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Article

Regulatory focus and fit effects on task engagement: An experimental study

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This study examined the effects of learners' regulatory focus, task type, and the match/mismatch between the two on task engagement. Eighty-five learners of English as a second language at a US-American university completed a regulatory focus questionnaire, an English proficiency self-assessment, one task with a promotion focus (requiring creativity and imagination), one task with a prevention focus (requiring attention to detail and accuracy), and finally a post-task engagement questionnaire. Results showed that (1) the promotion task resulted in significantly higher levels of task enjoyment, whereas the prevention task led to higher cognitive engagement; (2) learners' prevention focus positively predicted task anxiety in both tasks and negatively predicted task enjoyment in the promotion task, whereas the promotion focus positively predicted task enjoyment in the promotion task; and finally, (3) prevention-focused learners experienced greater enjoyment in the prevention task (matching) than in the promotion (mismatching) task, whereas promotion-focused learners experienced more enjoyment in the promotion (matching) task than in the prevention task (mismatching) supporting regulatory fit predictions. The results highlight the importance of regulatory focus and fit in task engagement.

Introduction

Substantial evidence in the field of task-based language teaching (TBLT) indicates that well-designed and effectively implemented tasks provide learners with opportunities to use language in realistic contexts, thereby facilitating additional language (L2) acquisition (Long 2015; Ellis et al. 2020). However, learners may not always take full advantage of these opportunities due to their lack of engagement in the tasks (Philp and Duchesne 2016). To highlight the significance of this issue, TBLT scholars have emphasized the importance of student motivation and engagement in effective task-based instruction (e.g. Dörnyei and Skehan 2003; Ellis 2004; Robinson

2011), incorporating these constructs in their theoretical models (e.g. Skehan 1998; Robinson 2001, 2011). More recently, the topic of task engagement has been steadily growing, and researchers are showing increasing interest in how the strategic design and effective implementation of tasks can help foster learner engagement in task-based L2 learning (Kormos and Wilby 2019; Lambert and Aubrey 2023). Recent developments, such as the 2017 special issue of Language Teaching Research on *affective factors in second language task design and performance* and a major volume edited by Lambert, Aubrey and Bui (2023a), highlight the growing recognition among researchers that learner engagement plays a key role in the success of task-based instruction.

Task engagement has been defined as "a state of heightened attention and involvement, in which participation is reflected not only in the cognitive dimension, but in social, behavioral, and affective dimensions as well" (Philp and Duchesne 2016: 52). Research on this topic has mainly focused on exploring how various instructional techniques can help improve learners' engagement in L2 tasks. Importantly, personal investment theory (see Lambert, Aubrey and Bui 2023b) postulates that students' task engagement and performance are enhanced when the tasks are personally meaningful to them; that is, when the tasks are closely related to their needs, experiences, identities, and sense of well-being. Recent studies have provided evidence for the role of such task design elements in task engagement and performance. For instance, when tasks allow for learner-generated content (LGC), such as a personal story that the learner experienced, wants to share and thinks interlocutors will be interested in (Lambert 2023), learners experience higher levels of task engagement and show higher levels of performance and learning (Lambert, Aubrey and Bui 2017, 2021; Lambert and Zhang 2019) compared with tasks that only require teacher-generated content (TGC, e.g. describe picture story A). Other studies have shown that giving students a choice in selecting their response to a task (e.g. Nakamura, Phung and Reinders 2021), the level of structure designed in a task (Tavakli and Foster 2008) and learner-related factors such as their familiarity with the topic of the task (e.g. Qiu and Lo 2017; Bui 2021) and their interest in the task (e.g. Phung 2017) can influence task engagement and performance.

Although growing steadily, research in this area is still in its infancy, and much remains to be explored before we can develop an in-depth and comprehensive understanding of all the factors that influence task engagement. One area that warrants serious attention concerns learners' motivational characteristics (Papi and Hiver 2022). Previous studies have found motivational factors such as linguistic self-confidence, task attitudes, willingness to communicate, need for achievement, and even peer motivation to be related to task motivation and performance measures such as the number of words produced (Dörnyei and Kormos 2000; Dörnyei 2002; Kormos and Dörnyei 2000). Nonetheless, the dominant approach in these studies has been "consistent with theories of motivation, which see motivation as the force that determines the magnitude of behavior" (Kormos and Dörnyei 2004: 10) rather than its quality, which has been the focus of recent developments in the field of motivation. Such a motivation-as-quality perspective (Papi 2018; Teimouri, Papi and Tahmouresi 2022) is based on the premise that individuals with different motivational dispositions can be motivated by different goals, experience different emotions during goal pursuit, and use distinct means and strategies for achieving a goal.

Two motivation theories that have been shown to be potentially conducive to our understanding of qualitative differences in how learners engage with and complete a task are regulatory focus theory and regulatory fit theory (Nakkawita and Higgins 2024). Regulatory focus theory (Higgins 1997) outlines how an individual's chronic motivational dispositions (promotion vs. prevention) could influence their task engagement and performance. Regulatory focus can limit the kind of tasks that learners find engaging, the quality of strategies they employ for task completion, the type of emotion they feel over the process, and even the quality of the outcome of the tasks they engage with. In addition, regulatory fit theory (Higgins 2000) proposes that when learners with different regulatory foci pursue goals that match their chronic focus, they "feel right" about what they do, experience higher levels of engagement, and show better task performance (for a meta-analysis, see Motyka et al. 2014). This sense of "feeling right" resembles the positive emotional state that L2 learners experience when they perform personally meaningful tasks,

which in turn can affect their cognitive processing and learning outcomes (Lambert 2023). From Robinson's (2001) perspective toward task complexity, this sense of feeling right can be argued to decrease learners' perceived difficulty through its influence on students' affect and motivation, thereby contributing to their task engagement and performance.

In the field of second language acquisition (SLA), recent studies have found evidence for the role of regulatory focus and fit in the incidental learning of vocabulary (Papi 2018), the acquisition of lexical stress (Cho 2021), learners' grammatical and pragmatic competence (Zhang and Papi 2024), task emotions and performance (Jiang and Papi 2024), and the complexity, accuracy, and fluency of oral and written L2 production (Han and McDonough 2018; Papi et al. 2023). These studies have highlighted the significance of regulatory focus and fit theories in our understanding of L2 learning and performance. However, it is still not clear how regulatory focus and fit may affect task engagement in tasks with a promotion regulatory focus, requiring creativity and risk-taking, versus tasks with a prevention focus, requiring accuracy and attention to detail. This study aims to take a step in this direction and examine how learners' chronic regulatory focus and its interaction with task type (promotion vs. prevention) could influence task engagement and performance.

Regulatory focus theory

Regulatory focus theory, proposed by Higgins (1997), suggests that individuals have two complementary motivational systems that influence their goal-directed behavior: the promotion system and the prevention system. The promotion system is concerned with the survival needs for nurturance and growth. A promotion-focused individual is interested in improving the status quo, approaches gain and avoids non-gains, is motivated by ideal selves, and employs an eager strategic inclination to take advantage of available opportunities for goal achievement (Crowe and Higgins 1997). On the other hand, the prevention system is concerned with the survival need for security and protection. A prevention-focused individual is interested in maintaining the status quo, avoids losses and approaches non-losses, is motivated by ought selves, and employs a vigilant strategic inclination to avoid the negative consequences of making the wrong choice. Higgins (1997) suggests that although these regulatory dispositions are independent, they coexist within each person to varying extents. In other words, individuals can exhibit weak, moderate, or strong tendencies in either or both orientations.

In the field of SLA, a few studies have explored how L2 learners' chronic regulatory focus is related to variables related to task engagement, such as task emotions and performance. For instance, Papi (2016, 2018) found that the promotion focus positively predicted emotional engagement (task interest and enjoyment) and perceived task performance, whereas the prevention focus positively predicted task anxiety. Jiang and Papi (2024) found that EFL learners' promotion focus was associated with their task enjoyment in an oral opinion task, whereas their prevention focus contributed to their task performance.

Studies also show that regulatory focus leads to differential performance on various types of tasks. For instance, promotion-focused learners outperformed prevention-focused learners in the complexity, fluency, and accuracy of their argumentative essays (Eom and Papi 2022a), learned more vocabulary items in an argumentative writing task (Papi 2018), and performed better in an argumentative writing task (Eom and Papi 2022a). On the other hand, prevention-focused learners showed better performance in a descriptive writing task (Eom and Papi 2022b) and an oral opinion task (Jiang and Papi 2024). Finally, the promotion focus predicted higher performance on tasks targeting learners' pragmatic competence, whereas the prevention focus predicted superior grammatical error detection (Zhang and Papi 2021, 2024). These findings suggest that different types of tasks may align with learners' regulatory dispositions and lead to different levels of engagement.

These findings align with Skehan's trade-off hypothesis (1998, 2009), which suggests that due to limited cognitive resources, learners must prioritize one linguistic dimension (e.g. complexity) at the expense of another (e.g. accuracy or fluency). This prioritization parallels the dimensions

of regulatory focus: promotion-focused learners, driven by an eager strategy, may channel their resources toward enhancing fluency, whereas prevention-focused learners, adopting a vigilant approach, may prioritize accuracy (Crowe and Higgins 1997; Förster, Higgins and Bianco 2003). The present study extends the trade-off effects to the domain of task engagement by suggesting that learners driven by different regulatory foci may experience different levels of task engagement depending on the type of task they complete. While regulatory focus influences how learners engage with different tasks, an important question remains: How can educators optimize learners' engagement by aligning tasks with their motivational orientations? This question is addressed by regulatory fit theory, to which we now turn.

Regulatory fit theory

Regulatory fit theory (Higgins 2000) predicts that fit between the regulatory focus of the individual and that of the task can result in higher engagement. Promotion-focused learners experience regulatory fit when they complete tasks that require creativity, idea generation, and risk-taking, whereas prevention learners experience fit when the task they engage with requires accuracy, attention to detail, and following rules. Van Dijk and Kluger (2011) tested these hypotheses and provided evidence suggesting that a match between the regulatory focus of these tasks and the regulatory focus of the participants can create regulatory fit and enhance learners' task engagement and performance. In a study by Spiegel, Grant-Pillow and Higgins (2004), prevention-focused and promotion-focused participants who received a message about and imagined respectively the costs and benefits of eating fruits later increased their fruit intake by 20 percent compared to those who received mismatching messages (promotion/costs or prevention/benefits), demonstrating the influence of fit between focus and strategic inclination. In the field of psychology, regulatory fit has been found to enhance the individual's perceived value of the goal (e.g. Higgins et al. 2003), engagement, motivational strength, and persistence (Cesario, Higgins and Scholer 2008; Avnet, Laufer and Higgins 2013), learning and performance (e.g. Markman, Maddox and Baldwin 2005; Worthy, Maddox and Markman 2007), and enjoyment and interest in the goal pursuit (e.g. Freitas and Higgins 2002; Higgins et al. 2010).

Regulatory fit has been explored in a few SLA studies. Han and McDonough (2018, 2019) asked Vietnamese learners of Korean to complete a promotion task of persuading people to visit two locations in one's city and a prevention task of dissuading people from visiting those locations. The studies did not find any regulatory fit effects for either the dialogic or the monologic versions of the task, results that could be attributed to their use of L2 instrumentality (Taguchi et al. 2009) instead of chronic scales to measure chronic regulatory focus. Papi (2016; 2018) explored if the match or mismatch between the learners' chronic regulatory focus (promotion vs. prevention) and the incentive structure of the task (gain-framed vs. loss-framed) would lead to different incidental vocabulary learning outcomes and L2 task emotions. The study found partial evidence for regulatory fit predictions: prevention-focused language learners learned more vocabulary items in the loss condition (students started with 100 points and lost points for errors) than in the gain condition (students started with 0 points and gained points for completing tasks), but the findings were not replicated for the promotion focus. Additionally, the promotion focus and the gain condition led to more vocabulary learning than the prevention focus and the loss condition for the entire sample. However, no fit effects were observed for task enjoyment, interest, and anxiety. Similar results were found by Cho (2021), who found no regulatory fit effects but found positive effects of the gain-framed condition on the acquisition of lexical stress by ninety EFL students. Papi (2016, 2018) attributed the potential existence of a promotion bias in the argumentative writing task, which, he speculated, might have neutralized the fit effects of framing and, at the same time, have generally biased the study in favor of the promotion-focused learners.

In sum, Papi (2016, 2018) and Cho (2021) provide preliminary evidence for the effects of creating a regulatory fit by framing the incentive study of the task and its effects on L2 learning outcomes. However, we are not aware of any published studies that have explored how creating an integral fit through matching the type of task with learners' predominant regulatory focus can

influence their task engagement. To bridge this gap, the present study examines how a match or mismatch between learners' regulatory focus and the type of task can affect learners' task engagement.

Research questions

This study builds on the previous studies on the role of regulatory focus and fit in task-based learning. However, instead of focusing on the outcome of the task, which could be affected by a host of other factors, including the learners' cognitive abilities, this study examines learners' cognitive, and affective (task enjoyment and task anxiety) engagement in L2 tasks of different regulatory foci, which are the more immediate outcome of regulatory fit (Higgins 2000). In addition, the present study aims to highlight the motivational dimensions of L2 tasks and provide a new lens for understanding task engagement and performance: the regulatory focus of the task and its interaction with the chronic regulatory focus of L2 learners. Therefore, the following research questions and hypotheses were formulated:

Research Question 1: How does the regulatory focus of the L2 tasks (promotion vs. prevention) affect learners' task engagement (anxiety, enjoyment, cognitive engagement)?

H1: The promotion task will enhance task enjoyment, and the prevention task will enhance task anxiety. There will be no difference in terms of cognitive task engagement.

Research Question 2: How do learners' chronic regulatory foci (promotion vs. prevention) affect learners' task engagement?

H2: The promotion focus will result in task enjoyment, whereas the prevention focus will result in task anxiety while there will be no difference in terms of cognitive task engagement.

Research Question 3: How does the regulatory fit between L2 learners' chronic regulatory focus and task type (promotion vs. prevention) affect learners' task anxiety, enjoyment, and cognitive engagement?

H3: The promotion focus will result in higher task enjoyment and cognitive engagement and lower anxiety in the promotion task than in the prevention task; conversely, the prevention focus will result in higher enjoyment and cognitive engagement and lower anxiety in the prevention task than in the promotion task.

Methods

Research design

This study used a comparison-group experimental design. According to Mackey and Gass (2022), "in a comparison group design, participants are randomly assigned to one of the groups, with treatment (the independent variable) differing between or among the groups" (p. 269). Following that definition and common practice in regulatory fit studies (see Motyka et al. 2014), participants were randomly assigned to complete either a promotion or a prevention task in a counterbalanced order. The two groups were then compared on their affective and cognitive engagement in matching versus mismatching tasks. The independent variables of this study included chronic regulatory focus, task type, and the interaction between the two. The dependent variables of this study included cognitive task engagement, and affective task engagement (anxiety and enjoyment).

Procedures

The research team devised a total of twenty tasks specifically tailored for the study, including ten promotion tasks, which involved risk-taking, creativity, flexibility, and open-mindedness for completion, and ten prevention tasks, which required attention to detail, structure, vigilance, precision, and accuracy. To cross-validate the tasks' clarity and effectiveness and to choose two tasks that best represented the promotion and prevention features, twenty-four ESL teachers were invited to assess these tasks using the Teachers' Task Evaluation Questionnaire, which included four promotion and four prevention features (see Supplementary Materials). The purpose of

using the teachers' task evaluation questionnaire was to receive feedback on the tasks from individuals who were experts in developing and administering ESL tasks and use their assessment as a rationale for selecting a task with a strong promotion and one with a strong prevention regulatory focus. Based on the feedback and ratings obtained from the teachers, the research team selected a timeline task, representing the prevention focus, and an unusual uses task, representing the promotion focus.

Having selected the two tasks, the research team circulated flyers across the campus, targeting international students who spoke English as their additional language. Volunteer participants attended sessions in a designated computer lab where Qualtrics was used for data collection. This digital platform facilitated efficient task completion and data collection, ensuring the results were captured in real time. To control for potential order effects, half of the participants began with the promotion task, followed by the prevention task, while the other half started with the prevention task and then moved to the promotion task. The participants were finally thanked and paid $20 as compensation.

Participants

Eighty-five international students (thirty-five males and fifty females) studying at a major public university in the USA participated in the present study. Statistical power analyses using G*Power indicated that for a medium power level (0.80) and a medium effect size ($f^2 = 0.15$), ninety-eight participants were needed for a multiple regression analysis with six predictors, confirming that the sample size was acceptable, though not ideal, for running these analyses. The participants ranged from 18 to 50 years old ($M = 23.82$, $SD = 5.60$), and most of them spoke Spanish (44.7 percent) or Chinese (17.6 percent) as their first language. Most of the participants ($n = 51$) were undergraduate students, and the rest were graduate students ($n = 34$). A quarter of the participants ($n = 22$) had less than one year, more than half ($n = 44$) had one to three years of residency, and another quarter had more than three years ($n = 19$) of residency in the USA. Furthermore, the participants, on average, had been studying English for nearly twelve years ($M = 11.99$, $SD = 6.55$). On a self-reported oral English proficiency scale ranging from 1.0 to 5.0, the participants reported an average score of 4.23 (range: 2.3–5.0). Further descriptive statistics can be found in Table 1.

Instruments

A chronic regulatory focus questionnaire (Haws, Dholakia and Bearden 2010), an English proficiency self-rating questionnaire (Winke 2013), a post-task evaluation questionnaire (Freitas and Higgins 2002), a teachers' task evaluation questionnaire, a promotion task, and a prevention task were used in the main phase of data collection in the present study. All materials are included in the Supplementary File.

Table 1. Summary of participants' background information ($N = 85$).

First language	Spanish: 38 (45%)	Chinese: 15 (18%)	Portuguese: 6 (7%)	Korean: 5 (6%)	Other: 21 (24%)
Academic status	Freshman: 1 (1%)	Sophomore: 4 (5%)	Junior: 29 (34%)	Senior: 17 (20%)	Graduate: 34 (40%)
Length of residence in the USA	<1 year: 22 (26%)	1–3 years: 44 (52%)	3–5 years: 10 (12%)	5–7 years: 5 (6%)	>7 years: 4 (4%)
Length of studying English	1–5 years: 15 (18%)	6–10 years: 26 (31%)	11–15 years: 21 (25%)	16–20 years: 19 (22%)	>20 years: 4 (4%)
Self-reported English proficiency	2.30–2.90: 2 (2%)	3.00–3.50: 9 (11%)	3.60–4.00: 17 (20%)	4.10–4.50: 25 (29%)	4.60–5.00: 32 (38%)

Regulatory focus questionnaire.

This study employed a regulatory focus questionnaire (RFQ) developed by Haws, Dholakia and Bearden (2010) regulatory focus questionnaire, which included ten items to gauge the participants' chronic regulatory focus orientations. Participants rated their responses to items on a 6-point Likert scale, where 1 indicated "*strongly disagree*" and 6 indicated "*strongly agree*." Example items are: *I frequently think about how I can prevent failures in my life* (prevention), and *When I see an opportunity for something I like, I get excited right away* (promotion).

English proficiency self-rating questionnaire.

An oral self-assessment questionnaire developed by Winke (2013) was used to measure the participants' oral proficiency. The scale included ten items about learners' assessment of their ability to perform oral tasks and were rated on a 5-point Likert scale with 1 showing "not at all" and 5 denoting "easily". The questionnaire has been demonstrated to be a trustworthy scale of examining participants' self-reported oral proficiency levels and has demonstrated high reliability (Cronbach's alpha: 0.96). Here are a few examples of the items: *I can telephone a restaurant and make a reservation for a party of three*, and *I can give and take messages over the phone*.

Teachers' task evaluation questionnaire.

The questionnaire included four promotion characteristics (creativity, flexibility, open-mindedness, and risk-taking) and four prevention characteristics (accuracy/precision, attention to detail, vigilance, and structure). Teachers were expected to rate how much twenty tasks possessed or required these characteristics for completion on a 5-point Likert scale, with 1 denoting "not at all" and 5 denoting "extremely."

Tasks.

A prevention task and a promotion task were used for the purpose of this study.

In the prevention task, titled "Three Empires", participants were provided with three passages detailing key events in the histories of the Mayan Empire, Roman Empire, and Han Dynasty. They were asked to read and extract important dates from the texts and accurately place them on a timeline. The task requires careful reading, attention to detail, and chronological organization, characteristics that are aligned with a prevention focus.

In the promotion task, titled Unusual Uses, participants were given six prompts, each requiring them to describe an object from the point of view of a non-human entity (e.g. Please write a paragraph to describe a tennis ball from the viewpoint of a whale). The task fosters imaginative and divergent thinking, requiring individuals to step outside human perception and explore creative ways for describing everyday objects, representing a promotion focus.

The two activities qualify as tasks because they prioritize meaning, require participants to bridge a gap, allow for choice in linguistic resources, and have a clearly defined nonlinguistic outcome (Ellis 2009).

Engagement questionnaire.

Despite Philp and Duchesne's (2016) comprehensive definition of engagement as having social, cognitive, behavioral, and affective dimensions, operationalizing engagement can vary depending on the task, the context, and the participants. In addition, engagement is multidimensional, and different dimensions can overlap. In the present study, given that the participants were adults, and the tasks were completed individually and in the written mode, self-report measures were developed based on Freitas and Higgins (2002) to measure participants' cognitive and affective engagement (Skinner, Kindermann and Furrer 2009).

Affective engagement was measured using three questions asking about the participants' task enjoyment (e.g. *How much did you enjoy doing the task?*), and three questions measuring task anxiety (*How nervous did you get while doing the task?*). Cognitive engagement was also measured using three items asking about students' mental focus and effort in the task (*How engaged were you in*

the task?). The questions were answered on a 9-point scale with "0" indicating "*Not much*" and "9" indicating "*Very much*". Due to the different nature of the two tasks used, behavioral measures were not used.

Data analysis

Data were analyzed using SPSS version 26 (IBM). The ten regulatory focus questionnaire items were subjected to exploratory factor analysis using Maximum Likelihood extraction analysis (direct oblimin rotation) and Kaiser normalization. Eigenvalues greater than one, scree plots, and theoretical relevance were considered in determining the number of factors. After performing the initial EFA, two regulatory focus questionnaire items (1 and 3) were excluded because the loading value of either item was less than 0.3. A second EFA on the remaining eight items showed that item 10 loaded on both factors and was eliminated as a result. The final EFA (Table 2) was run on the remaining six regulatory focus questionnaire items, which led to the emergence of two factors, three items representing the promotion focus and three items representing the prevention focus , which together accounted for 46.43 percent of the total variance (Factor 1 = 32.48 percent; Factor 2 = 13.95 percent). The sampling adequacy of the dataset was analyzed and validated through two tests: the Kaiser-Meyer-Olkin measure of sampling adequacy (0.70) and Bartlett's test of sphericity ($\chi^2 = 105.73$, $df = 15$, $P < .001$).

To examine the effects of regulatory focus, task condition, and their interaction (regulatory fit) on task anxiety, enjoyment, and cognitive engagement, multiple regression analyses were run with L2 proficiency as a covariate. In the first analysis, the overall effects of regulatory focus on the independent variables were explored. To examine the task effects, the effects of regulatory focus in each condition, and the interaction between them, two moderated multiple regression analyses were conducted. Moderation occurs when the strength or direction of the relationship between an independent variable (e.g. regulatory focus) and a dependent variable (e.g. task engagement) changes depending on the level of a moderator variable (e.g. task type).

As the interaction between the participants' regulatory focus and the tasks (i.e. regulatory fit) represented the interaction between a continuous and categorical variable, the task condition was coded using dummy variables (Aiken, West and Reno 1991). More specifically, one condition served as the reference category and was coded as 0, and the other condition was coded as 1. The analysis was repeated with coding being reversed; that is the promotion task was the reference

Table 2. Factor analytic results for regulatory focus questionnaire items.

	Prevention	Promotion
Q6. I worry about making mistakes.	1.02	
Q9. I frequently think about how I can prevent failures in my life.	0.56	
Q2. Growing up, I usually obeyed rules and regulations that were established by my parents.	0.39	
Q7. I frequently imagine how I will achieve my hopes and aspirations.		0.88
Q8. I see myself as someone who is primarily striving to reach my "ideal self" to fulfill my hopes, wishes, and aspirations.		0.41
Q5. When I see an opportunity for something I like, I get excited right away.		0.48
Mean	4.61	4.97
Standard Deviation	0.91	0.68
Cronbach's alpha	0.67	0.65
Omega	0.73	0.71

group and coded as 0. The regression model is represented by the following equation, using promotion as the reference condition:

Y (Dependent Variable) = β0 + β1(Task Type) + β2(Promotion Focus) + β3(Prevention Focus) + β4(Promotion Focus × Task Condition) + β5 (Prevention Focus × Task Condition) + β6 (Proficiency Ratings) + ϵ

where:

β0 (Intercept): The predicted value of the dependent variable (DV) when all predictors are zero.

β_1 (Task Type): The difference in DVs between the Promotion Task and the Prevention Task.

β_2 (Promotion Focus): The effect of the promotion focus on DVs for the reference task.

β_3 (Prevention Focus): The effect of the prevention focus on DVs for the reference task.

β_4 (Promotion Focus × Task Type): Whether promotion focus affects DVs differently in the Promotion Task vs. the Prevention Task.

β_5 (Prevention Focus × Task Type): Whether prevention focus affects engagement differently in the Promotion Task vs. the Prevention Task.

Additionally, due to collinearity indicated by Variance Inflation Factor (> 5) and Tolerance (< 0.2) values between the continuous variables (promotion focus and prevention focus) and their interaction terms with the categorical variable (dummy variable), the continuous variables were mean-centered. In addition, Cohen's (1988) f^2 was calculated to assess the effect size of each regression model, while partial f^2 was used to evaluate the effect size of the individual predictors. Cohen's f^2 and partial f^2 benchmarks classify effect sizes as small ($f^2 = 0.02$), medium ($f^2 = 0.15$), and large ($f^2 = 0.35$).

Results

Cronbach's alpha, omega reliability, means and standard deviations (SD) are presented in Table 3. The analyses displayed good reliability coefficients for task engagement, enjoyment, and anxiety scales in both promotion and prevention tasks. In addition, the mean scores on a 5-point scale showed high levels of cognitive engagement and moderate levels of task anxiety and enjoyment in both conditions.

Table 3. Descriptive statistics.

	Promotion task				Prevention task				
	Mean	SD	Alpha	Omega	Mean	SD	Alpha	Omega	N
Engagement	4.36	1.05	0.86	0.81	4.78	1.14	0.83	0.85	3
Enjoyment	3.73	1.56	0.94	0.94	3.18	1.45	0.96	0.96	3
Anxiety	3.06	1.33	0.75	0.79	3.33	1.19	0.68	0.75	3

Table 4. Correlations between the measured variables for the whole data (both tasks).

	1	2	3	4	5
1. Prevention Focus	–				
2. Promotion Focus	0.37***	–			
3. Task Anxiety	0.38***	0.19	–		
4. Task Enjoyment	−0.10	0.09	0.01	–	
5. Task Engagement	−0.06	−0.12	−0.04	0.52***	–

*denotes significant at $P < .05$, *** denotes significant at $P < .001$.

Pearson correlations (Table 4) revealed that prevention positively correlated with promotion ($r = 0.37$, $P < .001$) and task anxiety ($r = 0.38$, $P < .001$). There was also a large positive correlation between learners' cognitive task engagement and task enjoyment ($r = 0.52$, $P < .001$).

Multiple regression results

The first hypothesis stated that "The promotion task will enhance task enjoyment, and the prevention task will enhance task anxiety. There will be no difference in terms of cognitive task engagement." The results (Table 5 and 6) showed that task type predicted significant differences in task enjoyment and cognitive task engagement. More specifically, the promotion task resulted in significantly higher levels of task enjoyment than the prevention task ($\beta = 0.18$, $P < .05$). By contrast, the prevention task resulted in significantly higher levels of task engagement ($\beta = 0.19$, $P < .05$) and approaching significantly higher levels of task anxiety ($\beta = 0.11$, $P = .13$) than the promotion task. These results tend to align with the first hypothesis.

The second hypothesis stated that "The promotion focus will result in task enjoyment, whereas the prevention focus will result in task anxiety while there will be no difference in terms of cognitive task engagement." The results showed that (Tables 5 and 6), learners' prevention focus emerged as a positive predictor of task anxiety in both tasks ($\beta = 0.27$, $P < .01$) and a negative predictor of task enjoyment in the prevention task ($\beta = -0.19$, $P < .05$). By contrast, the promotion focus was a positive predictor of task enjoyment in the promotion task ($\beta = 0.25$, $P < .05$). Finally,

Table 5. Regression results based on with promotion task as the reference group (code = 0).

	Task anxiety				Task enjoyment				Task engagement			
	β	*t*	*P*	f^2	β	*t*	*P*	f^2	β	*t*	*P*	f^2
Task	0.11	1.52	.13	0.01	−0.18	−2.45	< .05	0.04	0.19	2.49	< .05	0.04
Promotion	0.06	0.54	.59	0	0.25	2.21	< .05	0.03	0.05	0.45	.65	0
Prevention	0.36	3.34	< .001	0.07	−0.30	−2.65	< .01	0.04	−0.12	−1.06	.29	0.01
Task × Promotion	0.04	0.40	.69	0	−0.20	−1.76	.08	0.02	−0.17	−1.43	.16	0.01
Task × Prevention	−0.09	−0.79	.43	0	0.27	2.37	< .05	0.03	0.15	1.29	.20	0.01
L2 Proficiency (covariate)	−0.24	−3.38	< .001	0.07	−0.05	−0.61	.55	0	−0.07	−0.95	.34	0.01
Model statistics	$F^{(4,163)} = 6.15$, $P < .001$, $R^2 = 0.18$, $f^2 = 0.22$				$F^{(4,163)} = 2.56$, $P = .09$, $R^2 = 0.05$, $f^2 = 0.05$				$F^{(4,163)} = 1.82$, $P = .10$, $R^2 = 0.06$, $f^2 = 0.06$			

Table 6. Regression results based on with prevention task as the reference group (code = 0).

	Task anxiety				Task enjoyment				Task engagement			
	β	*t*	*P*	f^2	β	*t*	*P*	f^2	β	*t*	*P*	f^2
Task	−0.11	−1.52	.13	0.01	0.18	2.45	< .05	0.04	−0.19	−2.49	< .05	0.04
Promotion	0.12	1.10	.28	0.01	−0.03	−0.26	.80	0	−0.18	−1.55	.12	0.01
Prevention	0.24	2.22	< .05	0.03	0.08	.71	.48	0	0.09	.76	.45	0
Task × Promotion	−0.04	−0.40	.69	0	0.20	1.76	.08	0.02	0.17	1.43	.16	0.01
Task × Prevention	0.09	0.79	.43	0	−0.27	−2.37	< .05	0.03	−0.15	−1.29	.20	0.01
L2 Proficiency (covariate)	−0.24	−3.38	< .001	0.07	−0.05	−0.61	.55	0	−0.07	−0.95	.34	0.01
Model statistics	$F^{(4,163)} = 6.15$, $P < .001$, $R^2 = 0.18$, $f^2 = 0.22$				$F^{(4,163)} = 2.56$, $P = .09$, $R^2 = 0.05$, $f^2 = 0.05$				$F^{(4,163)} = 1.82$, $P = .10$, $R^2 = 0.06$, $f^2 = 0.06$			

L2 proficiency (the covariate), negatively predicted task anxiety in both tasks (β = –0.34, $P < .001$). These results largely support the second hypothesis.

The third hypothesis stated that "H3: The promotion focus will result in higher task enjoyment and cognitive engagement and lower anxiety in the promotion task than in the prevention task; conversely, the prevention focus will result in higher enjoyment and cognitive engagement and lower anxiety in the prevention task than in the promotion task." The results supported the existence of interaction (regulatory fit) effects for task enjoyment. More specifically, the prevention focus predicted less task enjoyment in the promotion task than in the prevention task (β = –0.27, $P < .05$); conversely, the promotion focus resulted in more enjoyment in the promotion task than in the prevention task (β = –0.20, $P = .08$). Although the P-value for the promotion focus was near-significant, the partial f^2 confirmed a small effect ($f^2 = 0.01$). Considering the sample size of the study was not large enough, the accepted alpha level can even be raised to 0.10, "meaning that any P-value under .10 is considered statistically significant" (Larson-Hall 2012: 465). The interaction effects on task enjoyment support regulatory fit predictions.

The results for task engagement were also not significant, although the values were in the hypothesized direction for both promotion (β = 0.17, $P = .16$) and prevention focus (β = –0.15, $P = .20$) with small effects ($f^2 = 0.01$), suggesting a tendency for the promotion focus to result in more engagement in the promotion task and for the prevention focus to result in more engagement in the prevention task. However, regulatory fit effects were not observed for task anxiety, meaning that task anxiety did not differ based on learners' regulatory focus across the two tasks.

Discussion

Inter-correlations (Table 4) showed that enjoyment was positively associated with cognitive engagement ($r = 0.52$, $P < .001$) for the whole sample. These findings align with recent research in SLA, where enjoyment is considered a dimension of emotional engagement (e.g. Nakamura, Phung and Reinders 2021), and it has been found to improve task performance (Jiang and Papi 2024). Reeve (2012) emphasizes emotions like enjoyment, interest, excitement, curiosity, and enthusiasm as significant 'task-facilitating' factors. Our study reinforces the established link between positive emotional experiences and task engagement, suggesting that tasks designed to enhance enjoyment may have beneficial effects on learners' cognitive task engagement.

Task effects

The promotion task led to higher levels of task enjoyment, whereas the prevention task led to significantly higher levels of cognitive engagement. The prevention task, which asked students to create a timeline based on brief histories of three partly concurrent empires, required high levels of vigilance, attention to detail, precision, and accuracy, which are aspects of cognitive engagement (Helme and Clarke 2001; Svalberg 2009). Insufficient attention to these dimensions may have led to errors of commission, negatively impacting the quality of students' performance. This heightened vigilance in completing the task likely led to increased cognitive engagement. In contrast, the promotion task required students to describe objects from a unique and unusual perspective (e.g. "Write a paragraph describing a canoe from a whale's point of view"). Such a task likely primed learners to adopt an eager and risk-taking approach, generating ideas freely without concern for potential errors (Van Dijk and Kluger 2004; Papi and Khajavy 2021; Zhang and Papi 2021). Performance in this context is driven by creativity and imagination, which cannot reasonably be judged as erroneous. As a result, students' eagerness to generate ideas likely led to higher levels of enjoyment. In contrast, their reduced focus on accuracy and detail may have resulted in lower cognitive engagement compared to the prevention task. These results suggest a trade-off effect between task enjoyment and cognitive task engagement, influenced by learners' chronic regulatory focus.

These results confirm the basic assumption in our study that tasks with different regulatory orientations can lead to qualitative differences in learners' task engagement (Papi

2018). These findings are supported by the prior research by Van Dijk and Kluger (2004, 2011), showing that task type can function as an antecedent of situational regulatory focus, influencing learners' task engagement. Previous studies in the field of TBLT have highlighted engagement and performance differences as a function of task type. From a regulatory focus perspective, tasks encouraging idea generation and creativity align with promotion-oriented goals, while those requiring accuracy, precision, and adherence to rules align with prevention-oriented goals. Based on this distinction, tasks that allow for LGC, offer choices, and are loosely structured generally fall under promotion tasks. In contrast, tasks limited to TGC, lacking student choice, or following a highly structured format can typically be considered prevention tasks. Lambert, Philp and Nakamura (2017) found that LGC tasks that allow for learner generation of content and ideas lead to higher L2 use engagement. Likewise, Lambert and Zhang (2019) found that LGC tasks led to higher social and emotional engagement than TGC tasks.

In the study by Nakamura, Phung and Reinders (2021), students completed a TGC (+constraint) and an LGC (-constraint) opinion task, aligning with a prevention and promotion orientation, respectively. The results again showed that the LGC task led to larger quantities of words and time on task, among other things. In addition, participants showed higher enjoyment and anxiety in the -constraint task, with the former confirming our results but not the latter. Nakamura, Phung and Reinders (2021) speculated that learners' task anxiety might have been due to their urge "to defend their own choices, negotiate with peers, and reach agreement" (p. 437), which can induce a prevention focus. Overall, these results generally align with the previous findings and highlight the importance of task type on task engagement.

Regulatory focus effects

The second research question asked whether learners' chronic regulatory focus would predict learners' task engagement. The regression results (Tables 5 and 6) indicated that learners' prevention focus positively predicted task anxiety in both tasks and negatively predicted enjoyment in the promotion task only. By contrast, the promotion focus positively predicted task enjoyment in the prevention task. These results suggest that prevention-focused learners experience heightened anxiety and reduced enjoyment, whereas promotion-focused learners tend to experience more task enjoyment. The results echo the findings of studies showing that learners' prevention focus was associated with increased task anxiety while the promotion focus is associated with task enjoyment (Papi 2016; Papi and Khajavy 2021; Jiang and Papi 2022, 2024). For example, Jiang and Papi (2024) found that the promotion focus predicted task enjoyment, which in turn predicted task performance, whereas the prevention focus directly predicted task performance. Similarly, Papi (2016) found that the promotion focus positively predicted task enjoyment, while the prevention focus predicted task anxiety.

These results could be theoretically explained by the logical association between the prevention focus and agitation-related emotions and between the promotion focus and elation-related emotions. Because individuals with a predominant prevention focus are concerned with avoiding negative outcomes, they naturally tend to experience more agitation-related emotions, such as anxiety. By contrast, individuals with a predominant promotion focus are prone to experiencing elation-related emotions, such as enjoyment, due to their focus on positive outcomes. Previous studies in the field of L2 motivation have also confirmed that a promotion focus leads to eager L2 use and enjoyment, whereas a prevention focus enhances vigilance in L2 use and task performance (e.g. Papi and Khajavy 2021; Jiang and Papi 2024). These results also align with evidence from previous studies exploring the relationships between future L2 selves and emotions. Learners who are motivated by ought-to L2 selves (concerned with duties and obligations), which have a prevention focus, tend to experience more L2 anxiety, whereas the ideal L2 self, which represents one's aspirations and has a promotion focus, tend to experience more L2 enjoyment (e.g. Papi 2010; Papi and Teimouri 2014; Teimouri 2017; Papi et al. 2019; Tahmouresi and Papi 2021; Wang and Sun 2024).

Regulatory fit effects

The results also provide evidence for regulatory fit effects. Learners' prevention focus predicted more enjoyment in the prevention task than in the promotion task. Conversely, the promotion focus predicted more enjoyment in the promotion task than in the prevention task. In addition, although not statistically significant, the results for task engagement tended to align with regulatory fit predictions. The promotion focus predicted greater task engagement in the promotion task than the prevention task with a small effect size ($\beta = 17$, $P = .16$, $f^2 = 0.01$). Conversely, the prevention focus predicted greater engagement in the prevention task than the promotion task with a small effect size ($\beta = 17$, $P = .16$, $f^2 = 0.01$).

These results confirm the regulatory fit predictions (Higgins 2000) and suggest that the match between learners' regulatory focus and a task leads to the experience of fit, which enhances task enjoyment. By extension, matching a prevention-focused learner with a promotion task or matching a promotion-focused learner with a prevention task may reduce their task enjoyment. These results are consistent with the findings of the previous studies in social psychology showing that the experience of regulatory fit increases learners' enjoyment and engagement in goal pursuit (e.g. Higgins 2000, 2005; Freitas and Higgins 2002; Higgins et al. 2010). It appears that the experience of regulatory fit enhances task enjoyment by making participants "feel right" about what they do. Such experience of regulatory fit increases individuals' perceived value of the task, which in turn positively affects their task enjoyment. In the field of SLA, Papi (2016) found that ESL learners with a prevention focus learned more vocabulary items in a prevention (loss-framed) task than in a promotion (gain-framed) task; however, no fit effects on vocabulary learning were found for promotion-focused learners. He also found that learners' promotion focus predicted task enjoyment and their prevention focus predicted task anxiety, but they did not detect regulatory fit effects on these task engagement variables. Similarly, Cho (2021) did not find regulatory fit effects on the acquisition of lexical stress. Papi (2018) attributed the lack of regulatory fit effects to the possible bias in the regulatory focus of the task (argumentative writing). The results of this study confirm that such regulatory fit effects can be detected if the regulatory focus of the task is taken into consideration.

In the context of task engagement theory within TBLT, regulatory focus theory can be understood as a learner's motivational disposition that shapes preferences regarding task type, framing, and incentive structures. Aligning these task characteristics with the learner's regulatory focus may increase their personal investment in the task. When students experience alignment with a task, it can enhance their engagement, similar to how they respond to LGC tasks (Lambert, Aubrey and Bui 2023b). While personal investment theory emphasizes how a task fulfills learners' needs and interests in L2 interaction (Lambert 2023), regulatory fit theory broadens this by focusing on matching learners' motivational dispositions with the task at hand to improve their engagement. Specifically, promotion-focused learners are driven by needs for gains, accomplishment, and advancement through eager strategies, whereas prevention-focused learners seek to fulfill needs for safety, security, and calmness through vigilant strategies. Learners can arguably feel personally more invested, thereby more engaged in a task that aligns with these individual motivational dispositions. From this perspective, LGC or other forms of tasks that allow students to be creative and generate ideas can be considered promotion-oriented tasks. Conversely, TGC (Lambert and Zhang 2019), and highly structured tasks that require attention to detail, risk-avoidance, and following rules can be considered prevention-oriented tasks. A previous study by Phung (2017) has highlighted variability in students' task preferences by showing that some students preferred tasks that allowed them to generate and express their ideas, while others showed a preference for tasks that did not require idea generation. Similarly, Qiu and Lo (2017) found that some Chinese students felt less anxious when repeating a task (a prevention-focused inclination), whereas others felt bored by that. Other studies have found connections between promotion tasks and elation-related emotions. For instance, Kormos and Préfontaine (2017) found that tasks that were personally relevant and required creativity decreased anxiety and enhanced students' interest and perceived success. Similarly, Aubrey (2017) found Japanese students to be more engaged in

a task that allowed them to share their culture and identity with international peers. Regulatory focus and fit theories (Higgins 1997, 2000) can provide satisfactory explanations for how such tasks can lead to different qualities of task engagement among different types of learners.

The regulatory fit did not show any effects on task anxiety. This result aligns with Papi's (2016) findings. This result could be due to the strong relationship between the learners' chronic prevention focus and their task anxiety. Not unlike Papi's (2016) study, in this study, the prevention focus positively predicted task anxiety in both tasks regardless of their regulatory focus. These results confirm Papi's (2016) speculation that the effect of the chronic focus may outweigh the effects originating from the task or how a task is framed.

Pedagogical implications

Previous research highlights that various dimensions of task construct, such as their relevance, familiarity, personal interest, and emotional resonance, play pivotal roles in influencing task engagement and performance for learners (e.g. Lambert and Aubrey 2023). The findings of the current study propose regulatory focus as a different lens for understanding how task structure may impact students' task engagement and performance. The results of this study suggest that a learner's affective, and cognitive task engagement is influenced by the regulatory focus principles that underlie the design of the task. Language tasks such as idea generation, creative problem-solving, and decision-making, which require creativity, open-mindedness, risk-taking, and flexibility (see Albert and Kormos 2011; Pipes 2023), would serve as promotion tasks that could enhance task enjoyment. Conversely, language tasks such as scheduling, summarizing, proofreading, accounting, and bookkeeping, which demand precision, attention to detail, accuracy, and adherence to rules, can be utilized as prevention tasks that would increase cognitive engagement and vigilance.

More importantly, matching promotion-focused learners with a promotion task or matching prevention-focused learners with a prevention task can enhance their task enjoyment. These findings suggest the existence of two qualitatively different types of task engagement driven by distinct regulatory foci. Promotion-oriented tasks enhance the task experience and foster eager engagement among promotion-focused learners, whereas prevention-oriented tasks improve the task experience of prevention-focused learners, leading to vigilant task engagement. Eager engagement is characterized by the proactive maximization of opportunities to improve learning or performance, while vigilant engagement is defined by a strong focus on avoiding errors that could negatively impact learning or performance. Previous TBLT studies show that task design and implementation factors can be employed to enhance regulatory fit in the classroom. For instance, tasks that are rewarded by gaining points (Papi 2018), require idea generation, cultural expression (Aubrey 2017; Lambert and Zhang 2019), and creativity (Kormos and Préfontaine 2017), strengthen social bonding (Dao 2019), and offer novelty and variety (Qiu and Lo 2017) can create regulatory fit for promotion-focused learners. Conversely, having students repeat the same task with the same interlocutors (Qiu and Lo 2017), tasks that involve pairing students with peers from the same culture (Aubrey 2017), tasks that do not require idea generation (Lambert and Zhang 2019), or social bonding (Dao 2019), and tasks that require attention to detail and precision, as shown in the current study, can qualify as more appropriate regulatory matches for prevention-focused learners.

The present study suggests that the effectiveness of language learning tasks can be maximized based on how well the teacher understands the learner's regulatory focus and tasks that match or mismatch those preferences (Lambert and Minn 2007). According to Robinson (2011), "if these links [between learners and tasks] can be established through research, they could be used to operationalize batteries of individual difference measures that can be used to profile "task-aptitudes" (p. 20). Profiling such task-aptitudes can help educators to align tasks and task-based instruction with learners' unique motivational orientations to create more targeted, impactful learning experiences that foster L2 development. Such teacher awareness of individual students' dispositions can for instance help teachers employ framing and feedback that match the student preferences (e.g. Idson and Higgins 2000; Van-Dijk and Kluger 2011).

Although it may be challenging to divide the class into different groups based on their regulatory profiles, a study by Wang and Lee (2006) showed that providing a mixture of promotion-related content and prevention-related content can also effectively lead to regulatory fit because people selectively process the information that aligns with their regulatory focus. Alternatively, giving students a choice in the selection of the tasks can automatically lead to the alignment of each task with the regulatory focus of the participants, thereby achieving higher levels of task engagement. Finally, given the engagement trade-off found between the promotion and prevention tasks, L2 instructors may tailor their use of promotion or prevention tasks to promote different qualities of engagement (affective vs. cognitive) or different performance outcomes (e.g. Tavakoli and Foster 2008).

Limitations and future research directions

This study relied on self-report questionnaires to assess learners' English proficiency, regulatory focus, and cognitive and affective engagement. The use of self-report questionnaires to assess these factors may not fully capture the underlying constructs due to factors such as response biases, social desirability, and the learners' own perceptions or interpretations of the items. Future research would benefit from supplementing self-report measures with alternative approaches, such as objective measures of L2 proficiency and interview data related to students' feelings and experiences, to gain a more comprehensive understanding of the constructs under study. The *P*-value related to regulatory fit effects on task enjoyment and cognitive task engagement approached but failed to reach statistical significance. A larger sample size could detect such possible statistically significant effects (Plonsky and Oswald 2014). This study did not examine task difficulty and complexity, which might have influenced the learners' cognitive and behavioral engagement. To control such effects, future studies should account for differences in task complexity and difficulty by using similar tasks or a single task framed in promotion versus prevention terms (see Han and McDonough 2018; Papi and Cho, in review). Learners' behavioral engagement and task performance were not measured in this study. The self-report measures of task engagement can be triangulated with qualitative measures such as discourse analysis (Lambert and Aubrey 2023) or measures of L2 complexity, accuracy, and fluency (Lambert and Zhang 2019) to offer educators deeper insights into the effects of regulatory focus and fit in task-based L2 learning.

Conclusions

The present study explored how regulatory focus and fit theories (Higgins 1997, 2000) can affect task engagement. The findings provide important insights regarding the regulatory dimension of L2 tasks and their relationship with learner factors. First, the investigation revealed that the tasks used in this study led to differences in learners' task engagement. Specifically, the promotion task resulted in higher levels of task enjoyment, whereas the prevention task enhanced cognitive task engagement, confirming previous studies in social psychology (e.g. Van-Dijk and Kluger 2004). These findings confirm that promotion tasks can evoke elation-related emotions, such as eagerness and enjoyment, while prevention tasks are more likely to increase vigilance and mental effort (Papi 2016; Papi and Khajavy 2021; Jiang and Papi 2024). These findings confirm that a task's regulatory orientation can significantly impact students' quality of engagement, offering a new perspective for interpreting previous findings on task engagement.

Second, the study revealed that learners' chronic regulatory focus can also affect their quality of task engagement. More specifically, the prevention focus positively predicted task anxiety in both task conditions and negatively predicted enjoyment in the promotion task condition; conversely, the promotion focus resulted in higher task enjoyment in the promotion task. These results confirm that chronic regulatory focus can affect learners' quality of task engagement.

More importantly, the results provided evidence for regulatory fit effects on task engagement. Learners with a stronger promotion focus experienced more task enjoyment in the promotion

task than in the prevention task; conversely, learners with a stronger prevention focus reported higher task enjoyment in the prevention task than in the promotion task. The results corroborate similar links that have been found between regulatory fit and task enjoyment (Freitas and Higgins 2002) and highlight the importance of matching learners with the tasks that they will find more engaging (Robinson 2011; Papi 2018). The results suggest that promotion-focused learners are more prone to experiencing eager task engagement in promotion tasks, whereas prevention-focused learners are more prone to experiencing vigilant task engagement in prevention tasks. Overall, the findings underscore the value of regulatory focus and fit theories (Higgins 1997, 2001) in TBLT as both a theoretical lens for understanding task engagement and a practical tool for using tasks that promote optimal learner engagement.

Supplementary data

Supplementary data is available at *Applied Linguistics* online.

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