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Motivational Principles underlying Linguistic Characteristics of Second Language Writing

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ABSTRACT

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The present study explored how a learner's motivational foundation driven by regulatory focus and mode is related to the linguistic characteristics of complexity, accuracy, and fluency (CAF) of L2 writing. It was hypothesized that learner's regulatory focus and mode would lead the learners to focus on certain aspects of the writing processes, thus resulting in individual variations in CAF levels of writing. English argumentative essays written by 48 Korean EFL students were analyzed with reference to writing CAF measures. The participants' regulatory foci and modes were also measured using two questionnaires. The results of multiple regression analyses showed that the promotion-focus positively predicted complexity and the prevention-focus negatively predicted fluency and accuracy. Regarding regulatory mode, the assessment-mode positively predicted both complexity and accuracy and the locomotion-mode was not significantly related to any measures of CAF. The findings may contribute to understanding individual differences in L2 development through writing and suggest that learners' inherent motivational characteristics play a role in the L2 writing process. Results are discussed in relation to the writing process models, and pedagogical implications and future research directions are suggested.

KEYWORDS

motivational orientation, L2 writing, complexity, accuracy, and fluency (CAF), regulatory focus, regulatory mode, individual difference

1. Introduction

Researchers have been curious as to the reasons behind individual differences (ID) in the second language (L2) writing performance across learners. Taking into account the complex and multifaceted nature of L2 writing (Manchón 2009, Zhang 2013), there has been growing recognition that ID variables such as cognitive, motivational and affective factors contribute to L2 writing performance and L2 language development. Research has shown that learner's cognitive factors such as working memory and language aptitude are related to L2 writing quality (Baoshu and Luo 2012, Kormos and Sáfár 2008). Research also supports the role of working memory in the complexity, fluency (Baoshu and Chuanbi 2015, Zabihi 2018) and accuracy of L2 writing (Baoshu and Luo 2012). Other studies have found the indirect contribution of language learning aptitude to L2 writing accuracy through the mediation of corrective feedback (Hyland 2011, Sheen 2007, 2011).

Even though these cognitive and non-cognitive factors have been found to contribute to the complexity, accuracy, and fluency of L2 writing, there is a lack of research on how motivational dispositions can be related to the linguistic quality of L2 production. In the last two decades, a number of L2 writing studies have explored the potential of writing for promoting language learning through manipulating writing tasks. Nevertheless, according to Johnson's (2017) meta-analysis, these studies have not produced consistent results, especially with regard to CAF performance in writing. Also, few empirical studies have investigated L2 writing and linguistic performance through the lens of individual variances in motivational factors. A learner's motivational factors have been considered as a key contributor to students' L2 writing achievements (Tsao, Tseng and Wang 2017). Motivation has been defined as "the primary impetus to initiate L2 learning and later the driving force to sustain the long, often tedious learning process" (Dörnyei and Ryan 2015, p. 72). Highly motivated students, for example, are likely to spend more time on L2 writing tasks (e.g., Hashemian and Heidari, 2013), tend to hold more positive attitudes toward L2 writing skills (e.g., Tsao et al. 2017). Studies have shown that L2 learning is greatly influenced by motivational sources such as learner's self-efficacy (Sun and Wang 2020, Zabihi 2018), learner beliefs (Han 2017, Wan, 2014), self-regulation strategies (Zhang et al. 2016, Teng and Zhang 2018), and anxiety (Rahimi and Zhang 2019). Despite clear evidence for the role of motivational sources in L2 writing, no attempt has been made to establish a link between motivational disposition and linguistic variances of L2 writing. Only a few studies indirectly investigated how motivational characteristics such as L2 selves (Dörnyei 2005) are associated with L2 writing performance (Csizér and Tanko 2017, Jang and Lee 2019).

The present study is also motivated by previous literature of L2 learning tasks and linguistic performance. Regarding L2 task complexity and CAF levels, Skehan and Foster (1999) emphasized that learners' decision-making preferences in L2 task performance, which could be dependent on learners' motivational characteristics (Papi 2018), might be at the center of the linguistic quality of their written and oral L2 production. They argued, "actual performance may well be dependent on the prioritizing decisions of the language learner as well as the characteristics of tasks and the conditions under which tasks are performed" (p. 97). Skehan and Foster's (1997) influential study in the field provided more robust evidence for the link between learner's motivational dispositions and the development of the complexity, accuracy, and fluency of their L2 production. They identified three types of learners (complexity-oriented, accuracy-oriented, and fluency-oriented learners) in terms of their preferences to prioritize different linguistic aspects in their L2 production regardless of the condition (i.e., complexity) of the task. This may imply that learners' prioritization and predisposition may drive a learner's performance to focus on one of the three areas of CAF. However, they did not explain what underlies such qualitative differences in these prioritizing decisions. Within the field of L2 writing research, learners' motivational sources have so far been seen as a quantitative factor in which the amount and the level of motivation can explain the L2 learning outcomes, greater motivation brings better

outcomes in L2 writing development. In the field of L2 motivation research, however, researchers started to pay attention to the role of a learner's qualitative motivation, connecting both the cognitive and motivational aspects of language learning. Papi (2018) sheds light on the importance of a learner's motivational disposition, arguing that motivational dispositions such as learners' regulatory orientations (Higgins 1997, Kruglanski et al. 2000) can be "a contributing factor in L2 learners' linguistic, communicative, learning, and behavioral differences." (p. 726).

Drawing on the theoretical and empirical foundations, it was hypothesized that individual differences in linguistic quality of L2 writing could be traced back to learners' inherent motivational dispositions. We have employed regulatory focus theory (Higgins 1997) and regulatory mode theory (Kruglanski et al. 2000) from the field of social psychology. The new perspective of 'motivation as quality' (Papi 2018) paved a new insight in elucidating the role of regulatory orientation on L2 learning. and some very recent studies have shown the significant relationship between regulatory orientation and L2 learning (Eom 2018, Han and Mcdonough 2018, 2021, Kaazmak 2021, Tahmouresi and Papi 2021, Zhang and Papi 2022). The present study is an attempt to add further empirical evidence on this line of research by exploring how L2 learners' regulatory orientations might account for differences in the complexity, accuracy, and fluency of their L2 written production.

2. Literature Review

2.1 Motivational Factors in L2 Writing

The important role of motivational learner factors has also been highlighted in two influential models of writing process, that is Kellogg's (1996) model and Hayes' (2000) model, even though these models were mainly developed to explain the cognitive process of writing. According to Kellogg's (1996) writing model, writing consists of three interactive and recursive processes: formulation, execution, and monitoring. The formulation stage involves planning the content of the writing and translating ideas into linguistic forms. The execution stage involves motor movements to create a text in handwriting or typing. Monitoring, which is the last stage of the writing process, ensures that the created text adequately expresses the writer's intention, and the text is revised if mismatches are found. According to Kormos (2012), cognitive and motivational factors are at play in every stage of Kellogg's (1996) model. That is, learner's motivational factors might influence the formulation processes in terms of the ideas produced, the way they are organized, the strategies and efficiency with which learners can translate ideas into linguistic form. Thus, it can also influence how they control the execution and monitoring processes. Finally, learner's motivational characteristics are expected to affect how successfully students can orchestrate these writing processes, and as a result, influence the quality of the final written product. In addition, Hayes (2000) also proposed a writing process model highlighting the influence of individual factors as well as the writing environment on the writing process. The model describes three cognitive functions involved in writing: text interpretation (critical reading), reflection (problem solving, decision-making, and inferencing), and text production. Hayes argued that "learner's motivation is manifest, not only in relatively short-term responses to immediate goals, but also in long-term predispositions to engage in certain types of activities." (p. 9). Hayes' (2000) new framework, most of all, emphasizes writing as a goal-directed learning activity in which writers' motives interact with their needs to achieve a balance among competing goals.

There is a consensus among researchers that a learner with higher 'motivation to write' would contribute to L2 writing development (Kormos 2012). However, a high level of 'motivation to write' or ample amount of writing practice driven by such motivation does not always guarantee balanced linguistic production in L2 writing (Papi et al. 2019). The majority of the previous research, nevertheless, has been limited to finding ways to improve the

quantity of motivational intensity and the role of qualitatively different motivational dispositions has relatively been underexplored. However, recent findings tend to paint a better picture of the important impact of qualitative motivation, particularly regulatory focus, on L2 learning. (Han and Mcdonough 2018, 2021, Tahmouresi and Papi 2021, Zhang and Papi 2022). Motivated by this line of research, this study draws on the two theories that highlight the motivation-as-quality perspective, regulatory focus theory (Higgins 1997) and regulatory mode theory (Kruglanski et al. 2000), to uncover how such motivational principles could contribute to the differences in learners' language production of L2 writing.

The key assumption in this study is that a learner's regulatory focus and mode can lead to variation in the behavioral approach learners adopt in the process of writing, which eventually leads to qualitative differences in linguistic production of written texts. The two writing models both acknowledge that learners will not only expend different levels of effort and attention but also make qualitatively different decisions throughout different stages of the writing process. In other words, individuals with different motivational profiles can be expected to execute and orchestrate these processes with different quality of effort and attention in various phases of the writing process. Hence, it is expected that the written text produced by learners with distinctive motivational dispositions would be qualitatively different.

2.2 Regulatory Focus Theory

[1]Regulatory focus theory (Higgins 1997, 1998) proposes that every individual possesses two coexisting but independent self-regulation systems that control goal-directed behavior: promotion and prevention. Regulatory focus has been found to predict individuals' decision-making and behavioral patterns in numerous research studies in consumer psychology (e.g., Pham and Chang 2008, 2010, Pham and Higgins 2005), communication and management (Brockner and Higgins 2001, Kark and Van-Dijk 2007), and personality and social psychology (Lockwood, Jordan and Kunda 2002, Semin et al. 2005). The present study is motivated by the two study findings: Förster, Higgins and Bianco (2003) and Semin et al. (2005). Förster et al. (2003) examined the relationship between regulatory focus and the strategic inclinations in task performances involving trade-offs between speed and accuracy. They found that individuals with a predominantly promotion focus were inclined to accentuate speed over accuracy, whereas individuals with a predominantly prevention focus prioritized accuracy over speed. Also, in a study that examined the systematic differences in language use among individuals with different regulatory focus, Semin et al. (2005) found that promotion-focused individuals showed a tendency to use more abstract language whereas prevention-focused learners tended to use more concrete language. These findings together suggest that there might be a link between regulatory focus and individual variance in linguistic characteristics.

Regulatory focus theory has also been applied in the context of L2 learning. In L2 learning contexts, promotion-focus learners have been found to use eager strategies concerned with the maximal use of the target language, which in turn, lead to higher levels of pragmatic competence (Zhang and Papi 2022) and achievement (Tahmouresi and Papi 2021), and utilize eager strategies (Papi and Khajavy 2021). By contrast, prevention-focus learners have been found to use vigilant L2 use strategies concerned with the minimal use of the L2 in obligatory contexts, which in turn has been found to negatively affect L2 achievement (Papi and Khajavy 2021). A few studies have also investigated the impact of regulatory focus on L2 task performance and found task-induced regulatory focus influences oral production (Han and McDonough 2018) and incidental vocabulary learning (Papi 2018). In addition,

[1] For more information regarding regulatory focus theory and the questionnaire, please visit the website https://cuhigginslab.com.

the recent trend of the L2 motivation studies (Papi et al. 2019, Papi and Khajavi 2021) that first have addressed language learners' trait-like motivational preferences to paint a better picture of the role of motivation in L2 learning. More relevant to the current study, Papi et al. (2019) examined L2 selves and found that ideal L2 Self resulted in more eager strategies to maximize opportunities for L2 use whereas ought-to L2 Self resulted in vigilant strategies employed to avoid unnecessary L2 use. Further, Jang and Lee (2019) also found that ideal L2 Self predicted writing achievement and the use of planning strategies whereas the ought-to L2 Self resulted in the use of revising strategies. Altogether, these studies indicate the connection between the motivational characteristics outlined in regulatory focus theory and behavioral, cognitive, and emotional characteristics displayed by learners in L2 learning.

The link between learners' inherent motivational dispositions and the complexity, accuracy, and fluency of their L2 written production, however, has remained unexplored. If learners with different regulatory focus show different behavioral, cognitive, and emotional patterns in the course of L2 writing practice, it would not be unreasonable to expect differences in their writing quality as a consequence. More specifically, given the eager and risk-taking strategic inclination of learners with a promotion focus, it is expected that they would develop L2 writing skills that favors more complex and fluent language. Prevention-focused learners, on the other hand, are expected to write more accurately due to their risk-averse and vigilant orientation and their attention to details and accuracy.

2.3 Regulatory Mode Theory

Whereas regulatory focus theory was concerned with the end-states and outcomes, regulatory mode theory focuses on the process of goal pursuit and outlines two other motivational principles: locomotion and assessment. Individuals with a strong locomotion mode possess self-regulating tendency to focus on movement from one state to another whereas individuals with a strong assessment mode are more concerned with critical evaluation, analysis, and comparison. Learners with a strong locomotion orientation tend to act promptly and focus on a speedy movement during the task without careful forethought or evaluation. In contrast, learners with a strong assessment orientation are more likely to analyze the options systematically and think deeply about the best way to complete the task before acting or moving to the next step (Kruglanski et al. 2000).

Studies have shown that individuals high in assessment are more likely to notice errors and generate more goal-pursuit means possible (Pierro et al. 2008, Snow et al. 2008). They tend to think more logically and to regret their actions or decisions more often than those with high locomotion do. Other studies have shown that locomotion was related to the tendency to achieve goals, the effort to cope with and adapt to change, and the personality characteristic of extroversion (Kruglanski et al. 2000, 2007, Pierro et al. 2006a, 2006b). Chernikova et al. (2016) mentioned that individuals who scored high on both locomotion and assessment showed better performance on a complex task, while those who scored high on locomotion but low on assessment had better performance on a simple task.

Regulatory mode theory has not yet been examined in relation to L2 learning and development. The present study examines the potential role of learner's regulatory mode on individual differences in L2 writing. Given individuals with a strong assessment mode tend to focus on a comparison and critical evaluation, L2 learners with strong assessment mode are expected to invest in choosing appropriate lexical words and syntactic forms to compose their messages as accurately and appropriately as possible. Their strong assessment mode is thus anticipated to positively lead to linguistic accuracy and complexity. On the contrary, learners with strong locomotion mode are expected to prioritize speedy writing at the expense of using precise vocabulary or error-free syntactic forms due to their tendency to move quickly from one stage to the next. This tendency might lead to their higher fluency but lower accuracy in L2 writing task performance.

Drawing on the theoretical and empirical foundations reviewed above, the present study examines the link

between learner's qualitatively different motivational orientations and the levels of CAF in L2 written production. The following research questions and hypotheses are formulated:

1) What is the relationship between a learner's regulatory focus (promotion or prevention) and the complexity, accuracy, and fluency of their L2 written production?

H1: The promotion focus will positively predict L2 fluency and complexity whereas the prevention focus will positively predict L2 accuracy.

2) What is the relationship between a learner's regulatory mode (assessment or locomotion) and the complexity, accuracy, and fluency of their L2 written production?

H2: The locomotion mode will positively predict L2 fluency whereas the assessment mode will positively predict L2 complexity and accuracy.

3. Method

3.1 Participants

Sixty upper-intermediate English learners studying at a university in South Korea (34 males and 26 females) participated in this study. The students were majoring in social studies and enrolled in English writing and debate courses at a university in Seoul and ranged in age from 20 to 28. These students had enough experience in essay writing and were also familiar with writing analytical essays. English proficiency was controlled by considering the placement test including two essay scores (mean score) and by rating the essays collected in the study. The students' data in the range of 77.5–91.5 were only included (N = 60) in the initial data coding. The two raters evaluated the argumentative essay collected in the study, and the mean score was entered as another proficiency variable. The data of students who scored beyond the range of 6.5 to 9 (out of 10) was excluded (N = 9) from the analysis. Also, the data of the students who did not complete the questionnaires (N = 3) was also removed from the analyses, resulting in 48 writing samples being included in the final analysis. The descriptive statistics of the participants are presented in Table 1.

TABLE 1. Descriptive Statistics of Demographic Variables

Variables	*M (SD)*	*Range*
Argumentative essay score	7.76 (1.66)	6.5-9.0
Placement test essay scores (the mean score of the two essays)	88.1 (7.15)	77.5- 91.5
Age	22 (2.7)	20-28
Months of stay in English speaking country	0.79 (0.56)	0-12
Years of English language learning	9.9 (2.9)	9-15

3.2 Materials and Instruments

Learner's regulatory focus (promotion and prevention) was measured using Haws et al.'s (2010) Composite Regulatory Focus Questionnaire. The questionnaire contains 10 items with five items measuring the promotion (e.g., I feel like I have made progress toward being successful in my life.) and five items measuring the prevention focus (e.g., I frequently think about how I can prevent failures in my life.). Participants responded to the items on a five-point scale, ranging from '(1) Never true of me' to '(5) Always true of me'. Cronbach's Alpha (α) coefficient ranged from .67 (prevention) to .80 (promotion), showing an acceptable level of internal consistency of items used

to measure each variable.

The Regulatory Mode Questionnaire (Kruglanski et al. 2000) was used to measure participants' assessment and locomotion modes. The questionnaire includes 30 items with 12 items measuring the locomotion mode (e.g., I enjoy actively doing things, more than just watching, and observing.), 12 items measuring the assessment mode (e.g., I like evaluating other people's plans.), and six fake items to hide the purpose of the questionnaire. The questions were answered on a 6-point Likert scale with 1 denoting "strongly disagree" and 6 denoting "strongly agree". The questionnaires were translated into Korean by the researcher and then back-translated into English by the two Korean-English bilingual translators who had not seen the original English version of the questionnaire. Some modifications were made, and the Korean version of the questionnaire was administered. Cronbach's Alpha (α) coefficient ranged from .70 (assessment) to .61 (locomotion), showing an acceptable level of internal consistency of items used to measure each variable.

Two short articles about self-driving cars (translated into Korean) and a prompt asking them to write about the pros and cons of driverless cars were used to collect writing samples. The reading passages and argumentative writing task prompt were adopted from an internet source (Self-driving cars are just around the corner. Is it a good thing? NEWSELA. Retrieved from https://newsela.com). The length of the two articles were 207 words and 269 words each.

3.3 Data Collection Procedure

Upon approval from the institutional review board at Florida State University, the researcher contacted a colleague teaching at a private university in the city of Seoul in Korea about having access to his students for data collection. After his approval to collect the students' data, the instructor invited the researcher through a Skype call and the researcher presented the aim of the study to the participating students with information about their tasks. Also, recruiting emails including details of the study purpose and overall features were sent to the students. Data was collected after the last session of the semester, depending upon the number of participants and the availability of the instructor. Before the data collection, researchers shared the data collection protocol with the instructor (in both Korean and English). In the first step, students were asked to sign on the consent form and complete the regulatory focus and mode questionnaires. Before signing the consent form, students were informed about the purpose of the study, their right to voluntary participation, and the confidentiality of their responses. The students were given enough time to complete questionnaires. Next, the students were asked to read two short articles in Korean and write an argumentative essay about the topic for 30 minutes. For thorough communication, the researcher utilized an online tool named 'Kakao video- talk' to guide the data collection session. Upon completion, students were asked to place all materials in the envelope and write a numerical code assigned to them previously (to ensure an anonymous process), and the instructor collected the envelopes.

3.4 Data Coding and Analyses

Participants' written essays were coded in terms of accuracy, fluency, and complexity. The operational definitions for the variables are presented in Table 2. The two web-based online tools were used for text analysis: Syntactic Complexity Analyzer (L2 Syntactic Complexity Analyzer (L2SCA, Lu 2010) and Lexical Complexity Analyzer (LCA, Ai and Lu 2010). Syntactic complexity (SC) was measured by calculating Mean Length of Sentence (MLS) and Mean Length of T-unit (MLTU), the number of Clauses per T-unit (C/TU), and the number of T-units per sentence (TU/S), which indicate the amount of clausal subordination and coordination in a text (Lu 2011, Ortega 2003). Lexical complexity (LC) was measured by the ratio of the number of lexical words (token) to

the total number of words (Lexical Density: LD) and the ratio of the number of different words (type) to the total number of lexical words (Lexical Diversity: LV). Table 2 summarizes all the measures used in the study.

Table 2. Linguistic Measures Adopted

Variables	Measures	Operationalization
Fluency	Rate of production	The total number of words per minute
	Amount of production	The total number of words produced
Syntactic Complexity	Mean length of sentence (MLS)	The number of words per sentence
	Mean length of T-units (MLT)	The number of words per T-unit
	Clauses per T-unit (C/T)	The number of clauses per T-unit
	T-units per Sentence (TU/S	The number of T-units per sentence
Lexical Complexity	Lexical Diversity (token) (LV)	The number of different words divided by the total number of words
	Lexical Density (type)(LD)	The number of different types of lexical items divided by the total number words
Accuracy	Ratio of errors (ROE)	The number of errors per 100 words

The level of fluency was determined by two measures: the total number of words (the amount of production) and words per minute (the rate of composition) (Hatasa and Soeda 2000). The amount of production was measured by counting the total number of words in the text (text length). The rate of production was calculated by dividing the total number of words by writing time. Finally, the level of accuracy of a text was measured by counting errors. Two English native speakers with master's degrees in linguistics assessed the grammatical accuracy of the text. The coders were asked to indicate any syntactic and morphological errors, the punctuation or capitalization errors were not counted (Ellis and Yuan 2004). When the scores of the two coders were not identical, the discrepancy was discussed to come to an agreement. The ratio of errors was calculated by counting the number of errors per 100 words, which is more desirable than the number of error-free clauses (Inoue 2016) in gauging accuracy of EFL learner's written production.

For data analysis, the collected data were entered into an SPSS file (version 24) for statistical analyses. First, principal component analysis (PCA) with Varimax rotation was conducted to examine the items measuring regulatory focus and mode. Next, the internal consistency of the regulatory focus questionnaire, as well as regulatory mode questionnaire, was computed by calculating Cronbach's alpha coefficients. Following, a series of multiple regression and mediation analyses were run to answer the research questions.

4. Results

4.1 The Effects of Regulatory Focus on CAF Measures

Hypothesis 1 stated that "the promotion focus will positively predict L2 fluency and complexity whereas the prevention focus will positively predict L2 accuracy." Two multiple regression analyses were performed with the promotion and prevention focus as predictors and TNW and WPM as outcome variables (for intercorrelations, see Table 4). The means and standard deviations are presented in Table 3. In the first analysis (Table 5) with TNW as the measure of fluency ($F(2, 45) = 3.20$, $p < .05$, $R^2 = .12$), the prevention-focus ($\beta = -.30$, $p < 0.05$) negatively predicted the outcome variable, while the promotion-focus did not emerge as a significant predictor. With WPM as the outcome variable (Table 5), no predictor was statistically significant. The results partially confirmed our hypothesis as prevention-focus negatively predicted a fluency measure.

Table 3. Descriptive Statistics

Measures	*M*	*SD*
Promotion	3.81	0.70
Prevention	3.63	0.49
Assessment	3.91	0.54
Locomotion	3.83	0.63
Total Number of Words	187.85	56.84
Words per Minute	13.76	4.83
Mean Length of Sentence	13.23	3.80
Mean Length of T-unit	14.63	3.69
Clauses per T-unit	1.61	0.37
T-units per Sentence	2.92	1.51
Lexical Density	0.58	0.10
Lexical Diversity	0.69	0.09
Ratio of error	6.99	4.45

Table 4. Intercorrelations: Promotion, Prevention, and CAF Measure

	P.M	P.V.	TNW	WPM	MLS	MLTU	C/TU	TU/S	LD	LV
P.M.	_									
P.V.	.14	_								
TNW	.19	-.37*	_							
WPM	.20	-.11	.57**	_						
MLS	.15	-.30*	.45**	.40**	_					
MLTU	.18	-.24	.29*	.35*	.74**	_				
C/TU	.07	-.09	.02	.15	.53**	.55**	_			
TU/S	.31*	.02	.03	.22	.12	.09	.10	_		
LD	.29*	-.19	.40**	.41**	.34*	.42**	.07	.14	_	
LV	.02	-.30*	.00	.05	.12	.19	-.15	.12	-.06	_
ROE	-.22	.31*	-.49**	-.18	-.36*	-.48**	-.17	.31	-.35*	-.09

Note. P.M. = Promotion, P.V. = Prevention, TNW = Total Number of Words, WPM = Words per Minute, MLS = Mean Length of Sentence, MLTU = Mean Length of T-unit, C/TU = Clauses per T-unit, TU/S = T-units per Sentence, LD = Lexical Density, LV = Lexical Diversity, ROE = Ratio of Errors. * $p < .05$, ** $p < .01$.

To explore the relationship between regulatory focus and syntactic complexity, four multiple regression analyses were performed with MLS, MLTU, C/TU and TU/S as the outcome variables, respectively. As presented in Table 5, while the prevention-focus was a negative predictor of two measures of syntactic complexity, the promotion-focus emerged as a positive predictor of one measure. Specifically, the prevention-focus negatively predicted MLS (β = -.32, $p < 0.05$, $F(2, 45) = 3.16$, $p < .05$, $R^2 = .12$), and was a near-significant negative predictor of MLTU (β = -.27, $p = 0.06$, $F(2, 45) = 2.64$, $p < .08$, $R^2 = .10$) whereas the promotion-focus was a significant positive predictor of TU/S ($\beta = .31$, $p = 0.04$, $F(2, 45) = 2.36$, $p < .05$, $R^2 = .10$). In the regression analysis with C/T as the outcome variable, no predictor was statistically significant. These results partially confirmed our hypotheses.

In terms of lexical complexity measures as outcome variables, the results showed that the promotion-focus

(β = .32, p < 0.05) positively predicted LD (F(2, 45) = 3.57, p < .05, R^2= .14) and the prevention-focus (β = -.31, p < 0.05) negatively predicted LV (F(2, 45) = 2.35, p < .10, R^2 = .09), confirming our hypotheses. With ROE as the only measure of L2 accuracy entered as the outcome variable (F(2, 45) = 4.42, p < .05, R^2 = .16), the prevention-focus emerged as a negative predictor (β = .35, p < 0.05) and the promotion-focus as a near-significant positive predictor (β = -.27, p = 0.06), which was contrary to our expectations.

Table 5. Multiple Regression Results with L2 Outcome Measures

Outcome Variable		Predictors	*B*	*Std. Error*	*Beta*	*t*	*Sig.*
Fluency	TNW	Promotion	18.61	11.37	.23	1.64	.11
		Prevention	-34.68	16.23	-.30*	-2.14	.04
	WPM	Promotion	1.53	1.00	.22	1.52	.14
		Prevention	-1.38	1.43	-.14	-.96	.34
Syntactic Complexity	MLS	Promotion	1.02	.76	.19	1.34	.19
		Prevention	-2.49	1.09	-.32*	-2.29	.03
	MLTU	Promotion	1.15	.75	.22	1.54	.13
		Prevention	-2.03	1.07	-.27	-1.90	.06
	C/TU	Promotion	.05	.08	.09	.58	.57
		Prevention	-.08	.11	-.10	-.68	.50
	TU/S	Promotion	1.11	.51	.31*	2.17	.04
		Prevention	-.11	.73	-.02	-.15	.89
Lexical Complexity	LD	Promotion	.05	.02	.32*	2.30	.03
		Prevention	-.05	.03	-.23	-1.68	.10
	LV	Promotion	.09	.02	.07	.46	.65
		Prevention	-.06	.03	-.31*	-2.16	.04
Accuracy	ROE	Promotion	-1.67	.87	-.27	-1.92	.06
		Prevention	3.11	1.24	.35*	2.51	.02

Note. P.M. = Promotion, P.V. = Prevention, TNW = Total Number of Words, WPM = Words per Minute, MLS = Mean Length of Sentence, MLTU = Mean Length of T-unit, C/TU = Clauses per T-unit, TU/S = T-units per Sentence, LD = Lexical Density, LV = Lexical Diversity, ROE = Ratio of Errors. * p < .05, ** p < .01.

4.2 The Effects of Regulatory mode on CAF Measures

Hypothesis 2 generally stated that "the locomotion mode will positively predict L2 fluency whereas the assessment mode will positively predict L2 complexity and accuracy". To test these sub-hypotheses, further multiple regression analyses were performed (for intercorrelations see Table 6). In terms of TNW and WPM as measures of fluency, contrary to our expectations there were no statistically significant results (Table 7). In terms of syntactic complexity, the results (Table 7) showed the assessment-mode emerged as a significant predictor of MLTU (β = .30, p < 0.05) and TU/S (β = .28, p < 0.06) and C/TU (β = .29, p < 0.05), as hypothesized. In addition, neither the assessment-mode nor the locomotion-mode significantly predicted MLS. In terms of lexical complexity, the assessment-mode (β = .39, p < 0.05, F(2, 45) = 4.21, p < .05, R^2 = .16) but not the locomotion-mode significantly predicted LD, as expected. The measure of LV, however, was not predicted by either of the regulatory modes. Finally, the relationship between regulatory mode and L2 accuracy was tested, and the result indicated that the assessment-mode (β = -.39, p < 0.05, F(2, 45) = 3.27, p < .05, R^2 = .13), and not the locomotion-mode, significantly

predicted the outcome variable, confirming our hypotheses. Finally, neither the assessment-mode nor the locomotion-mode predicted the fluency measures of TNW and WPM, contrary to our expectations.

Table 6. Intercorrelations: Assessment, Locomotion, and CAF measures

	A.S.	L.C.	TNW	WPM	MLS	MLTU	C/TU	TU/S	LD	LV
A.S.	__									
L.C.	-.08	__								
TNW	.19	.09	__							
WPM	.17	-.06	.57**	__						
MLS	.17	-.01	.45**	.40**	__					
MLTU	.49*	.04	.29*	.35*	.74**	__				
C/TU	.30*	-.08	.02	.15	.53**	.55**	__			
TU/S	.48	.09	.03	.22	.12	.09	.10			
LD	.59**	-.08	.40**	.41**	.34*	.42**	.07	.14	__	
LV	.07	.06	.00	.05	.12	.19	-.15	.12	-.06	__
ROE	-.38**	-.05	-.49**	-.18	-.36*	-.48**	-.17	.31	-.35*	-.09

Note. P.M. = Promotion, P.V. = Prevention, TNW = Total Number of Words, WPM= Words per Minute, MLS = Mean Length of Sentence, MLTU = Mean Length of T-unit, C/TU = Clauses per T-unit, TU/S = T-units per Sentence, LD = Lexical Density, LV = Lexical Diversity, ROE = Ratio of Errors. * $p < .05$, ** $p < .01$.

Table 7. Multiple Regression Results with L2 Outcome Measures

Outcome Variable		Predictors	*B*	*Std. Error*	*Beta*	*t*	*Sig.*
Fluency	TNW	Assessment	20.83	15.38	.20	1.36	.18
		Locomotion	9.66	13.11	.11	.77	.47
	WPM	Assessment	1.52	1.32	.17	1.15	.26
		Locomotion	-.34	1.12	-.04	-.30	.76
Syntactic Complexity	MLS	Assessment	1.19	1.04	.17	1.15	.26
		Locomotion	-.01	.89	-.00	-.01	1.00
	MLTU	Assessment	2.03	.98	.30	2.08*	.04
		Locomotion	.37	.83	.06	.45	.66
	C/TU	Assessment	.20	.10	.29	2.07*	.05
		Locomotion	-.04	.08	-.06	-.42	.68
	TU/S	Assessment	1.31	.66	.28	1.97	.06
		Locomotion	.43	.57	.11	.76	.45
Lexical Complexity	LD	Assessment	.07	.03	.39	2.85*	.01
		Locomotion	-.01	.02	-.05	-.34	.74
	LV	Assessment	.01	.03	.07	.47	.64
		Locomotion	.01	.02	.06	.42	.67
Accuracy	ROE	Assessment	-3.22	1.13	-.39	-2.84*	.01
		Locomotion	-.59	.97	-.08	-.61	.55

Note. P.M.= Promotion, P.V.= Prevention, TNW=Total Number of Words, WPM= Words per Minute, MLS=Mean Length of Sentence, MLTU= Mean Length of T-unit, C/TU= Clauses per T-unit, TU/S=T-units per Sentence, LD =Lexical Density, LV=Lexical Diversity, ROE= Ratio of Errors. * $p < .05$, ** $p < .01$.

5. Discussion

The present study examined the extent to which the linguistic quality of learners' L2 written production was associated with their inherent motivational dispositions, that is by their regulatory focus and mode. Two research questions were posed. For the first research question, it was hypothesized that the level of promotion would predict fluency and complexity whereas prevention would predict accuracy. The results showed that promotion-focus predicted two measures of complexity, that is lexical density and T-units per sentence, partially confirming our hypotheses. The promotion focus is primarily concerned with growth, accomplishments, and advancement. They are sensitive to the presence or absence of positive outcomes and tend to take risks and use eager strategies (Crowe and Higgins 1997, Papi et al. 2019). It has been recognized that learners' ability to take risks appears to be an important individual difference and a predictor of success in second language learning (Selinker and Gass 2008). As Brown (1994) emphasized, "risk-taking is an important characteristic of successful learning of a second language. Learners must be able to gamble a bit, to be willing to try out hunches about the language and take the risk of being wrong" (p. 140). Such a risk-taking tendency seems to have resulted in the use of a wider variety of vocabulary items and longer sentences in their L2 written production. The eager and risk-taking tendency, however, does not seem to have benefitted them in terms of fluency, syntactic complexity, or accuracy. These results might be due to the controlled nature of the writing process. Whereas speaking a second language does not give much time to the speaker to deliberate on what kind of language learners want to use, during the writing process they can pause, reflect, revise the structures they use, and correct their errors. This might be the reason that the promotion focus has not predicted any of those variables.

Prevention, on the other hand, negatively predicted the total number of words, mean length of sentence, mean length of T-unit ($p < .06$), lexical diversity, and accuracy, confirming our expectations. Prevention-focused individuals are concerned with safety, security, and calmness. They are sensitive to the presence or absence of negative outcomes and tend to possess a conservative risk-averse tendency (Scholer et al. 2010) which leads them to adopt a vigilant strategic inclination to insure against making errors that might have negative consequences (Crowe and Higgins 1997). Such vigilant orientation to avoid risk and errors would have probably influenced decision making during the 'reflection' stage, which in turn, affects 'text production' (Hayes 2000). In other words, the tendency to avoid making errors might have led the prevention-focused learners to avoid trying new and challenging structures, which in turn, has harmed the complexity and accuracy of their L2 written production.

The second research question asked whether a learner's regulatory mode was connected to individual CAF differences in written production. It was hypothesized that the assessment mode would positively predict accuracy and complexity whereas locomotion would positively predict fluency. The results confirmed our expectations to a large extent. Assessment predicted three of the four measures of complexity, that is MLTU, TU/S, and C-TU, and the only measure of accuracy, which is ROE. Locomotion, on the other hand, did not predict fluency. According to the regulatory mode theory (Kruglanski et al. 2000), high assessment-mode motivates comparison and critical evaluation of alternatives to make the right decision, this tendency may have driven learners to carefully consider a wide range lexical items and syntactic structures and use the most appropriate ones to better put their ideas in writing. The participants probably have used the formulation stage of the writing process (Kellogg 1996) as an opportunity for reflecting on a variety of lexical items and syntactic structures and have used their evaluative capacity at the monitoring stage of writing to correct their erroneous use of language and reduce their error rates.

Locomotion, on the other hand, did not predict L2 writing fluency but negatively predicted accuracy. Locomotion learners' tendency to focus on movement from one stage to the next might have led them to focus more on the completion of the task without much concern about the appropriate use of language. This can be a

plausible explanation for the higher frequency of errors in their production. The reason locomotion failed to predict fluency, on the other hand, might be due to the controlled nature and lack of communicative immediacy in writing. Given learners were not told to write as fast as possible, they might have taken their time writing their essays and even spent time on editing it, which may have led to the lack of relationship between locomotion and fluency. These results also confirm the findings of the previous studies showing the tendency of individuals with higher assessment to pay attention to the accuracy of task completion (Förster et al. 2003) and the lack of concern for accuracy by locomotion-oriented individuals.

According to regulatory mode theory (Kruglanski et al. 2000), the central motivational traits of locomotion mode move from state to state. Therefore, individuals with high locomotion tend to complete the task rapidly (Amato et al. 2014, Mauro et al. 2009) without being concerned with the accurate and sophisticated use of the language. In Kellogg's (1996) terms, they might only have been more concerned with the execution of the writing process than the formulation or monitoring dimensions.

6. Conclusion and Implications

The results of the present study confirmed that learners' chronic motivational dispositions such as their regulatory focus and mode play an important role in L2 writing production. The assessment mode enhances the complexity and accuracy of the language, the promotion focus improves the lexical complexity of the produced language, and the prevention focus impairs complexity, accuracy, and fluency. These results support the effectiveness of the promotion and the assessment regulatory principles in L2 written production, and possibly development. Promotion-related characteristics such as risk-taking, creativity, extraversion, and eagerness in L2 use (Papi et al. 2019) could potentially be responsible for the positive role of the promotion focus. The tendency to analyze, compare, evaluate and plan are possibly among the characteristics that account for the higher quality of L2 writing among learners strong in assessment mode. On the other hand, the prevention-focused tendency to avoid risks and be vigilant and cautious L2 use (Papi et al. 2019) prevents learners from trying various language structures, consequently impairing the development of complexity and accuracy in L2 writing. These findings support an increasingly strong argument for viewing motivational factors as critical components in L2 writing (Hayes 2000) and its potential effects on second language acquisition (Polio 2012). The present study provides evidence that considering learners' inherent motivational characteristics can help further our understanding of individual linguistic differences in L2 written production.

Thus, the findings of the present study can provide important pedagogical implications. Teachers' awareness of their students' regulatory orientations could help the teacher better understand and embrace individual linguistic differences among their students and develop effective strategies to help students compensate for their regulatory weaknesses. In order to make such effective instructional strategies available, teachers need to evaluate and reflect on the learner's regulatory orientations in preparing materials, assignments, and writing tasks, and providing feedback on written productions. Using the writing tasks that require creativity, risk-taking and innovation can enhance the promotion aspect of teaching and result in learners' more liberal use of target language structure (Papi et al. 2019, Zhang and Papi 2021). On the other hand, tasks promoting analysis, comparison and critical evaluation in a systematic way could lead to the same benefits that the assessment regulatory mode has.

More specifically, encouraging free writing or personal narrative writing activities that are evaluated and commented on only in terms of content and ideas without much concern for language forms could be used to better activate learner's promotion orientation. Locomotion-oriented learner's assessment mode can also be enhanced

through raising their attention to linguistic elements. For example, Hayes (2000) highlighted the significance of reading during writing, which seems to activate the assessment mode. Also providing enough time for reading a text and having students reflect on their use of L2 language forms could probably enhance the analysis and comparison aspect of L2 writing for a high locomotion learner. Similarly, if sufficient time is provided, writing tasks requiring evaluation, analysis, and attention to details would help stop learners with high locomotion mode from hastily moving to the next steps, allowing better attention to new and complex linguistic elements. In essence, implementation of writing instruction informed by such understanding could foster effective and efficient learning in various key aspects of instruction such as L2 writing syllabus design, classroom management, teacher-student interaction, providing feedback, assessment, and developing and using language tasks.

The limitation of this study lies in the small sample size of participants, which cannot represent all EFL learners' linguistic characteristics in writing performance. Due to participants' intermediate English proficiency in our study, the results of this study cannot be generalized to other English learners with different language proficiency, specifically beginner level learners. Also, the data for the present study were collected from an Asian-majority sample of university students in South Korea where learners had a limited amount of exposure to English as a foreign language, thereby limiting the external validity of findings to other contexts. The evaluation of participants' English proficiency was based on the scores of essays used in the study, which may not be the most accurate indicator of a learner's writing proficiency. A more precise measure needs to be developed to assess and control for learner's writing proficiency.

In sum, the present study compared language production via argumentative writing which is widely used in academic contexts. Further research involving other genres of writing, such as narrative or analytical writing, would be beneficial to confirm the impact of regulatory focus or mode on L2 writing process and outcome. In addition, exploring the mechanism of how different types of writing tasks or task conditions enable temporary induction of regulatory orientation and creating instructional guidelines based on findings of those studies could constitute invaluable contributions to the field.

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Examples in: English
Applicable Languages: English
Applicable Level: All

