The effects of instructor clarity and non-verbal immediacy on Chinese and Iranian EFL students' affective learning: The mediating role of instructor understanding

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Abstract

Drawing on the rhetorical/relational goal theory, this study examined the role of instructor clarity and non-verbal immediacy in affective learning through the mediation of instructor understanding. Data were gathered through close-ended questionnaires from 756 Chinese and 715 Iranian English as a foreign language (EFL) students, the factor structure and cross-cultural validity of which were supported via confirmatory factor analysis and testing measurement invariance, respectively. Path analysis results indicated that clarity and non-verbal immediacy positively predicted instructor understanding and affective learning; instructor understanding positively predicted affective learning; and understanding was a significant positive mediator in the relationship of non-verbal immediacy and clarity with affective learning. Except for the positive association of non-verbal immediacy with understanding which was significantly higher

for the Iranian group, no significant difference was found between the Chinese and Iranian groups in all other associations, providing empirical support for the role of EFL teachers' positive interpersonal communication behaviors in EFL students' affective learning, irrespective of the cultural context.

Keywords: affective learning; cross-cultural comparison; non-verbal immediacy; rhetorical/relational goal theory; teacher clarity; teacher understanding

1. Introduction

Emotion is one of the factors that can play a role in the process of second/foreign language (FL) learning. FL students might experience numerous positive and negative emotions (Dai & Wang, 2023; Derakhshan, 2022b; Derakhshan, Dewaele, et al., 2022; Derakhshan, Doliński, et al., 2022; Derakhshan, Kruk, et al., 2021a, 2021b; Gao et al., 2020; Kruk et al., 2022; Li et al., 2021; Li & Wei, 2022; Pawlak et al., 2021; Pishghadam et al., 2021; Teo et al., 2022; Wang, 2023; Wang et al., 2021; Wang et al., 2022; Zare et al., 2023). While negative emotions hinder students' FL learning, willingness to communicate, and willingness to attend English as a foreign language (EFL) classes (MacIntyre & Gregersen, 2012; Wang & Derakhshan, 2023; Zhang et al., 2022), their positive counterparts increase FL learning enjoyment and motivation (Jin & Zhang, 2021; Li, 2020; Li et al., 2020; Zhang & Tsung, 2021). Despite their importance, emotions were regarded for a long time as "the elephants in the room" in FL research (Swain, 2013, p. 195), metaphorically referring to the fact that they were largely ignored or misunderstood for decades (Dewaele, 2010). However, rather recently, the field of second language acquisition (SLA) has experienced an *affective turn*, attempting to rectify the universal disregard of emotion and its inferior position in cognition (Dewaele & Li, 2021; Prior, 2019). SLA researchers are now endeavoring to study emotions in order not to disregard the elephant anymore (Douglas Fir Group, 2016). Following this timely paradigm shift, there has been an increasing acknowledgment that affective factors are as indispensable – if not more significant – as cognitive factors (Derakhshan & Nazari, 2022; Miller & Godfroid, 2020; Richards, 2020). One important affective variable with direct effects on students' academic accomplishments is affective learning (Bolkan, 2014).

Affective learning refers to positive/negative attitudes that students have toward the instructor, content, and behaviors recommended in the course (Kearney et al., 1985). While affective learning is a well-established variable in general education (Myers & Goodboy, 2015), it is completely under-represented in SLA. Thereby, now that "the elephant is no longer invisible" (Dewaele, 2019b, p. 535), it seems incumbent on SLA researchers to have a more holistic look at

how students affectively respond to FL classes, by exploring not only behavioral and cognitive factors but also students' affective learning gains (Dewaele, 2019a). Previous studies on affective learning have revealed that it is a by-product of an amalgam of factors. Although contextual and student-related factors influence affective learning, they are subordinate to perceived teacher positive interpersonal communication behaviors, which foster the creation of a positive classroom climate (Derakhshan et al., 2022; Derakhshan, Fathi, et al., 2022; Finn & Schrodt, 2012; Gabryś-Barker, 2016). This is because teacher communication behaviors play a major role in conveying affect in language classrooms (Gabryś-Barker, 2018; Gregersen, 2010). This is supported by the tenets of the rhetorical/relational goal theory, which argues for the indispensable role of teacher positive interpersonal communication behaviors in meeting students' relational and academic goals and wants including affective learning (Mottet et al., 2006). In this respect, non-verbal immediacy – teacher communication behaviors increasing non-verbal interaction and closeness between the teacher and students (Gregersen, 2005; Mehrabian, 1969) – and clarity – verbal and non-verbal cues employed by a teacher to facilitate understanding and learning of course processes and content (Violanti et al., 2018) – are among the most indispensable teacher interpersonal communication instances found to be positively impacting students' learning, in general (Bolkan, 2015; Violanti et al., 2018) and affective learning, in particular (Titsworth et al., 2015; Zhang, 2011).

It is also posited that FL learning entails instructors' interpersonal, cognitive, and emotional understanding of students (King & Ng, 2018). In this regard, by drawing on the rhetorical/relational goal theory, Schrodt and Finn (2011) posited that students' perceptions of instructors' understanding of them function as a conceptual mechanism associating teacher communication behaviors with students' educational outcomes and attitudes. Consequently, it seems that perceived instructor understanding plays a mediating role in the relationship of teacher non-verbal immediacy and teacher clarity with students' academic attitudes including affective learning. While evidence-based studies in education and instructional communication have substantiated these relationships (e.g., Finn & Schrodt, 2012, 2016), there is a dearth of empirical investigations in this respect in FL education. Furthermore, it remains to be seen how the role of clarity and non-verbal immediacy in affective learning through the mediation of teacher understanding converges or diverges across similar or dissimilar cultural contexts.

Therefore, to address these gaps, in the current study, we replicate these previous studies on the role of teacher communication behaviors in students' attitudes through the mediation of perceived understanding (e.g., Finn & Schrodt, 2012, 2016; Schrodt & Finn, 2011) in the EFL context. More specifically, we drew on the tenets of the rhetorical/relational goal theory to investigate the degree to which teacher clarity and non-verbal immediacy, as two instances of teacher communication behaviors,

influence Chinese and Iranian EFL students' affective learning through the mediation of perceived understanding.

2. Literature review

2.1. The rhetorical/relational goal theory

The present study is theoretically underpinned by the rhetorical/relational goal theory (Mottet et al., 2006) in instructional communication, which presents a practical point of reference for explaining how perceptions of non-verbal immediacy and clarity join perceptions of teacher understanding to impact students' affective learning. Accordingly, when learners' relational and academic wants are fulfilled through teachers' employment of a set of appropriate relational and rhetorical communication cues, students are more engaged, motivated, satisfied, and as a result, achieve and learn more. Thus, successful instruction happens when instructors set rhetorical and relational objectives and employ appropriate interpersonal communication behaviors to achieve those objectives (Houser & Hosek, 2018). The rhetorical/relational goal theory is worthy of attention in FL education because FL education "is inherently relational" (Mercer & Dörnyei, 2020, p. 72). Based on this theory, instructors employ communication behaviors like non-verbal immediacy and clarity to accomplish different goals and wants, including increasing perceived understanding and communicating learning. While non-verbal immediacy supports relational goals, clarity supports rhetorical goals (Finn & Schrodt, 2012). Thus, like the two wings of a bird, they complement each other to accomplish educational outcomes like affective learning (Derakhshan, 2022a).

2.2. Affective learning

As a significant indicator of instructional effectiveness, affective learning involves students' attitudes toward (1) behaviors recommended in the course, (2) course instructor, and (3) course content (Goldman et al., 2014), showing whether students like or dislike what they are learning and appreciate or disapprove of their teachers (Myers & Goodboy, 2015). Affective learning attitudes are formed when students have such positive feelings as contentment, liking, valuing, and satisfaction (Bolkan, 2015; Goldman et al., 2014). Teachers can promote students' positive affective experiences by creating a positive learning environment, which increases their willingness to learn and ultimate success in the course (Bolkan & Goodboy, 2015). In the domain of language education research, many studies have investigated students' positive/negative attitudes toward learning the target language, language teachers, and language teachers' pedagogical practices

(e.g., Getie & Popescu, 2020; Tavassoli & Kasraeean, 2014; Ziaee et al., 2021). For instance, research has already examined language learners' learning attitudes and their attitudes towards different types of language teachers (native speakers vs. non-native speakers) (e.g., Ling & Braine, 2007).

Inspired by the rhetorical/relational goal theory (Mottet et al., 2006), previous empirical studies have consistently indicated that teachers' employment of positive teacher interpersonal communication behaviors fosters the creation of a positive classroom climate and through satisfying students' academic and relational wants, bring about students' positive/negative attitudes like affective learning (Frymier et al., 2019). In fact, as stated by Bolkan (2015), instructional communication researchers have been mainly concerned with studying the communication-learning interface. Accordingly, as instances of teacher communication behaviors well established in the domain of instructional communication research, teacher immediacy and clarity have been empirically found to be positively influencing students' affective learning (e.g., Enskat et al., 2017; Frymier et al., 2019; Myers & Goodboy, 2015; Violanti et al., 2018; Zhang, 2011). In this empirical investigation, we replicate these previous studies on the role of teacher clarity and immediacy in affective learning in the particular domain of L2 education.

2.3. Teacher clarity

Teacher clarity is a high-inference variable referring to students' perceptions of the teacher's employment of verbal and non-verbal communication signals to make instruction more transparent and facilitate understanding and learning of course processes and content (Violanti et al., 2018). Such clarity cues include repeating points, using visuals, reviewing and previewing materials, highlighting main ideas, bringing examples, and paraphrasing ideas (Limperos et al., 2015). By using such devices, instructors make information more comprehensible to students and deliver a clearer instruction (Segabutla & Evans, 2019). Thus, teacher clarity is conceived as a process where both learners and teachers shape understanding (Titsworth et al., 2015). Clarity behaviors can reduce learners' cognitive load and thus ease the learning process (Bolkan, 2015). In FL education, clarity plays a major role as teachers can employ prosodic modifications when modeling language intonation and pronunciation, for example, to give clearer instructions and create a more understandable message, which facilitates creating students' positive affective responses (Gabryś-Barker, 2018).

Two theories inform teacher clarity: The first is *information processing*, which regards teachers as providers of information and learners as processors of information (Violanti et al., 2018). Accordingly, teacher input received by students goes to the short-term memory where some mental operations are performed on

it, and, the information is prepared for transference to the long-term memory. Teachers' enactment of clarity cues assists in more effective processing, retaining, and retrieving of information (Titsworth et al., 2015). The second theory is *adaptive instruction*, propounding that teachers are required to constantly adjust their teaching practice while imparting information to learners (Titsworth et al., 2010). Studies on clarity have been mainly concerned with exploring its associative or causal link to students' cognitive and affective learning. The results pertaining to affective learning have been constantly positive: increased teacher clarity is related to increased affect toward the behaviors in the course, teacher, and course content (i.e., affective learning) (e.g., Comadena et al., 2007; Titsworth et al., 2015; Zhang, 2011).

2.4. Non-verbal immediacy

Another teacher communication factor under investigation in this study is non-verbal immediacy. As a type of teacher non-verbal affective signal (Gabryś-Barker, 2018), it refers to those teacher communication behaviors increasing non-verbal interaction and closeness between the teacher and students (Frymier et al., 2019; Mehrabian, 1969) and mitigate their psychological and physical distance (Gregersen, 2010). According to the rhetorical/relational goal theory, teacher immediacy can satisfy students' academic and relational needs (Frymier et al., 2019). Non-verbal immediacy cues include leaning forward, relaxed body posture, movements, smiling, eye contact, appropriate touching, and nodding (Derakhshan, 2021; Gregersen, 2006). Gregerson (2010) has posited that the employment of such non-verbal immediacy cues is effective for developing teacher-student relations and positive attitudes in FL classrooms. Non-verbal immediacy is operationalized as high inference perception, acting as an affective arousal cue, potentially influencing students' psychological reactions (Frymier et al., 2019). Immediacy behaviors can also encourage efficient teaching and positive attitudes toward instruction (Gabryś-Barker, 2018). Such immediacy behaviors increase positive interpersonal teacher-student relationships, promoting learners to learn more efficiently and achieve better academic gains (Gkonou & Mercer, 2018; Gregersen, 2005). Numerous studies have confirmed the positive link between immediacy and students' affective learning (e.g., Enskat et al., 2017; Frymier et al., 2019; Violanti et al., 2018).

Based on the rhetorical/relational goal theory (Mottet et al., 2006), researchers have provided evidence mainly in support of the main effects of clarity and non-verbal immediacy on students' learning goals. Moreover, some other researchers have found their interaction effects (Kelly & Gaytan, 2019) by drawing on the additivity hypothesis (Comadena et al., 2007), which posits that "the positive main effects of immediacy and clarity will combine to create an ideal learning situation for students" (Titsworth et al., 2015, p. 391). Thus, instructor

non-verbal immediacy complements clarity to increase affective learning (Violanti et al., 2018; Zhang, 2011). In this research conducted in the EFL contexts of China and Iran and foregrounded in the rhetorical/relational goal theory (Mottet et al., 2006), we replicated previous communication studies which examined the interaction effects of clarity and immediacy on students' affective learning by considering the mediating role of perceived understanding. Perceived understanding was added to this relationship based on previous conceptualizations of Finn and Schrodt (2012, 2016) and Schrodt and Finn (2011) about the mediating role of teacher perceived understanding in the linkage of teacher communication behaviors and student attitudes.

2.5. Instructor perceived understanding

According to Schrodt and Finn (2011), based on the rhetorical/relational goal theory, a potential way of accomplishing relational and rhetorical goals is teachers' employment of (non)verbal behaviors, such as clarity and non-verbal immediacy, which communicate to learners whether they are understood by the teacher or not. Perceived understanding refers to a person's evaluation of his/her failure or success in effective communication with others. To communicate understanding, teachers can explicitly mention that they understand learners, employ follow-up inquiries, summarize the information that students provide, and approve emotions accompanying learners' messages. Through these communication behaviors, learners perceive being understood by their instructors (Finn & Schrodt, 2012).

By drawing on the rhetorical/relational goal theory (Mottet et al., 2006), Schrodt and Finn (2011) conceptualized that students' perceptions of instructor understanding function as a conceptual mechanism associating teacher communication behaviors like clarity and non-verbal immediacy with students' educational outcomes and attitudes like affective learning. This conceptualization was empirically substantiated by Finn and Schrodt (2012, 2016) in later evidence-based studies. Consequently, it seems that instructor understanding plays a mediating role in the linkages of teacher non-verbal immediacy, teacher clarity, and students' affective learning. In the FL education context, Gabryś-Barker (2018) asserted that when teachers employ verbal and non-verbal affective communication behaviors to facilitate understanding and comprehension of messages, more positive students' attitudes toward the learning process (i.e., affective learning) happen. That is, teachers who impart class lectures, assignments, and objectives through employing both non-verbal immediacy and verbal clarity signals may be more capable of employing behaviors enhancing understanding, which can ultimately promote students' positive attitudes toward the course instructor, behaviors, and content (Schrodt & Finn, 2011). In the present study, we sought to investigate this relationship in Chinese and Iranian FL education contexts.

2.6. Culture-centered instructional communication research

McCroskey and McCroskey (2006) recommended that researchers worldwide participate in culture-centered instructional communication studies and extend communication research originated in the West to other less investigated non-Western cultures. Thus, the justification for undertaking this cross-cultural study is McCroskey and McCroskey's (2006) claim that an "overwhelming proportion of instructional communication research has been conducted by researchers representing the Anglo culture of the United States and has involved participants who were also representing the predominant culture" (p. 42). Therefore, there is a need to identify "the extent to which effective teaching practices found in the United States translate to classrooms from other cultures" (Goldman et al., 2014, p. 46).

In addressing this call, the association of teacher clarity and immediacy in relation to affective learning in Chinese classrooms has been tested in some studies. In line with previous findings in the US classrooms, Zhang and Zhang (2005), and Zhang (2011) found a significant positive association between clarity, immediacy, and affective learning in the Chinese culture. This finding supported the assumption that clear instruction seems to influence students' affect toward the course content and teacher, disregarding culture. Similarly, in a cross-cultural study of Japanese, German, Chinese, and United States classrooms, Zhang and Huang (2008) investigated the influence of clarity on student learning. The results revealed the mediating role of motivation and affective learning in the relationship of clarity with cognitive learning. They noted that there is a need for more cross-cultural studies to accurately identify the influence of instructor communication behaviors on learning gains across cultures.

In the present study, we explored the influence of teacher communication behaviors on affective learning in China and Iran to extend the originally Western line of communication research into our non-Western educational contexts. As two cases of Asian nations, China and Iran might be culturally similar in some respects. However, they are distinct regarding some cultural norms and values according to Hofstede's (2001) 6-D model depicted in Figure 1.
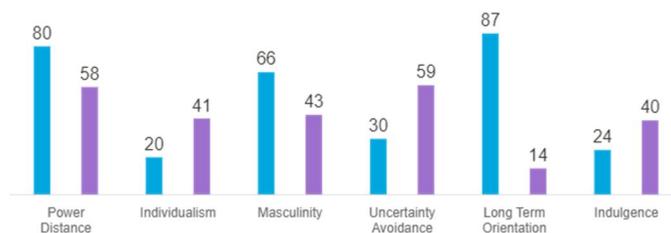

Figure 1 Cross-cultural comparison of China (in blue) and Iran (in purple) on Hofstede's (2001) 6-D model (https://www.hofstede-insights.com/product/compare-countries/)

According to Figure 1, the scores of both nations on individualism are below 50, showing that both are collectivist cultures, which typically include people who care about solidarity and group membership as well as the well-being of others, try to develop interdependent identities, and care about maintaining good interpersonal relationships. The scores on power distance for both countries are above the cut-off point of 50, with the Chinese country being outstandingly more hierarchical. On the other hand, while China is a more masculine nation, Iran is more feminine where people deem solidarity and equity in social, work-related, and personal aspects of life important. Regarding uncertainty avoidance, Chinese people are more flexible in the face of dynamic and unpredictable situations while Iranian people, with a score of 59, tend to favor fixed and static circumstances and environments. Moreover, compared to Chinese people, Iranians tend to be more indulgent, which is also in line with the scores of both countries on long-term orientation. Accordingly, while Iranians are remarkably focused on fulfilling immediate goals in life, Chinese people are highly perseverant and focused on reaching long-term goals.

Altogether, based on the similarities and differences delineated between Chinese and Iranian cultures, in the present study, we set out to determine if their cultural divergences and convergences could bring about differences in their perceptions of the role of teacher clarity and non-vernal immediacy in their affective learning when mediated through perceived teacher understanding. Accordingly, the following research questions were formulated:

1. Do Chinese and Iranian EFL students' perceptions of instructor understanding mediate the effects of teacher clarity and nonverbal immediacy on their affective learning?
2. Are there any significant differences between Chinese and Iranian EFL groups regarding the relationship between teacher clarity, non-verbal immediacy, instructor understanding, and affective learning?

3. Methodology

3.1. Participants

A total number of 1,471 (756 Chinese and 715 Iranians) participants were targeted to participate in this study. After the initial screening (i.e., checking for missing data, constant patterns within each scale, standard deviation, and increasing/decreasing patterns within each scale), the problematic data were excluded, which resulted in a finalized sample of 1,190 (584 Chinese and 606 Iranian) respondents. To maximize variation within the sample with the likelihood of enhancing sample-to-population generalizability of findings (Miles et al., 2014),

the participants were intentionally chosen from different genders, levels of education (i.e., BA, MA, PhD, or post-doctoral), age groups (detailed demographic information is presented in Table 1), and English-related majors (i.e., teaching English as a second/foreign language, English translation, applied linguistics, English language and literature, philology, and TESOL).

Table 1 Demographic information of the participants

	Chinese	Iranian
Age		
17-19	116	80
20-24	268	419
25-29	17	52
30-more	183	55
Gender		
Male	115	155
Female	459	436
Others	2	2
Not mentioned	8	13
Academic degree		
BA	423	446
MA	93	111
PhD	57	47
PD	11	2

3.2. Instruments

3.2.1. *Teacher Clarity Short Inventory* (TCSI)

This scale was designed and validated by Chesebro and McCroskey (1998) in the American higher education context. It includes 10 items which assess teacher clarity from the perspective of students (e.g., "My teacher is explicit in her or his instruction" or "My teacher's answers to student questions are unclear"). Students' responses could range on a five-point Likert scale, ranging from (1) "strongly disagree" to (5) "strongly agree." Reverse scoring was applied for items 2, 4, 7, and 9. Reliability and construct validity of this scale were supported by previous studies (Chesebro & McCroskey, 1998; Finn & Schrodt, 2012). A composite reliability of .81 was reported for the scale in the present study. Furthermore, construct validity (see Figure 2) and discriminant validity (see Table 3) of the scale were confirmed in this study as well.

3.2.2. *Non-verbal Immediacy Scale* (NIS)

This scale, originally developed by Richmond et al. (1987) in the American higher education context, includes 14 Likert-scale items assessing teachers' non-verbal immediacy

behaviors from students' perspectives (e.g., "My teacher gestures while talking to class" or "My teacher uses a variety of vocal expressions while talking to the class"). The responses to the items could range from (0) "never" to (4) "very often." In their study, after removing items 1 and 9 due to low factor loading, Derakhshan, Eslami, et al. (2022) confirmed the construct validity of the scale in the Iranian university EFL context. In the present study, another item (i.e., item 27: "My teacher touches students in the class") was omitted because of the socio-cultural values of the population in this research. Thus, in the present study, the nonverbal immediacy scale, with 11 items, was used. Reverse scoring was applied for the non-immediate items (i.e., items 2, 5, 7, and 8). Acceptable reliability (α = .70 or higher) was reported for the scale by previous studies (Derakhshan, Eslami, et al., 2022; Richmond et al., 1987). In the current study, a composite reliability of .72 was reported for the scale, and its construct validity (see Figure 2) and discriminant validity (see Table 3) were confirmed.

3.2.3. *Student Perceptions of Instructor Understanding Scale* (SPIUS)

This scale was developed and validated by Schrodt and Finn (2011) in the American higher education context. It includes 15 items measuring students' perceptions of instructor understanding (PIU) (e.g., "My teacher's tone of voice indicates understanding" or "My teacher makes follow-up comments which reflect understanding"), and 15 items measuring students' perceptions of instructor misunderstanding (PIM) (e.g., "My teacher fails to maintain direct eye contact with me" or "My teacher answers my questions incorrectly"). The responses to the items could vary from (1) "never" to (5) "very often." The reliability as well as discriminant and concurrent validity of the scale were confirmed by previous studies (Finn & Schrodt, 2012; Schrodt & Finn, 2011). It should be noted that multicollinearity is one of the primary assumptions of multiple regression, which happens when any predictor variable of a regression model is highly associated with other predictor variables (r = .90 or higher). It is assumed that as multicollinearity extremely decreases the predictive power of predictor variables of a regression model, it should not be present (Plonsky & Ghanbar, 2018). In the present study, through employing squared multiple correlations, multicollinearity was detected between PIM and TCSI (r = -0.798). Therefore, the 15 items pertaining to PIM were omitted from the SPIUS scale. In the current study, a composite reliability of .91 was reported for the scale, and its construct validity (see Figure 2) and discriminant validity (see Table 3) were confirmed.

3.2.4. *Affective Learning Scale* (ALS)

This scale was developed by Kearney et al. (1985), in order to measure students' attitudes toward behaviors recommended in the course (ABRC), attitudes toward

course content (ACC), and attitudes toward course instructor (ACI) through eight seven-point bipolar adjective subscales (i.e., worthless-valuable, positive-negative, good-bad, fair-unfair, likely-unlikely, possible-impossible, probable-improbable, and would-would not). Previous studies have confirmed the strong reliability and construct validity of the scale (Hsu, 2012; Kearney et al., 1985). Similarly, a composite reliability of .97 was reported for the scale in the present study, and its construct validity (see Figure 2) and discriminant validity (see Table 3) were confirmed.

3.3. Procedure

To follow the ethical standards in doing educational research, the participants signed a consent letter, showing that they voluntarily participated in the study and were informed of their rights as participants. The researchers took necessary actions to protect the participants' identities and ensure data confidentiality. As data collection happened during the COVID-19 pandemic, in line with the COVID-19 Safety and Health Compliance Protocol, all the data were collected online. All four scales were prepared through Google Forms and KwikSurveys for Iranian and Chinese participants, respectively. The links to the scales were distributed among the participants through email or WhatsApp. Answering the scales required participants at most 30 minutes.

At the time of data collection, all the participants were enrolled in EFL classes. The participants were instructed to consistently complete the teacher clarity, non-verbal immediacy, and perceived understanding scales by thinking only of the instructor they had at the time of data collection for their EFL class. Data collection lasted for two months (i.e., from January 2021 to February 2021). In fact, data were collected at the end of the semester so that students could become acquainted with their EFL teachers before making an accurate report of their teachers' communication behaviors. Moreover, the scales were presented in English since all the participants were university students of different EFL-related majors who were participating in both EFL classes (i.e., receiving English instruction) and content classes in English (i.e., English as a medium of instruction, EMI). Thus, they were regarded to be able to understand and respond to the scales in English.

3.4. Data analyses

For analyzing the data, AMOS (Version 24) was run. Before conducting the main statistical analyses, the researchers took into account some pre-processes (i.e., checking for missing data, constant patterns within each scale, standard deviation, and increasing/decreasing patterns within each scale) to exclude the problematic data. Confirmatory factor analysis (CFA) with the maximum likelihood

method was performed to validate the factor structure of the four scales in the university EFL context. Furthermore, to check measurement invariance (i.e., configural, metric, and scalar invariance), being essential when making meaningful comparisons of the hypothesized models between two groups (Meredith, 1993), multiple group CFA was conducted. According to Hu and Bentler's (1999) recommendation, the fit indices of Chi-square (CMIN), degrees of freedom (DF), minimum discrepancy per degree of freedom (CMIN/df), the root mean square error of approximation (RMSEA), root mean squared residual (SRMR), parsimony-adjusted normed fit index (PNFI), goodness-of-fit index (GFI), the comparative fit index (CFI), and incremental fit index (IFI) were checked. The composite reliability and discriminant validity for each factor was checked. Subsequently, regression imputation, descriptive statistics, multiple correlations, and path analysis were done on the data.

4. Results

4.1. Pre-processing of the data

Before starting the analysis, data went through some pre-processes to exclude the problematic data. As mentioned above, 1,471 solid answers (756 by Chinese and 715 by Iranians) were recorded. After the initial screening, no more than 5% missing answers were inspected for each respondent. The missing values were replaced with the median of the two nearby answers for the questionnaires as they made less than one percent of the values in each variable. Then, the data were inspected for constant patterns within each scale. This resulted in the exclusion of 97 cases from the Chinese and 58 cases from the Iranian respondents' answers. Next, the standard deviation for each participant's answers to each of the questionnaires was calculated, and those answers with a standard deviation below 0.3 in each scale were excluded as they were considered unengaged respondents (75 Chinese and 51 Iranian). Finally, the answers were inspected for increasing/decreasing patterns within each scale. No such cases were found in the remaining answers. Therefore, the remaining 1,190 (584 Chinese and 606 Iranian) respondents' answers were used to answer the research questions.

Regarding the adequacy of the sample for path analysis (SEM), various rules-of-thumb have been proposed: Boomsma (1982) recommended the use of at least 150 observations; Bentler and Chou (1987) set the rule of 5 to 10 observations per estimated parameter; Kline (2016) recommended 20 observations per estimated parameter, and Nunnally (1967) proposed 10 cases per variable. Considering the number of variables and parameters in our study, based on the above-mentioned recommendations, a sample from 150 to 750 was required. Having 1190 observations, the sample seemed large enough.

4.2. Confirmatory factor analysis

To validate the scales in this study, CFA with the maximum likelihood method was performed using IBM AMOS. Initially, we opted for running first-order CFA with all components of the constructs included. However, the results of HTMT showed that the three components of the ALS are nearly indistinguishable as the correlations between ABRC on the one hand, and ACC and ACI, on the other hand, were above 0.9. Therefore, second-order CFA was run. To make sure of the convergent validity, two measures were tested. First, items with non-significant loadings in unstandardized estimation were excluded. Then, items with standardized loadings estimates below 0.5 were omitted. Moreover, two items (S02 from PIU and T01 from TCSI) were removed to improve convergent validity. Figure 2 shows the results of the analysis with standardized estimates. For detailed values of both standardized and unstandardized estimations in the initial CFA model (see Supplementary Materials). Then, the modifications suggested by software with the threshold of 10 were considered, and those with no conflict with the literature and positive par change in the model were applied.
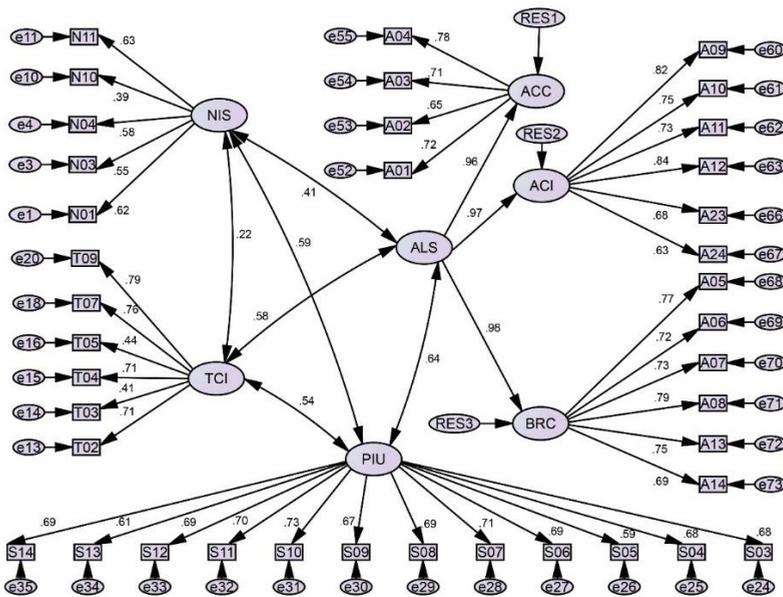

Figure 2 The CFA model (NIS: Nonverbal-Immediacy Scale; TCSI: Teacher Clarity Short Inventory; PIU: Perceived instructor understanding; ABRC: Attitudes toward behavior recommended in the course; ALS: Affective Learning Scale; ACI: Attitudes towards course instructor; ACC: Attitude toward course content)

4.3. Checking the model-to-data fit

After applying the modifications, the model's goodness of fit was examined. According to Hu and Bentler (1999), for the model to have a goodness of fit, a number of criteria have to be met. These criteria, alongside the values obtained from the data, are reported in Table 2.

Table 2 Evaluation of the CFA goodness of fit

Criteria	Observed values			Threshold	Evaluation
	Chinese	Iranian	Overall		
CMIN	1908.139	1874.768	3025.002		
Df	645	645	645		
CMIN/df	2.958	2.907	4.690	between 3 and 5	Acceptable
RMSEA	.059	.056	.056	< .06	Excellent
SRMR	.055	.049	.046	<.08	Excellent
PNFI	.746	.755	.770	> .5	Excellent
GFI	.847	.843	.875	> .85	Excellent
CFI	.901	.908	.907	> .9	Acceptable
IFI	.902	.902	.907	> .9	Acceptable

The above results show that the model fits our context. Moreover, the difference in RMSEA (0.003) and CFI (0.007) of the two groups were very low, indicating configural invariance. To further make sure of the invariance, multigroup comparison was made. The results showed that the constrained (χ^2 (1386) = 6419) and unconstrained (χ^2 (1431) = 6453.1) models were not significantly different ($\Delta\chi^2$ = 34.1, p = 0.693), showing that the identical constructs of the four scales used in this study are confirmed in both Chinese and Iranian data.

The composite reliability and discriminant validity for each factor are reported in Table 3. As reported, all of the variables had values above 0.7, which shows acceptable reliability. Moreover, the square root of AVE (the bold values in the table) was above inter-correlations of the factors, indicating discriminant validity according to Fornell and Larcker (1981).

Table 3 Composite reliability and discriminant validity of the factors

	CR	Fornell Larcker criterion			
		NIS	TCSI	PIU	ALS
NIS	0.721	0.615			
TCSI	0.812	0.217	0.657		
PIU	0.911	0.588	0.541	0.680	
ALS	0.979	0.408	0.582	0.643	0.969

Note. NIS: Nonverbal-Immediacy Scale; TCSI: Teacher Clarity Inventory; PIU: Perceived Instructor Understanding; ALS: Affective Learning Scale

4.4. Descriptive statistics and correlation

After making sure of the validity and reliability of the factors in the constructs, they were imputed using regression imputation. Data imputation gives an aggregated mean for each factor, and its advantage over the simple calculation of average is that the share of each item and error in the construct is built in the computation. The descriptive statistics of each factor and the correlation matrix is presented in Table 4.

Table 4 Descriptive statistics and correlation matrix

		Mean	SD	NIS	TCSI	PIU	ALS
	Chinese	2.6869	.51505	1.000			
NIS	Iranian	2.5469	.49263	1.000			
	Total	2.6156	.50839	1.000			
	Chinese	4.0253	.72500	.250**	1.000		
TCSI	Iranian	3.9809	.78436	.309**	1.000		
	Total	4.0027	.75582	.281**	1.000		
	Chinese	3.9127	.55309	.664**	.592**	1.000	
PIU	Iranian	3.8351	.57323	.702**	.609**	1.000	
	Total	2.6782	.39727	.689**	.600**	1.000	
	Chinese	5.4042	.90243	.466**	.624**	.664**	1.000
ALS	Iranian	5.2296	.95056	.492**	.656**	.703**	1.000
	Total	5.3153	.93097	.485**	.641**	.688**	1.000

Note. ** Correlation is significant at the 0.01 level (2-tailed); Correlations indicate effect sizes via their absolute values (Cohen, 1992); NIS: Nonverbal-Immediacy Scale; TCSI: Teacher Clarity Inventory; PIU: Perceived Instructor Understanding; ALS: Affective Learning Scale

As reported in Table 4, all factors in the model were significantly inter-related ($p < .01$). The relationship between one of the independent variables, clarity, and the dependent variable, affective learning, was relatively high ($r = .64$), while non-verbal immediacy and affective learning showed a moderate relationship ($r = .49$). The mediating variable, PIU, had relatively high correlations with both independent variables of non-verbal immediacy ($r = .69$) and clarity ($r = .60$), and the dependent variable ($r = .69$). The inter-correlations of the items were very close for both contexts. Although few high correlations (above 0.7) were observed, they were both minor and not endangering the discriminant validity as already confirmed by Forenell and Larckers' (1981) criterion (see Table 2).

4.5. Path analysis results

To answer the first research question, initially, a path analysis was done. Figure 3 depicts the results of the direct effects.
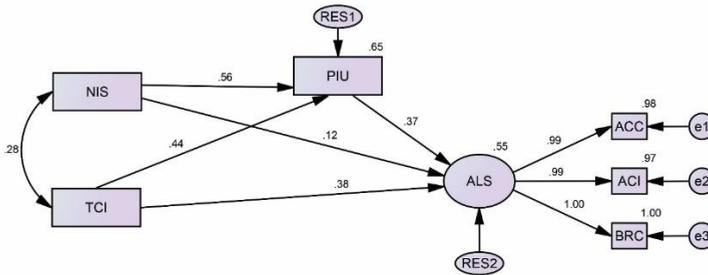
Figure 3 The measurement model (NIS: Nonverbal-Immediacy Scale; TCSI: Teacher Clarity Inventory; PIU: Perceived instructor understanding; ABRC: Attitudes toward behavior recommended in the course; ALS: Affective Learning Scale; ACI: Attitudes towards course instructor; ACC: Attitude toward course content)

The model fit results showed excellent indices (CMIN/df = 20.738/ 12 = 1.728, RMSEA = 0.025, SRMR = 0.004, CFI = 0.999, GFI = 0.994; TLI = 0.998). The multi-group analysis also indicated invariance across the two groups (unconstrained χ^2 (12) = 20.738; constrained χ^2 (14) = 24.873, p = 0.17). The results of the direct path analysis are reported in Table 5.

Table 5 Direct effects

Direct path			Group	Regression weight	S.E.	C.R.	*P*		B	Difference (Z-score)
PIU	<---	NIS	Chinese	.591	.028	21.302	.000		.550	
			Iranian	.672	.029	22.876	.000		.568	-1.999**
			Total	.636	.020	31.706	.000		.564	
PIU	<---	TCSI	Chinese	.347	.020	17.603	.000		.455	
			Iranian	.322	.018	17.456	.000		.433	0.926
			Total	.334	.014	24.767	.000		.441	
ALS	<---	NIS	Chinese	.257	.071	3.621	.000		.144	
			Iranian	.168	.076	2.222	.026		.086	0.852
			Total	.217	.052	4.199	.000		.117	
ALS	<---	TCSI	Chinese	.485	.047	10.359	.000		.383	
			Iranian	.458	.043	10.694	.000		.373	0.427
			Total	.469	.032	14.862	.000		.375	
ALS	<---	PIU	Chinese	.550	.079	6.927	.000		.331	
			Iranian	.668	.077	8.693	.000		.405	1.072
			Total	.614	.055	11.162	.000		.372	

Note. ** Difference is significant at α = 0.01; NIS: Nonverbal-Immediacy Scale; TCSI: Teacher Clarity Inventory; PIU: Perceived Instructor Understanding; ALS: Affective Learning Scale

As evident in Table 5, all of the paths showed significant results for both groups. The lowest relationship was between non-verbal immediacy and affective learning, while the highest one existed between non-verbal immediacy and PIU. The indirect effects are presented in Table 6.

Table 6 Indirect effects

Indirect path	Group	Regression weight	Lower	Upper	P	B
NIS --> PIU --> ALS	Chinese	.325	.244	.428	.000	.182**
	Iranian	.449	.338	.575	.001	.230**
	Total	.391	.321	.473	.001	.210**
TCSI --> PIU --> ALS	Chinese	.191	.143	.249	.001	.151**
	Iranian	.215	.164	.272	.001	.175**
	Total	.205	.169	.243	.001	.164**

Note. ** Significant at $\alpha = 0.01$; NIS: Nonverbal-Immediacy Scale; TCSI: Teacher Clarity Inventory; PIU: Perceived instructor understanding; ALS: Affective Learning Scale

As reported in Table 6, both indirect paths were significant, and PIU worked as a significant mediator for both non-verbal immediacy and clarity in relation to affective learning. Moreover, in response to the second research question, it should be noted that the positive relationship between non-verbal immediacy and PIU was significantly higher for the Iranian group. In all other cases, no significant difference was found between the two groups.

5. Discussion

Following the recent call for the need to immediately attend to teacher positive interpersonal communication behaviors in FL education (Xie & Derakhshan, 2021), in this replication study, by drawing on the rhetorical/relational goal theory in communication research (Mottet et al., 2006), we engaged in a cross-cultural comparison of the effects of instructor clarity and non-verbal immediacy on Chinese and Iranian EFL students' affective learning through the mediation of instructor understanding.

Initially, before responding to the research questions, we examined the factor structure and reliability of the TCSI, NIS, SPIUS, and ALS. Although validity and reliability of these scales were confirmed by previous researchers (Finn & Schrodt, 2012; Hsu, 2012; Richmond et al., 1987; Schrodt & Finn, 2011), all of them were originally developed in the American educational context, meaning that in order to use them across other contexts, their validity and reliability indices needed to be reexamined. Besides, none of them was originally developed in FL education. In this study, the results of CFA, composite reliability, and discriminant validity analyses confirmed that the four scales enjoyed good psychometric properties in Chinese and Iranian EFL contexts.

With regard to the first research question, the results of the direct effects in the measurement model of the path analysis indicated that both teacher clarity and non-verbal immediacy positively, significantly predicted instructor understanding as well as affective learning, and instructor understanding positively,

significantly predicted affective learning. These results provide support for the theoretical and empirical backgrounds of the study. First, these results empirically support the rhetorical/relational goal theory positing that when students' academic and relational needs are satisfied by instructors' employment of positive rhetorical and relational resources (e.g., teacher immediacy, clarity, and understanding), students will attain more desirable educational outcomes and attitudes (e.g., affective learning) (Houser & Hosek, 2018). Furthermore, the positive predictability of affective learning through clarity in this study was in line with previous empirical findings (Comadena et al., 2007; Titsworth et al., 2015; Zhang, 2011). Similarly, the positive influence of non-verbal immediacy on affective learning was in concomitance with the extant literature (Enskat et al., 2017; Frymier et al., 2019; Violanti et al., 2018).

The positive causal role of clarity and immediacy in understanding, on the one hand, and the positive predictive role of understanding in affective learning, on the other hand, supports Mercer and Dörnyei's (2020) argument regarding the importance of teacher positive interpersonal behaviors toward students in the FL learning and teaching context because of its inherently relational nature. This finding is also in line with the Derakhshan's (2022a) statement that attainment of FL learning gains in EFL classes requires successful teacher-student interpersonal relationships and interactions, facilitated through FL instructors' emotional and interpersonal understanding of students.

The results of the indirect effects in the path analysis model illuminated that instructor understanding was a significant positive mediator in the relationship of non-verbal immediacy and clarity with affective learning. Schrodt and Finn (2011) proposed a conceptual model of the role of positive teacher interpersonal communication behaviors like clarity and non-verbal immediacy in students' educational outcomes and attitudes through the mediation of perceived instructor understanding, and previous studies found evidence-based support for this relationship in communication education (Finn & Schrodt, 2012, 2016). As the results of the present study revealed, we also substantiated the credibility of this model in FL education.

Concerning the second research question, it was found that, except for the positive association of non-verbal immediacy with instructor understanding which was significantly higher for the Iranian group, no significant difference was found between the two groups in all other cases. This finding addressed McCroskey and McCroskey's (2006) and Derakhshan's (2022a) call for increasing engagement in culture-centered instructional communication research as in this study we extended this line of research to the Chinese and Iranian EFL contexts. The insignificance of the differences in the relationships among the variables in both cultures supported previous researchers' (Zhang, 2011; Zhang & Huang,

2008; Zhang & Zhang, 2005) assertion that positive teacher interpersonal communication behaviors seem to increase students' affective learning, disregarding the cultural context. This result is justifiable by considering the fact that due to the unique nature of FL education, where a good interpersonal relationship between the teacher and students is a key to successful language instruction and learning (Mercer & Gkonou, 2020), teachers' interpersonally good and effective treatment of students is important to FL teachers and students in any cultural context. How well instructors and learners make harmonious and friendly relationships can determine learners' learning experiences (Mercer & Dörnyei, 2020). Thus, as the results of the present study showed, when teachers employ more positive interpersonal communication behaviors, students' affective learning will be similarly facilitated in both Chinese and Iranian EFL classes. These results can be also justified by considering the remarkably collectivist nature of both Chinese and Iranian societies as presented in Hofstede's (2001) model (see Figure 1). Tending to be more collectivist, people within both societies typically regard maintaining interpersonal relationships important, deem group membership significant, and highly value the well-being and comfort of others. Thus, it is justifiable that Chinese and Iranian EFL teachers care about satisfying their students' academic and relational wants through employing positive interpersonal communication behaviors, resulting in more understanding between them and students, which in turn, increases students' affective learning.

6. Conclusion

This study highlights that communication behaviors have fruitful implications for both FL research and instruction. Thus, FL researchers are urged to give verbal and non-verbal channels of communication a place of prominence in their research agendas, and similarly, FL instructors are suggested to integrate them into their classroom practices. FL instructors are recommended to increase their verbal clarity by taking such actions as planning and organizing instructional materials before teaching them, presenting a transparent preview of what learners will learn, reviewing what learners have learned, presenting transparent directions of learners' learning attitudes, employing illustrations and visuals as well as using intentional explanations and examples to enhance or supplement ideas. It is also advocated that teachers show adaptability and flexibility concerning instructional messages by, for example, evaluating content and changing behaviors during a lesson or simultaneously employing several clarity behaviors, which ensures the highest clarity level for students. In the same vein, as non-verbal immediacy was found a significant predictor of students' affective learning, it is beneficial for FL instructors to be trained to employ subtle non-verbal immediacy behaviors such as nodding, eye contact,

appropriate touching, open body positions and gestures, and smiling. It is also incumbent on FL teacher educators to hold ongoing teacher professional development programs, where pre- and in-service FL teachers can learn about clarity and non-verbal immediacy for increasing students' affect toward the course elements. Teacher educators can provide teacher trainees with practical strategies for increasing teacher-student immediacy and teacher verbal clarity so that they can facilitate teachers' understanding of students and create more engaging and fulfilling learning environments for students. Moreover, the results of this cross-cultural study can provide significant insights to its readers as they become aware of whether immediacy, clarity, and perceived understanding predict EFL students' affective learning similarly or dissimilarly in Chinese and Iranian cultural contexts.

Nevertheless, the study is not without its limitations. First, the findings may be influenced to some extent by halo effects, as students who like their teachers may be more prone to feel understood by them and perceive them as being non-verbally immediate and clear. Moreover, EFL students from two countries were targeted as the sample for checking the factor structure and measurement invariance of the scales. Future research gathering data from other cultures would be beneficial for confirming the cross-cultural validity of these scales in EFL education. The present study employed a quantitative approach to investigate the relationships between its variables and answer its research questions by collecting numerical data from a rather large sample. Future researchers can employ mixed methods research and purely qualitative approaches as they potentially allow researchers to collect textual or auditory data from participants in order to answer "what," "how," "in what ways," or "to what extent" research questions and consequently reach a more in-depth understanding of these relationships. Future studies can also study the impacts of particular pedagogical interventions, delivered by teacher educators well-versed in instructional communication research, to see if such interventions can enhance teachers' employment of clarity and non-verbal immediacy. The present study focused only on immediacy and clarity behaviors. Future studies should examine additional teacher communication cues like teacher confirmation, care, classroom justice, support, and humor as potential contributors to FL students' affective learning. Lastly, the findings of this replication study lent further empirical support to an explanatory mechanism (i.e., teacher understanding) that associates teacher verbal clarity and non-verbal immediacy perceptions to language students' affective learning. Future studies can extend these attempts by investigating teacher understanding as a potential mediator of other educational outcomes in the FL classroom, such as willingness to attend classes/communicate, engagement, attainment, or success.

Acknowledgments

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