focused, particularly in the case of mixed (vs. homogenous) teams where there is the potential for greater benefits ensuing from information elaboration.

Two ways of manipulating conflict were used to examine these possibilities. In Study 4A, participants were given a description of an ongoing situation in teams that either involved a motivationally relevant conflict or not, whereas in Study 4B participants were given a one-sentence description signalling the presence or absence of conflict within teams. In both studies, conflict condition was a between-participants variable and team type (locomotion-only, assessment-only, mixed) was a within-participants variable, thereby resulting in a 2 (conflict) X 3 (team type) mixed design. Participants were first given information about a task teams needed to complete followed by team profiles similar to Studies 2 and 3. For each team in each condition, participants were then asked to rate the management strategies they preferred to use and their general team perceptions. Then, all participants completed individual difference measures and provided demographic information. Because the only major difference between Studies 4A and 4B was the conflict manipulation, they are presented in tandem with minor differences (e.g., wording changes) noted where applicable.

Participants

Using CloudResearch, each study aimed to recruit 250 participants whose occupation involves supervising others (a clear indication of management) and who reside in the United States in exchange for US $4.00. Complete responses were received by 249 participants in Study 4A and 252 participants in Study 4B (see Table 1 for sample characteristics).

Procedure

Participants were told the study investigated "what people believe about the effectiveness of different ways to manage newly formed teams" and was split into three parts. Part 1 involved giving participants team descriptions and asking them to rate different management strategies and providing general perceptions of teams, Part 2 contained individual differences, and Part 3 asked participants to provide demographic information.

More specifically, in Part 1 participants were randomly assigned to a conflict-present or conflict-absent condition. In both conditions, participants received descriptions of one locomotion-only, one assessment-only, and one mixed team in random order, mirroring those used in Studies 2 and 3. Immediately following each team were descriptions of a conflict-present or conflict-absent scenario, depending on assigned condition. In Study 4A, this description took the form of a general description of team dynamics intended to make salient a motivationally relevant conflict (or not), while in Study 4B, this description took the form of a one-sentence description signalling the presence or absence of conflict within the team (see Table 15 for conflict manipulations in the mixed team).

Table 15

Conflict Manipulations in Mixed Teams in Studies 4A and 4B

Conflict absent	Conflict present

Study 4A	When you check-in with Team B to find out how they are doing, you observe that Anna and James are sitting across the table from Lisa and Laura, deep in conversation.	When you check-in with Team B to find out how they are doing, you observe that Anna and James are standing at the opposite end of the room from Lisa and Laura.
	Lisa and Laura are nodding along and listening intently, writing down some ideas Anna and James are suggesting, and seem to be working through the possible pros and cons.	Lisa and Laura are loudly criticizing some ideas Anna and James are suggesting, pointing out all the ways they could go "wrong."
	Meanwhile, Anna and James are excited about the wealth of possibilities and look towards Lisa and Laura for an analysis of their ideas, and seem restless to get started.	Meanwhile, Anna and James are rolling their eyes and venting with each other about the lack of progress they're making "because Lisa and Laura won't get going," and seem restless to get started.
Study 4B	When you check-in with Team B to assess their progress on the inventory update task, you discover that some progress has been made, but there is still far to go.	When you check-in with Team B to assess their progress on the inventory update task, you discover that some progress has been made, but there is still far to go.
	In your meetings, <u>you do not sense any strong tension within the team</u>. You reflect on the people who make up the team and how you can support their performance.	In your meetings, <u>you sense there is tension within the team</u>. You reflect on the people who make up the team and what the source of the tension might be.

Note. Emphasis in original.

After this, participants were asked to rate the extent to which they would engage in person- and task-focused behaviours, followed by their general perceptions of each team. First, participants completed a 20-item measure developed by Stogdill (1963) that asked them to "Imagine you are managing Team [A / B / C] as they work on the inventory update task. To what extent would you:" followed by randomized items (e.g., "treat all team members as equals?", "schedule the work to be done?") on a scale from 1 (*Not at all*) to 7 (*Definitely*). Ten of these items measure person-focused behaviours ("consideration" in the Stogdill [1963] measure; Study 4A α = .85 to .86; Study 4B α = .84 to .85) and the other ten measure task-focused behaviours;

("initiating structure" in the Stogdill [1963] measure; Study 4A α = .86; Study 4B α = .83 to .86). Second, participants were given the following definitions of person- and task-focused behaviours (emphasis in original):

Researchers have established different ways of classifying the strategies managers use when managing teams. Two of these methods are called **task-focused** and **person-focused** strategies.

Task-focused strategies are used to optimize the strengths of team members so that the group can work together effectively. They involve clarifying roles and responsibilities, giving performance feedback, ensuring task information is communicated effectively, using rewards, and concentrating team members on the task at hand.

Person-focused strategies are used to build relationships between team members so that the group can work together effectively. They involve promoting mutual respect and trust, engaging in conflict management, fostering team cohesion, ensuring everyone has a voice, and considering everyone's unique perspective.

Participants were then asked to make a binary choice ("…would you <u>first</u> implement task-focused or person-focused behaviours to help the team perform well?"), followed by two continuous ratings of their respective importance (1 = *Not at all important*, 7 = *Extremely important*), and a randomized four-item 8-point bipolar rating scale (beneficial, useful, effective, and necessary; 1 = *task-focused most*, 8 = *person-focused most*; Study 4A α = .95 to .96; Study 4B α = .95 to .96) that provided a person-task relative rating.

Next, participants completed general team perception measures in random order. A feeling thermometer capturing perceived warmth between pairs of team members (0 = *very cold*

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or unfavourable feelings towards each other, 100 = *very warm or favourable feelings towards each other*; rescaled to range 0-1) as a way of assessing perceived ingroup preference (with a difference score computed by subtracting warmth ratings for cross-motivation pairs from those for same-motivation pairs). A four-item measure developed by Kearney and Gebert (2009) assessed perceived information elaboration (Study 4A α = .90 to .95; Study 4B α = .90 to .91; e.g., "The members of Team [A / B / C] will complement each other by sharing their knowledge") on a 7-point scale (1 = *Not at all*, 7 = *Definitely*). Participants also completed a five-item measure of perceived psychological safety (Study 4A α = .69 to .71; Study 4B α = .59 to .65; e.g., "Members of Team [A / B / C] would judge each other on the things they say") developed by van Ginkel and van Knippenberg (2008) and measured on a 7-point scale (1 = *Not at all*, 7 = *Definitely*). Finally, participants completed the Unitary Cohesion Index (Forsyth, 2021), a 5-point bipolar rating scale that assesses team cohesion using nine word pairs (e.g., Strongly bonded _ _ _ _ _ Weakly bonded; Study 4A α = .95 to .96; Study 4B α = .93 to .95).

In Part 2, participants completed three individual difference measures in random order. Specifically, they completed an assessment of their metamotivational knowledge of regulatory mode—a shortened version of the materials used in Study 1 with four locomotion-only and four assessment-only tasks (see Appendix E)[7]. They also completed an original measure of their general sensitivity to when person- and task-focused behaviours are most effective (person-task strategy sensitivity). This measure contains 10 general team scenarios. Five of these scenarios reflected situations where teams were experiencing interpersonal conflict and would thus benefit from person-focused behaviours (e.g., "teams members blame each other for their mistakes").

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[7] Study 4A also contained four mixed tasks, but because these tasks were not used in calculating participants' metamotivational knowledge accuracy they were dropped in Study 4B.

The other five scenarios reflected situations without conflict that would benefit from task-focused behaviours for teams to realize their full potential (e.g., "teams are working collaboratively but unable to make progress"). Participants used the same bipolar person-task relative rating scale as Part 1 to indicate their relative preference for each behaviour in each situation (see Appendix F for full measure). Third, participants completed the 20-item cultural intelligence scale (Ang et al., 2007) on a 7-point Likert scale (e.g., "I am conscious of the cultural knowledge I apply to cross-cultural interactions"; Study 4A α = .91; Study 4B α = .93).

Finally, in Part 3, participants were asked to provide information related to their managerial experience: their years of managerial experience, the extent to which their job requires supervisory duties on a 7-point scale (1 = *Not at all*, 7 = *Very much*), the number of subordinates they oversee currently and in their previous positions, job title and industry sector, and their position in their organizational hierarchy (1 = lowest position, 10 = highest position). They were then asked to provide demographic information related to their gender, age, education level, income, ethnicity, and English language ability (age and income also serve as additional proxies for managerial experience).

Results

Outcomes are divided into two categories: (1) Management behaviours, comprising binary forced choices, person- and task-focused strategy endorsement, their respective perceived importance, and their relative ratings, and (2) team perceptions, comprising perceptions of team information elaboration, perceived warmth, psychological safety, and overall cohesion. Analyses used orthogonal contrasts in multiple regression models, rather than a more traditional ANOVA-based approach, to compare the effects of team type and condition on outcomes in a way that provides more statistical power (vs. traditional omnibus models), thereby decreasing the risk of

Type II errors (Rosnow & Rosenthal, 1989). A first set of contrasts compared all three team types, allowing for direct comparisons between the locomotion and assessment teams, and for comparisons between the mixed, locomotion, and assessment teams when conflict was present and absent. No consistent differences emerged between locomotion and assessment teams (see Appendix G for detailed results), thus, a second set of contrasts collapsed across locomotion and assessment teams (see Table 16). Specifically, these contrasts tested the overall main effect of conflict (presence vs. absence) and compared mixed to homogenous teams within each condition (i.e., mixed vs. homogenous when conflict was present and absent). This analytical approach was taken for two reasons. First, because predictions are focused on ordinal interactions, using a traditional ANOVA-based approach that first tests for an omnibus interaction requires unfeasibly large sample sizes to first detect the omnibus interaction prior to further probing to determine if simple effects are consistent with predictions (Frost & Ledgerwood, 2020). Second, using contrasts in a regression-based approach allows for the testing of specific weighted contrasts of interest that can compare the mixed team to both homogenous teams.

Table 16

Planned Contrasts Used in Studies 4A and 4B

	Mixed / conflict present	Homogenous / conflict present	Mixed / conflict absent	Homogenous / conflict absent
ConfMain	+1	+1	-1	-1
PresentMix	+1	-1	0	0
AbsentMix	0	0	+1	-1

Each outcome was regressed onto these contrasts, with linear regression used for continuous variables and logistic regression for the binary forced response variable. Exploratory moderation analyses then examined whether the effect of team and/or condition on management

behaviours was moderated by person-task strategy sensitivity, metamotivational knowledge of regulatory mode, and cultural intelligence. Table 17 contains descriptive statistics for each outcome by team type and condition in each study and Table 18 correlations among all continuous variables, whereas Table 19 contains regression estimates for contrast-only models.

Table 17

Descriptive Statistics for Continuous Outcomes by Team Type and Condition in Study 4A and 4B

Outcome	Study 4A				Study 4B			
	M-P	H-P	M-A	H-A	M-P	H-P	M-A	H-A
	M (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)
Person-focused endorsement	5.74 (1.02)	5.80 (0.94)	5.89 (0.92)	5.89 (0.87)	5.96 (0.88)	5.90 (0.89)	5.95 (0.91)	5.92 (0.92)
Task-focused endorsement	6.23 (1.24)	6.29 (1.15)	6.21 (1.13)	6.21 (1.01)	6.47 (1.02)	6.36 (0.95)	6.28 (1.06)	6.18 (1.27)
Person-focused importance	4.91 (1.87)	4.88 (1.75)	4.96 (1.47)	4.79 (1.59)	5.00 (1.53)	4.99 (1.61)	4.73 (1.53)	4.78 (1.58)
Task-focused importance	5.36 (1.46)	5.27 (1.57)	5.45 (1.24)	5.40 (1.31)	5.55 (1.42)	5.44 (1.47)	5.31 (1.23)	5.30 (1.50)
Person/task relative rating	4.23 (2.31)	4.28 (2.30)	4.16 (2.06)	4.03 (2.13)	4.26 (2.28)	4.15 (2.31)	4.08 (2.12)	3.98 (2.23)
Information elaboration	3.98 (1.62)	4.03 (1.41)	5.70 (0.98)	5.33 (1.08)	5.32 (1.21)	5.20 (1.31)	5.45 (1.07)	5.28 (1.15)
Overall warmth	0.56 (0.13)	0.56 (0.12)	0.71 (0.14)	0.67 (0.14)	0.63 (0.14)	0.62 (0.17)	0.67 (0.14)	0.66 (0.17)
Differential warmth	0.40 (0.38)	0.37 (0.36)	0.15 (0.21)	0.08 (0.20)	0.16 (0.30)	-0.02 (0.14)	0.14 (0.28)	0.003 (0.12)
Psychological safety	3.40 (1.67)	3.43 (0.95)	4.61 (0.66)	4.42 (0.75)	4.30 (0.91)	4.25 (0.88)	4.58 (0.78)	4.38 (0.84)
Cohesion	2.28 (0.98)	2.29 (0.91)	3.44 (0.83)	3.08 (0.83)	3.11 (0.98)	3.12 (0.95)	3.40 (0.85)	3.25 (0.87)

Note: M-P = Mixed team / conflict present, H-P = Homogenous teams / conflict present, M-A = Mixed team / conflict absent, H-A = Homogenous teams / conflict absent.

Table 18

Correlations Among Continuous Outcomes and Individual Differences in Studies 4A and 4B

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Person-focused endorsement	–	.67***	.11†	.20**	-.17**	.42***	.11†	.20**	.23***	.17**	.28***	.58***	.02
2. Task-focused endorsement	.59***	–	.21***	.28***	-.18**	.43***	.06	.21***	.12*	.14*	.18**	.39***	.19**
3. Person-focused importance	.28***	.15*	–	.14*	.40***	.34***	.02	.25***	.22***	.13*	-.02	-.04	.25***
4. Task-focused importance	.25***	.26***	-.06	–	-.46***	.42***	-.05	.26***	.25***	.30***	.07	.15*	.17**
5. Person/task relative rating	-.08	-.09	.55***	-.56***	–	-.05	-.06	-.05	.07	-.12†	-.15*	-.18**	.10
6. Information elaboration	.20**	.04	.18**	.17**	-.01	–	-.16*	.53***	.73***	.61***	<.01	.09	.28***
7. Differential warmth	.41***	.32***	.17**	.11†	.02	-.40***	–	.02	-.21***	-.10	.14*	.23***	-.04
8. Overall warmth	.18**	.10	.21**	.23***	-.02	.61***	-.35***	–	.54***	.49***	.01	.05	.25***
9. Psychological safety	-.02	-.14*	.06	.03	.04	.78***	-.59***	.53***	–	.63***	-.06	-.07	.18**
10. Cohesion	-.11†	-.10	.04	<.01	.02	.71***	-.64***	.57***	.78***	–	.06	-.02	.19**
11. Person-task sensitivity	.36***	.23***	.29***	.07	.12†	.01	.28***	.02	-.08	-.11†	–	.26***	-.04
12. Regulatory mode knowledge	.62***	.44***	.05	.31***	-.24***	-.04	.49***	.03	-.25***	-.32***	.31***	–	-.17**
13. Cultural intelligence	.24***	.20***	.20**	.12†	.11†	.37***	-.04	.22***	.31***	.29***	.06	.06	–

Note: Study 4A correlations are below the diagonal and Study 4B above the diagonal. Study 4A *n* = 249, Study 4B *n* = 252.
† *p* < .10, * *p* < .05, ** *p* < .01, *** *p* < .001.

Management Behaviours

Across Studies 4A and 4B, there was some evidence that managers believed person-focused behaviours were more important for teams in the conflict present versus conflict absent condition. This effect was marginally significant in Study 4A, $t(743) = 1.66$, $p = .097$, $d = 0.12$, and significant in Study 4B, $t(752) = 1.98$, $p = .048$, $d = 0.14$.

In Study 4B only, a marginal main effect also suggested that mangers perceived task-focused behaviours to be more important when conflict was present (vs. absent), $t(752) = 1.75$, $p = .081$, $d = 0.13$. No other contrasts for any other management behaviours were significant.

Team Perceptions

Information elaboration. In Study 4A only, managers believed that teams in the conflict present (vs. absent) condition would experience significantly less information elaboration, $t(743) = 15.15$, $p < .001$, $d = 1.11$; additionally, when conflict was absent, mixed teams were perceived to engage in more information elaboration than homogenous teams, $t(743) = 2.66$, $p = .008$, $d = 0.20$. There were no significant or marginal effects in Study 4B (see Table 19).

Overall warmth. In both studies, main effects of conflict revealed that managers believed teams in the conflict present (vs. absent) condition would experience significantly less warmth overall (Study 4A: $t(743) = 12.34$, $p < .001$, $d = 0.91$; Study 4B: $t(752) = 2.92$, $p = .004$, $d = 0.21$). In other words, managers' ratings of the overall "temperature" of teams in the conflict present versus absent conditions was colder.

In Study 4A only, managers also perceived significantly more overall warmth when conflict was absent in the mixed team compared to homogenous ones, $t(743) = 2.50$, $p = .013$, $d = 0.18$.

Differential warmth. In contrast to the effect observed in Study 4A for overall warmth, when warmth was calculated via a difference score (such that higher scores indicate greater perceived ingroup preferences), managers in both studies perceived significantly less warmth in the mixed versus homogenous teams when conflict was absent, $t(743) = 2.12$, $p = .034$, $d = 0.16$ (Study 4A) and $t(751) = 6.20$, $p < .001$, $d = 0.45$ (Study 4B).

A main effect of conflict mirroring overall warmth emerged in Study 4A only, $t(743) = 11.64$, $p < .001$, $d = 0.85$. Additionally, in Study 4B only, managers perceived less warmth when conflict was present in mixed (vs. homogenous) teams, $t(751) = 8.29$, $p < .001$, $d = 0.61$.

Psychological safety. Conflict main effects were observed in both studies, revealing that managers perceived less psychological safety in teams when conflict was present versus absent (Study 4A: $t(743) = 16.39$, $p < .001$, $d = 1.20$; Study 4B: $t(752) = 3.08$, $p = .002$, $d = 0.22$). Additionally and in both studies, when conflict was absent managers perceived mixed teams to have more psychological safety compared to homogenous teams (marginally in Study 4A: $t(743) = 1.91$, $p = .057$, $d = 0.14$; significantly in Study 4B: $t(752) = 2.15$, $p = .032$, $d = 0.16$).

Cohesion. Lastly, main effects of conflict in both studies revealed that managers perceived teams to be less cohesive when conflict was present versus absent, $t(743) = 14.26$, $p < .001$, $d = 1.04$ in Study 4A and $t(752) = 3.02$, $p = .003$, $d = 0.22$ in Study 4B.

In Study 4B only, managers rated mixed teams as more cohesive than homogenous ones when conflict was absent, $t(743) = 3.66$, $p < .001$, $d = 0.27$.

Summary of Consistent Results Across 4A & 4B. Results revealed that the presence of conflict (vs. the absence of conflict) led managers to perceive more less overall warmth, less psychological safety, and less cohesion—regardless of team type. Managers also reported that person-focused versus task-focused behaviours were more important when conflict was present

versus absent. Interestingly, managers perceived more psychological safety in mixed versus homogenous teams when conflict was absent. Additionally, when warmth was assessed via a difference score that compared pairs of team members (i.e., do motivational subgroups differ from zero?), they also perceived less warmth in the mixed team compared to homogenous teams when conflict was absent. In other words, without explicit mention of conflict, within the mixed team managers still perceived more warmth between cross-motivational team members than same-motivational members.

Although there were differences in manager perceptions as function of the presence or absence of conflict, there was no consistent evidence that these perceptions were moderated by team type. That is, managers did not endorse person vs. task-focused strategies as particularly important for mixed (vs. homogenous) teams under conflict, nor did they endorse task vs. person-focused strategies as particularly important for mixed (vs. homogenous) teams under the absence of conflict.

Table 19

Regression Estimates by Contrast for Each Outcome in Studies 4A and 4B

	Study 4A			Study 4B		
	ConfMain	PresentMix	AbsentMix	ConfMain	PresentMix	AbsentMix
	B (SE)	B (SE)	B (SE)	B (SE)	B (SE)	B (SE)
Person-focused endorsement	**-0.06**[†]	-0.03	-0.0008	-0.002	0.03	0.01
	(0.04)	(0.05)	(0.05)	(0.03)	(0.05)	(0.05)
Task-focused endorsement	0.03	-0.03	-0.002	0.07	0.008	0.05
	(0.04)	(0.06)	(0.06)	(0.04)	(0.06)	(0.06)
Binary choice	0.05	-0.02	0.10	0.08	0.09	-0.07
	(0.08)	(0.11)	(0.11)	(0.08)	(0.11)	(0.11)
Person-focused importance	0.01	0.02	0.08	**0.12**[*]	0.006	-0.03
	(0.07)	(0.09)	(0.09)	**(0.06)**	(0.09)	(0.09)
Task-focused importance	-0.06	0.04	0.03	**0.10**[†]	0.05	0.004
	(0.05)	(0.08)	(0.08)	**(0.06)**	(0.08)	(0.08)
Person/task relative rating	0.08	-0.03	0.07	0.09	0.06	0.05
	(0.09)	(0.12)	(0.12)	(0.09)	(0.12)	(0.12)
Information elaboration	**-0.76**[***]	-0.02	**0.19**[**]	-0.05	0.06	0.09
	(0.05)	(0.07)	**(0.07)**	(0.05)	(0.07)	(0.07)
Overall warmth	**-0.06**[***]	0.001	**0.02**[*]	**-0.02**[**]	0.006	0.001
	(0.005)	(0.007)	**(0.007)**	**(0.006)**	(0.009)	(0.009)
Differential warmth	**0.13**[***]	0.01	**0.03**[*]	0.001	**0.09**[***]	**0.07**[***]
	(0.01)	(0.02)	**(0.02)**	(0.008)	**(0.01)**	**(0.01)**
Psychological safety	**-0.55**[***]	-0.01	**0.09**[†]	**-0.10**[**]	0.02	**0.10**[*]
	(0.03)	(0.05)	**(0.09)**	**(0.03)**	(0.05)	**(0.05)**
Cohesion	**-0.49**[***]	-0.006	**0.18**[***]	**-0.11**[**]	-0.004	0.07
	(0.03)	(0.05)	**(0.05)**	**(0.04)**	(0.05)	(0.05)

Note: Estimates for the binary choice outcome are based on logistic regression. Boldface indicates significant or marginal effects. [†] $p < .10$, [*] $p < .05$, [**] $p < .01$, [***] $p < .001$.

Exploratory Moderation

Accuracy indices were calculated for person-task strategy sensitivity and metamotivational knowledge of regulatory mode. For person-task strategy sensitivity, situations that benefit from task-focused behaviours were reverse scored and then responses to all scenarios were averaged to create an overall accuracy index where higher scores indicate greater normative accuracy (i.e., a score of 8 indicates perfect "accuracy" and a 1 of one indicates perfect "inaccuracy"). In other words, this index reflects normatively accurate recognition of the

differential benefits of person- and task-focused behaviours in general team situations not pertaining to motivational diversity and revealed that, overall, managers are normatively accurate in their beliefs about when person- and task-focused behaviours are more versus less effective in general team management situations not pertaining to diversity (see Table 20 for descriptive statistics).

Table 20

Descriptive Statistics for Person-Task Strategy Sensitivity in Studies 4A and 4B

	Study 4A M (SD)	Study 4B M (SD)
Person-focused situational accuracy	5.28 (1.95)	5.33 (1.95)
Task-focused situational accuracy	5.33 (1.22)	5.28 (1.25)
Overall accuracy	5.31 (1.18)	5.30 (1.24)

For metamotivational knowledge of regulatory mode, an accuracy index was computed as follows: [Locomotion motivation benefiting locomotion tasks – Locomotion motivation undermining locomotion tasks] + [Assessment motivation benefiting assessment tasks – Assessment motivation undermining assessment tasks]. Higher scores on this index reflect more normatively accurate metamotivational knowledge of regulatory mode. Two sets of analyses were conducted following these calculations, one for each accuracy index, in which person-task strategy sensitivity and metamotivational knowledge accuracy moderated the effects of each contrast on each outcome (see Table 21).

Moderation of conflict by person-task strategy general sensitivity. Significant or marginal effects were observed in Study 4A only, where a consistent pattern of results emerged across outcomes. When conflict was absent, person-task strategy sensitivity was associated with greater endorsement of person-focused behaviours, $r(373) = .29$, $p < .001$, and task-focused behaviours, $r(373) = .15$, $p = .005$; it was also associated with higher ratings of the importance of

task-focused behaviours, $r(373) = 0.12$, $p = .021$, but not person-focused behaviours, $r(373) = 0.06$, $p = .271$.

When conflict was present, person-task strategy general sensitivity was similarly associated with greater endorsement of person-focused behaviours, $r(370) = .39$, $p < .001$, and task-focused behaviours, $r(370) = 0.25$, $p < .001$. Moreover, unlike the pattern observed when conflict was absent, when conflict was present person-task strategy general sensitivity was associated with higher ratings of the importance of person-focused behaviours, $r(370) = .36$, $p < .001$, but not task-focused behaviours, $r(370) = -.01$, $p = .787$. When conflict was present, person-task strategy general sensitivity was associated with higher ratings of the relative value of person-focused over task-focused behaviours, $r(370) = .23$, $p < .001$. Finally, in the presence of conflict, person-task strategy general sensitivity was associated with a greater likelihood of choosing person-focused instead of task-focused behaviours, $r(370) = .16$, $p = .002$. In other words, when conflict was present, managers with greater person-task sensitivity endorsed person-focused behaviours to a greater extent than task-focused behaviours. This pattern of shifting towards more person-focused behaviours under conflict aligns with what the LeaD model (Homan et al., 2020) argues is normatively effective when diverse teams are experiencing conflict.

Moderation of conflict by regulatory mode metamotivational knowledge. Both studies revealed significant moderation by regulatory mode metamotivational knowledge. When conflict was absent in both studies, normatively accurate metamotivational knowledge was associated with greater endorsement of task-focused behaviours, $r(373) = .36$, $p < .001$ (Study 4A); $r(382) = .40$, $p < .001$ (Study 4B). A similar pattern was observed when conflict was present, $r(370) = .41$, $p < .001$ (Study 4A) and $r(382) = .25$, $p < .001$ (Study 4B); the weaker

effect when conflict was present in Study 4B may suggest that the overall moderation pattern is driven by the absence of conflict: When conflict is absent, managers with normatively accurate metamotivational knowledge endorse task-focused behaviours more than person-focused behaviours. In terms of the LeaD model (Homan et al., 2020), this may suggest that normatively accurate knowledge of the domain of diversity being managed—in this case, regulatory mode motivation—contributes to more normatively effective management of that domain in the absence of team conflict.

In Study 4A only, when conflict was absent, normatively accurate metamotivational knowledge was associated with greater perceived importance of task-focused behaviours, $r(373)$ = .12, p = .021, but not person-focused behaviours, $r(373)$ = .06, p = .271; it was also associated with higher ratings of the relative value of task-focused over person-focused behaviours, $r(373)$ = -.26, $p < .001$, and marginally lower likelihood of choosing task-focused instead of person-focused behaviours, $r(373)$ = -.10, p = .063. In contrast, when conflict was present, normatively accurate metamotivational knowledge was associated with greater perceived importance of both task-focused behaviours, $r(370)$ = .26, $p < .001$, and person-focused behaviours, $r(370)$ = .11, p = .027, but was unrelated to both the bipolar person-task relative rating variable, $r(370)$ = -.07, p = .193, and the likelihood of choosing one behaviour over another, $r(370)$ = .04, p = .407.

Finally, in Study 4B only, normatively accurate metamotivational knowledge was associated with greater endorsement of person-focused behaviours when conflict was absent, $r(382)$ = .61, $p < .001$, as well as present, $r(370)$ = .48, $p < .001$.

Table 21

Correlations of Individual Differences to Outcomes by Conflict Condition with Tests of

Moderation

Individual difference	Study 4A			Study 4B		
	Conflict absent	Conflict present	Moderation	Conflict absent	Conflict present	Moderation
Outcome	*r*	*r*	*t*	*r*	*r*	*t*
Person-task sensitivity						
Person-focused endorsement	**.29******	**.39******	**2.25***	**.24******	**.29******	0.52
Task-focused endorsement	**.15*****	**.25******	**1.88†**	**.14*****	**.17*****	-0.03
Binary choice	-.01	**.16*****	**2.52***	-.04	.05	0.99
Person-focused importance	.06	**.36******	**4.43******	**-.09†**	.06	1.62
Task-focused importance	**.12***	-.01	**-1.69†**	**.11***	-.01	-1.30
Person/task relative rating	-.08	**.23******	**4.51******	**-.15*****	-.04	1.37
Metamotivational knowledge						
Person-focused endorsement	**.60******	**.58******	0.95	**.61******	**.48******	**-2.23***
Task-focused endorsement	**.36******	**.41******	**2.28***	**.40******	**.25******	**-2.72*****
Binary choice	**-.10†**	.04	**1.79†**	< .01	.01	-0.07
Person-focused importance	-.05	**.11***	**1.99***	-.05	< .01	0.58
Task-focused importance	**.21******	**.26******	**1.67†**	**.14*****	.06	-0.71
Person/task relative rating	**-.26******	-.07	**2.14***	-.08	**-.14*****	1.27
Cultural intelligence						
Person-focused endorsement	**.22******	**.22******	-0.20	.02	.02	-0.26
Task-focused endorsement	**.19******	**.17*****	-0.57	**.16*****	**.18******	-0.41
Binary choice	< .01	.05	1.18	.04	-.02	-0.30
Person-focused importance	**.15*****	**.16*****	0.51	**.16*****	**.18******	0.74
Task-focused importance	**-.12***	.05	-1.50	**.11***	**.12***	0.32
Person/task relative rating	.01	**.13*****	**1.94†**	.08	.04	-0.39

Note. Boldface indicates significant or marginal moderation of reported correlations (or slopes). Moderation estimates for the binary choice outcome are *z*-statistics. †$p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Discussion

Two different ways of manipulating conflict in mixed and homogenous teams revealed that perceptions of teams varied as a function of both conflict condition and team type. First, main effects of conflict revealed that its presence (vs. absence) resulted in less perceived information elaboration (Study 4A only), psychological safety, cohesion, and less warmth, suggesting that these manipulations effectively manipulated conflict in general (i.e., collapsing

across the differences in team motivational orientations). Second, when conflict was absent, managers perceived mixed (vs. homogenous) teams as having more psychological safety, more information elaboration (Study 4A only), more cohesion (Study 4B only) and greater warmth as calculated as a difference score (both samples). For management behaviours, there was some evidence that managers endorsed the importance of person- and task-focused behaviours differently as a function of conflict, but no evidence that these endorsements varied in mixed versus homogenous teams. These results stand in contrast to initial predictions, where it was predicted that managers would display a stronger preference for person-focused behaviours when mixed (vs. homogenous) teams experience conflict, and a stronger preference for task-focused behaviours when mixed (vs. homogenous) are not experiencing conflict.

Results of exploratory moderation analyses suggest that general knowledge of when person- and task-focused behaviours are most effective (as assessed by person-task strategy general sensitivity) may be related to how managers respond to specific teams facing conflict or not, although it is important to note that these patterns were only observed in Study 4A. In the absence of conflict, managers with more versus less normatively accurate person-task strategy general sensitivity perceived task-focused behaviours as more important, were more likely to implement them first, and placed greater relative value on task-focused versus person-focused behaviours; when conflict was present, the opposite pattern was observed. There was also some evidence that regulatory mode metamotivational knowledge was related to how managers responded to the manipulation of conflict in teams, where managers with more accurate metamotivational knowledge were more likely to endorse person- and task-focused behaviours when conflict was both present and absent in teams—effects that did not further vary by team type (i.e., mixed vs. homogenous). Though speculative and in need of replication, this

association suggests that recognizing the normative trade-offs associated with locomotion and assessment makes one more sensitive to their potentials effects on conflict and information elaboration in teams, resulting in the adoption of strategies to mitigate conflict (person-focused) and facilitate information elaboration (task-focused). If so, this result would advance metamotivation research by demonstrating that normatively accurate metamotivational of this particular motivational domain (regulatory mode) affects subsequent behaviour when managing regulatory mode in teams.

Although these studies did not provide evidence that managers implement different strategies (or the same strategies to differing degrees) when working with mixed versus homogenous teams, as originally predicted, there was some evidence that the manipulation of conflict affected how managers perceived team dynamics. Specifically, perceptions of teams when conflict was absent significantly varied by team type, with mixed (vs. homogenous) teams perceived as having less warmth and more psychological safety across studies, and in Study 4A as having more information elaboration and cohesion. Furthermore, there was also some evidence from Study 4A that more general sensitivity to the differential utility of person and task-focused strategies may guide responses in specific situations related to motivational diversity in teams, with greater general sensitivity associated with the differential endorsement of person- and task-focused behaviours when conflict was present and absent in teams (though this association did not further vary by team type). Interestingly and across both samples, managers were, on average, endorsing normatively accurate responses on this measure. Thus, managers overall appeared to differentiate between the utility of person- versus task-focused strategies in general conflict- and information elaboration-related team situations but did not differentiate when asked to manage a specific form of diversity in teams. It is unclear, based on the results of

this study alone, whether managers do not apply this knowledge differentially in the case of motivationally mixed versus homogenous teams—suggesting a problem with implementation strategies or translating knowledge into behaviour—or simply do not believe that mixed versus homogenous teams should be treated differently in the presence or absence of conflict.

There was also some inconsistency in results observed in Study 4A versus Study 4B, such as perceived information elaboration (Study 4A only) and perceived importance of person-focused behaviours (Study 4B only, see Table 18). Given that the primary difference between these studies was the form of the conflict manipulation, respective components of this manipulation may have led to the divergence in results. First, the manipulation in Study 4A referred directly to specific team members, and in the mixed team these were clearly divided into two subgroups based on individual's motivational orientation. This dynamic is in contrast to Study 4B, where the conflict manipulation was arguably more subtle and referred to the team as a whole. By "personalizing" conflict in Study 4A, it may have been easier for managers to discern team processes such as information elaboration or team schisms. Additional evidence for this possibility is observed in the differences in effect sizes for the main effect of conflict on team perceptions, with Study 4A effect sizes notably larger than Study 4B (e.g., cohesion $d = 1.04$ in Study 4A and $d = 0.22$ in Study 4B; see also regression estimates in Table 19). Second, at the same time that the "personalized" conflict manipulation in Study 4A may have made team processes more apparent, it may also have rendered managers uncertain of what strategies to use. That is, the strong face-valid nature of the manipulation may have been slightly overwhelming for managers to attempt to address. The more subtle manipulation in Study 4B, in contrast, may have made managers more comfortable with addressing the presence and absence of conflict,

thereby effecting the perceived importance of person- and task-focused behaviours in Study 4B only.

More broadly, it is possible that two features of the current paradigm may have constrained the capacity to observe how or if managers would approach motivationally mixed versus homogenous teams differently under conflict. This study presented hypothetical teams in which managers were not making consequential decisions. Although using hypothetical contexts is often a useful first step to establish the basic patterns of psychological phenomena, the lack of consequences—for instance, (dis)approval of managers by team members after a strategy is implemented—may have affected results. Second, although Studies 4A and 4B used different conflict manipulations, both paradigms manipulated overall conflict. However, teams can experience different types of conflict, and the general manipulation of conflict may have led to significant heterogeneity into how managers perceived it.

One widely studied distinction that teases apart the heterogenous nature of conflict is between emotional and task conflict (Jehn, 1995): Emotional conflict is centered on interpersonal disagreements between team members, whereas task conflict is centered on disagreements related to the work teams are doing. This distinction bears similarity to the opposing pulls of diversity in teams discussed in the LeaD model (Homan et al., 2020), with the interpersonal nature of emotional conflict akin to the interpersonal nature of bias in diverse teams and the work-related nature of task conflict overlapping with the coordination of team strengths apparent during information elaboration in diverse teams. Therefore, based on this distinction, emotional conflict may be especially likely to benefit from person-focused behaviours that address interpersonal tension (i.e., mitigate bias), whereas task conflict may be especially likely to benefit from task-focused behaviours that optimize the unique strengths of team members (i.e.,

information elaboration). Returning to the present studies, in manipulating overall conflict

Studies 4A and 4B did not clearly distinguish between emotional and task conflict. As a result,

managers may not have been able to discern the primary form of team conflict and therefore may

have been uncertain of what types of behaviours would be more or less effective. To allow

managers to identify the type of conflict teams are experiencing and address Study 4 limitations,

Study 5 manipulates emotional and task conflict independently and uses a consequential

paradigm to examine managerial behaviours.

Study 5

The goal of Study 5 was to further test managers' beliefs and behaviours regarding managing motivational diversity in a consequential context, including whether managers respond differently when the type of conflict appears to be task- versus emotion-based. Studies 4A and 4B did not find evidence that managers endorse the use of person- versus task-focused behaviours differently for mixed versus homogeneous teams in the presence or absence of conflict. However, these studies did suggest that managers recognized, at a general level, that person-focused behaviours were useful when teams were experiencing interpersonal strife whereas task focused behaviors were useful when teams were struggling to coordinate their skills, consistent with beliefs that Homan et al. (2020) posited are necessary for effective management of diverse teams. Thus, there was a gap between these general beliefs and the translation to management behaviours endorsed in the context of mixed versus homogeneous regulatory mode in teams.

Thus, to further investigate managers' beliefs about when to use person- and task-focused behaviours, Study 5 used a consequential paradigm to manipulate different types of conflict, specifically the presence or absence of emotional and task conflict. For motivationally diverse (vs. homogenous) teams, in particular, the presence of emotional conflict arising from opposing motivational orientations, and the presence of task conflict arising from the ineffective utilization of complementarity, may provide especially strong signals (compared to homogenous teams) of the need to use different types of management strategies. Thus, this design provides a potentially stronger test of whether managers hold beliefs about managing diversity that align with what is considered optimal, at least according to the LeaD model (Homan et al., 2020). Study 5 participants were told that the researchers were working with an external organization to improve

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their teamwork and that they would be paired with a team from this organization to give advice about how the team should be managed; participants were further told that their responses would be used by the organization to inform the management approaches to these teams. Not only does this consequential paradigm increase ecological validity, but it may also increase the perceived importance of getting it "right" when making management recommendations.

Additionally, Study 5 focused on teams with complementary motivation only (i.e., mixed teams) to allow for more targeted comparisons of how managers respond to different types of conflict within motivationally diverse teams. Team member descriptions were expanded to better signal motivational orientations and increase realism by providing participants with more detailed descriptions of team members, further improving on prior studies which used one-sentence team member descriptions. These expanded team profiles were based on the pilot study conducted prior to Study 2 and described in Appendix C. Using a 2 (emotional conflict: present vs. absent) X 2 (task conflict: present vs. absent) fully between-participants design, plus a fifth hanging control condition with no conflict information, participants in management positions were shown a description of a team, plus additional conflict information based on their assigned condition, and completed the same set of dependent measures as Study 4.

Following these dependent measures, all participants completed measures of person-task strategy general sensitivity and their metamotivational knowledge of regulatory mode, as in Study 4, as well as a measure of their own chronic regulatory mode (Kruglanski et al., 2000). Cultural intelligence had no effect in Study 4 and was thus replaced with a measure of participants' own chronic regulatory mode, a potentially more proximal construct that may affect how motivational diversity is perceived and/or managed. For instance, managers high in only one regulatory mode may also be particularly sensitive to the perceived foibles of the other

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regulatory mode, in turn affecting their perception of teams as a whole. On the other hand, perhaps chronic locomotion may be more strongly linked to effective management beliefs given the positive association between managers' chronic locomotion orientation and positive beliefs about motivational diversity observed in Study 3. Last, participants provided information about their management experience and demographics.

I predicted that delineating the type of conflict teams are experiencing—emotional and/or task conflict—would provide managers with the signals needed to apply their general knowledge of the differential utility of person- and task-focused strategies to the situation of managing regulatory mode team diversity. Given the overlap between emotional conflict and bias as outlined above and as described in LeaD (Homan et al., 2020), managers should utilize person-focused behaviours in situations of high emotional conflict. Thus, in conditions where emotional conflict was present (vs. absent), I predicted that managers would be more likely to use person-focused behaviours to address interpersonal tension arising from opposing motivational orientations. In contrast, given the overlap between task conflict and information elaboration, managers should utilize task-focused behaviours under situations of high task conflict. Specifically, in conditions where task conflict was present (vs. absent), I predicted that managers would be more likely to use task-focused behaviours to further facilitate the benefits of information elaboration. On the other hand, however, managers may instead react to the general presence and absence of conflict by using person-focused behaviours in conditions where there is conflict and task-focused behaviours in conditions without conflict.

The presence or absence of emotional and task conflict should also affect managers' perceptions of teams, as did the general conflict manipulations in Study 4. The interpersonal nature of emotional conflict should lead managers to perceive less information elaboration, less

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warmth, less psychological safety, and less cohesion in conditions where emotional conflict is present versus absent. The work-focused nature of task conflict, however, leads to two possibilities. On the one hand, disagreements about how tasks are done and how work is completed, and the lack of interpersonal-focused conflict, can lead teams to find optimal solutions (e.g., Chun & Choi, 2014; but see Triana et al., 2021); thus, in conditions where task conflict is present (vs. absent), managers may perceive more information elaboration, less bias, more psychological safety, and more cohesion. On the other hand, because teams are still experiencing a form of conflict, results in conditions where task conflict is present (vs. absent) may mirror emotional conflict.

Participants

Using CloudResearch, participants whose occupation involves supervising others (a clear indication of management) and who reside in the United States were recruited in exchange for US $5.00. Responses were collected from 237 participants; one participant was excluded because they did not complete any of the dependent measures and only provided data for consent and demographics, resulting in complete data from 236 participants. [8,9]

Procedure

Participants were told that the researchers had partnered with an (unnamed) external organization to improve how their teams function. They were further told the researchers had collected initial data about teams at the organization, and that they would be paired with one of these teams, receive information about them, and be asked to provide their advice about how the team should be managed. Participants were told their responses would be used by the

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[8] The available participant pool on CloudResearch prevented the recruitment of a larger sample.
[9] Three participants expressed strong suspicion of the cover story. Excluding them from analyses did not change results and they were therefore retained in analyses reported here.

organization to improve how their teams work together and enhance team performance. In reality, the external organization did not exist, and all participants viewed the same fictional team and received information about them based on their assigned condition.

The study contained three parts. In Part 1, participants were shown information about an ostensible team from the researchers' partner organization and were asked to provide advice about how to manage the team as well as their general impressions of the team. Participants were randomly assigned to one of five conditions based on a 2 (emotional conflict: present vs. absent) X 2 (task conflict: present vs absent) fully between-participants design with a fifth hanging control condition (ns = 42 to 53). In all conditions, participants received the same four-person mixed team description used in previous studies along with additional information about each team member intended to provide a stronger signal of each individual's motivational orientation (see Appendix H). Participants assigned to the hanging control condition received the team description only, whereas those assigned to remaining conditions received additional information about the team's dynamics. Specifically, participants were told the researchers had collected initial survey data from teams at the organization asking team members to rate how they feel about their own teamwork, and that participants would receive a summary of data from this survey from their assigned team. Survey summaries were based on two emotional conflict and two task conflict items from Jehn's (1995) intragroup conflict scale. Depending on their assigned condition, the summary information participants viewed indicated a high or low amounts of both types of conflict, or high amounts of one type of conflict and low amounts of the other (see Appendix I).

Following this, all participants completed outcome measures. First, on an exploratory basis participants answered three open-ended questions asking them what they would say to the

team to help them work together and improve their performance ("Based on this team's information, what message would you send them that you think can help them to work together most effectively and improve their performance?"), the biggest challenge facing the team ("What is the biggest challenge facing this team?"), and what they believe is the most important factor in managing the team ("Share your perspective with the managers at this organization: Based on the information you have about this team, what do you believe is the most important factor to be mindful of when managing them?"). Second, participants completed the same close-ended measures from Study 4 to assess their general impressions of the team: a feeling thermometer to measure warmth (expanded to include all team member pairings), perceived information elaboration ($\alpha = .92$; Kearney & Gebert, 2009), perceived psychological safety ($\alpha = .67$; van Ginkel and van Knippenberg, 2008), and perceived cohesion ($\alpha = .94$; Forsyth, 2021). Third, participants completed the same close-ended measures of person- and task-focused behaviours from Study 4 (bipolar person-task relative rating $\alpha = .94$), apart from the Stogdill (1963) measure of person- and task-focused behaviour endorsement which was not included in this study, plus two new exploratory items asking if person- and task-focused behaviours, respectively, have greater benefits in the short-term versus long-term on an eight-point bipolar scale (1 = *greater benefits in the **short term***, 8 = *greater benefits in the **long term***).

In Part 2, participants completed three individual difference measures in random order. These included the same measure of participants' metamotivational knowledge of regulatory mode used in Study 4B, the chronic regulatory mode scale (Kruglanski et al., 2000) to measure participants' levels of chronic locomotion ($\alpha = .83$) and assessment ($\alpha = .73$), and a slightly modified version of the person-task strategy general sensitivity measure used in Study 4. Specifically, instead of using the same bipolar person-task relative rating scale as Part 1 and in

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Study 4, the number of items were reduced, and scenarios were presented simultaneously instead of on separate pages. This modified measure asked participants whether person- versus task-focused were more effective and beneficial, each on individual pages on an eight-point bipolar scale (1 = *task-focused more [effective / beneficial]*, 8 = *person-focused more [effective / beneficial]*). Lastly, in Part 3, participants provide the same managerial experience as Study 4: years of managerial experience, the extent to which their job requires supervisory duties on a seven-point scale (1 = *Not at all*, 7 = *Very much*), the number of subordinates they oversee currently and in their previous positions, job title and industry sector, and their position in their organizational hierarchy (1 = lowest position, 10 = highest position). Following this, they were asked to provide demographic information related to their gender, age, education level, income, ethnicity, and English language ability.

Results

Outcomes are divided into two categories: (1) Management behaviours, comprising binary forced choices of person- versus task-focused behaviours, continuous ratings of the perceived importance of person- and task-focused behaviours, their relative rating, and perceived short- versus long-term benefits, and (2) team perceptions, comprising perceptions of team information elaboration, warmth, psychological safety, and overall cohesion. Contrasts were used to test whether and how conditions differed from each other. First, to examine if the four conditions making up the 2 (emotional conflict: present vs. absent) X 2 (task conflict: present vs absent) design differed from the hanging control condition, dummy-coded multiple regression analyses were conducted. With the hanging control condition serving as the reference group, each outcome was simultaneously regressed onto each of the four remaining conditions (coded +1). Following this, multiple regression analyses excluding the hanging control condition

regressed each outcome onto emotional conflict (present = +1, absent = -1), task conflict (present = +1, absent = -1), and their interaction. Significant or marginal ($p < .10$) interactions were probed using dummy codes to test the simple effects of emotional conflict within task conflict, and vice versa. Exploratory moderation analyses further examined whether each of the three individual differences moderated the effects of emotional and task conflict on managerial strategies. Table 22 contains descriptive statistics for each outcome by condition, Table 23 correlations among continuous measures, and Figure 6 displays distributions of each continuous outcome variable by condition. Tables 24-27 contain results of multiple regression and exploratory moderation analyses, respectively.

Table 22

Descriptive Statistics for Continuous Outcomes by Condition in Study 5

Outcome	Control M (SD)	L-E / L-T M (SD)	L-E / H-T M (SD)	H-E / L-T M (SD)	H-E / H-T M (SD)
Information elaboration	5.35 (1.01)	5.12 (1.06)	4.51 (1.51)	4.36 (1.40)	4.00 (1.61)
Overall warmth	0.59 (0.10)	0.59 (0.13)	0.58 (0.15)	0.49 (0.17)	0.53 (0.20)
Differential warmth	0.25 (0.24)	0.15 (0.22)	0.13 (0.22)	0.18 (0.29)	0.20 (0.31)
Psychological safety	4.26 (0.62)	4.05 (0.86)	3.61 (1.06)	3.61 (0.91)	3.15 (0.86)
Cohesion	3.11 (0.62)	3.07 (0.82)	2.47 (0.87)	2.35 (0.87)	2.06 (0.98)
Person-focused importance	5.64 (1.33)	5.17 (1.38)	5.47 (1.41)	5.49 (1.57)	5.66 (1.51)
Task-focused importance	5.80 (0.99)	5.17 (1.23)	5.43 (1.47)	5.29 (1.57)	5.00 (1.49)
Person/task relative rating	4.54 (1.82)	4.48 (2.12)	4.73 (2.42)	4.89 (2.35)	5.08 (1.14)
Person-focused short/long-term	5.53 (2.07)	6.24 (1.69)	5.91 (2.29)	6.27 (2.19)	6.02 (2.16)
Task-focused short/long-term	4.49 (2.15)	3.81 (2.20)	4.36 (2.40)	3.86 (2.36)	4.06 (2.23)

Note: L-E = low emotional conflict, L-T = low task conflict, H-E = high emotional conflict, H-T = high task conflict.

Table 23

Correlations Among Continuous Outcomes and Individual Differences in Study 5

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Information elaboration	–												
2. Overall warmth	.49***	–											
3. Differential warmth	-.01	-.26***	–										
4. Psychological safety	.70***	.49***	-.16*	–									
5. Cohesion	.65***	.53***	-.21**	.68***	–								
6. Person-focused importance	.10	.02	.02	.08	-.03	–							
7. Task-focused importance	.29***	.11†	.09	.12†	.19**	-.22***	–						
8. Person/task relative rating	-.02	.06	-.10	-.01	-.01	.51***	-.53***	–					
9. Person-focused short/long-term	.03	.01	-.05	-.02	-.07	.24***	-.15*	.27***	–				
10. Task-focused short/long-term	.13†	.26***	-.03	.18**	.17*	-.06	.19**	-.08	-.56***	–			
11. Person-task sensitivity	-.10	-.25***	.28***	-.18**	-.22***	.23***	-.09	.16*	.12†	-.24***	–		
12. Regulatory mode knowledge	-.10	-.23***	.28***	-.22***	-.27***	.16*	.09	-.07	.07	-.24***	.46***	–	
13. Chronic locomotion	.06	< .01	-.08	-.02	-.07	.20**	.22***	-.07	.09	< .01	.15*	.30***	–
14. Chronic assessment	.06	-.03	-.16*	.09	-.01	.11†	.18*	-.11†	.03	.01	-.04	.01	.13†

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$. $n = 236$

Comparisons to Control

  Team perceptions. Significant or marginal differences were observed across all team perception outcomes, but some conditions differed from the hanging control condition on more outcomes than others. Participants in the low emotional/low task conflict condition only marginally differed from the hanging control condition on one team perception outcome, whereas remaining conditions differed from the hanging control condition on four of five outcomes. Effects are outlined in more detail below.

  Information elaboration. Participants in all conditions perceived less information elaboration than those in the hanging control condition (low emotional/high task conflict: $t(231) = 3.05$, $p = .003$, $d = -0.40$; high emotional/low task conflict: $t(231) = 3.55$, $p < .001$, $d = -0.47$; high emotional/high task conflict: $t(231) = 4.80$, $p < .001$, $d = -0.63$), except for participants in the low emotional/low task conflict condition who did not differ from control (see Table 24).

  Overall warmth. Participants in the low emotional/low task conflict condition did not differ from the hanging control condition on perceived overall warmth (i.e., how warm or cold participants believe team members feel toward each other), nor did those in low emotional/high task conflict condition. In both conditions with high emotional conflict, however, participants perceived less warmth (i.e., a colder temperature) than control participants: high emotional/low task conflict condition: $t(231) = 3.15$, $p = .002$, $d = -0.41$; high emotional and high task conflict condition: $t(231) = 1.98$, $p = .049$, $d = -0.26$.

  Differential warmth. In contrast to overall warmth, when warmth were measured via a difference score comparing cross-motivation to same-motivation pairings within teams the opposite pattern was observed. Participants in both conditions where emotional conflict was high (high emotional/low task and high emotional/high task) did not differ from the hanging control

condition, but those in conditions where emotional conflict was low did differ from control. Participants in the low emotional/low task conflict condition perceived marginally more warmth than participants assigned to the hanging control condition, $t(231) = 1.89$, $p = .060$, $d = 0.25$. Participants in the low emotional/high task conflict condition similarly perceived more warmth than control participants, $t(231) = 2.27$, $p = .024$, $d = -0.30$.

Psychological safety. The low emotional/low task conflict condition did not differ from the hanging control condition in perceptions of psychological safety, but all remaining conditions perceived significantly less psychological safety than control (low emotional/high task conflict: $t(231) = 3.64$, $p < .001$, $d = -0.48$; high emotional/low task conflict: $t(231) = 3.60$, $p < .001$, $d = -0.47$; high emotional/high task conflict: $t(231) = 6.05$, $p < .001$, $d = -0.80$).

Cohesion. As with psychological safety, the low emotional/low task conflict condition did not differ from control, but all remaining conditions perceived significantly less cohesion than control participants (low emotional/high task conflict: $t(231) = 3.74$, $p < .001$, $d = -0.49$; high emotional/low task conflict: $t(231) = 4.38$, $p < .001$, $d = -0.58$; high emotional/high task conflict: $t(231) = 5.98$, $p < .001$, $d = -0.79$).

Management behaviours. Significant or marginal effects were observed in the binary forced choice outcome, the importance of task-focused behaviours, and perceived short- versus long-term benefits of person-focused behaviours (see Table 24).

Binary choice. One significant difference from the hanging control condition was observed: Participants in the high emotional/high task conflict condition, compared to the hanging control condition, were 173% more likely to choose person-focused behaviours over task-focused behaviours, OR = 2.73, $z = 2.28$, $p = .023$.

Task-focused importance. Compared to participants assigned to the hanging control condition, those in the low emotional/low task conflict condition perceived task-focused behaviours as significantly less important, $t(231) = 2.14$, $p = .033$, $d = -0.28$. A similar but marginal pattern was observed for participants in the high emotional/low task conflict condition, $t(231) = 1.81$, $p = .072$, $d = -0.24$. The difference was significant for participants in the high emotional/high task conflict condition, $t(231) = 2.79$, $p = .006$, $d = -0.37$.

Person-focused short- versus long-term benefits. One marginal effect was observed such that participants in the high emotional/low task conflict condition, compared to control, perceived person-focused behaviours as having marginally more benefits in the long-term than in the short-term, $t(231) = 1.56$, $p = .094$, $d = 0.21$.

Table 24

Regression Estimates for Dummy-Coded Comparisons to the Control Condition

Outcome	L-E / L-T B (*SE*)	L-E / H-T B (*SE*)	H-E / L-T B (*SE*)	H-E / H-T B (*SE*)
Information elaboration	-0.23 (0.29)	**-0.84** (0.27)**	**-0.99*** (0.28)**	**-1.36*** (0.28)**
Overall warmth	0.003 (0.03)	-0.01 (0.03)	**-0.10** (0.03)**	**-0.06* (0.03)**
Differential warmth	**-0.10† (0.06)**	**-0.12* (0.05)**	-0.07 (0.05)	-0.05 (0.05)
Psychological safety	-0.21 (0.19)	**-0.65*** (0.18)**	**-0.65*** (0.18)**	**-1.11*** (0.18)**
Cohesion	-0.04 (0.18)	**-0.64*** (0.17)**	**-0.76*** (0.17)**	**-1.05*** (0.18)**
Binary choice	0.14 (0.43)	-0.07 (0.41)	0.59 (0.42)	**1.01* (0.44)**
Person-focused importance	-0.48 (0.31)	-0.17 (0.29)	-0.16 (0.30)	0.02 (0.30)
Task-focused importance	**-0.63* (0.30)**	-0.37 (0.28)	**-0.51† (0.28)**	**-0.80** (0.29)**
Person/task relative rating	-0.06 (0.47)	0.19 (0.44)	0.35 (0.45)	0.54 (0.46)
Person-focused short/long-term	0.70 (0.45)	0.37 (0.43)	**0.73† (0.43)**	0.49 (0.44)
Task-focused short/long-term	-0.68 (0.49)	-0.13 (0.46)	-0.63 (0.47)	-0.43 (0.47)

Note: L-E = low emotional conflict, L-T = low task conflict, H-E = high emotional conflict, H-T = high task conflict. Estimates for the binary choice outcome are based on logistic regression. Boldface indicates significant or marginal effects. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Emotional and Task Conflict Conditions

Only main effects of emotional and task conflict were observed; there were no interactions (see Table 25). See Figure 8 for a visualization of continuous outcomes where main effects were observed.

Team perceptions. Main effects of emotional conflict were observed for all team perception outcomes except differential warmth, whereas main effects of task conflict were observed for all team perception outcomes except for warmth (see Table 25).

First, main effects of emotional conflict revealed that participants perceived significantly less information elaboration, $t(187) = 3.10$, $p = .002$, $d = -0.45$, less overall warmth (i.e., a "colder" temperature), $t(187) = 3.22$, $p = .002$, $d = -0.47$, less psychological safety, $t(187) = 3.34$, $p = .001$, $d = -0.49$, and less cohesion, $t(187) = 4.39$, $p < .001$, $d = -0.64$, when emotional conflict was high versus low.

Second, main effects of task conflict revealed that participants perceived significantly less information elaboration, $t(187) = 2.34$, $p = .020$, $d = -0.34$, psychological safety, $t(187) = 3.30$, $p = .001$, $d = -0.48$, and cohesion, $t(187) = 3.44$, $p = .001$, $d = -0.50$, when task conflict was high versus low. No other effects were observed.

Management behaviours. Only one main effect was observed (see Table 25). For the binary choice outcome, when emotional conflict was high (vs. low), there was a 46% higher likelihood of selecting person-focused behaviours, $OR = 1.46$, $z = 2.52$, $p = .012$.

Table 25

Regression Estimates for Emotional Conflict, Task Conflict, and Their Interaction

Outcome	Emotional Conflict B (SE)	Task Conflict B (SE)	Interaction B (SE)
Information elaboration	**-0.32**** **(0.10)**	**-0.24*** **(0.10)**	0.06 (0.10)
Overall warmth	**-0.04**** **(0.01)**	0.005 (0.01)	0.01 (0.01)
Differential warmth	0.02 (0.02)	0.002 (0.02)	0.009 (0.02)
Psychological safety	**-0.23**** **(0.07)**	**-0.22**** **(0.07)**	-0.004 (0.07)
Cohesion	**-0.28***** **(0.06)**	**-0.22***** **(0.06)**	0.08 (0.06)
Binary choice	**0.38*** **(0.15)**	0.05 (0.15)	0.16 (0.15)
Person-focused importance	0.12 (0.11)	0.12 (0.11)	-0.03 (0.11)
Task-focused importance	-0.08 (0.11)	-0.005 (0.11)	-0.14 (0.11)
Person/task relative rating	0.19 (0.16)	0.11 (0.16)	-0.02 (0.16)
Person-focused short/long-term	0.04 (0.15)	-0.14 (0.15)	0.02 (0.15)
Task-focused short/long-term	-0.06 (0.17)	0.19 (0.17)	-0.09 (0.17)

Note: Contrast codes were used for emotional (present = +1, absent = -1) and task conflict (present = +1, absent = -1). Estimates for the binary choice outcome are based on logistic regression. Boldface indicates significant or marginal effects. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Figure 8

Violin Plots of Continuous Outcomes Showing Conflict-Related Main Effects in Study 5
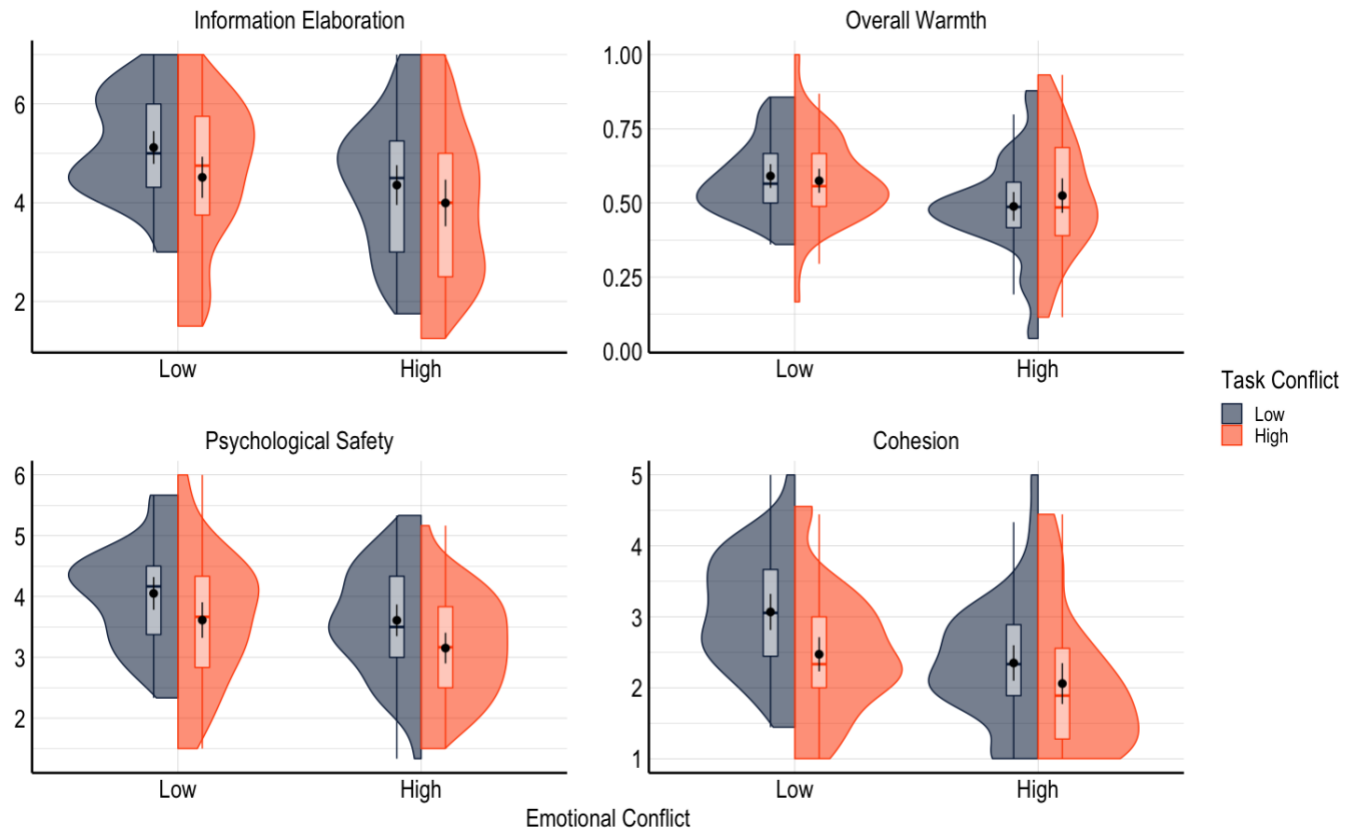
Note: Graphs represent split violin plots of outcomes with significant main effects for each emotional and task conflict condition with boxplots, descriptive means, and 95% confidence intervals.

Additional Exploratory Comparisons

In light of comparisons to the control condition and the 2x2 analysis of emotional and task conflict conditions (see also Figure 8), additional exploratory analyses were conducted to compare the high emotional/high task conflict condition to each of the other conditions. Thus, to explore this pattern further and seek additional clarity, exploratory dummy-coded analyses were conducted (see Table 26).

Team perceptions. Significant or marginal differences were observed for information elaboration, overall warmth, psychological safety, and cohesion, but not differential warmth (see Table 26).

Information elaboration. Compared to participants in the high emotional/high task conflict condition, those in the low emotional/low task conflict condition perceived more information elaboration, $t(231) = 3.91$, $p < .001$, $d = 0.51$, as did those the high emotional/low task conflict condition, $t(231) = 1.92$, $p = .057$, $d = 0.25$, though this latter effect was marginal. The low emotional/high task conflict condition did not differ from the high emotional/high task conflict condition.

Overall warmth. Participants in the low emotional/low task conflict perceived more overall warmth than those in the high emotional/high task conflict condition, $t(231) = 2.03$, $p = .044$, $d = 0.27$. There were no other differences.

Psychological safety. All conditions differed from the high emotional/high task conflict condition in perceived psychological safety: More psychological safety was perceived by participants in the low emotional/low task conflict condition, $t(231) = 4.81$, $p < .001$, $d = 0.63$, the low emotional/high task conflict condition, $t(231) = 2.54$, $p = .012$, $d = 0.33$, and the high emotional/low task conflict condition, $t(231) = 2.61$, $p = .010$, $d = 0.34$.

Cohesion. Similar to psychological safety, all conditions differed from the high emotional/high task conflict condition. Participants perceived more cohesion in the low emotional/low task conflict condition, $t(231) = 5.64$, $p < .001$, $d = 0.74$, marginally more in the low emotional/high task conflict condition, $t(231) = 1.69$, $p = .093$, $d = 0.22$, and significantly more in the high emotional/low task conflict condition, $t(231) = 2.44$, $p = .015$, $d = 0.32$.

Management behaviours. Two differences emerged in participants' binary choice to implement person- or task-focused behaviours. First, those in the low emotional/low task conflict condition were 58% less likely to choose person-focused behaviours than participants in the high emotional/high task conflict condition, $OR = 0.42$, $z = -1.93$, $p = .054$. Second, compared to participants in the high emotional/high task conflict condition, those in the high emotional/low task conflict condition were 66% less likely to choose person-focused behaviours, $OR = 0.34$, $z = -2.52$, $p = .012$.

Finally, analyses for the perceived importance of person- and task-focused behaviours as well as their relative rating were noteworthy. Despite not attaining significance, all results were in the same direction within each outcome and revealed a general tendency for participants in the high emotional/high task conflict condition to lean towards person-focused behaviours to a greater extent than participants in all other conditions (see Table 26).

Table 26

Regression Estimates for Dummy-Coded Comparisons to the High Emotional and High Task

Conflict Condition

Outcome	L-E / L-T B (SE)	L-E / H-T B (SE)	H-E / L-T B (SE)
Information elaboration	**1.12*** (0.29)**	0.36 (0.28)	**0.52† (0.27)**
Overall warmth	**0.07* (0.03)**	-0.04 (0.03)	0.05 (0.03)
Differential warmth	-0.05 (0.05)	-0.02 (0.05)	-0.07 (0.05)
Psychological safety	**0.90*** (0.19)**	**0.46* (0.18)**	**0.46** (0.18)**
Cohesion	**1.01*** (0.18)**	**0.29† (0.17)**	**0.41* (0.18)**
Binary choice	**-0.87† (0.45)**	-0.42 (0.34)	**-1.07* (0.44)**
Person-focused importance	-0.49 (0.31)	-0.17 (0.29)	-0.19 (0.29)
Task-focused importance	0.17 (0.29)	0.29 (0.28)	0.43 (0.28)
Person/task relative rating	-0.60 (0.47)	-0.19 (0.45)	-0.35 (0.44)
Person-focused short/long-term	0.22 (0.45)	0.24 (0.43)	-0.12 (0.42)
Task-focused short/long-term	-0.25 (0.48)	-0.21 (0.46)	0.29 (0.46)

Note: L-E = low emotional conflict, L-T = low task conflict, H-E = high emotional conflict, H-T = high task conflict. Estimates for the binary choice outcome are based on logistic regression. The control condition was also entered into the model, but because results mirror those in Table 20 and only differ in sign, its results are not displayed here to avoid repetition. Boldface indicates significant or marginal effects. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Exploratory Moderation

Models regressed all outcome variables onto emotional and task conflict conditions and individual differences, excluding the hanging control condition, to test for two-way and three-way interactions. Marginal or significant interactions were probed using the "interactions" package in R (Long, 2022).

Person-task strategy general sensitivity. A series of marginal ($p < .10$) and significant ($p < .05$) interactions were observed for both team perceptions and management behaviours (see Table 27).

Emotional conflict. In the high emotional conflict condition, person-task strategy general sensitivity was associated with lower perceived information elaboration, $r(94) = -.19$, $p = .064$, less perceived overall warmth, $r(94) = -.33$, $p = .001$, lower perceived psychological safety, $r(94)$

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= -.31, *p* = .002, and reduced perceptions of cohesion, *r*(94) = -.37, *p* < .001. Additionally, in the high emotional conflict condition, person-task strategy general sensitivity was associated with increased perceived importance of person-focused behaviours, *r*(94) = .34, *p* < .001, and a higher relative rating of person-focused versus task-focused behaviours, *r*(94) = .35, *p* < .001. As with Studies 4A and 4B, this result is consistent with the LeaD model (Homan et al., 2020): Managers with greater (vs. lower) person-task sensitivity were more likely to recognize the negative effects of interpersonal-focused emotional conflict in diverse teams and, in turn, endorsed normatively effective person-focused (vs. task-focused) behaviours to a greater extent.

When emotional conflict was low, person-task strategy general sensitivity was unrelated to the aforementioned outcomes, all *p*s > .248.

Task conflict. Two marginal or significant interactions between task conflict and person-task strategy general sensitivity were also observed (see Table 27). First, when task conflict was high, person-task strategy general sensitivity was associated with lower perceived information elaboration, *r*(98) = -.20, *p* = .041, mirroring the simple effect for high emotional conflict. Second, when task conflict was high, person-task strategy general sensitivity was associated with lower perceived cohesion, *r*(98) = -.39, *p* < .001, also mirroring the simple effect for high emotional conflict. When task conflict was low, person-task strategy general sensitivity was unrelated to perceived information elaboration and cohesion, respectively, *p* = .914 and *p* = .229.

Metamotivational knowledge of regulatory mode. As with person-task strategy general sensitivity, a series of marginal or significant interactions were observed (see Table 27).

Emotional conflict. When emotional conflict was high, normatively accurate metamotivational knowledge was associated with marginally lower perceived information elaboration and significantly less cohesion, *r*(94) = -.18, *p* = .083, and *r*(94) = -.37, *p* < .001,

respectively. It was also associated with increased perceived importance of person-focused behaviours, $r(94) = .34$, $p < .001$. When emotional conflict was low, metamotivational knowledge of regulatory mode was marginally negatively associated with cohesion, $r(94) = -.18$, $p = .083$, but unrelated to the other two outcomes, all ps > .340.

    Task conflict. When task conflict was high, normatively accurate metamotivational knowledge was negatively associated with perceived information elaboration and cohesion, respectively, $r(98) = -.20$, $p = .047$, and $r(98) = -.38$, $p < .001$. When task conflict was low, normatively accurate metamotivational knowledge was unrelated to perceived information elaboration, $p = .624$, but was negatively associated with perceived cohesion, $r(89) = -.22$, $p = .035$.

    Finally, an interaction with the binary choice outcome revealed that when task conflict was high, normatively accurate metamotivational knowledge increased the likelihood of choosing person-focused behaviours, $r(98) = .26$, $p = .008$; when task conflict was low, normatively accurate metamotivational knowledge did not affect the likelihood of choosing person- or task-focused behaviours, $p = .535$.

Table 27

Correlations of Individual Differences to Outcomes by Conflict Condition with Tests of

Moderation

Individual difference	Emotional conflict			Task conflict		
	Low	High	Moderation	Low	High	Moderation
Outcome	*r*	*r*	*t*	*r*	*r*	*t*
Person-task sensitivity						
Information elaboration	< .01	**-.19**†	**1.71**†	-.01	**-.20***	**1.85**†
Overall warmth	-.11	**-.33****	**-2.16***	**-.24***	**-.25***	0.89
Differential warmth	**.33****	**.23***	0.29	**.19**†	**.36*****	1.53
Psychological safety	-.04	**-.31****	**1.91**†	**-.18**†	**-.19**†	0.67
Cohesion	-.10	**-.37*****	**2.50***	-.13	**-.39*****	**2.66****
Binary choice	.14	**.21***	0.44	**.20**†	**.17**†	0.03
Person-focused importance	.12	**.34*****	**1.66**†	**.26***	**.22***	0.18
Task-focused importance	-.01	**-.20***	1.31	**-.19**†	-.05	0.72
Person/task relative rating	.05	**.35*****	**1.91**†	**.28****	.14	0.47
Person-focused short- vs. long-term	.15	.12	1.24	.06	**.21***	0.97
Task-focused short- vs. long-term	-.17	**-.27****	1.07	**-.18**†	**-.27****	1.03
Metamotivational knowledge						
Information elaboration	< .01	**-.18**†	**1.68**†	.05	**-.20***	**2.14***
Overall warmth	-.17	**-.24***	1.06	**-.27***	**-.17**†	0.34
Differential warmth	**.25***	**.33****	1.22	**.34****	**.25***	0.32
Psychological safety	-.16	**-.33****	0.95	**-.29****	**-.18**†	0.49
Cohesion	**-.18**†	**-.44*****	**2.47***	**-.22***	**.38*****	**1.67**†
Binary choice	.11	.09	0.24	-.07	**.26****	**2.19***
Person-focused importance	.10	**.28****	**1.72**†	.10	**.27****	1.45
Task-focused importance	.17	< .01	0.97	.08	.08	0.02
Person/task relative rating	-.13	-.01	0.67	-.05	-.09	0.27
Person-focused short- vs. long-term	.14	< .01	1.09	.16	.01	1.14
Task-focused short- vs. long-term	**-.21***	-.17	0.27	**-.25***	-.15	0.66
Chronic locomotion						
Information elaboration	.10	-.06	1.06	.12	-.01	0.99
Overall warmth	.10	-.06	0.66	-.11	.12	1.10
Differential warmth	< .01	-.13	1.08	**-.18**†	.01	1.51
Psychological safety	-.06	-.08	0.07	-.01	-.06	0.86
Cohesion	-.07	**-.19**†	1.18	-.05	-.13	0.91
Binary choice	.15	-.02	1.46	-.04	.15	**1.65**†
Person-focused importance	**.31****	.12	0.69	.12	**.27****	1.24
Task-focused importance	**.30****	.11	0.74	**.28****	.13	1.03

Person/task relative rating	-.01	-.13	0.98	-.13	-.03	0.95
Person-focused short- vs. long-term	.09	.10	0.02	.11	.09	0.31
Task-focused short- vs. long-term	.09	-.06	0.40	-.01	.03	0.16
Chronic assessment						
Information elaboration	.01	.03	0.08	-.02	.09	0.19
Overall warmth	.07	-.14	1.08	-.10	.01	0.49
Differential warmth	**-.17**[†]	**-.17**[†]	0.21	**-.33**[**]	-.06	**1.83**[†]
Psychological safety	.05	.09	0.29	.12	.10	1.02
Cohesion	-.16	.08	0.89	-.03	.02	0.11
Binary choice	.04	-.11	0.87	.01	-.07	0.49
Person-focused importance	**.20**[†]	.05	0.70	.06	.15	0.10
Task-focused importance	.09	**.24**[*]	1.46	.04	**.26**[**]	1.26
Person/task relative rating	-.04	**-.22**[*]	1.21	-.12	-.15	0.40
Person-focused short- vs. long-term	-.08	.15	**2.81**[*]	.03	.04	0.15
Task-focused short- vs. long-term	.06	-.03	0.61	-.05	.07	0.26

Note. Boldface indicates significant or marginal moderation of reported correlations (or slopes). Tests of moderation for the binary choice outcome are given as z statistics.
[†] $p < .10$, [*] $p < .05$, [**] $p < .01$, [***] $p < .001$.

Discussion

The complementary nature of locomotion and assessment can result in better performing teams (Chernikova et al., 2017; Mauro et al., 2009), but their opposing nature may also lead to conflict. Study 5 aimed to examine managers' beliefs about managing these dynamics by explicitly focusing on the presence and absence of different types of conflict in mixed teams with a consequential paradigm. According to the LeaD model (Homan et al., 2020), to manage this complementarity effectively managers need to use different types of management behaviours in response to different team needs. Specifically, the interpersonal nature of emotional conflict should lead to bias and, in turn, lead managers to engage in person-focused behaviours to alleviate this negative team process. In contrast, the work-focused nature of task conflict should lead to information elaboration and, in turn, lead managers to engage in task-focused behaviours to fully capitalize on the benefits of complementary motivation in teams. Results of Study 5

revealed that although managers recognized how conflict affects team processes, they generally did not distinguish between different management behaviours based on the types of conflict teams were experiencing.

First, results of team perception outcomes revealed that managers were sensitive to the effects of conflict in teams: In conditions where emotional conflict was high, compared to low, managers perceived less information elaboration, less warmth, less psychological safety, and less cohesion. A similar pattern was observed when high emotional conflict conditions were compared to a no conflict information, hanging control condition. Task conflict, however, also led to similar team perception results: When task conflict was high (vs. low), managers perceived less information elaboration, psychological safety, and cohesion, although perceived warmth did not differ. This finding suggests that managers were sensitive to the presence of conflict in general, and not the work-related focus of task conflict. Indeed, high amounts of both forms of conflict appeared to be particularly detrimental compared to the no conflict information control condition and other three conflict conditions.

Second, results of management behaviour outcomes revealed that, in general, managers did not shift their preferred behaviours as a result of conflict condition. Managers did perceive task-focused behaviours as more important in the hanging control condition compared to conflict conditions, suggesting that the absence of any information about conflict led managers to believe task-focused behaviours would help the team realize its full potential—hence rating them as more important. Ratings of person-focused behaviours, however, did not differ between the control and conflict conditions, nor did conflict conditions differ from each other in endorsement of either behaviour. Only when forced to choose in conditions with high (vs. low) emotional conflict did managers choose to implement person-focused over task-focused behaviours. As

with Study 4, then, results of Study 5 point to a gap between managers' knowledge and implementation of person- and task-focused behaviours, raising questions about what factors contribute to this gap. Of course, one possibility is simply that the paradigm itself was not sensitive enough or well-designed enough to capture these beliefs. In this case, future work employing different manipulations of conflict and/or different measures of person- and task-focused strategies may be needed. However, it is also possible that managers may simply not recognize the conditions that call for the use of person- and task-focused behaviours when managing regulatory mode motivational diversity in teams, as derived by the LeaD model (Homan et al., 2020). This latter possibility could reflect normatively inaccurate beliefs or managerial insights that are simply unaligned with that model. The implications of these ideas are explored further in the General Discussion.

One other possible factor explored in Study 5 are individual differences among managers, such that some managers may be better at recognizing when to use person- and task-focused behaviours. Though exploratory and relatively underpowered, Study 5 results did reveal a possible role of person-task strategy general sensitivity: Managers with more (vs. less) normatively accurate knowledge of when to use person- and task-focused behaviours in general team situations unrelated to diversity were more likely to endorse person-focused behaviours when teams with motivational diversity were exhibiting high amounts of emotional conflict. In contrast, when emotional conflict was low, person-task strategy sensitivity was unrelated to endorsement of person-focused behaviours. Further, greater (vs. lower) person-task strategy sensitivity was also associated with reduced perceptions of information elaboration, psychological safety, and cohesion under conditions where both types of conflict were high. Thus, though suggestive, this result does point to the possibility than managers high in person-

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task strategy sensitivity are particularly attuned to the effects of conflict when managing

motivational diversity in teams. A similar, though markedly less pronounced, result was

observed for managers with more (vs. less) normatively accurate metamotivational knowledge of

regulatory mode—perhaps indicating that recognizing the unique benefits and vulnerabilities of

locomotion and assessment also render managers more sensitive to their role in teams.

General Discussion

This dissertation investigated managers' beliefs about managing regulatory mode motivational diversity in teams, a relatively novel domain the study of team management despite evidence for the benefits of complementary regulatory mode motivation for teams and people in general (Kruglanski et al., 2013; Mauro et al., 2009; Pierro et al., 2018). Studies 1-3 examined general beliefs about regulatory mode motivational diversity in teams, with Study 1 demonstrating that people, on average, have normatively accurate metamotivational knowledge of regulatory mode. Study 2 then moved on to perceptions of teams and revealed that people perceive teams with motivational diversity as more conflict-prone than motivationally homogenous teams, and it was only after accounting for the variance associated with these perceptions that the mixed team was seen as having a performance edge over homogenous teams. Using an open-ended paradigm and natural language processing techniques, Study 3 examined managers' spontaneous perceptions of motivational diversity in teams, finding that managers are sensitive to the unique strengths and vulnerabilities associated with regulatory mode in teams. Managers also perceived motivational diversity as similar to traditional conceptualizations of deep-level diversity except for an increased likelihood of conflict in teams with motivational diversity.

Studies 4 and 5 investigated whether managers endorsed strategies for managing diverse teams in ways consistent with LeaD model tenets for how managers can ideally minimize bias and optimize information elaboration (Homan et al., 2020). Studies 4A and 4B, using two ways of manipulating conflict in mixed and homogenous teams, found that although managers were sensitive to the effects of conflict for team processes—perceiving less information elaboration, warmth, psychological safety, and cohesion—they did not differentially endorse person- and

task-focused behaviours in response to conflict. To seek additional clarity and make more targeted comparisons, Study 5 focused on mixed teams only and manipulated different types of conflict (emotional and task conflict) in a consequential paradigm. Managers were again sensitive to the effects of conflict on team processes, but with few exceptions managers again did not differentially endorse person- and task-focused behaviours. However, across Studies 4 and 5, managers did recognize the normative trade-offs associated with person- and task-focused behaviours in team situations unrelated to diversity. Thus, as a whole these studies reveal that people recognize the normative trade-offs associated with regulatory mode in teams, are sensitive to the potential for both conflict and performance benefits in mixed teams, and exhibit some flexibility in endorsing person and task-focused strategies in general team management. Yet managers did not differentially endorse person versus task-focused strategies as a function of regulatory mode diversity and presence of conflict; thus, there was no clear evidence that managers held such beliefs (or implemented more general knowledge) in relation to managing regulatory mode motivational diversity.

The Role of Knowledge in Managing Motivation in Teams

Integrating insights from the motivation science literature and building on a recent model of managing team diversity (LeaD, Homan et al., 2020), this work sheds new light onto a relatively understudied area of team management. LeaD posits that to manage diversity effectively, managers need to possess three diversity-related competencies (Homan et al., 2020): the cognitive understanding of the potential effects of diversity in teams ("Will the form of diversity in my team create bias and/or information elaboration?"), the social perceptiveness to accurately diagnose ongoing team dynamics ("Is my team currently experiencing bias and/or information elaboration?"), and the behavioural flexibility to respond to team needs with appropriate management strategies ("When do I need to use person- and/or task-focused behaviours?"). As explored further below, the studies presented here provide some initial evidence for managers' diversity-related competencies in relation to motivational diversity and offer directions to be explored in future research. They also suggest additional gaps or nuance when it comes to managers' knowledge and implementation of knowledge in the specific context of managing motivational diversity.

Managers' Cognitive Understanding

The LeaD model (Homan et al., 2020) argues that the first step to supporting effective management of diversity in teams is for managers to understand the potential consequences and dynamics of the type of diversity the team presents so managers can proactively work to prevent bias and facilitate information elaboration. Exploring this idea in the context of motivational diversity highlights that relevant knowledge includes understanding not just the potential effects of motivational diversity in teams, but the specific trade-offs associated with regulatory mode complementarity and how these trade-offs might affect team dynamics. Managers first need to

know the specific benefits and vulnerabilities of different motivational orientations, recognize that team members differ (or not) in their motivational orientations, and then recognize both the potential upsides and downsides of diversity along these dimensions. Studies 1-3 suggested that on average, people have the requisite knowledge to support proactive management of diversity, though managers may be more inclined to see regulatory mode diversity as linked more strongly to potential bias or conflict versus information elaboration.

The LeaD model argues that to engage in this kind of proactive management, managers likely draw on "predictive cues" that signal whether intergroup bias or information elaboration will become the dominant process. Prior work suggests that when diversity characteristics create a faultline—situations in which group diversity aligns in such a way as to be particularly salient (e.g., all the doctors are men and all the nurses are women, all the managers are White and all the subordinates are Black)—intergroup bias versus information elaboration is more likely to become dominant (Homan et al., 2007a; Lau & Murnighan, 1998). Conversely, when diversity characteristics do not converge in a salient manner (e.g., race and education are evenly distributed across roles), information elaboration versus intergroup bias is likely to become more dominant (Homan et al., 2007a). According to LeaD, the presence or absence of such faultlines can act as cues to aid managers in predicting which diversity-related process will become dominant, allowing them to proactively engage in person- and task-focused behaviours to mitigate intergroup bias and facilitate information elaboration.

An interesting direction for future work would be to directly manipulate the presence or absence of faultlines in the context of regulatory mode diversity to examine whether managers are more likely to predict intergroup bias versus information elaboration. As noted above, this context highlights that managers must not only be aware of cues that signal which dominant

group process is likely to emerge, but also the cues that signal whether individuals are more strongly oriented towards locomotion or assessment. This latter type of detection is not discussed explicitly by LeaD, perhaps because many forms of diversity are more visible or easy to detect. Thus, further examining the signals that lead to both types of cue detection would be fruitful. The current studies were designed to make the locomotion and assessment signals clear and salient, yet such signals will be typically embedded in a much noisier set of other signals, emanating from both individuals and environments. Interestingly, even with the very clear signals employed in the present studies, there was still significant variability in perceptions. It is unknown how likely managers would be to pick up on an individuals' motivational orientation in more naturalistic contexts, another important direction for future work. Indeed, in more naturalistic settings, faultlines may not only serve as predictive cues for the dominant team process but may also be particularly likely to aid in the detection of the underlying diversity itself.

Managers' Social Perceptiveness

The current work provides some initial investigation of the second component that the LeaD model posits is needed to manage team diversity effectively: managers' social perceptiveness, or their ability to recognize and react to ongoing team processes (Homan et al., 2020). Thus, as conceptualized by LeaD, social perceptiveness reflects a *reactive* management process in contrast to the proactive management process captured by cognitive understanding. Social perceptiveness is about diagnosing the dominant ongoing diversity-related process: is the team currently experiencing intergroup bias or information elaboration? There are a number of cues that managers may rely on to make these judgments. For instance, teams in which intergroup bias is the dominant process are likely to form and stick to subgroups, which can be evidenced through non-verbal (e.g., physical proximity; King & Ahman, 2010) and verbal cues

(e.g., emotional arguments; Thatcher et al., 2003). In contrast, teams in which information elaboration is the dominant process are likely to direct their attention towards the task itself, which can be evidenced through exchanging information about tasks, seeking clarification, and task-related conflicts about different ways of approaching situations (Homan et al., 2007a).

In the context of regulatory mode diversity, these cues may manifest in particular ways. For example, a strong signal of bias in mixed teams might involve team members expressing emotionally charged interpersonal disagreement aimed at their cross-motivation peers, whereas a less obvious, but still informative, cue of information elaboration could be evidenced by motivationally diverse teams distributing sub-tasks in way that plays to each motivational orientation's strengths, thereby providing checks and balances within the team (e.g., locomotion-oriented members brainstorm ideas, assessment-oriented members look for potential flaws in ideas). Being able to recognize these ongoing processes in motivationally diverse teams, according to LeaD, is the prerequisite for initiating effective management behaviours.

The current studies demonstrated that conflict manipulations (a cue for diagnosing ongoing team processes) affected managers' perceptions of teams in terms of judgments of information elaboration, warmth, psychological safety, and cohesion. In Studies 4-5 managers were sensitive to the presence and absence of conflict but not as sensitive to differences between mixed and homogenous teams (though in Study 5 there was some hint that managers can distinguish between different types of conflict in mixed teams). In other words, there was no evidence that managers were particularly attuned to how conflict may signal underlying intergroup bias arising from motivational diversity specifically.

Given people's strong desire to form strong social bonds with others (Baumeister & Leary, 1995), sensitivity to interpersonal conflict is likely adaptive. However, it also suggests

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additional nuance may be involved in the type of social perceptiveness described by LeaD (Homan et al., 2020). Specifically, managers need to be able to disentangle conflict that arises from diversity-related processes relative to other interpersonally relevant processes in teams. That is, because conflict can arise from many sources, managers may face a difficult attributional problem when it comes to diverse teams in recognizing the *source* of conflict. To the extent that managers fail to recognize how motivational diversity specifically contributes to conflict, they may not appropriately address the root source of conflict, nor recognize its specific implications. This failure could have consequences for less effective management in the short-term, and also inadvertently contribute to the recurrence of conflict within teams.

The results of Studies 4 and 5 raise questions about whether managers lack social perceptiveness in general or if they lack social perceptiveness only in the specific context of regulatory mode motivational diversity. At the very least, in this context managers may need additional cues that draw attention to the role of motivational orientations in particular to improve their social perceptiveness. Of course, these results may be partly due to limitations associated with the team and conflict manipulations used, which provided only brief descriptions of team members and conflict. Study 5 tried to go further by providing more detailed descriptions of team members, but managers may still require additional cues that better signal a given team member's motivational orientation and/or to signal that bias or information elaboration can be attributed to motivational diversity specifically.

One class of cues to investigate further are temporal dynamics. As alluded to in the LeaD model, teams, and the situations they encounter, change over time; management behaviours also change over time due to both internal team factors and external pressures (McClean et al., 2019). The studies presented here focused on a single snapshot in time and did not include information

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about the team's history with each other or past similar situations (e.g., "is this a recurring conflict?", "has this team successfully completed similar tasks?"). Conceivably, then, managers' apparent lack of social perceptiveness in the domain of motivational diversity may not suggest they lack this diversity-related competency per se. Instead, the absence of temporal information may have made the attributional challenge particularly difficult; managers may not have known whether they could attribute bias to motivational diversity or to other factors. Incorporating a temporal element in future work—such as longitudinal studies of the same set of motivationally diverse teams—would provide an opportunity to determine whether repeated exposure to motivationally-relevant conflict reveals evidence for managers' social perceptiveness as conceptualized by LeaD (Homan et al., 2020).

Managers' Behavioural Flexibility

Behavioural flexibility, the final diversity-related competency outlined in the LeaD model (Homan et al., 2020), involves the ability to flexibly implement person- and task-focused behaviours once managers have either predicted (using cognitive understanding) or diagnosed (using social perceptiveness) the dominant team process as either intergroup bias or information elaboration. Behavioural flexibility involves both recognizing the differential effects of person-focused (resolving bias and conflict) and task-focused (prompting and facilitating information elaboration) behaviours, and then knowing when and how to implement these strategies when faced with bias or information elaboration in a team. The former involves knowledge structures pertaining to person- and task-focused behaviours, whereas the latter would involve translating this knowledge and other diversity-related competencies into actual management behaviour. According to this framework, then, behavioural flexibility involves integrating various forms of knowledge and then implementing that knowledge in response to relevant situational demands.

Three studies (Studies 4A, 4B, and 5) revealed that managers recognized the general and non-diversity-specific utility of person- and task-focused behaviours, which would suggest that managers have knowledge of the proximal cues (e.g., lack of task progress, ongoing conflict) that align with these behaviours. For instance, on average managers recognized that situations in which team members blame each other for their mistakes benefit from person-focused behaviours and situations in which teams are working collaboratively but unable to make progress benefit from task-focused behaviours. In the specific context of managing regulatory mode diversity in teams, however, managers did not display behavioural flexibility in how they implemented person- and task-focused behaviours based on team type (mixed vs. homogenous in Study 4) or, within mixed teams, conflict presence (Study 4) or conflict type (Study 5). Thus, although managers were sensitive to the general differential utility of person- and task-focused behaviours, the first component of behavioural flexibility, in these studies managers did not integrate diversity-related competencies and translate their knowledge into behaviours when managing motivationally diverse teams.

One possible methodological reason for this discrepancy involves limitations of the experimental paradigms used in these studies. Managers were sensitive to conflict in general, in that they recognized its presence and consequences in Studies 4 and 5. However, it is possible that the conflict manipulation would need to be operationalized differently in order for participants to (a) attribute it directly to motivational diversity and (b) recognize what managerial strategies are needed to address both the upsides and downsides of that regulatory mode complementarity. Although Study 5's manipulation of conflict type (emotion-focused vs. task focused) attempted to increase signals relevant to both person-focused and task-focused strategies, future work may need to employ manipulations that more directly "connect the dots"

for managers to determine the threshold of cues needed for these processes unfold. Indeed, because these studies did not include manipulation checks, it remains unclear whether mangers simply did not recognize the differences between types of conflict as intended or if managers do not distinguish between different types of conflict. The former may suggest a refined manipulation is needed in experimental contexts, while the latter may suggest that more work is needed to understand how managers perceive conflict in teams.

Moreover, teams may not always experience one single dominant process (bias or information elaboration). Even if teams lean towards one dominant process, as LeaD argues, (Homan et al., 2020), teams may still experience both processes simultaneously, raising questions about what managers should do in such situations. Indeed, Study 5's conflict manipulation featured one condition with high emotional *and* high task conflict. In this condition teams were experiencing emotional conflict directed at cross-motivation team members (i.e., bias) while also experiencing task conflict related to ways to pursue team goals (i.e., information elaboration). It is possible that one team process may lead to another, such as disagreements about how to complete tasks leading to interpersonal, emotionally charged conflict (or vice versa). This cascade may muddy the waters for managers in determining what strategies are most effective. Indeed, motivationally diverse teams may be particularly prone to experiencing both processes because fundamentally different ways of pursuing goals leads to vastly different methods of goal pursuit (i.e., information elaboration and task conflict) as well as fundamentally different ways of perceiving the world (i.e., bias and emotional conflict).

Limitations and Future Directions

Characteristics of Managers and the Role of Culture

Another factor contributing to the management of team diversity may be characteristics of managers themselves. Specifically, one limitation of the studies reported here that used management samples (Studies 3-5) is that a large majority of participants—over 70%—self-identified as White (see Table 1) and participation was restricted to managers based in the United States. This latter criterion was based on the use of Amazon's Mechanical Turk, but nevertheless a limitation of this work is the continued narrow focus on predominantly White and American populations for studying and drawing conclusions about presumably general psychological phenomena (Arnett, 2008; Rad et al., 2018), tying into the broader critique of the use of WEIRD samples (Western, Educated, Industrial, Rich, Democratic) in psychological science writ large (Henrich et al., 2010). Management research may be particularly prone to the limitations arising from WEIRD samples due to long-standing disparities in the racial, gender, and income make-up of those in leadership positions. As with most research in psychology, then, a question arises about the extent to which the effects observed here hold or differ across sociocultural contexts.

For instance, a primary proposition emerging from cross-cultural psychology are differences in the adoption of an independent versus interdependent self-construal (Cross et al., 2011, Markus & Kitayama, 1991; but see Matsumoto, 1999). People and cultures with an independent (vs. interdependent) self-construal primarily strive to maintain independence from others, identify how they are unique from others, and express their own internal thoughts, feelings, and actions. People and cultures with an interdependent (vs. independent) self-construal primarily strive to maintain interdependence with others, see themselves as part of an overall relationship with others and consider how the thoughts, feelings, and actions of others influence

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their own thoughts, feelings, and actions. Research in this area (Cross et al., 2011) finds that independent self-construal (vs. interdependent) is associated with greater self-promotion and individualistic values, and well-being is mainly based on emotional experiences and self-esteem; interdependent self-construal (vs. independent) is associated with greater group-oriented behaviour and collectivistic values, and well-being is mainly based on adherence to social norms and interpersonal harmony.

In the studies reported here, the demographic make-up of managerial samples (American, predominantly White, relatively high income) means that it is more likely that these managers, on average, likely have an independent self-construal (Cross et al., 2011; Markus & Kitayama, 1991). For managers with an interdependent self-construal, in contrast, at least two divergent possibilities arise. First, their preference to use indirect communication and avoid confrontation (Cross et al., 2011) may lead these managers to be less well-equipped to respond to team needs (Homan et al., 2020), possibly resulting in the continuation of dysfunctional dynamics. Such managers may not effectively use person-focused behaviours to address bias because of their preference for indirect communication and avoidance of confrontation, instead leaning on task-focused behaviours as a way to improve team performance while avoiding possible discomfort arising from using person-focused behaviours. On the other hand, managers with an interdependent self-construal may be better equipped to respond to team needs through the use of person- and task-focused behaviours. The greater sensitivity to others, value of group harmony, and group-oriented behaviours associated with an interdependent self-construal (vs. independent; Cross et al., 2011) may make these managers more sensitive to their team's dynamics, allowing them to more readily diagnose or predict team needs (Homan et al., 2020) and implement

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person- and task-focused behaviours accordingly. Exploring these possible dynamics in future studies would be intriguing.

Multiple Identities

Another important direction for future work is to consider the effects of multiple identities on the management of team diversity, an area unaddressed by the LeaD model. People rarely possess a single identity and different identities often intersect, working together to shape how people see themselves and how they are perceived and treated by others (Crenshaw, 2017; Kang & Bodenhausen, 2015; Purdie-Vaughns & Eibach, 2008), such as the effect of racial identity on women in management positions (Rosette et al., 2016), leading to implications for the management of diversity in teams. In the current studies, for example, heterogeneity in team member gender was held constant to reduce confounds in answering primary research questions. Yet outside of experimental settings, diversity in team gender may intersect with diversity in motivational orientations, pointing to a need for future research to investigate the ways in which motivational diversity can intersect with other identities. The perceived overlap between motivational diversity and traditional conceptualizations of deep-level diversity identified in Study 3, for instance, raises questions about what managers believe about how to respond to the combination of motivational diversity and other deep-level characteristics such as differences in educational background.

Additionally, as a form of deep-level diversity, motivational diversity is relatively "unseen" in that it is not a readily perceived and automatically categorized form of diversity like many forms of demographic diversity (Williams & O'Reilly, 1998). If managers readily perceive some identities more than others, they may focus on managing the salient forms of diversity and fail to consider the role of other types of diversity. Moreover, managers' beliefs about and

responses to team diversity are likely not monolithic and may differ depending on the situations teams are in and characteristics of managers themselves. Studies that manipulate diversity along several dimensions simultaneously could reveal new insights into what forms of diversity are most likely to capture managers' attention, and/or how managers may adopt different strategies for dealing with different types of team diversity.

Studying Regulatory Mode in Teams

Prior research that helped motivate the current work revealed the performance benefits of regulatory mode complementarity in teams (Chernikova et al., 2017; Mauro et al., 2009; Pierro et al., 2012), but the current studies highlight the need for future work on these dynamics. In particular, managers in the current studies expected that regulatory mode complementarity could not only yield performance benefits, but also increased conflict. Thus, there is a need to further understand the conditions under which regulatory mode diversity is actually more or less likely to result in team conflict, and more or less likely to result in performance gains. Some work on the role of motivational complementarity in close relationships suggests that shared goals may be an important moderator of when complementarity is beneficial versus not (Bohns et al., 2013). Specifically, teams may be more capable of playing to team members' diverse strengths when there is clear congruence in their overall goals (a factor that could be heavily influenced by managers). Examining such possibilities will not only enrich our understanding of the effects of diversity in teams, but also permit a better understanding of when and where managers' beliefs about managing regulatory mode diversity align with its normative effects.

Another limitation of the current studies is that they were constrained to one type of managerial structure, in which managers oversaw teams but were not an integral member of the teams themselves. Constraining the empirical paradigms in this way had a number of benefits for

the initial investigation of the primary research questions. For instance, this design allowed for a better understanding how managers perceived the effects of regulatory mode complementarity in teams, independent of their own biases and preferences (e.g., "I would rather work with people who prioritize speed and efficiency"). Further, there are many management situations that reflect this type of hierarchical structure. Coaches manage their teams from the sidelines; floor supervisors delegate tasks to their teams, who in turn work independently of their supervisor; students work on group projects while their teachers provide general direction. Of course, there are also instances in which managers not only have a leadership role but are also a member of the team themselves (e.g., doctors in surgical teams). Perhaps in these cases managers' own chronic motivational orientations plays a stronger role in influencing perceptions and managerial approaches. More broadly, differences in managerial structures may have important implications not only for how managers perceive diversity, but also how they perceive the effectiveness of different strategies, and how they can effectively implement those strategies. Thus, managerial structure may be a critical variable to include in future studies examining the management of motivational (and other) forms of diversity in teams.

Additionally, although a strength of the current paradigms was the relatively tight empirical control of team members' ostensible motivational orientations (i.e., clear manipulations of locomotion and assessment motivations), this approach also limits the ecological validity of the paradigms. Managers typically have access to a wealth of information about teams, including their history, organizational goals, and the broader strengths and weakness of individual team members. Omitting this information had the benefit of reducing noise and focusing more closely on differences in regulatory mode among team members but may also have inadvertently omitted additional cues managers draw on when managing teams. In

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real-world contexts, managers likely have to glean information about assessment and locomotion from much subtler (and messier) signals embedded amongst a series of other signals. Using other paradigms that increase ecological validity, such as providing additional cues to managers about teams and their members (e.g., general job roles, organizational priorities, general strengths and weaknesses), could help to elucidate the types of cues managers draw on when managing motivational diversity in teams. In addition, expanding beyond the current focus on managerial beliefs to look at how those beliefs and strategies affect outcomes in real-world teams will be an important direction for future work.

Conclusion

This work sought to bring together recent advances in both team management and motivation science to shed new light on the role of motivational diversity in teams. The studies presented here provided evidence for people's normatively accurate metamotivational knowledge of regulatory mode on average, thereby taking metamotivation research into a novel domain. Expanding into team contexts revealed evidence that people are sensitive to the unique benefits and vulnerabilities of each regulatory mode in teams, while also perceiving that mixed teams may be more prone to conflict and performance benefits than homogenous ones. Finally, although managers on average recognized the differential effectiveness of person-focused vs. task-focused management behaviours in general, they did not apply these strategies when managing motivational diversity in teams, raising several promising avenues to be explored in future work. Continuing to explore how managers navigate the trade-offs associated with motivational diversity in teams can contribute to the science of understanding how to build and sustain effective teams.

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Appendices

Appendix A: Preregistered Analysis Plans

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Appendix A provides copies of all available preregistered analysis plans, which were done for all studies except for Study 3 and posted on the Open Science Framework.

Appendix A1: Study 1 Analysis Plan

1. **Background**
   a. On average, people possess accurate metamotivational knowledge of regulatory focus (Scholer & Miele, 2016), construal level (Nguyen et al., 2019), and intrinsic/extrinsic motivation (Hubley et al., under review). In the present study, we aim to move beyond these domains and investigate metamotivational knowledge of regulatory mode. Specifically, we will examine whether or not people possess accurate task knowledge of regulatory mode: Recognizing that some tasks benefit from a single regulatory mode, and others from a mix of both regulatory modes. A previous study examined this knowledge using a dependent variable focused on behaviours (e.g., working efficiently vs. gathering a lot of information); here, our dependent variable is focused on the motivational state itself. Participants will view a series tasks that benefit from locomotion only, assessment only, or mixed modes. For each task, participants will be asked whether locomotion and assessment would undermine or benefit performance. They will also be asked about perceived task difficulty, enjoyment, and importance.

2. **Design Plan**
   a. Study Type:
      i. Experimental
   b. Blinding
      i. Participants will not know the treatment group to which they have been assigned.
   c. Study Procedure:
      i. Participants will be told the study explores beliefs about how different tasks should be performed. First, they will be shown definitions of locomotion and assessment. Then, they will be presented with 30 task descriptions: 10 signalling locomotion only, 10 signalling assessment only, and 10 signalling both modes. Participants will be asked whether each task requires locomotion or assessment, and will also be asked whether locomotion and assessment benefit or undermine task performance. Additionally, participants will be asked about perceived task difficulty, enjoyment, and importance. All participants will also provide basic demographic information (e.g., ethnicity, education level).

3. **Variables**

Task-Knowledge Assessment
    a. Independent Variables
        i. <u>Task Type</u>: manipulated through task descriptions. Each task will be described in a way to signal that performance would benefit from locomotion, assessment, or both.
    b. Dependent Variables
        i. <u>Binary Choice</u>: participants are asked to choose whether each task requires locomotion motivation or assessment motivation.
- Based on the definitions we provided for locomotion and assessment, do you believe the [task name] task requires:
    - locomotion motivation?
    - assessment motivation?

        ii. <u>Undermining vs Benefiting Performance</u>: participants are asked to predict whether locomotion and assessment would undermine or benefit performance on the task on a scale from 1 (*not at all*) to 7 (*extremely*). Each item is presented separately, resulting in two "undermining" items and two "benefiting items" (one for each motivation). Items for each motivation are presented in random order:
- Would engaging in the [task name] task with [locomotion / assessment] motivation:
    - undermine your performance?
    - benefit your performance?

Exploratory Variables
    a. <u>Task Perceptions</u>: for each task, participants are asked to rate how difficult, enjoyable, and important (3 items each) they perceive each task on a scale from 1 (*not at all*) to 7 (*extremely*). Items will be presented in random order. The first three items below capture difficulty, the middle three capture enjoyment, and the latter three capture importance.
        i. How _____ is the [task name] task?
- difficult
- challenging
- complicated
- interesting
- enjoyable
- fun
- important
- essential
- consequential

    b. <u>Chronic Regulatory Mode</u>: participants will complete the 24-item regulatory mode scale (Kruglanski et al., 2000) on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Items will be presented in random order; 12 items measure locomotion, and 12 items measure assessment. Because locomotion and assessment are defined to participants during the study, this measure will be collected separately.

4. **Sampling Plan**
    a. Participants/Sample Description
        i. Undergraduate students at a large Canadian university.
    b. Data Collection Procedures
        i. Participants will be recruited from the undergraduate participant pool (SONA). There are no inclusion/exclusion criteria.
        ii. Data collection took place between January 27, 2021 and February 4, 2021.
    c. Projected Sample Size
        i. Targeting a total N of 225.
    d. Sample Size Rationale
        i. Our previous studies on metamotivation and managing the motivation of others (Jansen et al., under review) targeted 200 total participants and provided 80% power to detect an effect size of $\eta_p^2 = .01$. The current study investigates a new motivational domain, thus recruiting the same number of participants should provide sufficient power to detect effects. Additionally, power analyses using the "pwr" package in R revealed that, to obtain 80% power to detect an effect size of $d = 0.20$ in a paired samples t-test, we need a total sample of at least 198. To account for potential attrition, we aim to recruit 225 participants.
    e. Stopping Rule
        i. Data collection will stop once we reach our target N prior to exclusion (225).

5. **Exclusion Criteria**
    a. There are no exclusion criteria.

6. **Analysis Plan**
    a. Outliers
        i. Univariate outliers with scores > 3 SDs from the mean will be winsorized to ± 3 SDs to minimize their influence on results (Tabachnik & Fidell, 2007). Where numerous cases ($> 2\%$) or very extreme values (> 4 SDs) have been winsorized, analyses will be performed with and without winsorization.
    b. Missing Data
        i. Generally, we will handle missing data by pairwise—not listwise—exclusion (i.e., participants missing data for specific variables will be excluded from analyses involving those variables but may be included in models using other variables).
        ii. For missing items within larger composite scales, the measures will be computed by averaging across the items where data is present.
        iii. For variables with large amounts of missing data, analyses will be conducted to determine whether the data are Missing Completely at Random (MCAR).
            • If data are MCAR, cases with missing data will be excluded from specific analyses as described above.

- If data are not MCAR, multiple imputation or robust estimation methods will be used as appropriate based on the type of non-randomness.
c. Variable/Composite Creation
  i. Task Type Contrasts: to fully partition the variance associated with each task type (locomotion, assessment, and mixed), we will utilize orthogonal contrast coding. Specifically, 2 contrasts will be created:
     - loc_vs_as: compares locomotion tasks to assessment tasks; assessment = -0.5, locomotion = +0.5, and mixed = 0.
     - mix_vs_all: compares mixed tasks to both locomotion and assessment tasks; assessment = -0.5, locomotion = -0.5, and mixed = +1.

     A subsequent set of dummy codes will test the effects of locomotion and assessment tasks against mixed tasks (the reference group):
     - loc_dum: locomotion = +1, assessment = 0, mixed = 0
     - assess_dum: assessment = +1, locomotion = 0, mixed = 0
  ii. Binary Ratings: we will recode ratings such that 0 = locomotion motivation and 1 = assessment motivation.
  iii. Undermining Performance: there will be two undermining variables, one for each motivation. Higher scores on this single item indicate that participants believe the motivation (locomotion or assessment) would have greater undermining effects on task performance.
  iv. Benefiting Performance: there will be two benefiting variables, one for each motivation. Higher scores on this single item indicate that participants believe the motivation (locomotion or assessment) would have greater beneficial effects on task performance.
  v. Perceived Task Difficulty: after calculating Cronbach's alpha, a composite score will be computed by averaging the three difficulty items for each task. Higher scores on this variable will indicate greater predicted task difficulty. If any of the items perform poorly (i.e., exert a disproportionately large effect on Cronbach's alpha), a reduced composite score will also be computed.
  vi. Perceived Task Enjoyment: after calculating Cronbach's alpha, a composite score will be computed by averaging the three enjoyment items for each task. Higher scores on this variable will indicate greater predicted task enjoyment. If any of the items perform poorly (i.e., exert a disproportionately large effect on Cronbach's alpha), a reduced composite score will also be computed.
  vii. Perceived Task Importance: after calculating Cronbach's alpha, a composite score will be computed by averaging the three importance items for each task. Higher scores on this variable will indicate greater predicted task importance. If any of the items perform poorly (i.e., exert a disproportionately large effect on Cronbach's alpha), a reduced composite score will also be computed.
  viii. Chronic Regulatory Mode: after reverse scoring as required and calculating Cronbach's alpha, composite scores will be computed for

locomotion and assessment by averaging the 12 respective items for each mode. Higher scores on these variables will indicate stronger chronic locomotion and assessment.

    ix. <u>Metamotivational Knowledge Accuracy</u>: two accuracy indices will be computed. For locomotion, this index will indicate if participants accurately recognize that locomotion would benefit, and assessment undermine, performance on locomotion tasks. For assessment, this index will indicate if participants accurately recognize that assessment would benefit, and locomotion undermine, performance on assessment tasks.

- *Locomotion Knowledge* = Locomotion Tasks Locomotion Benefit Rating – Locomotion Tasks Assessment Undermine Rating
- *Assessment Knowledge* = Assessment Tasks Assessment Benefit Rating – Locomotion Tasks Locomotion Undermine Rating

    x. <u>Participant Gender</u>: we will contrast code participant gender such that -0.5 = female and +0.5 = male.

d. Statistical Models

    i. <u>Descriptive Statistics</u>: means, medians, standard deviations, skewness, kurtosis, etc. will be computed for every variable.

    ii. <u>Linear Mixed Models</u>: data will be analyzed using mixed models where the task type contrasts will be simultaneously regressed onto each dependent variable using the R packages "lme4" and "lmerTest." There will be two random factors: Participants and tasks; and one fixed factor: Condition (i.e., task type). More specifically, based on recommendations and tutorials provided by Judd et al. (2017), in this study participants are fully crossed with tasks, and tasks are nested in condition (because each task can only occur in one of three conditions, a fully crossed design is impossible). Thus, the following random effects can be accounted for in our models:

Variance	Definition
σ_P^2	Participant intercept variance. The extent to which participants have different mean responses.
σ_{Task}^2	Task intercept variance. The extent to which tasks elicit different mean responses.
σ_{P*Task}^2	Participant-by-task intercept variance. The extent to which participants show stable patterns of mean responses toward particular tasks.
σ_{P*C}^2	Participant slope variance. The extent to which mean differences between condition (i.e., task type) varies across participants.
σ_E^2	Residual error variance. The extent to which variation in responses is not due to the components above. This also includes terms that cannot be estimated in this design due to confounding (e.g., task-by-condition slope variance).

There will be two intercept and slope variances for each component (i.e., one for each contrast): The extent to which mean responses differ for locomotion vs. assessment tasks and for mixed versus locomotion and assessment tasks (for intercept variances), and (for slope variances) the extent to which mean differences vary between conditions (i.e., locomotion vs. assessment tasks and mixed vs. locomotion and assessment tasks).

Where significant or marginal ($p < .10$) effects emerge for the "mix_vs_all" contrast, follow-up models using dummy codes will test the effects of locomotion ("loc_dum") and assessment ("assess_dum)" tasks versus mixed tasks.

For binary ratings, a logistic model will be used. For task perceptions, these models will test whether each task type systematically differs from others in perceived difficulty, enjoyment, and importance.

Separate models will test whether (1) participant gender, (2) chronic regulatory mode (mean centered at the participant level) moderate task knowledge of regulatory mode. Moderators will be entered as fixed effects in all models.

iii. Effect Sizes: based on the results of the models outlined above, effect sizes can be calculated by dividing the mean difference by the square root of the available random variance components. Specifically, following recommendations by Judd et al. (2017), the following formula will be used to calculate standardized mean differences:

- $d = \dfrac{\mu_1 - \mu_2}{\sqrt{\sigma_P^2 + \sigma_{Task}^2 + \sigma_{P*Task}^2 + \sigma_{P*C}^2 + \sigma_E^2}}$

iv. Linear Regression: metamotivational knowledge accuracy will be simultaneously regressed on chronic regulatory mode (i.e., locomotion, assessment, and their interaction), mean centered at the participant level, to determine whether chronic regulatory mode effects metamotivational knowledge accuracy. If a significant or marginal ($p < .10$) locomotion by assessment interaction emerges, it will be probed using the Johnson-Neyman technique (Johnson et al. [1936], also see Bauer & Curran [2005] and Finsaas & Goldstein [2020]).

v. Repeated Measures ANOVA: within each task type, one-way repeated measures ANOVAs will be conducted to determine if specific tasks within each type differ in their perceived difficulty, enjoyment, and/or importance. If the omnibus ANOVA is significant, indicating at least one task differs from the others, follow-up pairwise tests, corrected using the false discovery rate p-value adjustment, will be conducted to determine which task(s) differ from others.

Appendix A2: Study 2 Analysis Plan

1. **Background**
    a. Previous research demonstrates that teams whose members have mixed (i.e., complementary) regulatory modes can outperform those with a single regulatory mode (e.g., locomotion only; Mauro et al., 2009). Additionally, our prior studies reveal that people, on average, have normatively accurate metamotivational knowledge of regulatory mode. Other metamotivation research that, on average, people possess normatively accurate metamotivational knowledge across a variety of motivational domains (Miele et al. 2020) and for managing the self and others (Jansen et al., 2022). Thus, this study will examine whether managers recognize that teams with complementary motivation outperform those with homogenous motivation (i.e., locomotion or assessment only). Further, given other findings about the increased likelihood of conflict in diverse teams (Van Knippenberg et al., 2004) and the vulnerabilities associated with the locomotion and assessment (e.g., Kanze et al., 2019; Hughes & Scholer, 2017), we also seek to establish whether motivational diversity (vs. homogeneity) affects perceived conflict in teams and, in turn, how this affects team performance perceptions.

2. **Design**
    a. Study Type:
        i. Experimental
    b. Blinding
        i. Participants will not know the treatment group to which they have been assigned.
    c. Study Procedure:
        i. Participants are told that the study investigates what people believe about the effectiveness of different types of teams. They are presented with three different teams: one locomotion-only, one assessment-only, and one mixed team. Each team is comprised of four members described in a single sentence that signals their motivational orientation. Participants are told the team needs to complete a task; this task is written in a way to signals a need for both locomotion and assessment motivation. For each team, participants are asked to rate their perceptions of emotional and task conflict between each team member, overall team cohesion, and team performance (overall, speed, and accuracy). Participants are also asked to provide demographic information (e.g., age, gender) and years of leadership experience (including volunteering, coaching etc.).

3. **Variables**
    a. Independent Variables
        i. Team Type: manipulated by varying the regulatory mode of each person in a four-person team via a one-sentence description. In the locomotion and assessment team, each person is described in a way that signals locomotion- and assessment-oriented, respectively, while in the mixed team half of the members are described as locomotion-oriented and the

other half as assessment-oriented. Each team is presented with an inventory update task, described in way that signals it would benefit from both locomotion and assessment motivation.

b. Dependent Variables

    i. <u>Perceived Emotional Conflict:</u> participants are asked to rate the perceived level of emotional conflict between each member of each team, resulting in five ratings per team, using the emotional conflict subscale of the Intragroup Conflict Scale (Jehn, 1995). Specifically, participants are asked to "Please rate your perceptions of the dynamics between **each member of [Team]**" (emphasis in original), followed by the four items below. Participants answer each item four times (one per team member pairing) for each team. Items are answered on a scale from 1 (*None*) to 5 (*A lot*).

        1. How much friction is there between…[NAME] and [NAME].
        2. How much are personality conflicts evident between…[NAME] and [NAME].
        3. How much tension is there between…[NAME] and [NAME].
        4. How much emotional conflict is there between…[NAME] and [NAME].

    ii. <u>Perceived Task Conflict:</u> participants are asked to rate the perceived level of task conflict between each member of each team using the task conflict subscale of the Intragroup Conflict Scale (Jehn, 1995) in exactly the same manner and with the same response scale as perceived emotional conflict. Items are:

        1. How often are there disagreements about opinions regarding the inventory update task between…[NAME] and [NAME].
        2. How frequently are there conflicts about ideas between…[NAME] and [NAME].
        3. How much conflict about the inventory update task is there between…[NAME] and [NAME]?
        4. To what extent are there differences of opinion between…[NAME] and [NAME].

    iii. <u>Perceived Team Cohesion:</u> participants are asked to rate overall perceived team cohesion using the Unitary Cohesion Scale (Forsyth, 2021). Specifically, participants are asked "What are your beliefs about the **overall** dynamics of **[Team]** as they complete the inventory update task?" and are directed to "Please rate **[Team]** on the following word pairs by selecting the number on each line that best represents your beliefs about the team's dynamics." Participants are then presented with the following nine word pairs on a five-point scale. Asterisks indicate reverse-scored parings.

        1. Strongly bonded _ _ _ _ _ Weakly bonded*
        2. Unintegrated assembly _ _ _ _ _ Integrated whole
        3. Sticks together _ _ _ _ _ Drifts apart*
        4. Distant _ _ _ _ _ Close
        5. Tight-knit _ _ _ _ _ Loosely linked*
        6. Togetherness _ _ _ _ _ Separation*

7. Splintered _ _ _ _ _ Fused
8. United _ _ _ _ _ Divided*
9. Loosely connected _ _ _ _ _ Tightly connected
    iv. <u>Perceived Team Performance</u>: participants are asked to rate how well they believe each of the six teams will perform on the task using a four-item measure on a scale from 1 (*not at all*) to 7 (*definitely*):
        1. Do you believe [team] will _____ during the [task name] task?
           a. exceed expectations
           b. perform poorly (*reverse scored*)
           c. be likely to excel
           d. be successful
    v. <u>Perceived Team Speed</u>: using the same scale and question stem as perceived performance, participants are asked to rate how quickly they believe each team will perform the task using a two-item measure:
        1. work quickly
        2. work efficiently
    vi. <u>Perceived Team Accuracy</u>: using the same scale and question stem as perceived performance, participants are asked to rate how accurately they believe each team will perform the task using a two-item measure:
        1. make the right decisions
        2. carefully evaluate their options
c. Exploratory Variables
    i. <u>Managerial Experience</u>: previous research finds mixed evidence for the role of experience in effective management (Hoffman et al., 2011), and managers' metamotivational knowledge (Jansen et al., under review). Thus, we will explore if managerial experience is associated with the outcomes above by asking participants to provide their years of leadership experience (including volunteering, being a team lead, coach, etc.).
    ii. <u>Demographic Characteristics</u>: participants are also asked to provide their gender and age; these variables may also be examined as potential moderators or covariates.

4. **Sampling Plan**
    a. Participants/Sample Description
        i. Undergraduate students in psychology at a large Canadian university.
    b. Data Collection Procedures
        i. Participants will be recruited from the undergraduate participant pool. There are no inclusion/exclusion criteria.
        ii. Data collection took place between February 3, 2022 and March 29, 2022.
    c. Projected Sample Size
        i. Targeting a total *N* of 200.
    d. Sample Size Rationale
        i. Our previous studies on metamotivation and managing the motivation of others (Jansen et al., under review) targeted 200 total participants and provided 80% power to detect an effect size of $\eta_p^2 = .01$. The current study investigates a new motivational domain, thus recruiting the same

number of participants should provide sufficient power to detect effects. Additionally, power analyses using the "pwr" package in R revealed that, to obtain 80% power to detect an effect size of $d = 0.20$ in a paired samples t-test, we need a total sample of at least 198.

    e. Stopping Rule

        i. Data collection will stop once we reach our target *N*.

5. Exclusion Criteria

    a. There are no exclusion criteria.

6. Analysis Plan

    a. Outliers

        i. Univariate outliers with scores > 3 *SD*s from the mean will be winsorized to ± 3 *SD*s to minimize their influence on results (Tabachnik & Fidell, 2007). Where numerous cases (> 2%) or very extreme values (> 4 *SD*s) have been winsorized, analyses will be performed with and without winsorization.

    b. Missing Data

        i. Generally, we will handle missing data by pairwise—not listwise—exclusion (i.e., participants missing data for specific variables will be excluded from analyses involving those variables but may be included in models using other variables).

        ii. For missing items within larger composite scales, the measures will be computed by averaging across the items where data is present.

        iii. For variables with large amounts of missing data, analyses will be conducted to determine whether the data are Missing Completely at Random (MCAR).

            1. If data are MCAR, cases with missing data will be excluded from specific analyses as described above.

            2. If data are not MCAR, multiple imputation or robust estimation methods will be used as appropriate based on the type of non-randomness.

    c. Variable/Composite Creation

        i. <u>Emotional Conflict:</u> for each team member pairing, Cronbach's alpha will first be calculated, followed by a composite score averaging across the four items per pairing. High scores on this variable indicate greater perceived emotional conflict between a given team member pairing. If any of the items perform poorly (e.g., exert a disproportionally large effect on Cronbach's alpha), a reduced composite score will also be calculated.

        ii. <u>Task Conflict:</u> for each team member pairing, Cronbach's alpha will first be calculated, followed by a composite score averaging across the four items per pairing. High scores on this variable indicate greater perceived task conflict between a given team member pairing. If any of the items perform poorly (e.g., exert a disproportionally large effect on Cronbach's alpha), a reduced composite score will also be calculated.

iii. <u>Overall Cohesion:</u> after reversing scoring as required and calculating Cronbach's alpha, a composite score will be calculating by averaging across the nine word pairings for each team. High scores on this variable indicate greater perceived overall team cohesion. If any of the items perform poorly (e.g., exert a disproportionally large effect on Cronbach's alpha), a reduced composite score will also be calculated.

iv. <u>Team Performance:</u> after reverse scoring as required and calculating Cronbach's alpha, a composite score will be computed by averaging the four predicted performance items for each team. Higher scores on this variable will indicate greater perceived team performance. If any of the items perform poorly (i.e., exert a disproportionately large effect on Cronbach's alpha), a reduced composite score will also be computed.

v. <u>Team Speed:</u> after calculating Cronbach's alpha, a composite score will be computed by averaging the two predicted speed items for each team. Higher scores on this variable will indicate greater perceived team speed. If the two items exhibit low reliability (i.e., poor Cronbach's alpha), each item will also be used individually in analyses.

vi. <u>Team Accuracy:</u> after calculating Cronbach's alpha, a composite score will be computed by averaging the two predicted accuracy items for each team. Higher scores on this variable will indicate greater perceived team accuracy. If the two items exhibit low reliability (i.e., poor Cronbach's alpha), each item will also be used individually in analyses.

vii. <u>Team Type Contrasts:</u> for mediation analyses outlined below, a set of contrasts will be used to examine indirect effects. Specifically, one contrast will compare the mixed team to both the locomotion and assessment teams:

1. mix_vs_all: compares the mixed team to both the locomotion and assessment teams; assessment = -1, locomotion = -1, and mixed = +2.

Additional dummy coded contrasts will compare each team against each other, while covarying for other dummy codes to isolate the effect of a given comparison.

viii. <u>Participant Gender:</u> we will effects code participant gender such that -1 = women and +1 = men.

d. Statistical Models

i. <u>Descriptive Statistics:</u> means, medians, standard deviations, skew, kurtosis, etc. will be computed for each variable.

ii. <u>Repeated Measures ANOVA:</u> two different forms of ANOVA will be conducted, one for emotional and task conflict and the other for overall cohesion and performance variables.

1. <u>Two-Way ANOVA:</u> a 3 (team type) X 5 (member pairing) two-way repeated measures ANOVA will test if perceived emotional and task conflict between member pairings differ based on team type. If there is a significant or marginal interaction ($p < .10$), follow-up tests will examine the simple effect of member pairing within each team using one-way repeated measures ANOVAs.

Pending significant or marginal simple ANOVAs ($p < .10$), further simple Bonferonni-corrected post-hocs within each team type will test which member pairings are driving any observed interactions.

2. <u>One-Way ANOVA:</u> for overall cohesion and the three performance variables, one-way repeated measures ANOVAs will test if teams differ in perceived overall cohesion, overall performance, speed, and accuracy. Significant or marginal ($p < .10$) effects will be followed-up with post-hocs paired *t*-tests to examine how teams differ from each other on a given dependent variable.

iii. <u>Mediation:</u> using contrasts outlined above, mediation analyses using PROCESS (Model 4; Hayes, 2018) will test whether emotional conflict, task conflict, and/or overall cohesion mediate the effects of team type on perceived overall performance, speed, and accuracy.

Appendix A3: Study 4A Analysis Plan

1. **Background**
   a. In this line of research, we seek to examine what people believe about how to manage regulatory mode in teams. Previous research demonstrates that teams whose members have mixed (i.e., complementary) regulatory modes can outperform those with a single regulatory mode (e.g., locomotion only; Mauro et al., 2009). Additionally, our prior studies reveal that people, on average, have normatively accurate metamotivational knowledge of regulatory mode—recognizing that locomotion benefits performance on tasks requiring speed and efficiency, and that assessment benefits performance on tasks requiring accuracy and precision. This prior work also revealed that people perceive mixed teams as being prone to greater conflict than homogenous teams. However, knowledge of motivational trade-offs does not necessarily mean knowing how to strategically manage those trade-offs (Miele et al., 2020). The purpose of this study is to investigate whether managers recognize which strategies to use when managing regulatory mode complementarity in teams. Specifically, drawing on recent advances in managing diversity in teams, we will investigate if managers recognize the differential benefits of *person-focused* and *task-focused* strategies (Homan et al., 2020). Person-focused strategies facilitate effective social relationships between team members, while task-focused strategies facilitate an understanding of task requirements, procedures, and team goals. In this study, we are interested in the degree to which managers endorse person- and task-focused strategies in the presence versus absence of conflict in mixed and homogenous teams. We are also interested in exploring perceptions of mixed and homogenous teams in the presence versus absence of conflict (e.g., perceived psychological safety), and possible moderators of these beliefs (e.g., metamotivational knowledge of regulatory mode).

2. **Design**
   a. Study Type:
      i. Experimental

b. Blinding
   i. Participants will not know the treatment group to which they have been assigned.
c. Study Procedure:
   i. Participants are told that the study investigates how managers perceive different types of teams and how they would manage them. They are randomly assigned to one of two between-participants conditions that manipulate the presence or absence of conflict. In each condition, participants are presented with three different teams: one locomotion-only, one assessment-only, and one mixed team. Each team is comprised of four members described in a single sentence that signals their motivational orientation. Participants are told the team needs to complete a task; this task is written in a way to signals a need for both locomotion and assessment motivation. Then, participants are given a situational description (i.e., a "snapshot") of each team that signals the presence or absence of conflict, depending on their assigned condition. For each team, participants are asked to rate the extent to which they would use person- and task-focused strategies, perceptions of team information elaboration, a feeling thermometer of team member pairings, and perceived psychological safety and cohesion. Participants then complete various individual difference measures and are then asked to provide demographic information (e.g., age, gender) and managerial experiences (e.g., years of experience, hierarchical position, etc.).

3. **Variables**
   a. Independent Variables
      i. Conflict: manipulated by varying the presence or absence of conflict in each team description. In the conflict present condition, teams are described in a way that signals a motivationally relevant conflict where two team members are pitted against the other two members (e.g., in the mixed team, locomotion members becoming frustrated by the lack of progress of their assessment colleagues). In the conflict absent condition, teams are described in way that signal a lack of conflict where two team members are cooperating with the other two members, but managerial guidance is needed for the team to perform well (e.g., in the mixed teams, locomotion members eagerly awaiting action while their assessment colleagues deliberate).
      ii. Team Type: manipulated by varying the regulatory mode of each person in a four-person team via a one-sentence description. In the locomotion and assessment team, each person is described in a way that signals locomotion- and assessment-oriented, respectively, while in the mixed team half of the members are described as locomotion-oriented and the other half as assessment-oriented.
   b. Dependent Variables
      i. Consideration: one of two ways of measuring person-focused behaviours based on Leader Behavior Description Questionnaire (Stogdill, 1957).

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Participants are asked to rate the extent to which they would use ten behaviours on a scale from 1 (*not at all*) to 7 (*definitely*) in response to the question stem "Imagine you are managing [team] as they work on the inventory update task. In your role as manager, to what extent would you:" followed by the ten consideration and ten initiating structure items (see below) in random order.

1. be friendly and approachable?
2. do little things to make it pleasant to be a member of the team?
3. put suggestions made by the team into operation?
4. treat all team members as equals?
5. give advance notice of changes?
6. keep to yourself? (*reversed*)
7. look out for the personal welfare of team members?
8. be willing to make changes?
9. refuse to explain your actions? (*reversed*)
10. act without consulting the team?

ii. Initiating Structure: one of two ways of measuring task-focused behaviours based on Leader Behavior Description Questionnaire (Stogdill, 1957). Participants are asked to rate the extent to which they would use ten behaviours on a scale from 1 (*not at all*) to 7 (*definitely*) in response to the question stem "Imagine you are managing [team] as they work on the inventory update task. In your role as manager, to what extent would you:" followed by the ten consideration (see above) and ten initiating structure items in random order.

1. let team members know what is expected of them?
2. encourage the use of uniform procedures?
3. try out your ideas in the team?
4. make your attitudes clear to the team?
5. decide what shall be done and how it shall be done?
6. assign team members to particular tasks?
7. make sure your part in the team is understood by team members?
8. schedule the work to be done?
9. maintain definite standards of performance?
10. ask the team members to follow standard rules and regulations?

iii. Manipulation Check: to determine if the conflict manipulation was effective, participants will complete a two item, self-devised measure on a scale from 1 (*not at all*) to 7 (*definitely*) in response to the question stem "Do you believe [team] will _____ during the inventory update task?"

1. work as subgroups
2. split up into smaller subgroups

iv. Binary Forced Choice: participants are given definitions of person- and task-focused behaviours and are then asked to indicate which strategy they would implement using a forced choice answer in response to the stem "If you were managing [team], would you first implement task-focused or person- focused strategies to help the team perform well?" (emphasis in original).

v. Task-Focused Importance: next, participants are asked to rate the perceived importance of task-focused behaviours on a scale from 1 (*not at all important*) to 7 (*extremely important*) in response to the question "If you were managing [team], how **important** would task-focused strategies be for helping the team perform well?" (emphasis in original)

vi. Person-Focused Importance: next, participants are asked to rate the perceived importance of person-focused behaviours on a scale from 1 (*not at all important*) to 7 (*extremely important*) in response to the question "If you were managing [team], how **important** would person-focused strategies be for helping the team perform well?" (emphasis in original)

vii. Bipolar Ratings: participants are asked to provide relative ratings of task- and person-focused behaviours in response to four items, in random order, on an eight point bipolar scale where 1 indicates a strong endorsement of task-focused behaviours and 8 a strong endorsement of person-focused behaviours in response to the question stem "If you were managing [team], are task-focused versus person-focused strategies most _____?"

   1. beneficial
   2. useful
   3. effective
   4. necessary

viii. Information Elaboration: to gauge perceptions of how much team members share task-relevant information with each other, participants will complete a four item measure in random order, based on Kearney and Gebert (2009), on a scale from 1 (*not at all*) to 7 (*definitely*).

   1. The members of this team will complement each other by openly sharing their knowledge.
   2. The members of this team will take each other's perspective into account in an effort to generate optimal solutions.
   3. The members of this team will consider the unique information provided by each individual team member.
   4. The members of this team will generate ideas and solutions that are much better than those they could develop as individuals.

ix. Feeling Thermometer: to gauge perceptions of how team members feel about each other—and, by extension, the level of conflict within teams—participants are asked to fill out a feeling thermometer for four member pairings on a scale from 0 (very cold or unfavourable feelings) to 100 (very warm or favourable feelings). Within each team, situational descriptions place team members in pairs. The feeling thermometer asks participants to rate perceptions of how members of each pair feel about each other (i.e., "same" pair) and how two "cross" pairings feel about each other.

x. Perceived Psychological Safety: participants will complete a six item scale in random order, based on van Ginkel and van Knippenberg (2008), on a scale from 1 (*not at all*) to 7 (*definitely*).

   1. Members of this group would judge each other on the things that they say. (*reversed*)

2. Members of this group want to hear what the other members have to say.
3. Members of this members would appreciate discussion.
4. Members of this group would react positively when other members disagree with them.
5. Members of this group would think more positively of each other when other members agreed with them. (*reversed*)
6. Members of this group would appreciate it when other members mention new information.

xi. <u>Perceived Team Cohesion:</u> participants are asked to rate overall perceived team cohesion using the Unitary Cohesion Scale (Forsyth, 2021). Specifically, participants are asked "What are your beliefs about the **overall** dynamics of **[Team]** as they complete the inventory update task?" and are directed to "Please rate **[Team]** on the following word pairs by selecting the number on each line that best represents your beliefs about the team's dynamics." Participants are then presented with the following nine word pairs on a five-point scale. Asterisks indicate reverse-scored parings.
1. Strongly bonded _ _ _ _ _ Weakly bonded*
2. Unintegrated assembly _ _ _ _ _ Integrated whole
3. Sticks together _ _ _ _ _ Drifts apart*
4. Distant _ _ _ _ _ Close
5. Tight-knit _ _ _ _ _ Loosely linked*
6. Togetherness _ _ _ _ _ Separation*
7. Splintered _ _ _ _ _ Fused
8. United _ _ _ _ _ Divided*
9. Loosely connected _ _ _ _ _ Tightly connected

c. Exploratory Variables
   i. <u>Person-Task General Sensitivity:</u> managers who generally recognize the differential effects of person- and task-focused behaviours may be better equipped to use them when managing regulatory mode in teams. Participants will thus complete a self-devised measure of their person-task general sensitivity by provide relative ratings of task- and person-focused behaviours in ten situations, in random order, using the bipolar rating scale described above.
   1. *Person-Focused Situations* (emphasis below in original)
      a. When teams are **working collaboratively but unable to make progress**, how _____ are task-focused or person-focused strategies?
      b. When teams are **working collaboratively but making too many mistakes**, how _____ are task-focused or person-focused strategies?
      c. When teams are **unable to consider other ways of doing things**, how _____ are task-focused or person-focused strategies?

d. When teams are experiencing **harmony and working collaboratively**, how _____ are task-focused or person-focused strategies?

e. When teams are experiencing conflict because of **disagreements about how to do their assigned duties**, how _____ are task-focused or person-focused strategies?

2. *Task-Focused Situations* (emphasis below in original)

a. When teams are **unable to reconcile their differences**, how _____ are task-focused or person-focused strategies?

b. When team members **blame each other for their mistakes**, how _____ are task-focused or person-focused strategies?

c. When teams are experiencing conflict because of **personal disagreements with each other**, how _____ are task-focused or person-focused strategies?

d. When teams are **unable to make progress because team members don't trust each other**, how _____ are task-focused or person-focused strategies?

e. When teams are **making mistakes because team members are overly critical of each other**, how _____ are task-focused or person-focused strategies?

ii. Cultural Intelligence: a multi-dimensional construct aimed at capturing the ability to effectively navigate culturally diverse settings (Ang et al., 2007), managers high versus low in cultural intelligence may be better equipped to manage the interpersonal dynamics of regulatory mode in teams. Participants will therefore complete the 20 item cultural intelligence scale (Ang et al., 2007) in random order on a seven point Likert scale where 1 = *Strongly disagree* and 7 = *Strongly agree*.

iii. Regulatory Mode Metamotivational Knowledge: managers with more versus less accurate metamotivational knowledge of regulatory mode—recognizing the trade-offs associated with locomotion and assessment—may be better equipped to manage it in teams. Participants will therefore complete an assessment of their metamotivational knowledge of regulatory mode. They will be presented with definitions of locomotion and assessment, and will then be asked to provide binary ratings and rate the extent to which they undermine and benefit performance on 12 tasks (four locomotion, four assessment, four mixed).

iv. Managerial Experiences: previous research finds mixed evidence for the role of experience in effective management (Hoffman et al., 2011), and managers' metamotivational knowledge (Jansen et al., 2022). Thus, we will explore if managerial experience is associated with the outcomes above by asking participants to provide their years of leadership experience (including volunteering, being a team lead, coach, etc.), position in their organizational hierarchy, number of subordinates, and the extent to which their position requires supervisory skills.

      v.   <u>Demographic Characteristics</u>: participants are also asked to provide their income level, primary racial/ethnic group, education level, gender, age; these variables may also be examined as potential moderators or covariates.

4. **Sampling Plan**
   a. Participants/Sample Description
      i. United States-based adults whose occupation requires supervising others (a clear indication of management).
   b. Data Collection Procedures
      i. Participants will be recruited from Amazon's Mechanical Turk using CloudResearch (formerly known as TurkPrime). Participation will be restricted to participants who are in occupational roles that require supervising others, reside in the United States, and who have completed at least 100 HITs with an approval rating greater than 95%. These participation criteria will be implemented through CloudResearch panel options.
      ii. Data collection took place between July 21, 2022 and July 24, 2022.
   c. Projected Sample Size
      i. Targeted a total *N* of 250.
   d. Sample Size Rationale
      i. Our previous studies on metamotivation and managing the motivation of others (Jansen et al., 2022 review) targeted 200 total participants and provided 80% power to detect an effect size of $\eta_p^2 = .01$. The current study investigates a new motivational domain and adds a between-participants factor, thus recruiting 250 participants should provide sufficient power (~80%) to detect effects for the primary analyses.
   e. Stopping Rule
      i. Data collection will stop once we reach our target *N*.

5. **Exclusion Criteria**
   a. There are no exclusion criteria.

6. **Analysis Plan**
   a. Outliers
      i. Univariate outliers with scores > 3 *SD*s from the mean will be winsorized to ± 3 *SD*s to minimize their influence on results (Tabachnik & Fidell, 2007). Where numerous cases (> 2%) or very extreme values (> 4 *SD*s) have been winsorized, analyses will be performed with and without winsorization.
   b. Missing Data
      i. Generally, we will handle missing data by pairwise—not listwise—exclusion (i.e., participants missing data for specific variables will be excluded from analyses involving those variables but may be included in models using other variables).

ii. For missing items within larger composite scales, the measures will be computed by averaging across the items where data is present.

iii. For variables with large amounts of missing data, analyses will be conducted to determine whether the data are Missing Completely at Random (MCAR).

1. If data are MCAR, cases with missing data will be excluded from specific analyses as described above.

2. If data are not MCAR, multiple imputation or robust estimation methods will be used as appropriate based on the type of non-randomness.

c. Variable/Composite Creation

Note: unless otherwise indicated, for all dependent variables listed above, after reverse scoring as needed Cronbach's alpha will be calculated, followed by a composite score averaging across items. If any of the items perform poorly (e.g., exert a disproportionally large effect on Cronbach's alpha), a reduced composite score will also be calculated.

i. Consideration: higher scores will indicate greater predicted use of consideration/person-focused behaviours.

ii. Initiating Structure: higher scores will indicate greater predicted use of initiating structure/task-focused behaviours.

iii. Manipulation Check: higher scores will indicate that participants perceive a given team as more likely to form subgroups.

iv. Binary Forced Choice: this binary variable will be scored such that $0 =$ task-focused and $+1 =$ person-focused.

v. Task-Focused Importance: higher scores will indicate greater predicted importance for task-focused behaviours.

vi. Person-Focused Importance: higher scores will indicate greater predicted importance for person-focused behaviours.

vii. Bipolar Ratings: higher scores will indicate a greater endorsement of person-focused behaviours, while lower scores will indicate a greater endorsement of task-focused behaviours.

viii. Information Elaboration: higher scores will indicate greater perceived information elaboration.

ix. Feeling Thermometer: first, ratings will be rescaled by dividing the raw score (ranging from 0 to 100) by 100 to obtain a score ranging from 0 to 1. Second, an average feeling thermometer rating will be calculated by averaging the four thermometer ratings within each team. Third, within each team, a difference score will be calculated by subtracting the average of the two "cross" pairings from the average of the two "same" pairings; a score of 0 on this difference score means that participants perceive no difference in how cross-pairings feel about same-pairings.

x. Perceived Psychological Safety: higher scores will indicate greater perceived psychological safety.

xi. Perceived Team Cohesion: higher scores will indicate greater perceived cohesion.

xii. <u>Person-Task General Sensitivity</u>: following composite creation, an accuracy index will be calculated as follows: [person-focused endorsement for person-focused situations – task-focused endorsement for task-focused situations] + [task-focused endorsement for task-focused situations – person-focused endorsement for task-focused situations]. Higher scores indicate greater person-task general sensitivity.

xiii. <u>Cultural Intelligence</u>: higher scores will indicate greater cultural intelligence. Additionally, each subscale (metacognitive, cognitive, behavioural, and motivational) will also be computed using relevant items.

xiv. <u>Regulatory Mode Metamotivational Knowledge</u>: three accuracy indices will be computed: locomotion knowledge, assessment knowledge, and overall knowledge. For locomotion, this index will indicate if participants accurately recognize that locomotion would benefit, and assessment undermine, performance on locomotion tasks. For assessment, this index will indicate if participants accurately recognize that assessment would benefit, and locomotion undermine, performance on assessment tasks. Finally, overall knowledge will combine locomotion and assessment accuracy.

1. *Locomotion Knowledge* = Locomotion Tasks Locomotion Benefit Rating – Locomotion Tasks Assessment Undermine Rating
2. *Assessment Knowledge* = Assessment Tasks Assessment Benefit Rating – Locomotion Tasks Locomotion Undermine Rating
3. *Overall Knowledge* = Locomotion Knowledge + Assessment Knowledge

xv. <u>Condition Contrast</u>: for regression-based analyses outlined below, condition will be contrast coded such that conflict absent = -1 and conflict present = +1.

xvi. <u>Team Type Contrasts</u>: for regression-based analyses outlined below, a set of contrasts will be used to examine indirect effects. Specifically, one contrast will compare the mixed team to both the locomotion and assessment teams (assessment = -1, locomotion = -1, and mixed = +2), and dummy coded contrasts will compare each team against each other:

xvii. <u>Participant Gender</u>: we will effects code participant gender such that -1 = women and +1 = men.

d. Statistical Models

i. <u>Descriptive Statistics:</u> means, medians, standard deviations, skew, kurtosis, etc. will be computed for each variable.

ii. <u>Mixed ANOVA:</u> a 2 (conflict absence vs. presence) X 3 (locomotion vs. assessment vs. mixed) mixed ANOVA will examine the effects of condition (between-participants), team type (within-participants), and their interaction on all dependent variables. Significant or marginal ($p < .10$) interactions will be probed by examining the effects of condition within team type using Fisher's LSD t-tests, and by examining the effects of team type within condition using one-way ANOVAs (with significant simple ANOVAs followed-up with simple post-hoc tests).

iii. Logistic Regression: using the contrasts outlined above, logistic regression analyses will examine if condition, team type, and their interaction affect the binary forced choice dependent variable.

iv. Exploratory Moderation: exploratory moderation analyses will examine if patterns observed in mixed ANOVAs are further moderated by person-task general sensitivity, cultural intelligence, regulatory mode metamotivational knowledge, managerial experiences, and participant demographics. Separate regression models will be conducted for each of these using the condition and team type contrasts outlined above.

v. Exploratory Mediation: using contrasts outlined above, mediation analyses using PROCESS (Hayes, 2018) will examine whether team perceptions (psychological safety, feeling thermometer, and cohesion) mediate the effects observed in mixed ANOVAs for person- and task-focused behaviours.

Appendix A4: Study 4B Analysis Plan

NOTE: a preregistered analysis plan for an initial study was uploaded on August 12, 2022, virtually identical to this one. The conflict manipulation used in this initial study was not successful, and we have modified the study materials.

7. **Background**
   a. In this line of research, we seek to examine what people believe about how to manage regulatory mode in teams. Previous research demonstrates that teams whose members have mixed (i.e., complementary) regulatory modes can outperform those with a single regulatory mode (e.g., locomotion only; Mauro et al., 2009). Additionally, our prior studies reveal that people, on average, have normatively accurate metamotivational knowledge of regulatory mode—recognizing that locomotion benefits performance on tasks requiring speed and efficiency, and that assessment benefits performance on tasks requiring accuracy and precision. This prior work also revealed that people perceive mixed teams as being prone to greater conflict than homogenous teams. However, knowledge of motivational trade-offs does not necessarily mean knowing how to strategically manage those trade-offs (Miele et al., 2020). The purpose of this study is to investigate whether managers recognize which strategies to use when managing regulatory mode complementarity in teams. Specifically, drawing on recent advances in managing diversity in teams, we will investigate if managers recognize the differential benefits of *person-focused* and *task-focused* strategies (Homan et al., 2020). Person-focused strategies facilitate effective social relationships between team members, while task-focused strategies facilitate an understanding of task requirements, procedures, and team goals. In this study, we are interested in the degree to which managers endorse person- and task-focused strategies in the presence versus absence of conflict in mixed and homogenous teams. We are also interested in exploring perceptions of mixed and homogenous teams in the presence versus absence of conflict (e.g., perceived psychological

safety), and possible moderators of these beliefs (e.g., metamotivational knowledge of regulatory mode).

8. Design
   a. Study Type:
      i. Experimental
   b. Blinding
      i. Participants will not know the treatment group to which they have been assigned.
   c. Study Procedure:
      i. Participants are told that the study investigates how managers perceive different types of teams and how they would manage them. They are randomly assigned to one of two between-participants conditions that manipulate the presence or absence of conflict. In each condition, participants are presented with three different teams: one locomotion-only, one assessment-only, and one mixed team. Each team is comprised of four members described in a single sentence that signals their motivational orientation. Participants are told the team needs to complete a task; this task is written in a way to signals a need for both locomotion and assessment motivation. Then, participants are given a situational description (i.e., a "snapshot") of each team that signals the presence or absence of conflict, depending on their assigned condition. For each team, participants are asked to rate the extent to which they would use person- and task-focused strategies, perceptions of team information elaboration, a feeling thermometer of team member pairings, and perceived psychological safety and cohesion. Participants then complete various individual difference measures and are then asked to provide demographic information (e.g., age, gender) and managerial experiences (e.g., years of experience, hierarchical position, etc.).

9. Variables
   a. Independent Variables
      i. <u>Conflict</u>: manipulated by varying the presence or absence of conflict in each team description. In the conflict present condition, participants are told the team is experiencing conflict ("…you sense there is tension within the team."). In the conflict absent condition, participants are told the team is not experiencing conflict ("…you do not sense any strong tension with the team.").
      ii. <u>Team Type</u>: manipulated by varying the regulatory mode of each person in a four-person team via a one-sentence description. In the locomotion and assessment team, each person is described in a way that signals locomotion- and assessment-oriented, respectively, while in the mixed team half of the members are described as locomotion-oriented and the other half as assessment-oriented.
   b. Dependent Variables

i. <u>Consideration:</u> one of two ways of measuring person-focused behaviours based on Leader Behavior Description Questionnaire (Stogdill, 1957). Participants are asked to rate the extent to which they would use ten behaviours on a scale from 1 (*not at all*) to 7 (*definitely*) in response to the question stem "Imagine you are managing [team] as they work on the inventory update task. In your role as manager, to what extent would you:" followed by the ten consideration and ten initiating structure items (see below) in random order.
   1. be friendly and approachable?
   2. do little things to make it pleasant to be a member of the team?
   3. put suggestions made by the team into operation?
   4. treat all team members as equals?
   5. give advance notice of changes?
   6. keep to yourself? (*reversed*)
   7. look out for the personal welfare of team members?
   8. be willing to make changes?
   9. refuse to explain your actions? (*reversed*)
   10. act without consulting the team?

ii. <u>Initiating Structure:</u> one of two ways of measuring task-focused behaviours based on Leader Behavior Description Questionnaire (Stogdill, 1957). Participants are asked to rate the extent to which they would use ten behaviours on a scale from 1 (*not at all*) to 7 (*definitely*) in response to the question stem "Imagine you are managing [team] as they work on the inventory update task. In your role as manager, to what extent would you:" followed by the ten consideration (see above) and ten initiating structure items in random order.
   1. let team members know what is expected of them?
   2. encourage the use of uniform procedures?
   3. try out your ideas in the team?
   4. make your attitudes clear to the team?
   5. decide what shall be done and how it shall be done?
   6. assign team members to particular tasks?
   7. make sure your part in the team is understood by team members?
   8. schedule the work to be done?
   9. maintain definite standards of performance?
   10. ask the team members to follow standard rules and regulations?

iii. <u>Manipulation Check:</u> to determine if the conflict manipulation was effective, participants will complete a two item, self-devised measure on a scale from 1 (*not at all*) to 7 (*definitely*) in response to the question stem "Do you believe [team] will _____ during the inventory update task?"
   1. work as subgroups
   2. split up into smaller subgroups

iv. <u>Binary Forced Choice:</u> participants are given definitions of person- and task-focused behaviours and are then asked to indicate which strategy they would implement using a forced choice answer in response to the stem "If you were managing [team], would you <u>first</u> implement task-focused or

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person- focused strategies to help the team perform well?" (emphasis in original).

   v. <u>Task-Focused Importance</u>: next, participants are asked to rate the perceived importance of task-focused behaviours on a scale from 1 (*not at all important*) to 7 (*extremely important*) in response to the question "If you were managing [team], how **important** would <u>task-focused</u> strategies be for helping the team perform well?" (emphasis in original)

   vi. <u>Person-Focused Importance</u>: next, participants are asked to rate the perceived importance of person-focused behaviours on a scale from 1 (*not at all important*) to 7 (*extremely important*) in response to the question "If you were managing [team], how **important** would <u>person-focused</u> strategies be for helping the team perform well?" (emphasis in original)

   vii. <u>Bipolar Ratings</u>: participants are asked to provide relative ratings of task- and person-focused behaviours in response to four items, in random order, on an eight point bipolar scale where 1 indicates a strong endorsement of task-focused behaviours and 8 a strong endorsement of person-focused behaviours in response to the question stem "If you were managing [team], are task-focused versus person-focused strategies most _____?"
   1. beneficial
   2. useful
   3. effective
   4. necessary

   viii. <u>Information Elaboration:</u> to gauge perceptions of how much team members share task-relevant information with each other, participants will complete a four item measure in random order, based on Kearney and Gebert (2009), on a scale from 1 (*not at all*) to 7 (*definitely*).
   1. The members of this team will complement each other by openly sharing their knowledge.
   2. The members of this team will take each other's perspective into account in an effort to generate optimal solutions.
   3. The members of this team will consider the unique information provided by each individual team member.
   4. The members of this team will generate ideas and solutions that are much better than those they could develop as individuals.

   ix. <u>Feeling Thermometer:</u> to gauge perceptions of how team members feel about each other—and, by extension, the level of conflict within teams— participants are asked to fill out a feeling thermometer for four member pairings on a scale from 0 (very cold or unfavourable feelings) to 100 (very warm or favourable feelings). Within each team, situational descriptions place team members in pairs. The feeling thermometer asks participants to rate perceptions of how members of each pair feel about each other (i.e., "same" pair) and how two "cross" pairings feel about each other.

   x. <u>Perceived Psychological Safety</u>: participants will complete a six item scale in random order, based on van Ginkel and van Knippenberg (2008), on a scale from 1 (*not at all*) to 7 (*definitely*).

1. Members of this group would judge each other on the things that they say. (*reversed*)
2. Members of this group want to hear what the other members have to say.
3. Members of this members would appreciate discussion.
4. Members of this group would react positively when other members disagree with them.
5. Members of this group would think more positively of each other when other members agreed with them. (*reversed*)
6. Members of this group would appreciate it when other members mention new information.

xi. <u>Perceived Team Cohesion:</u> participants are asked to rate overall perceived team cohesion using the Unitary Cohesion Scale (Forsyth, 2021). Specifically, participants are asked "What are your beliefs about the **overall** dynamics of **[Team]** as they complete the inventory update task?" and are directed to "Please rate **[Team]** on the following word pairs by selecting the number on each line that best represents your beliefs about the team's dynamics." Participants are then presented with the following nine word pairs on a five-point scale. Asterisks indicate reverse-scored parings.

1. Strongly bonded _ _ _ _ _ Weakly bonded*
2. Unintegrated assembly _ _ _ _ _ Integrated whole
3. Sticks together _ _ _ _ _ Drifts apart*
4. Distant _ _ _ _ _ Close
5. Tight-knit _ _ _ _ _ Loosely linked*
6. Togetherness _ _ _ _ _ Separation*
7. Splintered _ _ _ _ _ Fused
8. United _ _ _ _ _ Divided*
9. Loosely connected _ _ _ _ _ Tightly connected

c. Exploratory Variables

i. <u>Person-Task General Sensitivity:</u> managers who generally recognize the differential effects of person- and task-focused behaviours may be better equipped to use them when managing regulatory mode in teams. Participants will thus complete a self-devised measure of their person-task general sensitivity by provide relative ratings of task- and person-focused behaviours in ten situations, in random order, using the bipolar rating scale described above.

1. *Person-Focused Situations* (emphasis below in original)
   a. When teams are **working collaboratively but unable to make progress**, how _____ are task-focused or person-focused strategies?
   b. When teams are **working collaboratively but making too many mistakes**, how _____ are task-focused or person-focused strategies?

      c. When teams are **unable to consider other ways of doing things**, how _____ are task-focused or person-focused strategies?

      d. When teams are experiencing **harmony and working collaboratively**, how _____ are task-focused or person-focused strategies?

      e. When teams are experiencing conflict because of **disagreements about how to do their assigned duties**, how _____ are task-focused or person-focused strategies?

   2. *Task-Focused Situations* (emphasis below in original)

      a. When teams are **unable to reconcile their differences**, how _____ are task-focused or person-focused strategies?

      b. When team members **blame each other for their mistakes**, how _____ are task-focused or person-focused strategies?

      c. When teams are experiencing conflict because of **personal disagreements with each other**, how _____ are task-focused or person-focused strategies?

      d. When teams are **unable to make progress because team members don't trust each other**, how _____ are task-focused or person-focused strategies?

      e. When teams are **making mistakes because team members are overly critical of each other**, how _____ are task-focused or person-focused strategies?

ii. <u>Cultural Intelligence</u>: a multi-dimensional construct aimed at capturing the ability to effectively navigate culturally diverse settings (Ang et al., 2007), managers high versus low in cultural intelligence may be better equipped to manage the interpersonal dynamics of regulatory mode in teams. Participants will therefore complete the 20 item cultural intelligence scale (Ang et al., 2007) in random order on a seven point Likert scale where 1 = *Strongly disagree* and 7 = *Strongly agree*.

iii. <u>Regulatory Mode Metamotivational Knowledge</u>: managers with more versus less accurate metamotivational knowledge of regulatory mode—recognizing the trade-offs associated with locomotion and assessment—may be better equipped to manage it in teams. Participants will therefore complete an assessment of their metamotivational knowledge of regulatory mode. They will be presented with definitions of locomotion and assessment, and will then be asked to provide binary ratings and rate the extent to which they undermine and benefit performance on eight tasks (four locomotion, four assessment).

iv. <u>Managerial Experiences</u>: previous research finds mixed evidence for the role of experience in effective management (Hoffman et al., 2011), and managers' metamotivational knowledge (Jansen et al., 2022). Thus, we will explore if managerial experience is associated with the outcomes above by asking participants to provide their years of leadership experience (including volunteering, being a team lead, coach, etc.),

position in their organizational hierarchy, number of subordinates, and the extent to which their position requires supervisory skills.

     v. <u>Demographic Characteristics</u>: participants are also asked to provide their income level, primary racial/ethnic group, education level, gender, age; these variables may also be examined as potential moderators or covariates.

10. Sampling Plan

  a. Participants/Sample Description
     i. United States-based adults whose occupation requires supervising others (a clear indication of management).
  b. Data Collection Procedures
     i. Participants will be recruited from Amazon's Mechanical Turk using CloudResearch (formerly known as TurkPrime). Participation will be restricted to participants who are in occupational roles that require supervising others, reside in the United States, and who have completed at least 100 HITs with an approval rating greater than 95%. These participation criteria will be implemented through CloudResearch panel options.
     ii. Data collection will commence on September 13, 2022.
  c. Projected Sample Size
     i. Targeting a total N of 250.
  d. Sample Size Rationale
     i. Our previous studies on metamotivation and managing the motivation of others (Jansen et al., 2022 review) targeted 200 total participants and provided 80% power to detect an effect size of $\eta_p^2 = .01$. The current study investigates a new motivational domain and adds a between-participants factor, thus recruiting 250 participants should provide sufficient power (~80%) to detect effects for the primary analyses.
  e. Stopping Rule
     i. Data collection will stop once we reach our target N.

11. Exclusion Criteria

  a. There are no exclusion criteria.

12. Analysis Plan

  a. Outliers
     i. Univariate outliers with scores > 3 SDs from the mean will be winsorized to ± 3 SDs to minimize their influence on results (Tabachnik & Fidell, 2007). Where numerous cases ($> 2\%$) or very extreme values (> 4 SDs) have been winsorized, analyses will be performed with and without winsorization.
  b. Missing Data
     i. Generally, we will handle missing data by pairwise—not listwise—exclusion (i.e., participants missing data for specific variables will be

excluded from analyses involving those variables but may be included in models using other variables).

  ii. For missing items within larger composite scales, the measures will be computed by averaging across the items where data is present.

  iii. For variables with large amounts of missing data, analyses will be conducted to determine whether the data are Missing Completely at Random (MCAR).

    1. If data are MCAR, cases with missing data will be excluded from specific analyses as described above.

    2. If data are not MCAR, multiple imputation or robust estimation methods will be used as appropriate based on the type of non-randomness.

c. Variable/Composite Creation

Note: unless otherwise indicated, for all dependent variables listed above, after reverse scoring as needed Cronbach's alpha will be calculated, followed by a composite score averaging across items. If any of the items perform poorly (e.g., exert a disproportionally large effect on Cronbach's alpha), a reduced composite score will also be calculated.

  i. <u>Consideration:</u> higher scores will indicate greater predicted use of consideration/person-focused behaviours.

  ii. <u>Initiating Structure:</u> higher scores will indicate greater predicted use of initiating structure/task-focused behaviours.

  iii. <u>Manipulation Check:</u> higher scores will indicate that participants perceive a given team as more likely to form subgroups.

  iv. <u>Binary Forced Choice:</u> this binary variable will be scored such that $0 =$ task-focused and $+1 =$ person-focused.

  v. <u>Task-Focused Importance</u>: higher scores will indicate greater predicted importance for task-focused behaviours.

  vi. <u>Person-Focused Importance</u>: higher scores will indicate greater predicted importance for person-focused behaviours.

  vii. <u>Bipolar Ratings</u>: higher scores will indicate a greater endorsement of person-focused behaviours, while lower scores will indicate a greater endorsement of task-focused behaviours.

  viii. <u>Information Elaboration</u>: higher scores will indicate greater perceived information elaboration.

  ix. <u>Feeling Thermometer</u>: first, ratings will be rescaled by dividing the raw score (ranging from 0 to 100) by 100 to obtain a score ranging from 0 to 1. Second, an average feeling thermometer rating will be calculated by averaging the four thermometer ratings within each team. Third, within each team, a difference score will be calculated by subtracting the average of the two "cross" pairings from the average of the two "same" pairings; a score of 0 on this difference score means that participants perceive no difference in how cross-pairings feel about same-pairings.

  x. <u>Perceived Psychological Safety</u>: higher scores will indicate greater perceived psychological safety.

xi. Perceived Team Cohesion: higher scores will indicate greater perceived cohesion.

xii. Person-Task General Sensitivity: following composite creation, an accuracy index will be calculated as follows: [person-focused endorsement for person-focused situations – task-focused endorsement for task-focused situations] + [task-focused endorsement for task-focused situations – person-focused endorsement for task-focused situations]. Higher scores indicate greater person-task general sensitivity.

xiii. Cultural Intelligence: higher scores will indicate greater cultural intelligence. Additionally, each subscale (metacognitive, cognitive, behavioural, and motivational) will also be computed using relevant items.

xiv. Regulatory Mode Metamotivational Knowledge: three accuracy indices will be computed: locomotion knowledge, assessment knowledge, and overall knowledge. For locomotion, this index will indicate if participants accurately recognize that locomotion would benefit, and assessment undermine, performance on locomotion tasks. For assessment, this index will indicate if participants accurately recognize that assessment would benefit, and locomotion undermine, performance on assessment tasks. Finally, overall knowledge will combine locomotion and assessment accuracy.

1. *Locomotion Knowledge* = Locomotion Tasks Locomotion Benefit Rating – Locomotion Tasks Assessment Undermine Rating
2. *Assessment Knowledge* = Assessment Tasks Assessment Benefit Rating – Locomotion Tasks Locomotion Undermine Rating
3. *Overall Knowledge* = Locomotion Knowledge + Assessment Knowledge

xv. Condition Contrast: for regression-based analyses outlined below, condition will be contrast coded such that conflict absent = -1 and conflict present = +1.

xvi. Team Type Contrasts: for regression-based analyses outlined below, a set of contrasts will be used to examine indirect effects. Specifically, one contrast will compare the mixed team to both the locomotion and assessment teams (assessment = -1, locomotion = -1, and mixed = +2), and dummy coded contrasts will compare each team against each other:

xvii. Participant Gender: we will effects code participant gender such that -1 = women and +1 = men.

d. Statistical Models

i. Descriptive Statistics: means, medians, standard deviations, skew, kurtosis, etc. will be computed for each variable.

ii. Mixed ANOVA: a 2 (conflict absence vs. presence) X 3 (locomotion vs. assessment vs. mixed) mixed ANOVA will examine the effects of condition (between-participants), team type (within-participants), and their interaction on all dependent variables. Significant or marginal ($p < .10$) interactions will be probed by examining the effects of condition within team type using Fisher's LSD *t*-tests, and by examining the effects of team

type within condition using one-way ANOVAs (with significant simple ANOVAs followed-up with simple post-hoc tests).

    iii.   <u>Logistic Regression</u>: using the contrasts outlined above, logistic regression analyses will examine if condition, team type, and their interaction affect the binary forced choice dependent variable.

    iv.   <u>Exploratory Moderation</u>: exploratory moderation analyses will examine if patterns observed in mixed ANOVAs are further moderated by person-task general sensitivity, cultural intelligence, regulatory mode metamotivational knowledge, managerial experiences, and participant demographics. Separate regression models will be conducted for each of these using the condition and team type contrasts outlined above.

    v.   <u>Exploratory Mediation</u>: using contrasts outlined above, mediation analyses using PROCESS (Hayes, 2018) will examine whether team perceptions (psychological safety, feeling thermometer, and cohesion) mediate the effects observed in mixed ANOVAs for person- and task-focused behaviours.

Appendix A5: Study 5 Analysis Plan

1. **Background**

    a. In this line of research, we seek to examine what people believe about how to manage regulatory mode in teams in a consequential setting. Previous research demonstrates that teams whose members have mixed (i.e., complementary) regulatory modes can outperform those with a single regulatory mode (e.g., locomotion only; Mauro et al., 2009). The purpose of this study is to investigate whether managers recognize which strategies to use when managing regulatory mode complementarity in teams in a consequential setting taking a metamotivational approach (Miele et al., 2020). Specifically, drawing on recent advances in managing diversity in teams, we will investigate if managers recognize the differential benefits of *person-focused* and *task-focused* strategies (Homan et al., 2020). Person-focused strategies facilitate effective social relationships between team members, while task-focused strategies facilitate an understanding of task requirements, procedures, and team goals. In this study, we are interested in the degree to which managers endorse person- and task-focused strategies in the presence versus absence of emotional and/or task conflict in mixed regulatory mode teams. We are also interested in exploring perceptions of mixed teams in the presence versus absence of emotional and/or task conflict (e.g., perceived psychological safety), and possible moderators of these beliefs (e.g., chronic regulatory mode).

2. **Design**

    a. Study Type:

        i. Experimental

    b. Blinding

        i. Participants will not know the treatment group to which they have been assigned.

c. Study Procedure:
    i. Participants are told that the researchers are obtaining insights from managers about how to improve team effectiveness. Participants are told the researchers are working with an external organization to improve how their teams function, that they will be paired with a team from this organization, and that they will be asked to give advice to about how the team should managed. They are further told that their responses will be used by the organization to improve how their teams work together (in reality, this external organization does not exist). To that end, participants are assigned to one of five between-participants conditions. All participants are given a description of a four-person team composed of two locomotion-orientated and two assessment-oriented members. One-fifth of participants are assigned to a hanging control condition that contains this information only, while the remaining participants receive additional information based on their assigned condition in a 2 (emotional conflict: present vs absent) by 2 (task conflict: present vs absent) factorial design. Specifically, participants are told the researchers collected initial survey data that asked each team member to rate their perceptions of how their team functions. Participants receive a summary of this information in the form of a graphical representation of how much emotional and task conflict each team member ostensibly perceives in their team. This results in four possible conditions: presence of both types of conflict, absence of both types of conflict, and presence of only one type of conflict (i.e., emotional or task). All participants are then asked a series of questions about how the team should managed and their general perceptions of the team. Participants then complete various individual difference measures and are then asked to provide demographic information (e.g., age, gender) and managerial experiences (e.g., years of experience, hierarchical position, etc.).

3. Variables
a. Independent Variables
    i. <u>Type of Conflict:</u> manipulated by varying the information given to participants about how members of their team perceive their own functioning. In the summary shown to participants, emotional and task conflict are signalled by four modified items from the Jehn (1995) intragroup conflict scale, with two items used for each type of conflict.
        1. Emotional Conflict: "How much does your team experience [personal disagreements / emotional conflict]?"
        2. Task Conflict: "How much does your team experience [disagreements about tasks / conflict about ideas]?"
    ii. <u>Conflict Presence / Absence:</u> manipulated by varying the amount of each type of conflict in summaries shown to participants. When conflict of either type is present/high, the summary of team member ratings given to participants shows high levels of perceived conflict. When conflict of

either type is absent/low, the team information given to participants shows low levels of perceived conflict.

    iii. <u>Hanging Control</u>: one-fifth of participants are assigned to a hanging control condition where they only receive a description of a team from the external organization and receive no information about how their team members perceive their own team functioning.

b. Dependent Variables

    i. <u>Binary Forced Choice</u>: participants are given definitions of person- and task-focused behaviours and are then asked to indicate which strategy they would implement using a forced choice answer in response to the stem "If you were managing [team], would you <u>first</u> implement task-focused or person- focused strategies to help the team perform well?" (emphasis in original).

    ii. <u>Task-Focused Importance</u>: next, participants are asked to rate the perceived importance of task-focused behaviours on a scale from 1 (*not at all important*) to 7 (*extremely important*) in response to the question "In managing this team, how **important** are <u>task-focused</u> strategies?" (emphasis in original)

    iii. <u>Person-Focused Importance</u>: next, participants are asked to rate the perceived importance of person-focused behaviours on a scale from 1 (*not at all important*) to 7 (*extremely important*) in response to the question "In managing this team, how **important** are <u>person-focused</u> strategies (emphasis in original)

    iv. <u>Bipolar Ratings</u>: participants are asked to provide relative ratings of task- and person-focused behaviours in response to four items, in random order, on an eight point bipolar scale where 1 indicates a strong endorsement of task-focused behaviours and 8 a strong endorsement of person-focused behaviours in response to the question stem "In managing this team, are task-focused versus person-focused strategies most _____?"

        1. beneficial
        2. useful
        3. effective
        4. necessary

    v. <u>Information Elaboration</u>: to gauge perceptions of how much team members share task-relevant information with each other, participants will complete a four item measure in random order, based on Kearney and Gebert (2009), on a scale from 1 (*not at all*) to 7 (*definitely*).

        1. The members of this team will complement each other by openly sharing their knowledge.
        2. The members of this team will take each other's perspective into account in an effort to generate optimal solutions.
        3. The members of this team will consider the unique information provided by each individual team member.
        4. The members of this team will generate ideas and solutions that are much better than those they could develop as individuals.

vi. <u>Feeling Thermometer:</u> to gauge perceptions of how team members feel about each other—and, by extension, the level of perceived conflict within the team—participants are asked to fill out a feeling thermometer for four member pairings on a scale from 0 (very cold or unfavourable feelings) to 100 (very warm or favourable feelings). The feeling thermometer asks participants to rate perceptions of how members of how both cross-motivational pairings feel about each other (i.e., "cross" pair) and same-motivational pairings (i.e., "same" pair) feel about each other.

vii. <u>Perceived Psychological Safety:</u> participants will complete a six item scale in random order, based on van Ginkel and van Knippenberg (2008), on a scale from 1 (*not at all*) to 7 (*definitely*).
  1. Members of this group would judge each other on the things that they say. (*reversed*)
  2. Members of this group want to hear what the other members have to say.
  3. Members of this members would appreciate discussion.
  4. Members of this group would react positively when other members disagree with them.
  5. Members of this group would think more positively of each other when other members agreed with them. (*reversed*)
  6. Members of this group would appreciate it when other members mention new information.

viii. <u>Perceived Team Cohesion:</u> participants are asked to rate overall perceived team cohesion using the Unitary Cohesion Scale (Forsyth, 2021). Specifically, participants are asked "What are your beliefs about the **overall** dynamics of this team?" and are directed to "Please rate the team on the following word pairs by selecting the number on each line that best represents your beliefs about the team's dynamics." Participants are then presented with the following nine word pairs on a five-point scale. Asterisks indicate reverse-scored parings.
  1. Strongly bonded _ _ _ _ _ Weakly bonded*
  2. Unintegrated assembly _ _ _ _ _ Integrated whole
  3. Sticks together _ _ _ _ _ Drifts apart*
  4. Distant _ _ _ _ _ Close
  5. Tight-knit _ _ _ _ _ Loosely linked*
  6. Togetherness _ _ _ _ _ Separation*
  7. Splintered _ _ _ _ _ Fused
  8. United _ _ _ _ _ Divided*
  9. Loosely connected _ _ _ _ _ Tightly connected

c. Exploratory Variables
  i. <u>Person-Task General Sensitivity:</u> managers who generally recognize the differential effects of person- and task-focused behaviours may be better equipped to use them when managing regulatory mode in teams. Participants will thus complete a self-devised measure of their person-task general sensitivity by provide relative ratings of task- and person-focused

behaviours in ten situations, in random order, using the bipolar rating scale described above.

1. *Person-Focused Situations* (emphasis below in original)
   a. When teams are **working collaboratively but unable to make progress**, how _____ are task-focused or person-focused strategies?
   b. When teams are **working collaboratively but making too many mistakes**, how _____ are task-focused or person-focused strategies?
   c. When teams are **unable to consider other ways of doing things**, how _____ are task-focused or person-focused strategies?
   d. When teams are experiencing **harmony and working collaboratively**, how _____ are task-focused or person-focused strategies?
   e. When teams are experiencing conflict because of **disagreements about how to do their assigned duties**, how _____ are task-focused or person-focused strategies?
2. *Task-Focused Situations* (emphasis below in original)
   a. When teams are **unable to reconcile their differences**, how _____ are task-focused or person-focused strategies?
   b. When team members **blame each other for their mistakes**, how _____ are task-focused or person-focused strategies?
   c. When teams are experiencing conflict because of **personal disagreements with each other**, how _____ are task-focused or person-focused strategies?
   d. When teams are **unable to make progress because team members don't trust each other**, how _____ are task-focused or person-focused strategies?
   e. When teams are **making mistakes because team members are overly critical of each other**, how _____ are task-focused or person-focused strategies?

ii. Chronic Regulatory Mode: managers own regulatory mode orientation may influence how they manage regulatory mode in teams in the presence or absence of different types of conflict. Participants will thus complete the 24-item chronic regulatory mode scale (Kruglanksi et al., 2000) using a 6-point Likert scale (1 = *Strongly Disagree*, 6 = *Strongly Agree*).

iii. Regulatory Mode Metamotivational Knowledge: managers with more versus less accurate metamotivational knowledge of regulatory mode—recognizing the trade-offs associated with locomotion and assessment—may be better equipped to manage it in teams. Participants will therefore complete an assessment of their metamotivational knowledge of regulatory mode. They will be presented with definitions of locomotion and assessment and will then be asked to provide binary ratings and rate

the extent to which they undermine and benefit performance on eight tasks (four locomotion, four assessment).

    iv. <u>Managerial Experience:</u> previous research finds mixed evidence for the role of experience in effective management (Hoffman et al., 2011), and managers' metamotivational knowledge (Jansen et al., 2022). Thus, we will explore if managerial experience is associated with the outcomes above by asking participants to provide their years of leadership experience, position in their organizational hierarchy, number of subordinates, and the extent to which their position requires supervisory skills.

    v. <u>Demographic Characteristics</u>: participants are also asked to provide their income level, primary racial/ethnic group, education level, gender, age; these variables may also be examined as potential moderators or covariates.

4. Sampling Plan

    a. Participants/Sample Description
        i. United States-based adults whose occupation requires supervising others (a clear indication of management).

    b. Data Collection Procedures
        i. Participants will be recruited from Amazon's Mechanical Turk using CloudResearch (formerly known as TurkPrime). Participation will be restricted to participants who are in occupational roles that require supervising others, reside in the United States, and who have completed at least 100 HITs with an approval rating greater than 95%. These participation criteria will be implemented through CloudResearch panel options.
        ii. Data collection commenced on December 15, 2022.

    c. Projected Sample Size
        i. Targeting a total N of 235.

    d. Sample Size Rationale
        i. Our previous studies on metamotivation and managing the motivation of others (Jansen et al., 2022 review) targeted 200 total participants and provided 80% power to detect an effect size of $\eta_p^2 = .01$. The current study investigates a new motivational domain and adds a between-participants factor, thus recruiting a similar number participants should provide sufficient power to detect effects for the primary analyses.

    e. Stopping Rule
        i. Data collection will stop once we reach our target N.
        ii. <u>Note:</u> CloudResearch participant recruitment options indicate how feasible a study is to conduct. Based on our target sample size, the platform indicated that we may not be able to get the number of participants we need. Data collection will continue until we have either reached our target N or no new participants are recruited within one week.

5. Exclusion Criteria

a. There are no exclusion criteria.

6. Analysis Plan

  a. Outliers

    i. Univariate outliers with scores > 3 *SD*s from the mean will be winsorized to ± 3 *SD*s to minimize their influence on results (Tabachnik & Fidell, 2007). Where numerous cases ($> 2\%$) or very extreme values (> 4 *SD*s) have been winsorized, analyses will be performed with and without winsorization.

  b. Missing Data

    i. Generally, we will handle missing data by pairwise—not listwise—exclusion (i.e., participants missing data for specific variables will be excluded from analyses involving those variables but may be included in models using other variables).

    ii. For missing items within larger composite scales, the measures will be computed by averaging across the items where data is present.

    iii. For variables with large amounts of missing data, analyses will be conducted to determine whether the data are Missing Completely at Random (MCAR).

      1. If data are MCAR, cases with missing data will be excluded from specific analyses as described above.

      2. If data are not MCAR, multiple imputation or robust estimation methods will be used as appropriate based on the type of non-randomness.

  c. Variable/Composite Creation

  Note: unless otherwise indicated, for all close-ended variables listed above, after reverse scoring as needed Cronbach's alpha will be calculated, followed by a composite score averaging across items. If any of the items perform poorly (e.g., exert a disproportionally large effect on Cronbach's alpha), a reduced composite score will also be calculated.

    i. <u>Binary Forced Choice</u>: this binary variable will be scored such that $0 =$ task-focused and $+1 =$ person-focused.

    ii. <u>Task-Focused Importance</u>: higher scores will indicate greater predicted importance for task-focused behaviours.

    iii. <u>Person-Focused Importance</u>: higher scores will indicate greater predicted importance for person-focused behaviours.

    iv. <u>Bipolar Ratings</u>: higher scores will indicate a greater endorsement of person-focused behaviours, while lower scores will indicate a greater endorsement of task-focused behaviours.

    v. <u>Information Elaboration</u>: higher scores will indicate greater perceived information elaboration.

    vi. <u>Feeling Thermometer</u>: first, ratings will be rescaled by dividing the raw score (ranging from 0 to 100) by 100 to obtain a score ranging from 0 to 1. Second, an average feeling thermometer rating will be calculated by averaging the four thermometer ratings within each team. Third, within each team, a difference score will be calculated by subtracting the average

of the two "cross" pairings from the average of the two "same" pairings; a score of 0 on this difference score means that participants perceive no difference in how cross-pairings feel about same-pairings.

    vii. <u>Perceived Psychological Safety</u>: higher scores will indicate greater perceived psychological safety.

   viii. <u>Perceived Team Cohesion</u>: higher scores will indicate greater perceived cohesion.

    ix. <u>Person-Task General Sensitivity</u>: following composite creation, an accuracy index will be calculated as follows: [person-focused endorsement for person-focused situations – task-focused endorsement for task-focused situations] + [task-focused endorsement for task-focused situations – person-focused endorsement for task-focused situations]. Higher scores indicate greater person-task general sensitivity.

    x. <u>Chronic Regulatory Mode</u>: higher scores will indicate greater chronic locomotion and assessment, respectively.

    xi. <u>Regulatory Mode Metamotivational Knowledge</u>: three accuracy indices will be computed: locomotion knowledge, assessment knowledge, and overall knowledge. For locomotion, this index will indicate if participants accurately recognize that locomotion would benefit, and assessment undermine, performance on locomotion tasks. For assessment, this index will indicate if participants accurately recognize that assessment would benefit, and locomotion undermine, performance on assessment tasks. Finally, overall knowledge will combine locomotion and assessment accuracy.

       1. *Locomotion Knowledge* = Locomotion Tasks Locomotion Benefit Rating – Locomotion Tasks Assessment Undermine Rating

       2. *Assessment Knowledge* = Assessment Tasks Assessment Benefit Rating – Locomotion Tasks Locomotion Undermine Rating

       3. *Overall Knowledge* = Locomotion Knowledge + Assessment Knowledge

    xii. <u>Emotional Conflict</u>: emotional conflict conditions will be contrast coded such that emotional conflict absent = -1 and emotional conflict present = +1.

       1. Dummy codes will also be used to probe any interactions and for comparisons to the hanging control condition.

   xiii. <u>Task Conflict</u>: task conflict conditions will be contrast coded such that task conflict absent = -1 and task conflict present = +1.

       1. Dummy codes will also be used to probe any interactions and for comparisons to the hanging control condition.

   xiv. <u>Participant Gender:</u> we will effects code participant gender such that -1 = women and +1 = men.

d. Statistical Models

    i. <u>Descriptive Statistics:</u> means, medians, standard deviations, skew, kurtosis, etc. will be computed for each variable.

    ii. <u>Linear Regression:</u> using the contrasts outlined above, linear regression analyses will examine if emotional conflict, task conflict, and their

interaction affect dependent variables, followed up by additional dummy coded analyses to probe significant or marginal ($p < .10$) interactions. Analyses with dummy codes will also test if each condition differs from the hanging control condition.

1. Additional exploratory **moderation** analyses will examine if the patterns above are further moderated by person-task general sensitivity, chronic regulatory mode, regulatory mode metamotivational knowledge, managerial experiences, and participant demographics.
2. Additional exploratory **mediation** analyses using PROCESS (Hayes, 2018) will examine whether team perceptions (psychological safety, feeling thermometer, and cohesion) mediate observed effects.

iii. <u>Logistic Regression:</u> using the contrasts outlined above, logistic regression analyses will examine if emotional conflict, task conflict, and their interaction affect the binary forced choice dependent variable, followed up by additional dummy coded analyses to probe significant or marginal ($p < .10$) interactions. Analyses with dummy codes will also test if each condition differs from the hanging control condition.

1. Additional exploratory **moderation** analyses will examine if the patterns above are further moderated by person-task general sensitivity, chronic regulatory mode, regulatory mode metamotivational knowledge, managerial experiences, and participant demographics.
2. Additional exploratory **mediation** analyses using PROCESS (Hayes, 2018) will examine whether team perceptions (psychological safety, feeling thermometer, and cohesion) mediate observed effects.

Appendix B contains the complete list of locomotion, assessment, and mixed tasks used

to assess participants' metamotivational knowledge of regulatory mode in Study 1.

Table B1

Task Descriptions Used in Study 1

Locomotion Tasks	Assessment Tasks	Mixed Tasks
Your task is to shoot basketball free-throws. You need to get as many of the basketballs as possible to go through the hoop in a limited time frame and try to beat your personal best.	Your task is to create a temporary traffic for an upcoming road construction project. You need to ensure the detour can accommodate the volume of traffic and does not excessively increase commuting time.	Your task is to develop a new product for your company. You need to be innovative and set new industry standards, but you must also ensure the product is free of flaws and meets consumer expectations.
Your task is to call customers with updates from your company. You need call as many customers as you can to provide the new information before customers place new orders.	Your task is to conduct your company's annual safety inspection. You need to avoid missing any problem areas and ensure that your company is following the latest safety regulations.	Your task is to develop a new advertising campaign. You need to draft various alternatives for clients and persuade clients to buy into one of them, but you must also ensure advertising regulations are followed and that the client will be satisfied.
Your task is to clean an area of your workplace after materials were spilled. You need to ensure the area is completely clear to the prepare for a new shipment arriving imminently.	Your task is to conduct an internal audit of your company. You need to need to observe and review as many company procedures as possible and identify ways your company can improve its practices.	Your task is to work on a presentation to update clients on the company's progress to date. You need to highlight the cutting-edge methods your company has developed, but you must also take the time to work though flaws in the company's model and how they can be improved.
Your task is to stock shelves during your shift at the grocery store. You need to stock as many products as	Your task is to solve a crime that occurred in your city. You need to look for evidence to find out what	Your task is to craft a plan to expand your company into a new market. You need to identify new opportunities

possible and ensure all departments have enough stock on the shelves before the store opens.

really happened and compile a list of potential suspects.

your company can take advantage of, but you must take care to ensure that company resources will not be stretched thin.

Your task is to coordinate a project for your company. You need to be firm in choosing a way forward and implement decisions without affecting the project's timeline.

Your task is to analyze the effectiveness of a new policy implemented by your local government. You need to identify who is the most affected by the policy and objectively assess how the policy has impacted their day-to-day lives.

Your task is to plan an important annual company event. You need to consider what the company should showcase in the aims and scope of the event, but also consider the venue, catering, and guest list while maintaining the event budget.

Your task is to package products as they come off an assembly line. You need to package as many products as you can and fulfill as many client orders as possible.

Your task is to plan an annual family vacation. You need to think about the sights you want to explore and activities you want to do, but also maintain a budget and pick the ideal time for everyone to go.

Your task is to sell products to customers. You need to sell as many products as possible, but also consider ways you can get customers to buy the higher quality, more expensive products.

Your task is to acquire donations for a local charity. You need to talk to a lot of people and showcase the benefits of the charity for the community to get as many donations as you can.

Your task is to design the interior of a new home. You need to try a variety of different design schemes and ensure the final one will be perfected for when the home goes on the market.

Your task is to control air traffic at your city's airport. You need to find appropriate paths for airplanes to take without causing delays, but you must take care to ensure you pick the safest paths to avoid collisions.

Your task is to deliver mail to your community. You need to work through a backlog of deliveries and ensure you don't fall behind in getting people their packages.

Your task to allocate the annual company budget. You need to determine the most pressing needs of each department and ensure the budget is distributed as fairly as possible based on financial need.

Your task is to consult with clients about next steps in their business. You need to propose concrete steps they can take to expand their business, but also compare different approaches to ensure the client takes the best possible path.

Your goal is to start a new exercise routine. You need to

Your task is to process insurance claims. You need to

Your task is to provide an update of your company's

stick the prescribed schedule of the routine and ensure you advance through the different stages at a consistent pace.

examine the details of each claim and use this information determine whether the claimant is entitled to amount of compensation sought.

inventory. You need to count and sort a large volume of products in a limited time frame, but need to ensure you implement a clear categorization process to organize everything.

Your task is to transport patients to the hospital. You need to respond to calls immediately to ensure patients make it to the hospital within the specified response time.

Your task is to find new locations for promotional advertisements for your company. You need to determine where existing ads have been placed and where competitors have been advertising in order to expand your company's ad presence.

Your task is to brainstorm ideas to redesign your company's brand. You need to come up with many different creative ideas and choose the one that stands out among the rest to present to your supervisors.

Appendix C: Study 2 Team Member Profile Pilot Study

Prior to conducting Study 2, a pilot study was conducted to test the perceived locomotion and assessment orientations of a series of possible team member descriptions. Using Amazon's Mechanical Turk, 101 participants were recruited in exchange for US$2.00. Participants were told the study was investigated how people perceive a series of hypothetical employees, specifically how people perceive these employees' motivational orientations. They were then given the same definitions of locomotion and assessment as studies reported in the main text and were told the researchers were interested in whether participants perceived employees to be locomotion- or assessment-oriented. Following this, they were given the 20 one-sentence employee descriptions in Table C1 in random order on separate pages, which were written to provide face-valid signals of locomotion (10 employees) and assessment (10 employees). For each employee, participants were asked to rate their motivational orientation in response to the following prompt: "Based on the definitions were provided for locomotion and assessment motivation, to what extent do you believe [employee name] is [locomotion-oriented / assessment-oriented]?". Reponses were given on a seven-point continuous scale (1 = *not at all*, 7 = *extremely*). Analyses used a standardized effect size (Cohen's *d*) to compare locomotion ratings to assessment ratings for each employee description (see Table C2). Locomotion- and assessment-oriented employee descriptions with similarly large differences were selected for use in Studies 2-5.

Table C1

Descriptions Used in the Team Member Profile Pilot Study

Locomotion employee descriptions	Assessment employee descriptions
Danny believes that spontaneity leads to innovative opportunities.	Leah believes that spending time carefully planning leads to greater efficiency when it comes to carrying out the plan.
Ellen describes herself as a "busy body" who can't wait to start new projects after she finishes current projects.	Riley likes to exhaust all their options and get a sense of what different solutions are like before making a decision.
Kyle is very efficient and likes to get as much done in a short time span as possible.	Victoria describes herself as a "thorough" person who carefully reviews work done by herself and others.
Jackie is always on the go and only worries about problems if and when they arise.	Scott describes himself as a "devil's advocate" who tries to weigh all possible pros and cons before making a decision.
Andrew describes himself as a "workaholic" who doesn't mind doing things, even if they involve extra effort.	Kim tends to second guess herself when refining plans to make them as good as possible.
Anna jumps right into new projects, giving it their all right from the get-go and doing as much as they possibly can.	Matthew describes himself as a "systematic" person who spends most of his time trying to find the best way to do things.
James describes himself as a "doer" who actively enjoys doing things, rather than watching and observing.	Lisa describes herself as a "thinker" who likes to analyze plans for herself and others.
Danielle describes herself as a real "go-getter" who spends most of her time thinking about what she wants to accomplish.	Thomas describes himself as "perfectionist" who is self-critical and self-conscious about the way things are done.
Robert describes himself as a "high-energy" person who gets really excited just before he is about to reach his goals.	Simon considers problems from every angle, unafraid to acknowledge potential issues.
Lauren prefers to take things in stride, figuring out what to do as she goes along.	Laura describes herself as an "analytical" person who spends a lot of time thinking about ways things could be improved.

Table C2

Descriptive Statistics and Absolute Standardized Mean Differences in Motivation Ratings by

Employee Description in the Team Member Profile Pilot Study

	Locomotion rating M (*SD*)	Assessment rating M (*SD*)	| Cohen's d |
Locomotion employees			
James	6.49 (0.77)	2.22 (1.54)	2.06
Anna	6.54 (0.91)	2.21 (1.52)	1.91
Ellen	6.30 (1.02)	2.31 (1.46)	1.81
Jackie	6.13 (1.32)	2.35 (1.64)	1.42
Robert	5.99 (1.08)	2.95 (1.59)	1.29
Kyle	6.11 (1.24)	2.66 (1.66)	1.28
Danny	5.84 (1.40)	2.70 (1.87)	1.03
Andrew	5.83 (1.29)	3.08 (1.72)	1.01
Lauren	5.30 (1.89)	3.12 (1.98)	0.60
Danielle	4.88 (1.92)	4.29 (1.96)	0.16
Assessment employees			
Scott	6.59 (0.76)	2.08 (1.38)	2.47
Lisa	6.58 (0.91)	2.15 (1.40)	2.25
Laura	6.64 (0.72)	2.19 (1.54)	2.21
Riley	6.53 (0.83)	2.24 (1.59)	1.97
Simon	6.42 (0.96)	2.31 (1.42)	1.89
Victoria	6.42 (0.78)	2.53 (1.56)	1.88
Kim	6.26 (0.98)	2.35 (1.52)	1.84
Thomas	6.31 (0.90)	2.62 (1.63)	1.73
Matthew	6.31 (1.15)	2.43 (1.65)	1.53
Leah	6.23 (1.26)	2.62 (1.65)	1.37

Appendix D: Study 3 LIWC Dictionaries

Appendix D contains the complete list of word stems that contained in the custom speed and accuracy LIWC dictionaries in Study 3.

Speed LIWC dictionary			Accuracy LIWC dictionary		
abrupt*	flow	progress*	accura*	investigat*	thought*
accelerat*	fly*	prompt*	alert*	judg*	true*
act*	flies	pump*	alternat	look*	truth*
active*	fired	push*	analy*	methodical	uncertain*
advanc*	get*	quick*	astute*	meticulous*	unsure
alert*	go	rac*	assess*	mindful*	vigilan*
approach*	going	ran	attenti*	mistake*	warn*
bounc*	hast*	rapid	best	observ*	wary
brisk*	hit*	rash	calculat	overthink*	watch*
can't wait	hurr*	rate	careful*	particular	wrong
chang*	hustl*	reckless	caution*	perfect*	
constant*	initiat*	reduc*	check*	picky	
cruis*	forward	reject*	choic*	plan*	
cycl*	immediate*	remov*	concern*	ponder*	
dash*	impuls*	roll*	compar*	precis*	
dare*	jump*	run*	comprehensive*	procrastinat*	
decisive*	launch	rush*	consider*	proper*	
deliver*	lead*	smooth	contemplate*	question*	
dive*	leap*	speed*	contrast*	reconsider*	
diving	lively	start*	consult*	reflect*	
do it	make*	urg*	correct*	regret*	
doer*	mobil*	velocity	criti*	restrain*	
doing	momentum	vigor*	deliberat*	review*	
done	motion		detail*	revis*	
drive*	mov*		diligen*	right	
dynami*	next		discipline*	ruminat*	
eag*	obstacle		error*	scrutin*	
efficien*	speed		evaluat*	slow*	
elimin*	spring		exact	strateg*	
energ*	sudden		examin*	stuck	
enthusias*	swift*		exhaustive*	study*	
excit*	pace		fault*	systematic*	
expedient	persistent*		fussy	tentative*	
fast*	proceed*		guard*	test*	
finish*	proficien*		indecisive	think*	
flee	progress		inspect*	thorough*	

Appendix E: Shortened Regulatory Mode Metamotivational Knowledge Assessment

In Studies 4 and 5, a shortened version metamotivational knowledge assessment from Study 1 was used as an individual difference measure. The procedure mirrored that of Study 1, the only change was in the number of tasks used. Appendix E contains the tasks used in this shortened assessment. Importantly, mixed tasks were included in Study 4A only.

Table E1

Tasks Used in the Shortened Regulatory Mode Metamotivational Knowledge Assessment

Locomotion Tasks	Assessment Tasks	Mixed Tasks (Study 4A only)
Your task is to call customers with updates from your company. You need call as many customers as you can to provide the new information before customers place new orders.	Your task is to conduct your company's annual safety inspection. You need to avoid missing any problem areas and ensure that your company is following the latest safety regulations.	Your task is to develop a new advertising campaign. You need to draft various alternatives for clients and persuade clients to buy into one of them, but you must also ensure advertising regulations are followed and that the client will be satisfied.
Your task is to stock shelves during your shift at the grocery store. You need to stock as many products as possible and ensure all departments have enough stock on the shelves before the store opens.	Your task is to solve a crime that occurred in your city. You need to look for evidence to find out what really happened and compile a list of potential suspects.	Your task is to sell products to customers. You need to sell as many products as possible, but also consider ways you can get customers to buy the higher quality, more expensive products.
Your task is to package products as they come off an assembly line. You need to package as many products as you can and fulfill as many client orders as possible.	Your task is to analyze the effectiveness of a new policy implemented by your local government. You need to identify who is the most affected by the policy and objectively assess how the policy has impacted their day-to-day lives.	Your task is to provide an update of your company's inventory. You need to count and sort a large volume of products in a limited time frame, but need to ensure you implement a clear categorization process to organize everything.
Your task is to deliver mail to your community. You need to work through a backlog of deliveries and ensure you don't fall behind in getting people their packages.	Your task to allocate the annual company budget. You need to determine the most pressing needs of each department and ensure the budget is distributed as fairly as possible based on financial need.	Your task is to brainstorm ideas to redesign your company's brand. You need to come up with many different creative ideas and choose the one that stands out among the rest to present to your supervisors.

Appendix F: Person-Task General Sensitivity Measure

Appendix F contains the full list of scenarios developed for the person-task general

sensitivity measure used in Studies 4 and 5. In Study 4, all scenarios were contained within the

following question stem "When teams are [scenario], are task-focused versus person-focused

strategies most _____", with the blank replaced by the four items used in these two studies

(necessary, effective, useful, beneficial) for a total of four ratings per scenario. In Study 5, all

scenarios were preceded by the question stem "Are task-focused versus person-focused strategies

more [**effective / beneficial**] when teams are:" (emphasis in original).

Table F1

Scenarios Used in the Person-Task General Sensitivity Measure

Person-focused scenarios	Task-focused scenarios
unable to reconcile their differences?	experiencing conflict because of disagreements about how to do their assigned duties?
blaming each other for their mistakes?	experiencing harmony and working collaboratively?
unable to make progress because team members distrust each other?	working collaboratively but unable to make progress?
unable to make progress because team members are overly critical of each other?	working collaboratively but making too many mistakes?
experiencing conflict because of personal disagreements with each other?	unable to consider other ways of doing things?

Appendix G: Differences Between Locomotion and Assessment Teams in Study 4

    In the main text of Studies 4A and 4B, a simplified set of contrasts is reported that collapses across locomotion-only and assessment-only teams to compare mixed teams to homogenous teams. Prior to doing so, an initial orthogonal set of contrasts allowed for comparisons with the locomotion-only team and assessment-only team (see Table G1). Specifically, the "Mode" contrast compares the assessment-only team to the locomotion-only team, while the "ConfMode" contrasts tests whether the "Mode" contrast interacts with conflict condition. Appendix G reports results using this set of contrasts, finding that locomotion-only and assessment-only teams did not systematically differ from each other (see Table G2) and thus leading to their combination in the simplified contrasts reported in the main text.

Table G1

Orthogonal Contrast Set Separating Locomotion-Only and Assessment-Only Teams

	Mixed /Conflict	Locomotion /Conflict	Assessment /Conflict	Mixed /No Conflict	Locomotion /No Conflict	Assessment /No Conflict
Conflict	1	1	1	-1	-1	-1
Mixed	-2	1	1	-2	1	1
Mode	0	-1	1	0	-1	1
ConfMix	-2	1	1	2	-1	-1
ConfMode	0	-1	1	0	1	-1

Table G2

Regression Estimates for the Full Set of Orthogonal Contrasts in Studies 4A and 4B

	Study 4A					Study 4B				
	Conflict	Mixed	Mode	ConfMix	ConfMode	Conflict	Mixed	Mode	ConfMix	ConfMode
	B (SE)	*B (SE)*	*B (SE)*	*B (SE)*	*B (SE)*	*B (SE)*	*B (SE)*	*B (SE)*	*B (SE)*	*B (SE)*
Person-focused endorsement	-0.06 (0.03)	0.01 (0.02)	-0.03 (0.04)	0.01 (0.02)	-0.01 (0.04)	-0.006 (0.03)	-0.02 (0.02)	-0.004 (0.04)	-0.007 (0.02)	0.02 (0.04)
Task-focused endorsement	0.03 (0.04)	0.01 (0.03)	0.04 (0.05)	0.01 (0.03)	0.02 (0.05)	**0.07† (0.04)**	-0.02 (0.03)	0.02 (0.05)	0.01 (0.03)	-0.01 (0.05)
Binary choice	0.07 (0.07)	-0.03 (0.05)	0.09 (0.09)	0.04 (0.05)	**0.19* (0.09)**	0.05 (0.07)	-0.007 (0.05)	**0.18* (0.09)**	-0.06 (0.05)	0.07 (0.09)
Person-focused importance	0.02 (0.06)	-0.03 (0.04)	-0.003 (0.07)	0.02 (0.04)	**0.15* (0.07)**	**0.11* (0.06)**	0.007 (0.04)	0.09 (0.07)	-0.01 (0.04)	0.03 (0.07)
Task-focused importance	-0.06 (0.05)	-0.02 (0.04)	-0.002 (0.06)	-0.006 (0.04)	-0.09 (0.06)	0.09† (0.05)	-0.02 (0.04)	-0.10 (0.06)	-0.02 (0.04)	-0.06 (0.06)
Person/task relative rating	0.10 (0.08)	-0.01 (0.06)	0.09 (0.10)	0.03 (0.06)	**0.21* (0.10)**	0.08 (0.08)	-0.04 (0.06)	0.07 (0.10)	-0.003 (0.06)	0.07 (0.10)
Information elaboration	**-0.72*** (0.05)**	**-0.05† (0.03)**	**0.17** (0.06)**	**0.07* 0.03)**	**-0.10† (0.06)**	-0.05 (0.04)	-0.05 (0.03)	**-0.11* (0.05)**	0.008 (0.03)	0.02 (0.05)
Overall warmth	**-0.06*** (0.005)**	**-0.007† (0.003)**	**-0.02* (0.006)**	0.006 (0.003)	-0.004 (0.006)	**-0.02** (0.006)**	-0.003 (0.004)	-0.009 (0.007)	-0.002 (0.004)	-0.0004 (0.007)
Differential warmth	**0.14*** (0.01)**	**-0.02* (0.008)**	0.002 (0.01)	0.007 (0.008)	0.02 (0.01)	-0.003 (0.007)	**-0.05*** (0.005)**	0.004 (0.009)	-0.008 (0.005)	0.007 (0.009)
Psychological safety	**-0.55*** (0.03)**	-0.03 (0.02)	-0.06 (0.04)	0.04 (0.02)	**-0.07† (0.04)**	**-0.09** (0.03)**	**-0.04† (0.02)**	**-0.11** (0.04)**	0.03 (0.02)	0.004 (0.04)
Cohesion	**-0.46*** (0.03)**	**-0.06* (0.02)**	**-0.07* (0.04)**	**0.06** (0.02)**	**-0.08* (0.04)**	**-0.09** (0.03)**	-0.02 (0.02)	**-0.14*** (0.04)**	0.03 (0.02)	-0.009 (0.04)

Note: Estimates for the binary choice outcome are based on logistic regression. Boldface indicates significant or marginal effects.
† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Appendix H: Study 5 Team Member Descriptions

Appendix H contains the team member descriptions used in Study 5. The descriptions used in Studies 2-4 were expanded upon by including parts of descriptions tested in the pilot study for Study 2 that is detailed in Appendix C.

Table H1

Study 5 Team Member Descriptions

Laura describes herself as an "analytical" person who spends a lot of time thinking about ways things could be improved. She is systematic in her approach to finding the best way to do things, which makes her second guess herself when refining plans to make them as good as possible.	**Thomas** describes himself as a "thinker" who likes to analyze plans for himself and others. He is a perfectionist who is self-critical and self-conscious about the ways things are done, believing that spending a lot of time meticulously planning will lead to greater efficiency in the long run.
James describes himself as a "doer" who enjoys actively doing things, rather than watching and observing. He believes that spontaneity leads to innovative opportunities, preferring to do whatever he can do get things done, even if it involves extra effort, and only worrying about problems if and when they arise.	**Anna** describes herself as a "high-energy" person who gets really excited just before she is about to reach her goals. She jumps right into new projects, giving it her all from the get-go and doing as much as she possibly can in as short a time span as possible.

Note: emphasis in original.

Appendix I: Study 5 Conflict Manipulation Materials

Appendix I contains the materials used for the conflict manipulation in Study 5.

Participants assigned to the control condition only received the team member descriptions in

Appendix H. Remaining participants were randomly assigned to receive one of the summaries
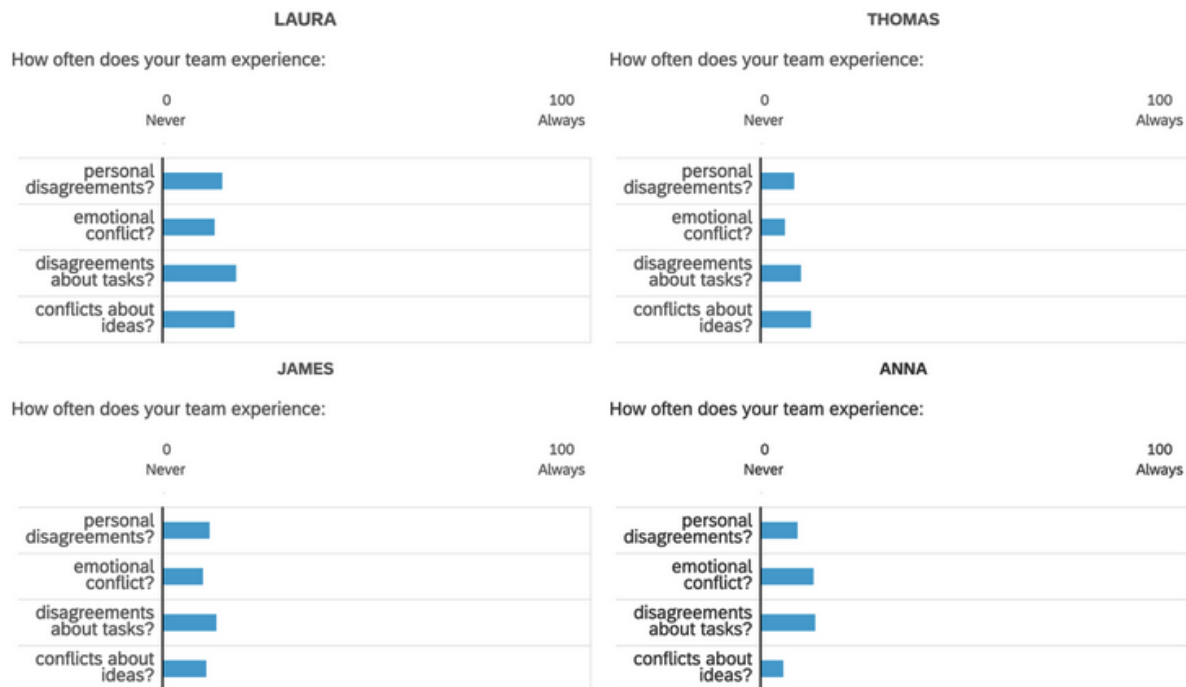
detailed in Figures I1 to I4.

Figure I1

Conflict Manipulation in the Low Emotional / Low Task Conflict Condition

SUMMARY OF INITIAL TEAM SURVEY

Here, you will see a summary of an initial team survey asking employees a series of questions about how they perceive their teams and how they work together.

Please take a moment to review the information below, while also considering the people who make up this team.

Figure I2

Conflict Manipulation in the Low Emotional / High Task Conflict Condition

SUMMARY OF INITIAL TEAM SURVEY

Here, you will see a summary of an initial team survey asking employees a series of questions about how they perceive their teams and how they work together.

Please take a moment to review the information below, while also considering the people who make up this team.
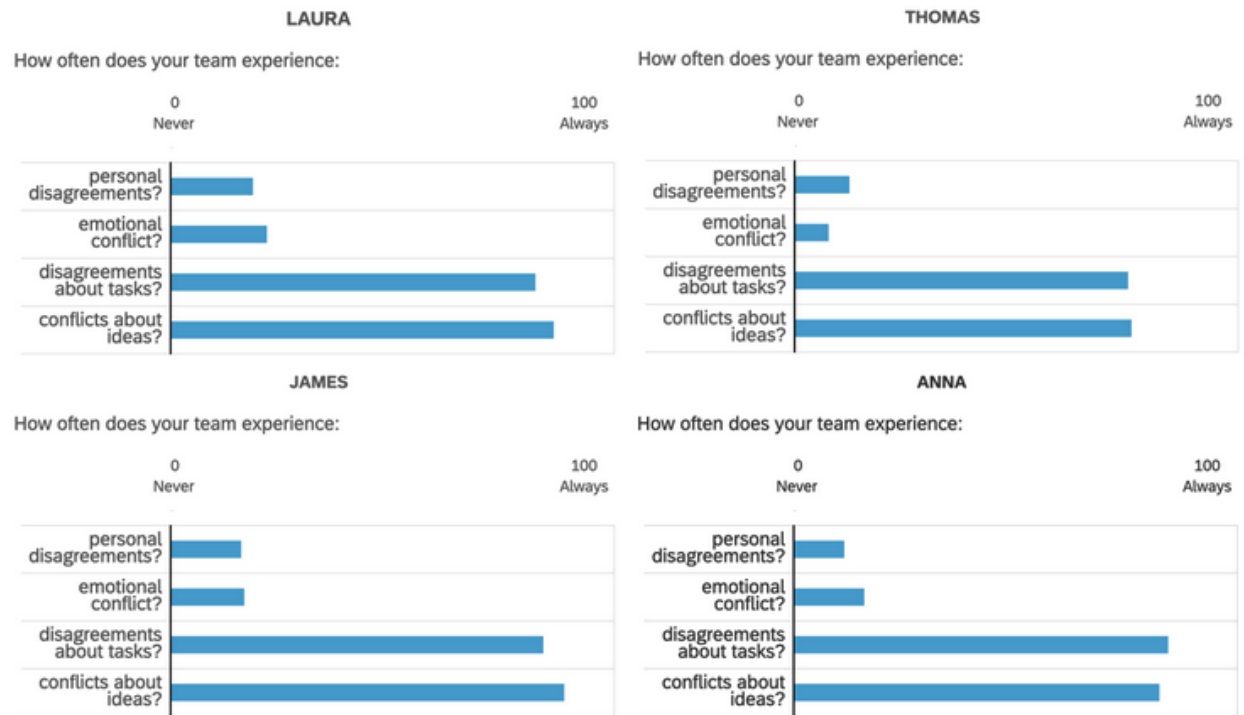
Figure I3

Conflict Manipulation in the High Emotional / Low Task Conflict Condition

SUMMARY OF INITIAL TEAM SURVEY

Here, you will see a summary of an initial team survey asking employees a series of questions about how they perceive their teams and how they work together.

Please take a moment to review the information below, while also considering the people who make up this team.
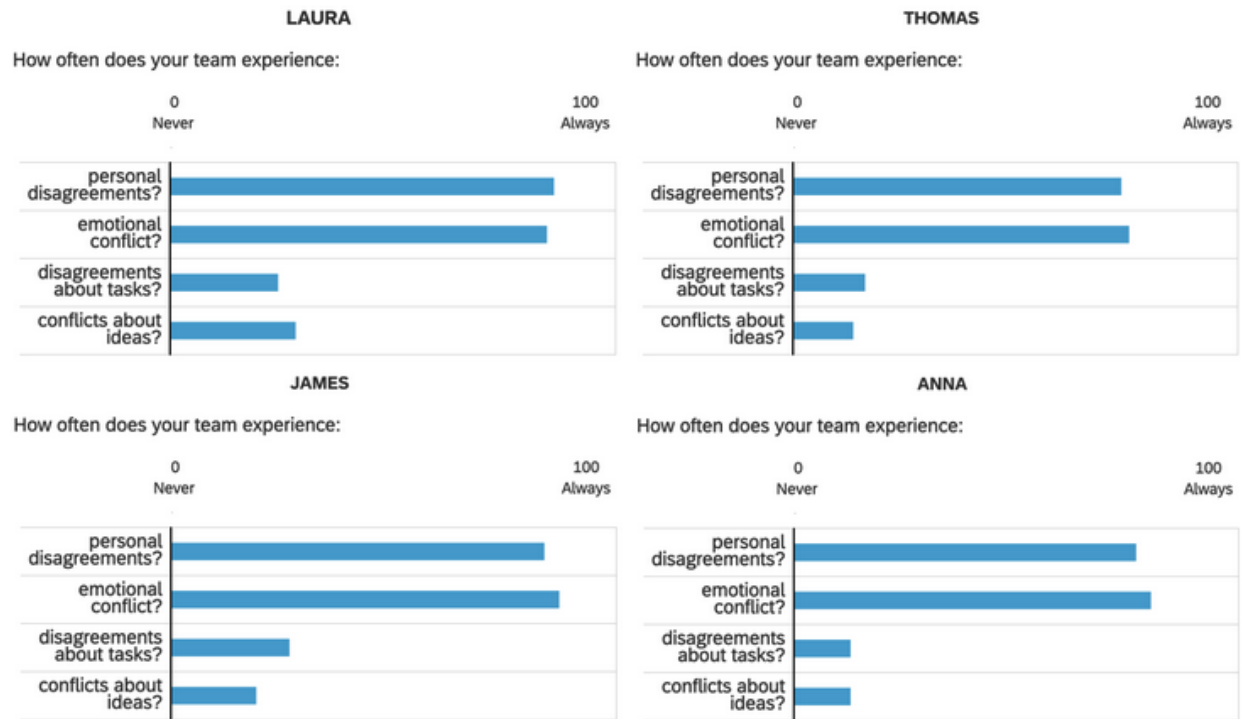
LAURA

How often does your team experience:

	0 Never	100 Always
personal disagreements?		
emotional conflict?		
disagreements about tasks?		
conflicts about ideas?		

THOMAS

How often does your team experience:

	0 Never	100 Always
personal disagreements?		
emotional conflict?		
disagreements about tasks?		
conflicts about ideas?		

JAMES

How often does your team experience:

	0 Never	100 Always
personal disagreements?		
emotional conflict?		
disagreements about tasks?		
conflicts about ideas?		

ANNA

How often does your team experience:

	0 Never	100 Always
personal disagreements?		
emotional conflict?		
disagreements about tasks?		
conflicts about ideas?		

Figure I4

Conflict Manipulation in the High Emotional / High Task Conflict Condition

SUMMARY OF INITIAL TEAM SURVEY

Here, you will see a summary of an initial team survey asking employees a series of questions about how they perceive their teams and how they work together.

Please take a moment to review the information below, while also considering the people who make up this team.