

Metamotivation: Self-regulating task-motivation fit

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Received: 30/7/2023 Accepted: 10/11/2023

DOI: <https://doi.org/10.30827/portalin.viIX.29880>

ISSN paper edition: 1697-7467, ISSN digital edition: 2695-8244

ABSTRACT: Regulating one's motivation contributes to well-being and success across various domains, including language learning. For example, activating a promotion versus prevention regulatory focus orientation is generally more compatible with tasks requiring creativity and innovation (e.g., brainstorming) versus tasks requiring vigilance (e.g., proofreading), respectively. Metamotivation represents awareness of such task-motivation fit. This article reports a study involving Saudi language learners of English ($N = 311$) who were presented with language-related tasks requiring two different motivational orientations (e.g., brainstorming vs. proofreading) and were asked to indicate their preferred incentive structure (inducing eagerness vs. vigilance) under two contexts (independent vs. interdependent). The results showed that the participants exhibited metamotivational awareness in terms of promotion, but not prevention, orientation. Female participants displayed a marked overgeneralization bias, clearly favoring a promotion-inducing incentive structure even for vigilance tasks. The implications of these findings are discussed in relation to task engagement and persistence and to expanding the scope of language motivation theory, paving the way for a new line of research into language learning metamotivation.

Keywords: regulatory focus theory, metamotivational beliefs, motivational trade-offs, regulatory flexibility, self-regulation

Metamotivación: Ajuste autorregulado entre tarea y motivación

RESUMEN: La regulación de la motivación contribuye al bienestar y al éxito en diversos ámbitos, incluido el aprendizaje de idiomas. Por ejemplo, activar una orientación de enfoque regulador hacia la promoción en lugar de la prevención generalmente es más compatible con tareas que requieren creatividad e innovación (por ejemplo, lluvia de ideas) en comparación con tareas que requieren vigilancia (por ejemplo, corrección de pruebas). La metamotivación representa la conciencia de este ajuste entre tarea y motivación. Este artículo informa sobre un estudio que involucra a estudiantes sauditas de inglés ($N = 311$) a quienes se les presentaron tareas relacionadas con el idioma que requerían dos orientaciones motivacionales diferentes (por ejemplo, lluvia de ideas vs. corrección de pruebas) y se les pidió que indicaran su estructura de incentivos preferida (inducir el entusiasmo vs. la vigilancia) bajo dos contextos (independiente vs. interdependiente). Los resultados mostraron que los participantes exhibieron conciencia metamotivacional en términos de la orientación hacia la promoción, pero no hacia la prevención. Las participantes mujeres mostraron un sesgo de sobregeneralización marcado, favoreciendo claramente una estructura de incentivos inductora de la promoción incluso para tareas de vigilancia. Se discuten las implicaciones de estos hallazgos en relación con la participación y persistencia en la tarea, y para ampliar el alcance de la teoría de la mo-

tivación en el aprendizaje de idiomas, abriendo el camino a una nueva línea de investigación sobre metamotivación en el aprendizaje de idiomas.

Palabras clave: teoría del enfoque regulador, creencias metamotivacionales, compensaciones motivacionales, flexibilidad reguladora, autorregulación

“This is a critical question; what people know about motivation may determine how effectively they are able to manage it.”

— (Scholer et al., 2018, p. 440)

1. INTRODUCTION

For decades, language motivation researchers have devoted a great deal of effort to understanding motivation, its antecedents and consequences, and its optimal form for learning success (Al-Hoorie, 2017; Al-Hoorie & MacIntyre, 2020). Little attention has been paid to learners’ understanding of their own motivation, when and how they decide to regulate their motivation, and their strategic attempts to instantiate optimal motivational states in different contexts and in response to different task demands (Scholer et al., 2018). Effective self-regulation of motivation requires appreciation of the dynamic and context-sensitivity of language learning (Hiver et al., 2023; Zhou et al., 2023), exhibiting adequate adaptive flexibility (Scholer & Miele, 2016), and playing an agentic role in modulating their motivation (Al-Hoorie, 2015)—which is “a perspective on human beings as self-organizing, self-directed, adaptive entities” (Seligman & Csikszentmihalyi, 2000, p. 8). Inadequate attention to motivation regulation is especially problematic considering that self-regulation failure, whether through underregulation or misregulation, gives rise to a variety of negative emotional and behavioral consequences, while effective self-regulation contributes to success and well-being including positive affect and greater satisfaction (Inzlicht et al., 2021).

Self-regulation research has examined how learners effectively manage their goals by exerting control over their thoughts (Flavell, 1979), emotions (Tamir, 2009), and behaviors (Carver & Scheier, 1998). Relatively less attention has been directed toward the regulation of motivation specifically (Sansone et al., 1992; Wolters, 1998, 2003, 2011). Motivation regulation is related, but conceptually distinct from, these other types of regulation, as it involves knowledge and beliefs about motivation and about how to sustain and enhance it during goal pursuit, whether through employing suitable strategies like goal-oriented self-talk and self-consequating (self-administered enforcements and publishments), or through setting one’s mind to the qualitative “type” of motivation that is most appropriate to the task at hand. These topics fall within the scope of metamotivation.

As a more complete and nuanced picture of motivation requires the study of metamotivation, this article presents an investigation into the metamotivational beliefs of language learners in Saudi Arabia. Existing literature on metamotivation has primarily focused on its applications in certain domains including general academic contexts, cognitive tasks, and goal pursuit (MacGregor et al., 2017; Nguyen et al., 2022; Ross et al., 2023; Scholer & Miele, 2016). Little research has examined metamotivational beliefs either in the specific context of foreign language learning or within a Middle Eastern region. This situation creates a gap in

understanding how language learners perceive, manage, and adapt their motivation in relation to the diverse linguistic challenges they encounter. The purpose of this study therefore was to examine learners' knowledge of task-motivation fit from a regulatory focus perspective (Papi, 2018; Papi & Khajavy, 2021) and to find out whether their responses would display any overgeneralization bias in favor of a promotion or a prevention orientation.

2. METAMOTIVATION

Metamotivation involves “the processes by which individuals monitor and control their motivational states in order to achieve their goals” (Scholer et al., 2018, pp. 437–438). The target of regulation in this context is therefore motivation: Learners may recruit cognitive, emotional, or behavioral strategies in this process, but the ultimate goal is to regulate their motivational states. Research into metamotivation is not directly concerned with the optimal form of motivation per se, but with how individuals actually manage and regulate their motivation, their knowledge of the most effective ways to do so, the extent to which this knowledge aligns with evidence-based findings on the optimal form of motivation in various contexts, and the effect of this knowledge on selection of regulatory strategies, on flexibility in adapting to changing task demands, on goal pursuit success, and on quality of life and well-being. This regulation may be directed toward the quantity (i.e., intensity) or the quality (i.e., type) of motivation. Regulating motivational quantity requires recognizing the relative utility of different motivational regulation strategies in enhancing motivation (Schwinger & Otterpohl, 2017). Regulating motivation quality, in contrast, requires realizing that motivation can additionally differ in type (e.g., promotion vs. prevention). Success in goal pursuit depends to a great extent on the learner's knowledge and beliefs about the nature of learning motivation, or their metamotivational beliefs (Scholer et al., 2018).

When it comes to motivational quality, different motivational states afford different advantages in different contexts (Miele et al., 2020). These context-specific trade-offs (Sansone, 2009; Scholer & Higgins, 2012) indicate that a certain motivational state (e.g., autonomous or promotion orientation) is not universally effective. Instead, its effectiveness depends on the specific situation the learner is facing and its particular demands. For example, a promotion orientation would be expected to enhance the learner's performance in tasks that require divergent thinking, such as creative brainstorming and persuasive argumentation, because it induces an eager motivational state stimulating seeking opportunities for gains. On the other hand, a prevention orientation would be expected to be a better choice to enhance performance in tasks that require convergent thinking, such as proofreading, critiquing, and detecting logical problems, because it fosters a vigilant motivation state conducive to guarding against potential losses. As Miele et al. (2020) pointed out, this view of context sensitivity and task-motivation fit is consistent with the concept of regulatory flexibility from the coping and emotion regulation literature, where researchers have tended to believe that certain strategies may be classified as either uniformly effective or maladaptive regardless of context—an assumption Bonanno and Burton (2013) called the fallacy of uniform efficacy.

Just like metacognition, effective regulation of one's motivation requires different types of knowledge (Miele et al., 2020; Scholer & Miele, 2016). First, it requires understanding such trade-offs and the effect of different motivational states on performance in different

tasks (task knowledge). Effective regulation also requires recognizing what it feels like to experience different motivational states to decide whether they are currently experiencing the most optimal state (self knowledge). Effective regulation further requires being able to find ways to induce the most optimal motivational state in themselves in order to improve their chances of success (strategy knowledge). Metamotivation, therefore, involves two reciprocal processes: monitoring and control (Miele et al., 2020). Learners need to monitor the quantity and quality of their motivational states in relation to the specific goal they are pursuing; they also need to draw from the outcome of this monitoring process to select and execute the strategies that are conducive to the most appropriate motivational state for a given task. Thus, the metamotivational challenge is for learners to appreciate that the quantity and quality of motivation that best fits a future task may be very different from the motivational state that they have previously applied and found useful for another task.

The distinction between two qualitatively different motivational states and the task-motivation fit associated with it can be found in major theories of motivation and cognition, including regulatory focus theory, self-determination theory, and construal-level theory (Higgins, 2000; Liberman & Trope, 2008; Ryan & Deci, 2017). Regulatory focus theory distinguishes between two different motivational orientations, promotion versus prevention, and achieving a greater fit between one's regulatory orientation and the specific demands of one's goal pursuit means can increase motivation, the likelihood of success, and the overall quality of life (Higgins, 2000; Scholer & Higgins, 2012). In line with this, research suggests that individuals with a promotion orientation adopt a risky and explorative processing style, which leads to generally better performance on tasks demanding creativity and divergent thinking such as brainstorming, whereas those with a prevention orientation exhibit a risk-averse and perseverant processing style and are generally better at tasks requiring cautious performance such as detecting logical problems (Bittner et al., 2016; Friedman & Förster, 2001). Some research further suggests an additional factor: A prevention orientation may still promote creativity to the extent that regulatory closure (i.e., whether the goal is fulfilled) is still not achieved (Baas et al., 2011). Once regulatory closure is reached, individuals with prevention-focused states will experience relief, end goal pursuit, and become disengaged.

Self-determination theory paints a similar picture (Al-Hoorie et al., 2022; Oga-Baldwin et al., 2019; Oga-Baldwin et al., 2022; Ryan & Deci, 2017). Motivation is differentiated by self-determination theory according to types of regulation as they lie on an autonomy-control continuum. On one end of this continuum, there is autonomous regulation (including intrinsic motivation and more internalized forms of extrinsic motivation), which represents degrees of volitional experience where motivation and behavior reflect one's interests and values, emanate from within, and are an expression of one's self. On the other end of the continuum lies controlled regulation (including less internalized forms of extrinsic motivation), which reflects external pressures whether through imposed reward and punishment contingencies or through feelings of shame, guilt, and fear of disapproval. While there is little doubt about the merits of autonomous regulation, there are contexts where controlled motivation leads to demonstrably superior performance. These contexts include tasks that are straightforward and close-ended, that do not demand high absorption or intricacy, that have clearly defined performance criteria, and that are evaluated based on the quantity of output (Cerasoli et al., 2014; Weibel et al., 2009; Wimperis & Farr, 1979). Examples are

tasks that require structured or timed responses and tasks that are evaluated based on the number of units produced—such as copying numbers and proofreading for errors (Miele et al., 2020). These are integral tasks to many career professions, and so controlled motivation would be more appropriate to enhance performance in these tasks. Therefore, autonomous and controlled regulations are complementary and not antagonistic, and each may be effective depending on task-motivation fit.

The ideas presented above are mirrored by construal-level theory (Liberman & Trope, 2008; Trope & Liberman, 2000, 2010). According to construal-level theory, individuals may construe the same task in terms of its abstract, essential, and global features (i.e., high-level construal), or in terms of its concrete, idiosyncratic, and concrete features (low-level construal). For example, the learner may utilize a decontextualized, high-level representation to think of learning (“I need to improve my language proficiency in a year”); they may also draw from a detailed, low-level construal to think of the same task (“I need to practice the activities in Unit 5 of the textbook”). Research shows that such subjective shifts in construal level influence evaluation, decision-making, judgment, and behavior (Trope & Liberman, 2010), and that the psychological distance created is related differently to one’s memory theories (metamemory; Halamish et al., 2013). A high-level construal activates the desirability of the task end state (i.e., why should I improve my language proficiency?) as one considers whether to embark on the learning journey, while a low-level construal engages the feasibility of achieving this end state (how easy is it to practice Unit 5 activities?) as one decides whether to perform this particular task (Liberman & Trope, 1998). While high-level construal is generally more adaptive in maintaining long-term motivation and in resisting conflicting temptations, it still leads to worse performance relative to low-level construal on tasks requiring close attention and sensitivity to the immediate environment (Schmeichel et al., 2011)—further demonstrating the role of task-motivation fit.

Preliminary evidence suggests that possessing accurate metamotivational knowledge and beliefs about task-motivation fit has real-life consequences. For example, in a study by MacGregor et al. (2017), undergraduates were asked to think of an academic self-control conflict (involving activities, people, or events) and then describe the thought processes they think they should use in order to overcome this conflict and do well in their upcoming exam. The results showed that students whose responses exhibited higher knowledge of the effect of construal level on self-control achieved higher end-of-semester grades, an effect moderated by the desire to do well academically. In another study, Ross et al. (2023) assessed the accuracy of undergraduates’ metamotivational knowledge in relation to regulatory focus task-motivation fit. The results showed that knowledge of task-motivation fit predicted their academic achievement over and above traditional predictors, including high school GPA, academic motivation, and academic self-concept. These preliminary findings suggest that investigation of learners’ metamotivational beliefs may be a promising direction for language motivation research.

3. RESEARCH INTO METAMOTIVATION BELIEFS

As certain aspects of human knowledge may be implicit, different methods have been devised to empirically tap into this knowledge without relying on direct self-report (Al-Hoorie,

2019, 2022). In the metamotivation domain, the standard approach to assessing metamotivational beliefs is to present individuals with hypothetical scenarios and ask them to indicate how they would behave (Nguyen et al., 2022). These scenarios may involve preparatory strategies, inducing a certain motivational state prior to the target task. For instance, participants may be asked which activities (e.g., promotion- vs. prevention-inducing) they would prefer to engage in before the target task (e.g., eagerness- vs. vigilance-related). Thinking of aspirations versus duties would enhance one's enjoyment of a subsequent brainstorming versus proofreading task, respectively. Alternatively, these scenarios may involve task-integral strategies, creating a motivational state during the target task. Here, participants may be asked to decide which incentives (e.g., gains vs. losses) would best orient them to enhance their task performance. Again, choosing a gain- versus loss-based incentive structure would enhance performance in a brainstorming versus proofreading task, respectively. Research to date has shown that some aspects of individuals' metamotivational beliefs tend to be consistent with what empirical findings suggest as the optimal form of motivation, while other aspects deviate from it. Deviations are sometimes called metamotivational misbeliefs (Nguyen et al., 2022).

Certain aspects of metamotivational beliefs are consistent with empirical research, indicating awareness of task-motivation fit. For example, Scholer and Miele (2016) showed that participants were able to recognize that their performance on a creativity task would be enhanced after inducing an eager motivational state with a promotion focus (e.g., a preparatory strategy asking them to recall times they made progress, or a task-integral strategy making gains salient). Participants also recognized that their performance on an accuracy task would improve after inducing a vigilant motivational state with a prevention focus (e.g., recalling duties and obligations as a child, or making losses salient). Similarly, research by MacGregor et al. (2017) showed that participants' beliefs were consistent with findings from construal-level theory. When presented with self-control conflict scenarios, participants recognized the benefits of high-level construals (using abstract language focusing on "why") versus low-level ones (concrete language focusing on "how") for successful self-control.

By contrast, there are areas where individuals appear less sensitive to performance trade-offs in task-motivation fit. Many individuals fail to recognize the harmful effects of extrinsic incentives on their intrinsic motivation (Murayama et al., 2016), fail to appreciate their ability to sustain their motivation without extrinsic incentives (Kuratomi et al., 2023), fail to acknowledge the role of intrinsic incentives outside (i.e., past and present tasks) versus inside (present task) goal pursuit (Woolley & Fishbach, 2015), and fail to realize the value of self-concordant goals in satisfying their basic psychological needs (Werner & Milyavskaya, 2018). Research by Nguyen et al. (2019) also revealed individual variability in awareness of the value of high- vs. low-level construal. Furthermore, many individuals show an overgeneralization bias in that they tend to prefer high-level and promotion-oriented motivational states regardless of the actual demands of the task at hand (Nguyen et al., 2019; Nguyen et al., 2022; Scholer & Miele, 2016). These results suggest that there are certain aspects where individuals' beliefs about motivation are not aligned with motivation theory.

Research into metamotivational beliefs has also revealed gender as well as cross-cultural differences. Scholer and Miele (2016) reported that their participants exhibited an overgeneralization bias, with a dominant preference for a promotion orientation even if they were

expecting a vigilant task. These results were primarily driven by female participants, an effect Scholer and Miele (2016) described as “surprising” (p. 183). In a subsequent study, Nguyen et al. (2022) examined whether the same pattern of results would emerge for Easterners (Japanese) and Westerners (Americans) and for independent versus and interdependent contexts. In an independent context, participants are informed that gains and losses resulting from their performance would be applicable to themselves only; in an interdependent context, their performance would implicate both themselves and others such as an employee or a friend. Their results revealed one particular area where cross-cultural differences emerged: Japanese participants demonstrated awareness of task-motivation fit in both independent and interdependent contexts while Americans demonstrated this awareness only when oneself was implicated. This finding is in line with the West being an individualist culture that values a promotion focus and the East being a collectivistic culture preferring a prevention and face-saving focus (Elliot et al., 2001; Lockwood et al., 2005; Uskul et al., 2009). These results call for further research on the appropriateness of metamotivational beliefs, the possibility of adjusting misbeliefs, the effect of this adjustment on enhancing the quality of goal pursuit, as well as potential gender and cross-cultural differences in these domains.

4. THE PRESENT STUDY

Although, based on the above literature review, metamotivational beliefs play an important role in self-regulating one’s motivation, little research has examined these beliefs in the context of foreign language learning. This is therefore the first study investigating the metamotivational beliefs of learners of English as a foreign language in a Middle Eastern context. The overall goal of this study was to examine learners’ metamotivation beliefs regarding the regulatory focus task-motivation fit. According to motivation theory, a metamotivationally aware learner would prefer an incentive structure that rewards appropriate performance when the task involves a promotion orientation (e.g., brainstorming) in order to sustain eagerness. In contrast, this metamotivationally aware learner would also be expected to prefer an incentive structure that penalizes inappropriate performance when the task requires a prevention orientation (e.g., proofreading) in order to maintain vigilance. More specifically, this study aimed to answer the following research questions:

RQ1: Do learners exhibit awareness of an orientation-incentive structure fit?

RQ2: Do learners exhibit an overgeneralization bias in favor of either a promotion or a prevention orientation?

5. METHOD

5.1. Participants

A total of 311 participants (female = 60) volunteered to take part in this study. The participants were native speakers of Arabic and based in Saudi Arabia. They had an age range of 18-25 years ($M = 19.04$, $SD = 1.00$) and were studying college-level English courses as a degree requirement. About 92% were in the foundation year, and the remainder were in

their second to fourth years of study. They self-reported various levels of English language proficiency (4.2% beginner, 13.8% lower intermediate, 36.3% intermediate, 10% advanced, 3.9% expert).

5.2. Instruments

The participants responded to 24 survey items that mapped onto different incentive structures (gain vs. lose), orientations (promotion vs. prevention), and contexts (independent vs. interdependent). In the gain incentive structure, the participants were asked to imagine that they started with a grade of zero, and for each correct response, they would gain a point. In the lose incentive structure, they were asked to imagine that they started with the full grade of 20 points, and for each incorrect response, they would lose a point. These tasks, described in more detail below, were modeled after previous metamotivation research (Nguyen et al., 2022; Scholer & Miele, 2016).

For the promotion orientation, there were three tasks concerned with brainstorming creative topics, finding interesting facts, and locating attractive pictures to include in a report. For the prevention orientation, there were three other tasks related to proofreading for grammar errors, proofreading for spelling mistakes, and verifying the factual accuracy of the report. For each of these six orientations, they were asked to evaluate the extent to which they found useful each of the gain and the lose incentive structures on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). These permutations resulted in 12 items (2 incentive structures \times 3 promotion orientation tasks \times 3 prevention orientation tasks).

The participants responded to these items over two rounds, one in an independent context where performance would implicate oneself only, and the other in an interdependent context where performance also would implicate one's whole team. All scales exhibited high Cronbach's reliability (see Table 1). The materials were presented in Arabic to avoid language interference. All items are available in the Appendix.

Table 1. *Cronbach's reliability of the scales*

CONTEXT	ORIENTATION	INCENTIVE STRUCTURE	α
Independent	Promotion	Gain	.76
		Lose	.82
	Prevention	Gain	.87
		Lose	.88
Interdependent	Promotion	Gain	.80
		Lose	.84
	Prevention	Gain	.87
		Lose	.87

Note: Each scale has three items

5.3. Procedure

The participants completed the survey using their personal smartphones during class time. The researcher or the class instructor was available to answer questions. The participants were also assured that their participation was voluntary and that their responses would be analyzed anonymously. Ethical approval was obtained from the researcher's institution before the study commenced.

5.4. Data Analysis

For the purpose of the analysis, the items representing a lose incentive structure were deducted from the gain incentive structure. This process created the four focus variables in this study: *Independent-Promotion*, *Independent-Prevention*, *Interdependent-Promotion*, and *Interdependent-Prevention*. Visual inspection showed that the variables were approximately normally distributed, and no outliers were found ($z < |3|$). Therefore, no participants or responses were excluded, and there was no missing data. Presentation of the independent and interdependent contexts was counterbalanced. Counterbalancing did not have a significant effect on any of the four focal variables in this study, whether overall or for each gender separately.

Because a within-participant design enhances power, a sample of 311 participants has more than 99% power to detect a large effect size of $\eta_p^2 = .14$ ($d = 0.80$) as well as $\eta_p^2 = .20$ ($d = 1.00$) (Faul et al., 2009). For reference, effect sizes in previous metamotivation research ranged from $\eta_p^2 = .02$ –.19 (Scholer & Miele, 2016).

6. RESULTS

RQ1. Metamotivational Awareness of Orientation-Incentive Structure Fit

A 2 (Gender: Male vs. Female) by 4 (Condition: Independent-Promotion vs. Independent-Prevention vs. Interdependent-Promotion vs. Interdependent-Prevention) mixed-design ANOVA was conducted. Mauchly's test was significant indicating a violation of the assumption of sphericity, $W = 0.71$, $\chi^2(5) = 104.26$, $p < .001$. Degrees of freedom were therefore corrected using the Greenhouse-Geisser estimates corrected for sphericity, $\epsilon = .814$. There was a significant main effect of Condition, $F(3, 755) = 15.88$, $p < .001$, $\eta_p^2 = .049$. There was also a significant main effect of Gender, $F(1, 309) = 30.71$, $p < .001$, $\eta_p^2 = .047$. However, there was no significant interaction between Condition and Gender, $F(4, 755) = 1.53$, $p = .212$, $\eta_p^2 = .005$. As Table 2 shows, female learners provided consistently higher ratings endorsing a promotion orientation.

Table 2. Means, standard deviations, and t-test results for male and female participants in each of the four conditions

CONTEXT	ORIENTATION	GENDER	M	SD	t(df)	p	d
Independent	Promotion	Male	0.49	2.01	5.29(119)	< .001	0.68
		Female	1.69	1.46			
	Prevention	Male	-0.07	2.16	2.59(309)	.010	
		Female	0.72	1.86			
Interdependent	Promotion	Male	0.36	1.45	4.76(131)	< .001	0.59
		Female	1.09	0.97			
	Prevention	Male	-0.07	2.20	2.66(113)	.009	
		Female	0.62	1.69			

Post-hoc pairwise comparisons with Bonferroni adjustment revealed that, as expected, endorsement tended to decrease from a promotion focus to a prevention focus (see Figure 1). Whether the context was independent or interdependent, the results were rather similar. As the contrasts in Table 2 show, for male learners, promotion was significantly higher than prevention regardless of context (independent or interdependent). For female learners, only promotion in an independent context was significantly higher than the other three conditions.

Table 3. Significant differences among the four conditions for male and female participants

GENDER	CONTRASTS
Male	IND Promotion, ITD Promotion > IND Prevention, ITD Prevention
Female	IND Promotion > ITD Promotion, IND Prevention, ITD Prevention

Note: IND = independent, ITD = interdependent

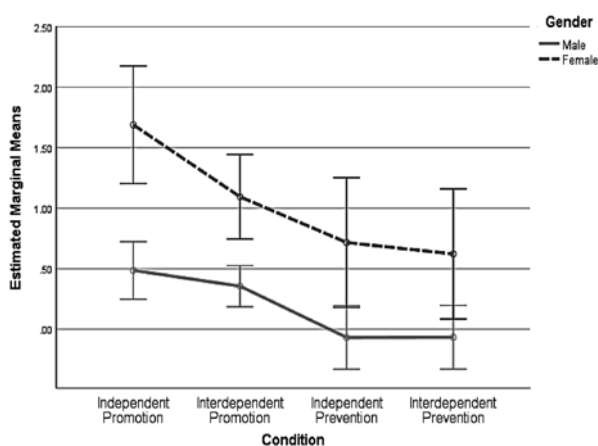


Figure 1. Estimated marginal means with 95% confidence interval error bars

RQ2. Metamotivational Awareness of Orientation-Incentive Structure Fit

As explained above, items reflecting the lose incentive structure items were deducted from the gain incentive structure items. Therefore, zero represented a neutral position, while a positive score indicated an endorsement of a promotion orientation and a negative score a prevention orientation. One-sample *t*-tests were conducted in order to examine whether scores were significantly different from zero.

As shown in Table 3, male participants rated the gain incentive structure as more useful for promotion orientation tasks, which is consistent with motivation theory. However, the lose incentive structure was not significantly lower than zero for prevention orientation tasks, either in an independent or an interdependent context. These results suggest some level of overgeneralization in that the participants were reluctant to consider the lose incentive structure as useful for prevention orientation tasks. For female participants, there was a clearer pattern of overgeneralization, as the gain incentive structure appeared as the consistently preferred option irrespective of task orientation or context.

Table 4. One-sample *t*-test (test value = 0)

GENDER	ORIENTATION	ORIENTATION	<i>M</i>	<i>SD</i>	<i>t(df)</i>	<i>p</i>	<i>d</i>
Male	Independent	Promotion	0.49	2.01	3.84(250)	< .000	0.24
		Prevention	-0.07	2.16	0.50(250)	.620	0.03
	Interdependent	Promotion	0.36	1.45	3.88(250)	< .000	0.25
		Prevention	-0.07	2.20	0.48(250)	.633	0.03
Female	Independent	Promotion	1.69	1.46	8.95(59)	< .000	1.16
		Prevention	0.72	1.86	2.98(59)	.004	0.39
	Interdependent	Promotion	1.09	0.97	8.73(59)	< .000	1.12
		Prevention	0.62	1.69	2.85(59)	.006	0.37

7. DISCUSSION

The present study aimed to investigate language learners' metamotivational beliefs from a regulatory focus perspective. The results of the first research question demonstrated that participants recognized the positive impact of an eager incentive structure for tasks requiring a promotion orientation, indicating awareness of task-motivation fit. In contrast, the participants did not display this level of metamotivational awareness when it comes to tasks that demand a prevention orientation. Male participants did not favor either eager or vigilant incentive structures for tasks requiring a prevention regulatory focus. In contrast, female participants strongly and consistently preferred eager strategies, irrespective of task demands. The results of the second research question further reinforced this overgeneralization bias. These findings are broadly in agreement with previous metamotivation research showing an overgeneralization bias in favor of promotion orientation (Nguyen et al., 2022; Scholer & Miele, 2016). The findings of the present study are also consistent with those in Scholer and Miele (2016, Experiment 3) where female participants were significantly less

likely to switch from a promotion- to a prevention-inducing activity and vice versa. Finally, the present study did not reveal a clear effect of an independent versus an interdependent context, suggesting that Saudi participants, much like Japanese participants (Nguyen et al., 2022), do not discriminate based on whether the task implicates oneself or others.

In the language motivation field, quantity of effort is overemphasized. This is illustrated for example in the overreliance on scales measuring the amount of intended effort (Al-Hoorie, 2018). There are at least two issues with this approach. First, the problem may not be in the quantity of motivation but its quality. A learner may expend effort but without being in the most appropriate motivational state. Learners whose promotion or prevention orientation is activated are expected to perform better in tasks that are compatible with that orientation. Second, a sole focus on effort misses the bigger picture since two processes are involved in metamotivation: monitor and control (Miele & Scholer, 2018). Effort and its intensity reflect the control dimension of motivation. However, proper control of the amount of effort expended presupposes that the learner is monitoring the task demands and their own motivational state, but this may not be always the case. Learners may fail to monitor the effectiveness of their effort, may lack awareness of task-motivation fit, or may even have misconceptions about the effects of different motivational states. Learners additionally need to possess the skill to flexibly adapt their motivational orientations to the demands of each task and realize that a strategy they previously found useful may not be as useful in a future task. Thus, a focus on effort alone overlooks the other, perhaps more interesting, half of the motivational picture.

The language motivation field has started to recognize the role of student engagement in language learning (Hiver, Al-Hoorie, & Mercer, 2021; Hiver, Al-Hoorie, et al., 2021; Hiver & Wu, 2023). Engagement embodies the manifestation of abstract motivation in real-life tasks. A learner who does have high motivation might still be disengaged, or even fake engagement (Mercer et al., 2021) to please the teacher, depending on how they perceive the learning environment. The present study therefore has implications for the implementation of motivational strategies by teachers. It is already widely accepted that teachers should employ motivational strategies in order to motivate students, such as generating initial motivation (Dörnyei, 2001). For example, telling students inspirational stories as a warm-up activity may help lower their anxiety (Al-Hoorie, 2021). Based on the results of this study and the metamotivation literature more broadly, however, the type of strategy (e.g., the content of the inspirational story) additionally needs to fit the nature of the task the students are about to perform. Tasks that are characterized by eagerness and that require creativity and risk-taking would benefit from motivational strategies that induce a promotion orientation (e.g., highlighting success), while performance on tasks demanding vigilance and risk-aversion would be better served by prevention-inducing motivational strategies (e.g., cautioning about failure). With the increasing feasibility of the computerization and automation of the learning process, the previously challenging process of “staggered interventions” (Al-Hoorie, 2021, p. 11)—where different motivational strategies and techniques are interwoven and implemented throughout the lesson and tailored to task demands—is becoming more and more practical, warranting the attention of researchers.

As metamotivation is a novel and promising research topic, there are several yet unexplored areas (see Miele et al., 2020). One important area has to do with the assessment and

validation of measures of metamotivational beliefs and knowledge. The standard approach, which is the one adopted in this study, is to indirectly measure these beliefs by presenting participants with different scenarios and asking them to select the one(s) they prefer or that “feel(s) right.” The value of this indirect approach is that it does not rely on what learners’ explicit knowledge of metamotivation and task-motivation fit or their ability to articulate it spontaneously. An alternative approach is for researchers to observe learners as they engage in target tasks while articulating their thought processes, and then code their responses. Yet another possibility is to adopt an individual-level approach by shifting attention from how well people behave generally to whether the learner performs the task successfully under particular motivational states. Rather than examining the consistency of beliefs with motivation theory, therefore, this approach creates a different standard for each individual based on their own performance. A related approach is to take into account the learner’s chronic motivational state (Higgins, 2000) and adjust their metamotivation scores accordingly.

Another area that has not received adequate attention is how learners themselves obtain insight into their metamotivational states. Without accurate self-knowledge, learners may not know whether they are in an appropriate motivational state and whether they need to regulate their motivation. Being able to identify the qualitative, subjective state of motivation one is experiencing is clearly more complex than identifying the quantity of one’s motivation. Learners may rely on certain cues and feelings to interpret and monitor their motivational states (i.e., their metamotivational feelings; Miele et al., 2020). After monitoring their motivational state, the learner may need to adjust it, but the success of this process may additionally depend on the learner’s implicit beliefs about the malleability of motivation. If the learner implicitly believes that their motivational states are fixed or perhaps very hard and exhausting to change, they may not attempt to regulate their motivation.

Another interesting future direction is the different ways to create task-motivation fit. The most typical approach is to modify one’s motivational state to fit the task at hand, but an alternative approach is to change the task itself. This is an especially useful approach considering that learners usually pursue multiple goals (e.g., a student has to perform several tasks outside of class). Learners therefore need to prioritize these goals, and one way to do so is to select a task that fits one’s existing motivational state in order to optimize performance. Little is known about when it is better to prioritize motivational modulation or task selection, for whom, and why.

A final research direction discussed here is the predictability of real-life outcomes by metamotivational knowledge and beliefs. As reviewed above, some preliminary research has shown that metamotivational beliefs that are consistent with motivation theory predict important outcomes such as academic success (MacGregor et al., 2017; Ross et al., 2023). Besides the predictability of ultimate academic success or final grades, researchers might examine more proximal outcomes. For example, metamotivational beliefs might impact strategic decisions to engage in certain tasks and not others. They may also impact the level of task engagement, persistence, and eventual performance quality in that task. They may additionally play a role in what emotions the learner experiences such as excitement, anxiety, and boredom. All of these are open empirical questions.

8. CONCLUSION

Just like there is no single teacher motivational strategy that is uniformly effective, no single motivational state is universally favorable irrespective of the specific task to which it is recruited. The present study sheds light on the significance of metamotivational beliefs and task-motivation fit in the context of language learning. The results demonstrate that learners' awareness of the alignment between their motivational orientations and task demands varies across tasks. Specifically, learners exhibited greater awareness of task-motivation fit in promotion-oriented tasks, while displaying an overgeneralization bias towards promotion-focused strategies even in prevention-oriented tasks, a tendency particularly evident among female participants. These findings underscore the need for a more nuanced understanding of learner motivation, moving beyond simple classifications of high or low motivation, and towards assessing motivational states, both transient and chronic, and their appropriateness for specific language learning tasks.

While this study provides insights, certain limitations should be acknowledged. Future research should explore alternative approaches to assessing metamotivational beliefs and knowledge, considering individual-level adjustments and incorporating learners' reflections on mismatches. Additionally, investigating the impact of metamotivational beliefs on task engagement, persistence, and emotions could further enhance the understanding of learners' behavior. Furthermore, it is crucial for language educators to recognize the implications of task-motivation fit in implementing motivational strategies tailored to specific language learning activities. Integrating such knowledge into language teaching practices could optimize learners' performance and engagement. Overall, this study contributes to the emerging field of metamotivation research and opens new avenues for investigating the intricate relationship between motivation and language learning.

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10. APPENDIX

Incentive structure instructions

Imagine that you are writing a report for a course, and imagine that this report is out of 20 marks. Then imagine that the course instructor gave you two assessment options: the Gain Method and the Lose Method, and asked you to choose one. In the Gain Method, your marks start with zero and each time you have a correct answer, you earn a mark. In the Lose Method, you start with 20 marks and each time you make a mistake you lose a mark. Some students will prefer the gain option and others will prefer the lose option. In this survey, you will read a number of tasks. You will be asked to indicate how useful you find each assessment option for each task.

Orientation tasks

Promotion Task 1: You are working on the report. Your course instructor asked you to brainstorm creative topics.

Promotion Task 2: You are working on the report. Your course instructor asked you to find interesting facts.

Promotion Task 3: You are working on the report. Your course instructor asked you to find attractive pictures to include in the report.

Prevention Task 1: You have completed writing the report. Your course instructor asked you

to make sure it has no grammar errors.

Prevention Task 2: You have completed writing the report. Your course instructor asked you to make sure it has no spelling mistakes.

Prevention Task 3: You have completed writing the report. Your course instructor asked you to make sure that the facts mentioned in it are accurate.

Context instructions

Independent: You are working on the report alone.

Interdependent: You are working on the report as part of a team of students. You represent this team, so the score you get will also be the score that every student on your team will receive. For example, if you score 15 out of 20, each member of your team will also score 15.