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Motivational factors underlying learner preferences for corrective feedback: Language mindsets and achievement goals

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Abstract

The present study examines how learners' language mindsets (beliefs about the malleability of language intelligence) and achievement goals predict learners' preferences for different types of corrective feedback (CF). Questionnaire data were collected from 537 learners of Spanish as a foreign language at two North-American universities. Factor analytic and multiple regression results showed two clear patterns. A growth language mindset (the belief that language learning ability is malleable) predicted preferences for all types of CF whereas a fixed language mindset predicted a preference for conversational recast and absence of CF. A development-approach goal (concerned with improving one's language competence) positively predicted learners' preference for the explicit types of CF whereas a development-avoidance goal (concerned with maintaining one's second language competence) positively predicted the more implicit types of CF. Demonstration-approach (concerned with displaying superior competence) did not predict

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any CF type and demonstration-avoidance (concerned with avoiding the display of incompetence) predicted a preference for absence of CF. Using an overarching cost–value model, we discuss how learners' analysis of the self-presentation and ego costs as well as the value of different CF types have led to their preference for one versus another. Future directions and pedagogical implications are discussed.

Keywords
achievement goals, corrective feedback, learner preferences, mindsets, motivation

I Introduction

Corrective feedback (CF) has been one of the central topics of research in the field of instructed second language acquisition (ISLA). Numerous studies over the last few decades have provided convincing evidence that CF contributes to the learning of vocabulary (e.g. Ellis & He, 1999), grammar (e.g. Sato & Loewen, 2018), phonology (e.g. Saito & Lyster, 2012), and pragmatics (e.g. Takimoto, 2006). Many studies examine differences between the types of CF and their respective benefits. Many empirical studies generally support the higher effectiveness of the more explicit types of CF; yet there exist other studies that have found implicit CF to be better maintained over time (see Li, 2010). Still other studies highlight recasts as language teachers' preferred type of CF (e.g. Lyster et al., 2013). To explain such inconsistencies, researchers have looked at individual learner differences such as age (Mackey & Oliver, 2002), aptitude (DeKeyser, 1993), working memory (Mackey et al., 2002), and anxiety (Sheen, 2008). While exploring these individual differences has contributed to our knowledge of CF, the studies have mostly painted an impersonal and passive picture of learners as recipients of CF rather than agents in their own learning process (Papi et al., 2019a). Other researchers have explored more personal factors such as learner preferences for different types of CF (see Goo, 2012), which is the focus of the present study. Studies on CF preferences have led to two common findings: (1) students tend to prefer more CF than teachers provide (e.g. Lyster et al., 2013; Schulz, 1996, 2001), and (2) students have a preference for immediate (Brown, 2009; Lee, 2013) as well as frequent and explicit feedback (Han & Jung, 2007). However, these findings, although very informative, only reveal general tendencies among students and do not explain why some learners prefer explicit types of CF whereas others exhibit a preference for implicit types or even no feedback. To bridge this gap, in this study we employed the motivational constructs of mindsets (Dweck, 1999) and achievement goals (Korn & Elliot, 2016) to understand the motivational factors underlying learners' CF preferences. How a learner's mindsets, achievement goals, and subsequent CF preferences interact will provide valuable insight into the success of failure of the feedback process. Uncovering the motivational basis of learner preferences can help language teachers move beyond their intuitions (Sato & Loewen, 2019), understand the psychology behind learners' CF preferences, and adopt instructional practices to optimize learners' engagement with CF. In addition, such a perspective follows the recent proposals to establish the connection between the quality of learner motivation and different dimensions of the SLA process (Papi, 2016, 2018; Papi et al., 2019b; Sato & Csizér, forthcoming) viewed 'through a small lens' (Ushioda, 2016).

II Literature review

1 Learners' beliefs and preferences about corrective feedback

Research on student beliefs and preferences regarding CF has a history of almost three decades. Numerous studies have provided insights on students' attitudes towards CF, comparing students' and teachers' beliefs and attitudes, and investigating learners' preferences for different types of CF. Studies on attitudes towards CF show that the majority of students value and desire to receive CF. For instance, in an early study on students' attitudes towards CF, Oladejo (1993) found that more than 90% of 647 students studying English in Singapore believed that error correction was necessary for improvement in second language (L2) knowledge. Similarly, 88% of 173 EFL learners in Agudo's (2015) study expressed interest in receiving CF. Not all students, however, want to be corrected all the time. In a survey of 2,321 L2 learners in the Canadian context, Jean and Simard (2011) found that 54% of the English learners and only 30% of the French learners believed they should receive oral CF all the time. Teachers, however, seem to be more cautious with regard to providing CF. For instance, in two studies, Schulz (1996, 2001) found that 90%–97% of language learners and only 30%–50% of L2 teachers agreed that teachers should correct students' speaking errors (see also Davis, 2003; Lee, 2013; for meta-analyses, see Li, 2017; Lyster et al., 2013). Teachers and students in Davis's study disagreed on the timing of correction as well. A majority (86.6%) of the students but a minority (33.3%) of the teachers agreed that students' errors should be corrected immediately. Brown (2009) also found that the teachers' rate of disagreement with immediate correction (mean = 3.02) was significantly higher than the students' (mean = 2.12). By contrast, Lasagabaster and Sierra (2005) found that both students and teachers objected to immediate and constant feedback, and preferred instead to receive selective CF that allows for communication with fewer interruptions.

Most learners also seem to prefer the more explicit types of CF (e.g. Lee, 2013). The preference, however, depends on factors such as proficiency and the target of correction. For instance, the students in Yang's (2016) study considered recasts to be more effective for phonological errors than for lexical or grammatical mistakes. Han and Jung (2007) determined that whereas generally all students preferred explicit feedback, higher proficiency students preferred implicit CF. Similarly, in the studies by Brown (2009) and Kaivanpanah et al. (2015), more proficient learners preferred more implicit methods (e.g. highlighting the error though repetition) over being explicitly corrected and provided with the correct version of the error.

These complexities and differences found across learning contexts and between students' and teachers' attitudes and preferences highlight the importance of investigating feedback from a different angle. This is especially important due to the fact that these studies have mostly been descriptive and do not offer insights into the reasons why learners develop different CF preferences. Lack of such understanding vis-à-vis the factors underlying such preferences can not only hinder our ability for effective CF practices but it can even be detrimental to students (Sato & Oyanedel, 2019). Thus, whereas exploring CF preferences and beliefs descriptively can help us paint a picture of students' thinking in each situation, digging deeper to uncover the psychological factors underlying learner

preferences can contribute not only to our understanding of learners' feedback-seeking behavior (FSB; Papi et al., 2019a, 2020) but can also potentially optimize CF practices. To bridge this gap, this study explored how learners' language mindsets and achievement goals are related to their CF preferences. Given that mindsets and achievement goals have been found to play an important role in learners' feedback-seeking behavior (Papi et al., 2019a, 2020), it is reasonable to expect these motivational constructs to influence how learners perceive different types of CF.

2 Achievement goals

The achievement goals theory has a long history in motivation research. It has gone through different stages of development with the same basic assumption that learners' cognitive, affective, and behavioral patterns can be adaptive or maladaptive depending on the achievement goals they pursue. We are not aware of any studies examining achievement goals in relation to feedback but they have been examined in relation to FSB. Some of these studies have used Dweck and Elliott's (1983) original model of achievement goals, which outlines a learning goal and a performance goal. A learning goal is generally concerned with either developing competence (learning-approach) or maintaining competence (learning-avoidance). Learners who pursue learning goals show adaptive *mastery-oriented* response patterns involving 'the seeking of challenging tasks and the maintenance of effective striving under failure' (Dweck & Leggett, 1988, p. 256). Individuals who pursue performance goals, on the other hand, seek validation of their abilities by showing that their performance is superior (performance-approach) or not inferior (performance-avoidance). They also display maladaptive *helpless* response patterns 'characterized by an avoidance of challenge and a deterioration of performance in the face of obstacles' (Dweck & Leggett, 1988, p. 256). Learners with different achievement goals seem to view feedback differently. According to VandeWalle (2003), individuals with a learning goal view feedback as 'useful diagnostic information about how to develop competencies needed for task mastery', whereas individuals with a performance goal view feedback 'as an evaluation and judgement about the self and revealing one's competence level' (p. 583).

Studies in the field of organizational psychology have generally shown that learning-approach (but not learning-avoidance) goals are associated with both higher perceived value and frequency of FSB whereas the findings for performance goals have been mixed. Janssen and Prins (2007) found that a learning-approach goal was negatively associated with the cost of FSB and positively associated with the value of FSB but learning-avoidance was not related to FSB. Learning-approach has been shown to positively predict both the desire for feedback, as well as the frequency of FSB (Gong et al., 2017; VandeWalle & Cummings, 1997). Performance goals have typically shown negative results. Performance-approach has been positively related to the costs of FSB (Park et al., 2007) and the desire for ego protection and impression management (Gong et al., 2017; Tuckey et al., 2002), but negatively related to the desire for useful information (Janssen & Prins, 2007; Tuckey et al., 2002). In the study by Park et al. (2007), however, performance-approach also positively predicted the value of feedback seeking. Performance-avoidance has been positively associated with ego and self-presentation costs (Park et al., 2007; VandeWalle & Cummings, 1997) but negatively associated with the desire for useful

information (Tuckey et al., 2002) and the value and frequency of FSB (VandeWalle & Cummings, 1997).

In the context of language learning, Papi et al. (2019a) developed a questionnaire based on Korn and Elliot's (2016) model of achievement goals which has four achievement goals with new labels: development-approach, development-avoidance, demonstration-approach, and demonstration-avoidance. The researchers found that learners with development-approach (learning-approach) goals used both monitoring and inquiry methods to seek feedback. On the other hand, those with a demonstration-approach (performance-approach) goal directly asked their teachers for feedback (inquiry) whereas those with a demonstration-avoidance goal asked safer sources such as their peers. Achievement goals were the foundation of the theory of mindsets, a topic to which we turn now.

3 Language mindsets

Dweck (1999) proposed that the differing learning patterns among learners might be due to the different semantic worlds they inhabit. She called these semantic worldviews *mindsets* (also called *implicit theories of intelligence*) which concern individuals' beliefs about the malleability of their intelligence. According to Dweck, individuals with a growth mindset believe that one's intelligence and talents are malleable and can always change through hard work and experience. Those with a fixed mindset, on the other hand, believe that intelligence is a fixed entity that one cannot change. Individuals are raised to implicitly endorse a belief about the malleability of abilities throughout their life experiences and upbringing. The theory of mindsets is considered a motivation theory because one's mindsets affect the kinds of goals that one pursues, the quality and quantity of effort one invests in learning, and the ways in which one perceives the outcome of these pursuits. According to Dweck (e.g. Dweck, 1999; Elliott & Dweck, 1988), a person who has a growth mindset normally adopts learning goals to grow one's abilities. Conversely, an individual who endorses a fixed mindset tends to choose performance goals to validate one's abilities.

Mindsets have been the subject of extensive research in educational psychology. Studies have shown that a growth mindset is associated with higher classroom motivation (Blackwell et al., 2007), school achievement (Yeager et al., 2016), and Grade Point Average in core academic courses (Paunesku et al., 2015), whereas a fixed mindset has been associated with social comparison and poor performance (e.g. Thompson & Musket, 2005). Mangels et al. (2006) found that when receiving learning feedback, learners with a growth mindset showed increased brain activity (as measured by Magnetic Resonance Imaging) whereas those with a fixed mindset showed almost no brain activity. Devloo et al. (2011) showed that in challenging situations, only individuals with a growth mindset demonstrated a higher rate of feedback-seeking.

Mindsets were introduced to the field of SLA by Mercer and Ryan (2010), who provided preliminary evidence that mindsets could be domain-specific; that is, language mindsets could be independent from general mindsets. Waller and Papi (2017) found that L2 writing mindsets strongly predicted writing motivation and their desire for feedback on writing. Lou and Noels (2017) found that a growth language mindset was associated with learning goals and adaptive responses to failure and challenging situations. By

contrast, a fixed mindset was related to performance goals and maladaptive response patterns in challenging and failure situations. In a more recent study, Lou and Noels (2020) found that learners with a fixed language mindset tended to avoid communication with native speakers due to their higher rejection sensitivity, whereas those with a growth mindset were less sensitive to such rejection and tended to engage in more L2 interaction. However, after the application of a reading intervention meant to promote the participants' growth mindset, the participants' rejection sensitivity decreased and their willingness to engage in L2 interactions increased.

Papi et al. (2019a) explored the connection between students' mindsets, achievement goals, and FSB among foreign language learners in the United States. The analysis of questionnaire data from 287 learners showed strong links between mindsets, achievement goals and learners' FSB. Learners with a growth language mindset were found to seek feedback by both methods of monitoring (paying attention to the CF in the environment) and inquiry (directly asking for feedback), and from both their teachers and other people (e.g. peers, family members); on the other hand, those with a fixed mindset sought feedback by method of inquiry only. In a second study in the context of L2 writing, Papi et al. (2020) found that a growth mindset positively predicted the value of feedback, which in turn positively predicted their FSB. A fixed mindset, by contrast, predicted the self-presentation cost (e.g. fear of embarrassment) of FSB, which in turn negatively predicted FSB.

Even though these studies have shed some light on the role of mindsets and achievement goals in L2 learners' behavior, the motivational mechanisms underlying learner preferences for specific types of corrective feedback remains unexplored. To bridge this gap, the present study explores the connection between language mindsets and achievement goals on one hand, and learners' CF preferences on the other.

4 Research questions and hypotheses

If, according to the literature reviewed above, learners with different mindsets and achievement goals associate different costs and values with different feedback-seeking strategies (Papi et al., 2019a, 2020), they should also have different preferences for CF types. In other words, it is possible that learners with a growth mindset and development goals prefer the more explicit CF types due to the perceived learning value of explicit CF whereas those with a fixed mindset and demonstration goals prefer the more implicit ones, which are less costly. Therefore, the following research questions were formulated:

1. What are the relationships between language mindsets and CF preferences?
2. What are the relationships between L2 achievement goals and CF preferences?

III Methods

1 Participants

Five-hundred-thirty-seven learners of Spanish from two US universities participated in this study. The participants studied different majors including Psychology ($n = 71$), Kinesiology ($n = 61$), Biology ($n = 43$), and Political Science ($n = 32$). Their ages

ranged from 18 to 48 years old ($M = 21.19$, $SD = 2.62$). The majority ($n = 504$) spoke English as their first language and had no experience in a target language country ($n = 467$). The majority of the participants rated their own class performance as Average ($n = 232$), Above Average ($n = 120$) or Very Good ($n = 92$). The foreign language courses they were taking were from 100-level ($n = 23$), 200-level ($n = 293$) and 300-level ($n = 215$) classes, roughly equivalent to elementary, intermediate and advanced proficiency levels. These courses were required for a majority of the participants ($n = 461$).

2 Instruments

Data were collected using a questionnaire that included 50 items measuring learners' motivational characteristics and preferences for six types of CF, as well as 12 items eliciting demographic information such as age, gender and class level. The items measuring learners' language mindsets (8 items) and their achievement goals (12 items) were adopted from Papi et al. (2019a). The items measuring learners' CF preferences (12 items) were developed based on previous questionnaires (e.g. Zhao, 2015). All the items utilized a 6-point Likert scale with '1' indicating 'Strongly Disagree' to '6' indicating 'Strongly Agree'. Table 1 presents a list of the scales included in this study and sample items.

3 Procedures

Data were collected in the spring of 2019. After receiving approval from the respective Institutional Review Boards (IRB) for the inclusion of human participants, we visited the classes whose teachers agreed to participate. We established that participation in the study was voluntary, no identifying information would be collected, and they had the right to discontinue participation at any point during data collection, or avoid answering any of the items. It took the students 12 minutes on average to complete the questionnaire. The students and the teachers were then thanked for their time.

4 Data analysis

Confirmatory factor analyses (CFAs) were performed using AMOS 25 (IBM) for the items measuring mindsets, CF preferences, and achievement goals, separately, with Maximum Likelihood used as the method of estimation. The results of the three CFAs confirmed the construct validity of all the scales. All the items loaded properly on their respective latent variables (factor loading range: .60–.92). The model fitness coefficients for the three CFAs are displayed in Table 2. As presented and based on the guidelines provided by Kline (2016), Chi-square to degrees of freedom was significant for the three models. However, as this measure is not appropriate for studies with samples larger than 250 participants, we used other measures of goodness of fit instead including the Root Mean Square Error of Approximation (RMSEA), the Comparative Fit Index (CFI), Goodness of Fit Index (GFI), and the Tucker–Lewis Index (TLI). As presented in Table 2, all these values were excellent, confirming the construct validity of our measures.

Table 1. The list of variables related to second language (L2) mindsets, achievement goals, and corrective feedback (CF) preferences.

- Growth language mindset: Four items measuring learners' beliefs in the malleability of language learning ability (e.g. *You can always improve your language learning intelligence*).
- Fixed language mindset: Four items measuring learners' beliefs in the stability of language learning ability (e.g. *Your language learning intelligence is something that you can't change very much*).
- Development approach: Three items representing the goal to achieve competence in the target language (e.g. *My goal in Spanish class is to increase my Spanish competence*).
- Development avoidance: Three items representing the goal of avoiding the loss of competence in the target language (e.g. *My focus in Spanish class is to avoid becoming less competent in my Spanish*).
- Demonstration approach: Three items representing the goal of displaying competence in the target language (e.g. *My focus in Spanish class is to demonstrate that I am knowledgeable in Spanish*).
- Demonstration avoidance: Three items representing the goal of avoiding the display of incompetence in the target language (e.g. *My focus in Spanish class is to avoid demonstrating inability in Spanish*).
- Explicit correction + metalinguistic information: Two items representing learners' preferences for their L2 errors being explicitly corrected and given metalinguistic information explaining why they are incorrect (e.g. *When I say a word wrong in my Spanish class I like when my teacher tells me I made a mistake and then explains it*).
- Prompt with metalinguistic clue: Two items measuring learners' preference for receiving metalinguistic information about their L2 errors to prompt them to self-correct (e.g. *When I make a grammar mistake speaking Spanish in my class I like when my teacher explains the mistake that I made and allows me to correct it.*).
- Prompt with repetition: Two items measuring learners' preference for their L2 errors to be repeated to prompt them to self-correct (e.g. *When I make a grammar mistake speaking Spanish in my class I like when my teacher repeats my sentence while saying the mistake with rising intonation and gives me the opportunity to correct it*).
- Didactic recast: Two items measuring learners' preference for their teacher to repeat their sentence with their error being corrected and move on (e.g. *When I say a word wrong in my Spanish class I like when my teacher repeats my sentence with my mistake corrected and moves on*).
- Conversational recast: Two items measuring learners' preference for their teacher to repeat their sentence with their error being corrected only when the teacher does not understand what the learner means (e.g. *When I make a grammar mistake speaking Spanish in my class I like when my teacher repeats my sentence with my mistakes corrected only when he or she does not understand what I mean*).
- Absence of CF: Two items representing learners' lack of interest in their errors being corrected at all (*When I say a word wrong in my Spanish class I like when my teacher does not correct my mistakes in class*).

SPSS 25 (IBM) was used to run the rest of our analyses. Cronbach's alpha reliability analysis showed very good values, confirming that our scales were internally consistent (Table 3). The number of items, means, and standard deviations suggest that learners prefer the more explicit types of CF. This was confirmed through a paired samples *t*-test, the more explicit CF type being significantly ($p < .001$) preferred over the less explicit ones or Absence of CF. More specifically, Explicit CF + Metalinguistic Information ($t = 10.93$), and Prompt with Metalinguistic Clues ($t = 10.93$) were significantly preferred

Table 2. Goodness of fit indices extracted from confirmatory factor analyses.

Index (ideal value)	χ^2/df ($p > .05$)	CFI (> .90)	TLI (> .90)	GFI (> .90)	RMSEA (< .08)
Language mindsets	60.18/17 ($p < .001$)	.98	.97	.97	.07
CF preferences	58.94/39 ($p < .05$)	.97	.95	.97	.03
Achievement goals	193.28/48 ($p < .001$)	.96	.95	.95	.06

Table 3. Descriptive statistics and Cronbach's alpha coefficients for the scales.

	N	Alpha	Mean	*SD*
Growth mindset	4	.89	4.41	1.10
Fixed mindset	4	.84	2.50	1.09
Development-approach	3	.91	5.21	.96
Development-avoidance	3	.81	4.17	1.27
Demonstration-approach	3	.88	4.37	1.17
Demonstration-avoidance	3	.88	3.55	1.41
Explicit correction with metalinguistic information	2	.73	5.16	.90
Prompt with metalinguistic clues	2	.83	5.15	.97
Prompt with repetition	2	.79	4.60	1.22
Didactic recast	2	.77	3.70	1.46
Conversational recast	2	.75	3.14	1.34
Absence of corrective feedback	2	.72	1.89	1.09

over Prompt with Repetition, which itself was preferred over Didactic Recast ($t = 11.69$). Didactic Recast was also preferred over Conversational Recast ($t = 8.21$), which in turn was preferred over Absence of CF ($t = 21.56$). Finally, multiple regression analyses were run to answer our research questions.

IV Results

The first research question asked, 'What are the relationships between language mindsets and CF preferences?' To answer this question, we ran six standard multiple regression analyses with language mindsets as predictors and the CF preferences as outcome variables one at a time (see Table 4 for inter-correlations). As shown in Table 5, Growth Language Mindset significantly and positively predicted all CF preferences except Absence of CF. Fixed Language Mindset, on the other hand, negatively predicted Explicit Correction with Metalinguistic Information and Prompt with Metalinguistic Clues, and positively predicted Conversational Recast and Absence of CF.

To answer the second research question (What are the relationships between Achievement Goals and CF Preferences?), six multiple regression analyses were run. As presented in Table 6, with Explicit Correction with Metalinguistic Information as the outcome variable, the model explained 21% of the variance and Development-Approach

Table 4. Intercorrelations.

	1	2	3	4	5	6	7	8	9	10	11
1. Fixed L2 mindset	–										
2. Growth L2 mindset	.65***										
3. Development-approach	–.31***	.42**									
4. Development-avoidance	–.04	.20***	.39***								
5. Demonstration-approach	–.17***	.37***	.56***	.44***							
6. Demonstration-avoidance	.25***	–.07	–.02	.46***	.32***						
7. Explicit correction with metalinguistic information	–.25***	.29***	.45***	.21***	.25***	–.05					
8. Prompt with metalinguistic clues	–.29***	.29***	.50***	.17***	.27***	–.07	.77***				
9. Prompt with repetition	–.12**	.20***	.27***	.16***	.16***	–.07	.42***	.47***			
10. Didactic recast	–.08	.17***	.06	.24***	.10*	.18***	.07	.02	.12**		
11. Conversational recast	.15***	.05	–.05	.12***	.04	.16*	–.11*	–.11*	.05	.40***	
12. Absence of CF	.33***	–.16***	–.33***	–.02	–.09*	.19***	–.50***	–.50***	–.24***	.19***	.42***

Notes: *, **, and *** denote the value is significant at $p < .05$, $p < .01$, and $p < .001$ respectively.

Table 5. Regression results with mindsets as predictors and corrective feedback (CF) preferences as outcome variables.

Predictors	*B*	Std. error	β	*t*	Sig.	Outcome
Constant	4.59	.28		16.23	< .001	Explicit correction with metalinguistic information ($F^{(2,531)} = 26.05$, $R^2 = .09$, $p < .001$)
Growth mindset	.178	.04	.22	4.03	< .001	
Fixed mindset	–.09	.05	–.11	–1.97	< .05	
Constant	4.9	.30		15.98	< .001	Prompt with metalinguistic clues ($F^{(2,530)} = 30.55$, $R^2 = .10$, $p < .001$)
Growth mindset	.16	.05	.18	3.30	< .01	
Fixed mindset	–.16	.05	–.18	–3.27	< .01	
Constant	3.55	.39		9.01	< .001	Prompt with repetition ($F^{(2,531)} = 11.43$, $R^2 = .04$, $p < .001$)
Growth mindset	.23	.06	.21	3.78	< .001	
Fixed mindset	.01	.06	.01	.20	.84	
Constant	2.29	.48		4.79	< .001	Didactic recast ($F^{(2,531)} = 8.49$, $R^2 = .03$, $p < .001$)
Growth mindset	.28	.07	.21	3.71	< .001	
Fixed mindset	.08	.08	.06	1.02	.31	
Constant	.85	.43		1.96	.05	Conversational recast ($F^{(2,528)} = 16.16$, $R^2 = .06$, $p < .001$)
Growth mindset	.31	.07	.25	4.53	< .001	
Fixed mindset	.38	.07	.31	5.54	< .001	
Constant	.49	.34		1.45	.15	Absence of CF ($F^{(2,530)} = .36.13$, $R^2 = .12$, $p < .001$)
Growth mindset	.09	.05	.10	1.77	.08	
Fixed mindset	.39	.05	.39	7.32	< .001	

was the only significant predictor (β = .42, $p < .001$). With Prompt with Metalinguistic Clues as the outcome variable, the model explained 25% of the variance and Development-Approach was the only significant predictor (β = .49, $p < .001$). When Prompt with Repetition was the outcome variable, the model accounted for 9% of the variance and Development-Approach was a positive predictor (β = .20, $p < .001$), Development-Avoidance was a near-significant positive predictor (β = .10, $p = .05$), and Demonstration-Avoidance was a negative predictor (β = –.12, $p < .05$). In the model with Didactic Recast being the outcome variable, which accounted for 6% of the variance, Development-Avoidance was the only significant predictor (β = .10, $p = .05$). With Conversational Recast as the outcome variable, which accounted for 3% of the variance, Development-Approach (β = –.13, $p < .05$) emerged as a negative and Development-Avoidance (β = .14, $p < .05$) as a positive predictor. Finally, in the model with Absence of CF as the outcome variable, which explained 14% of the variance, Development-Approach (β = –.37, $p < .001$) emerged as a negative and Demonstration-Avoidance (β = –.14, $p < .01$) as a positive predictor.

V Discussion

The purpose of the study was to examine the relationship between language mindsets and achievement goals on one hand, and CF preferences on the other. In the discussion of the results, we will use an overarching cost–value framework, which proposes that learners with different motivational characteristics make CF-related decisions based on their

Table 6. Regression results with achievement goals as predictors and corrective feedback (CF) preferences as outcome variables .

Predictors	*B*	Std. E	β	*t*	Sig.	Outcome
Constant	3.06	.21		14.38	< .001	Explicit correction with
Development-approach	.390	.05	.42	8.15	< .001	metalinguistic information
Development-avoidance	.062	.04	.09	1.76	.08	($F^{(4,526)} = 34.94$, $R^2 = .21$,
Demonstration-approach	–.01	.04	–.01	–.13	.90	$p < .001$)
Demonstration-avoidance	–.05	.03	–.08	–1.60	.11	
Constant	2.69	.22		12.03	< .001	Prompt with metalinguistic
Development-approach	.49	.05	.49	9.75	< .001	clues ($F^{(5,525)} = 43.74$,
Development-avoidance	.00	.04	.00	.01	.99	$R^2 = .25$, $p < .001$)
Demonstration-approach	.01	.04	.01	.25	.80	
Demonstration-avoidance	–.04	.03	–.06	–1.25	.21	
Constant	3.43	.31		9.86	< .001	Prompt with repetition
Development-approach	.26	.07	.20	3.67	< .001	($F^{(4,526)} = 12.41$, $R^2 = .09$,
Development-avoidance	.10	.05	.10	1.94	.05	$p < .001$)
Demonstration-approach	.05	.06	.05	.81	.42	
Demonstration-avoidance	–.11	.04	–.12	–2.44	< .05	
Constant	2.50	.38		6.64	< .001	Didactic recast ($F^{(4,526)} =$
Development-approach	–.01	.09	–.01	–.14	.89	8.91, $R^2 = .06$, $p < .001$)
Development-avoidance	.24	.06	.21	3.89	< .001	
Demonstration-approach	–.01	.07	–.01	–.17	.87	
Demonstration-avoidance	.09	.05	.08	1.62	.11	
Constant	3.13	.35		8.85	< .001	Conversational recast
Development-approach	–.17	.08	–.13	–2.16	< .05	($F^{(4,523)} = 3.57$, $R^2 = .03$,
Development-avoidance	.15	.06	.14	2.53	< .05	$p < .01$)
Demonstration-approach	.05	.07	.04	.77	.44	
Demonstration-avoidance	.02	.05	.02	.46	.64	
Constant	3.32	.27		12.31	< .001	Absence of CF ($F^{(24,525)} =$
Development-approach	–.42	.06	–.37	–6.90	< .001	21.63, $R^2 = .14$, $p < .001$)
Development-avoidance	.03	.04	.03	.57	.57	
Demonstration-approach	.06	.05	.06	1.16	.25	
Demonstration-avoidance	.11	.04	.14	2.89	< .01	

subjective analysis of the costs and values associated with each decision (Papi et al., 2019a, 2020). The results of the study showed that a growth language mindset predicted five different preferences for receiving CF, including Explicit CF with Metalinguistic Information, Prompt with Metalinguistic Clues, Prompt with Repetition, Didactic Recasts, and Conversational Recasts. These results were anticipated and confirm the core assumptions underlying the mindset theory. Learners with a growth language mindset see setbacks and challenging situations as opportunities for growth and learning (Lou & Noels, 2017). They tend to set learning goals concerned with the development of their competence through trial and errors rather than being solely concerned with the display and validation of their abilities (He, 2005; Lou & Noels, 2017). These learners, therefore,

see feedback as a valuable learning resource and are not concerned with looking incompetent due to making errors and being corrected. The high value and low cost that growth mindset learners associate with different CF types has made them eager to seek different types of CF. These results confirm the findings of the previous studies showing that learners with a growth mindset are highly motivated (Waller & Papi, 2017), follow a more adaptive learning pattern (He, 2005; Lou & Noels, 2017; Rahimi & Zhang, 2019), are less sensitive to rejection by native speakers (Lou & Noels, 2019, 2020), are more confident L2 speakers (Ozdemir & Papi, in press), seek more feedback on their speaking (Papi et al., 2019a) and writing skills (Papi et al., 2020), use more writing strategies (He, 2005), and show better L2 performance and achievement (He, 2005; Rahimi & Zhang, 2019; Tercanlioglu, 2004).

Fixed Language Mindset, on the other hand, negatively predicted Explicit CF with Metalinguistic Information and Prompt with Metalinguistic Clues but positively predicted preference for Conversational Recast and Absence of CF. These results were also expected. Learners with a fixed language mindset do not believe that receiving CF can help them develop their abilities (Waller & Papi, 2017). Therefore, they do not see much value in receiving CF and are highly concerned about the self-presentation cost of being corrected in class (Papi et al., 2020). Therefore, they prefer not to be corrected explicitly in the context of the classroom due to their perception that being corrected is a sign of weakness and would make them look incompetent. This could also explain why the Fixed Language Mindset predicted the preference for Conversational Recasts. The result could be due to the implicit nature of this type of CF, which incurs lower self-presentation cost, that is they are less embarrassing. Therefore, due to their fear of embarrassment and their willingness to avoid displaying weakness, learners with a fixed mindset prefer to receive the most implicit type of CF or even no CF at all. The high cost and low value they associate with the more explicit CF types have thus led to their preference to receive either conversational recasts or no CF at all. This explanation confirms the findings of the previous studies that have shown that learners with a fixed mindset perceive setbacks as an indication of their lack of competence and avoid challenging tasks and situations (Lou & Noels, 2017). They do not value CF and view being corrected as a sign of failure and poor abilities (Papi et al., 2020), are not highly motivated (Waller & Papi, 2017), have a maladaptive learning pattern (Lou & Noels, 2017), are more anxious L2 speakers (Ozdemir & Papi, in press), and do not seek CF for learning purposes (Papi et al., 2019a, 2020).

The second research question asked, 'What are the relationships between Achievement Goals and CF Preferences?' The regression results showed that Development-Approach positively predicted the three more explicit types of CF, that is Explicit Correction with Metalinguistic Information, Prompt with Metalinguistic Clues, and Prompt with Repetition, but it negatively predicted Conversational Recast and Absence of CF. Similar to these results, Papi et al. (2019a) found that learners with a development-approach goal sought more feedback using both monitoring and inquiry methods and from different sources. This could be due to the match between the learners' goal of developing one's competence and the learnings' value of explicit CF. It is possible that learners with a development-approach goal, who are more likely to have a growth mindset ($r = .42$; see also Papi et al., 2019a; Lou & Noels, 2017), see explicit CF as having high learning value and conversational recasts as having low learning

value. This could be because conversational recasts may not even seem to be CF; even when they do, conversational recasts do not provide much of an opportunity for the learner to learn from them given the primary attention is on communication in such interactional episodes. In addition, since learners with development-approach goals are more concerned about development rather than display of their competence, they perceive explicit CF as having low self-presentation cost. The high value and low cost associated with explicit CF and the low value associated with conversational recasts could have led to the preference for the more explicit CF types among learners with development-approach goals. Similar results were reported by Janssen and Prins (2007) in the context of organizational psychology. They found learning-approach to negatively predict the cost of feedback-seeking and positively predict the value of feedback-seeking. Other studies have found learners with this goal to have a stronger desire for useful information and seek it more frequently (Gong et al., 2017; VandeWalle & Cummings, 1997). In L2 research, learning goals have been associated with complex and better quality of writing (He, 2005; Rahimi & Zhang, 2019) as well as L2 achievement (Tercanlioglu, 2004).

Development-Avoidance positively predicted Didactic and Conversational Recast and approached statistical significance in predicting Prompt with Repetition. These results could also be understood with the same cost–value analytic framework. Learners with a Development-Avoidance goal, who tend to have a growth mindset ($r = .20$; see also Papi et al., 2019a; Lou & Noels, 2017), seek to avoid the loss of their current language competence but may not be very interested in developing their competence (e.g. Lou & Noels, 2017). The kind of CF that they prefer to seek seems to reflect this preference for sustaining their competence. It appears that these learners see Didactic and Conversational Recasts and Prompt with Repetition as useful resources for maintaining their current level of language competence whereas they may find the more explicit types of CF such as Explicit Correction with Metalinguistic Information and Prompt with Metalinguistic Clues as more than what they need. Therefore, they seem to be more interested in the more implicit types of CF, which can help them reach their goal of protecting their competence.

Demonstration-Approach did not predict any of the CF type preferences. Learners with a demonstration-approach goal, which in this study correlated positively with Growth Mindset ($r = .37$) and negatively with Fixed Mindset ($r = –.17$), are concerned about outperforming others. They are likely focused on projecting a positive image especially to their teachers and being positively evaluated by them. Such learners may perceive being corrected by any means as not serving their purpose of looking more competent and receiving positive performance evaluation. Therefore, learners with a demonstration-approach goal do not show interest in any of the CF types to avoid their potential costs. In the study by Papi et al. (2019a), Demonstration-Approach did not predict feedback monitoring, but it did lead to feedback inquiry from the teacher. This means that while the students with demonstration-approach goals did not pay attention to the CF given, they did ask their teachers for feedback. The authors argued that these learners probably go to their teachers in order to make a good impression on them and receive better performance evaluation. It may also be the case that whereas these learners do not like being corrected in class, they may prefer to ask their teachers for feedback in

private thus protecting their image as a competent L2 user in the context of the class. Either way, these learners seem to associate high costs with being corrected in class and/or low value with the CF they receive.

Finally, Demonstration-Avoidance positively predicted Absence of CF. This result is similar to the Demonstration-Approach results explained above. The difference is that learners with a demonstration-avoidance goal do not value any type of CF, either due to their fixed language mindset ($r = .25$; see also Papi et al., 2019a) or because they are just not interested in developing their competence or outperforming others. In addition, they may perceive being corrected as a sign of weakness and incompetence, images that they aim to avoid projecting. Therefore, given the low value and high cost they associate with being corrected, they do not seek to receive any type of CF. In the study by Papi et al. (2019a), learners with a Demonstration-Avoidance goal showed a tendency to use inquiry to seek feedback from their family and peers, but not from their teachers. The authors argued that this might be due to the high perceived cost of being corrected by the teacher, that is, the cost of looking incompetent or feeling hurt (ego cost). In the authors' words, to avoid this:

> these learners appear to have found a way of receiving feedback without suffering these costs. They might seek feedback beneficial to their performance from sources other than their teachers, including their peers, friends, and native speakers of their target languages, without fearing that the judgments of these individuals would adversely affect their performance evaluation. (p. 215)

This could be 'because such sources may only provide them with the type of feedback that would validate their abilities' (p. 216). Similarly, in two feedback-seeking studies, Janssen and Prins (2007) and Tuckey et al. (2002) found demonstration (performance) avoidance lead to seeking feedback for the purpose of avoiding looking incompetent. In L2 writing, Rahimi and Zhang (2019) found that such performance goals lead to less complexity in the written product.

VI Conclusions

The purpose of the study was to highlight the role of language mindsets and achievement goals in relation to learner CF preferences. The results of the study provided theoretically meaningful evidence for the connection between the motive systems and learners' CF preferences. Learners with a growth language mindset preferred to receive any type of CF due to the high value they associate with it whereas those with a fixed mindset only preferred to receive either low-cost conversational recasts or no CF at all. Achievement goals painted a more nuanced picture. Learners with a development-approach goal preferred to receive the more explicit types of CF due to the high learning value they associate with such feedback. Those with a development-avoidance goal preferred to receive the more implicit types due to the maintenance value of such CF types. Learners with a demonstration-approach goal and those with a demonstration-avoidance goal preferred to not be corrected at all but for different reasons; the former did so in order to display an image of themselves as competent L2 learners deserving of positive teacher evaluation whereas the latter did so in order to avoid looking incompetent.

Learners' calculated and strategic preferences for different types of CF, evidenced in this study, support Papi et al.'s (2019a) call for shifting our view of learners as 'passive recipients of different types of CF' to learners 'as human agents who consciously, proactively, and selectively seek, attend to, and learn from such information' (pp. 205–206). Such a learner-centered view of language learning can help us paint a better picture of why different CF types might have differential effects on various groups of individuals. It can also explain why teachers in various contexts may give different types of CF and in different quantities to each individual. Teachers' perceptions of how the students typically receive CF likely inform their intuitions about their CF practices, which may seem inconsistent with what most students report to want. In sum, the results of this study provide further evidence that the role of CF cannot be understood without understanding learners' quality of motivation (Papi, 2016, 2018; Sato & Csizér, forthcoming; Ushioda, 2016) and without access to learners' internal cost–value analyses in relation to different CF practices, which are themselves shaped by the learners' belief and motive systems.

1 Limitations and future directions

This study was conducted on a sample of Spanish learners in a foreign language context in the USA. Thus, the results cannot be generalized to other contexts before the study is replicated. This study only used questionnaire data in order to examine participants' motivational characteristics as well as their CF preferences. Examining learners' CF preferences in relation to their feedback-seeking behavior could be an interesting next direction. More importantly, examining how the motivational characteristics such as students' language mindsets and achievement goals influence their response to the actual CF types could further our understanding of how the learner motivational systems affect the effectiveness of different CF types. In addition, interventions can be designed to examine how enhancing a growth mindset and development goals can contribute to the effectiveness of different CF types.

2 Pedagogical recommendations

Teachers have consistently been found to give less CF than their students want (e.g. Jean & Simard, 2011; Lasagabaster & Sierra, 2005). There might be a reason for that. While teachers are aware of the learning value of CF, they may also intuitively realize that correcting language errors in a public setting, such as the classroom, can be embarrassing or hurtful to some students and hinder their further L2 development or the flow of their L2 communication (Sato & Oyanedel, 2019). The results of our study show that learners' mindsets and achievement goals might have something to do with those feelings. Learners with a fixed mindset and demonstration goals associate image and ego-related costs with being corrected in class; they may prefer to receive either no CF or the most implicit types of CF. With sufficient awareness of such differences, teachers can identify those students who negatively react to the more explicit types of CF, provide them with the implicit types, and develop action plans to gradually make them more willing to seek CF. Such planning can include a mindset intervention. Lou and Noels (2020) have recently published a study in which they found that the students who read a pseudo-scientific article

promoting a growth mindset were less sensitive to native-speaker rejection and more willing to use the target language for interaction with native speakers than those who read the article promoting a fixed mindset. Such interventions, while rare in the field of SLA, have become increasingly popular and effective in the field of educational psychology (e.g. Paunesku et al., 2015; Yeager et al., 2016).

In addition, teachers can adopt a mastery-oriented approach emphasizing development goals in their teaching. This can be best operationalized in both instructional and assessment terms. Switching the focus of the class to the learning process rather than the learning outcomes could alleviate learners' concerns with meeting certain performance standards (Sato & Csizér, forthcoming). This switch could also help them enjoy the learning process in which CF is perceived as another resource for learning rather than a judgement of abilities. In an instructional culture in which CF is a learning resource, learners' errors should also be celebrated as a platform that provides an opportunity to learn from teacher's feedback. In such an environment, learners would be more willing to try new linguistic hypotheses and seek the kind of CF that they need in order to improve their communicative competence.

Teachers could also promote a mastery-oriented learning pattern by encouraging students to set developmental goals. Such goals would help the learners move one step at a time towards a certain target in relation to where they are rather than basing these goals on other-oriented and normative standards. In addition, assessing learners' progress in relation to their own development and avoiding cross-learner comparison could result in learners' focus on the learning process rather than performance judgment. These are only a few recommendations that we can think of. In the end, teachers are the ones that could create different techniques and strategies that would promote a growth mindset and a mastery-oriented learning pattern. With an appropriate understanding of these concepts, the potentials could be limitless.

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