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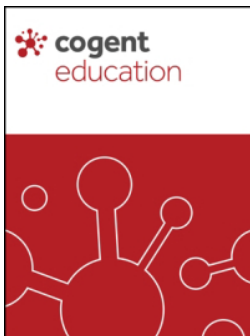
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CURRICULUM & TEACHING STUDIES | RESEARCH ARTICLE

Affective variables contributing to Indonesian EFL students' willingness to communicate within face-to-face and digital environments

Herri Mulyono^{1*} and Regitha Saskia¹

Abstract: Literature has suggested the role of affective variables such as self-confidence, motivation, and anxiety in second and foreign language learners' willingness to communicate in conventional language learning classrooms. However, little has been explored regarding the association of such affective variables inside and outside the classroom and digital environment. To this end, the current study modified the affective variables and replicated the methodological procedure of Lee and Hsieh's study, who examined the relation between second language (L2) learner affective variables (i.e., self-confidence, anxiety, motivation, and grit) and their willingness to communicate in three different environments (i.e., in-class, out-of-class, and digital environment). A convenience sample of 436 secondary school and university students participated in the study and completed a survey that was administered online. Many of the participants were female (N = 323) and male (N = 113) aged between 10- and 25-years old. Quantitative data analyses using correlational and multiple regression were performed using a statistics software. Findings of the study revealed that all three affective variables; self-confidence, speaking anxiety, and motivation, were significant predictors for Indonesian EFL students' WTC in both F2F (i.e., inside and outside classroom) and the digital environment. Students also were reported to have a higher level of WTC when participating in the digital communication than in F2F settings. The findings of the current study confirmed the earlier research on EFL students' WTC in F2F and digital

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PUBLIC INTEREST STATEMENT

Although rich empirical evidence has existed to propose models drawing contributing factors to WTC among EFL students in conventional classroom and digital settings, little has been explored concerning the role of affective variables in determining students' WTC in conventional and digital classrooms. The current study attempts to modify and replicate Lee and Hsieh (2019) study, who examined the relationship between second language (L2) learner-affective variables (i.e., self-confidence, anxiety, motivation, and grit) and their willingness to communicate in three different environments (i.e., in-class, out-of-class, and the digital environment). Particularly, the current study addresses the inquiry of the role of affective variables in determining WTC amongst a cohort of Indonesian EFL secondary schools and university students.

environment. While students' WTC in the digital environment may vary depending on the delivery mode, for example, synchronous and asynchronous and communication discourse, i.e. written and oral communication, further research is needed to address these issues.

Subjects: Bilingualism / ESL; Language & Linguistics; Language Teaching & Learning

Keywords: foreign language learning; affective factors; willingness to communicate; inside classroom; outside classroom; digital environment

1. Introduction

In the field of second language teaching and learning, willingness to communicate (henceforth WTC) has been seen as one among other determining factors of students' active participation in foreign and second language learning classrooms (MacIntyre et al., 1998). More specifically, WTC plays a pivotal role in facilitating students' linguistic and non-linguistics development (Macintyre, 2007). In other words, the higher WTC students may have, the better L2 learning participation, engagement, and achievement they could obtain (Mystkowska-Wiertelak & Pawlak, 2017; Zhang et al., 2018). This is because WTC enables students to prepare themselves for learning and motivates them to initiate and interact in the target language (Bernales, 2016; Bursali, 2017; Macintyre, 2007; MacIntyre et al., 1998).

Many literature have evidenced the relation between students' WTC and other related variables in L2 or English as a foreign language (EFL) settings. A meta-analysis by Elahi Shirvan et al. (2019), for instance, has shown the correlation between L2 WTC and students perceived communicative competence, language anxiety, and motivation. Some studies also found that WTC affects students L2 self-confidence (Lee & Lee, 2019; de Saint Léger & Storch, 2009; J. Peng & Woodrow, 2010), personality factors (Macintyre & Legatto, 2011), cultural background (Cao, 2010), and classroom environments (Zarrinabadi et al., 2014). Particularly, a number of studies have concerned with affective factors that may be associated with students' WTC in the classroom, outside the classroom, or in a digital learning context. Findings from Lee and Lee's (2019) revealed that the self-confidence factor was a strong predictor of all WTC contexts, particularly in the digital context; while in a study, Lee and Hsieh (2019) found that of the four factors, only self-confidence, grit, and L2 speaking anxiety played a significant role in WTC. The variables of "grit" and "self-confidence" were identified as strong predictors of WTC in the classroom, outside classroom, and digital settings, whereas a lack of anxiety was reported to occur particularly in conventional contexts (in-class, and out-class).

Although rich empirical evidence has existed to propose models drawing the contributing factors to WTC among EFL students in conventional classroom and digital settings, little has been explored concerning the role of affective variables in determining students' WTC in conventional and digital classrooms, particularly in the Indonesian context except by Lee and Hsieh (2019) and Lee and Lee (2019). Many studies focusing on the Indonesian students' WTC primarily are situated in conventional classroom. For example, a study by Ningsih et al. (2018) explored the prominent conditions that triggered Indonesian secondary school students' WTC. The study revealed that students' decision whether or not they involve within the communication in the classroom, or how they thought about the benefits from their participation had been the drivers for their WTC. The study also showed that the risk-taking and engagement in students' communication with other peers did not influence their WTC.

The current study aims to evaluate the relationship between second language (L2) learner affective variables (i.e., self-confidence, anxiety, motivation, and grit) and their willingness to communicate in three different environments (i.e., in-class, out-of-class, and the digital environment) among the Indonesian students. Adapting the methodological procedure of Lee and Hsieh

(2019) study, the current study addresses the inquiry of the role of affective variables in determining WTC amongst cohorts of Indonesian EFL secondary schools and university students. Two research questions (RQ) were formulated as below:

RQ1: To what extent do affective variables (i.e., self-confidence, anxiety, and motivation) contribute to Indonesian EFL students' WTC in face-to-face and digital environments?

RQ2: What affective variables are significant predictors of Indonesian EFL students' WTC in face-to-face and digital environments?

2. Literature review

2.1. *Willingness to communicate in English as a Foreign language (EFL) classroom contexts*

Generally, the term WTC is viewed as the learners' decision whether or not they would take part in particular communicative events or to engage in learning activities with other learners (MacIntyre et al., 1998). Such a term first appeared in McCroskey and Baer's (1985) paper in the Convention of Speech Communication Association, Colorado, particularly employed to reflect learners' differences in communicating within first language settings (MacIntyre et al., 1998; Ningsih et al., 2018). In English as a foreign language (EFL) setting, Ningsih et al. (2018) perceive WTC as a psychological condition reflecting learners' intention or readiness to communicate in English without the influence of external forces or pressures. Such a definition depicts two conditions: first, it suggests a condition where learners feel ready and comfortable to initiate a communication or interaction in a target language (Bernales, 2016; Bursali, 2017; Macintyre, 2007; MacIntyre et al., 1998), and second, it reflects learners' choice to maintain distance in communication or to remain silent (Macintyre & Legatto, 2011). The later condition may also present the learners' decision to remain silent as their choice in particular communication events and is known as unwillingness to communicate (Burgoon, 1976; Macintyre & Legatto, 2011)

In conventional face-to-face classroom learning, literature on WTC has suggested the role of WTC in affecting students' EFL learning and learning achievement. Peng (2012), for example, believes that students' level of willingness to communicate in the target language may direct students' classroom participation and interaction. Students with an appropriate level of WTC are believed to search for more chances in order to participate in particular communication events, which accordingly enable them to acquire their foreign language (MacIntyre et al., 1998). In contrast, students with insufficient levels of WTC are reluctant to participate in classroom learning and interaction. Literature has identified several contributing factors that facilitate students' WTC, including L2 communication competence (Macintyre & Legatto, 2011), motivation (Khajavy et al., 2016; Lee, 2019; Lee & Lee, 2019), L2 self-confidence (Lee & Lee, 2019; de Saint Léger & Storch, 2009; J. Peng & Woodrow, 2010), anxiety level (Lee, 2019; Lee & Lee, 2019; Macintyre & Legatto, 2011), personality factors (Macintyre & Legatto, 2011), cultural background (Cao, 2010), and classroom environments (Zarrinabadi et al., 2014).

Aside from the conventional classroom context, current research has provided a number of empirical evidences on the role of digital media and applications in promoting willingness to communicate amongst EFL students. Reinders and Wattana (2015) examined the impact of gameplay on students' self-perceptions and their learning practices. Drawing on a qualitative research design, five students attending a fifteen-week game-based learning program at a university in Thailand were interviewed. Findings of the study suggest that students' participation in the game-based learning program had lowered their affective barriers, which thus increase their WTC. In addition, a study by Freiermuth and Jarrell (2006) compared Japanese EFL university students' experience of using English to solve tasks using online chat with those solving tasks in face-to-face settings. Findings of the study showed that online chatting created a more comfortable environment for students to communicate which in turn improve their WTC. Online chatting was also observed to provide students with more interaction opportunities in using the target language. Furthermore, Kissau et al. (2010) examined the effect of

online L2 instruction on students' WTC. In the study, a total of six post-secondary school students attending an online French course were monitored and surveyed before and after the course completion. The findings suggested that students' participation in the online course reduced their anxiety, improved their L2 language competence, and, therefore, enhanced their competence to communicate.

Several studies also have documented teachers' efforts to help their students to develop students' WTC. Goldoust (2017), for example, suggests that that L2 students' WTC can only be promoted if the students are given sufficient opportunities to do so. More importantly, teachers are also expected to always motivate their students to get involved in the learning activities. Teachers thus can select the discussion topics that attract their students' characteristics and interests. The proper selection of learning materials that fit students' interests can create an enjoyable learning experience, enhance students' participation and engagement with the learning tasks and accordingly improve the quality of students' learning (Amiryousefi, 2016). In contrast, students who are motivated to the learning tend to be reluctant to participate in the learning activities, and stay away from the classroom interaction.

2.2. Affective variables influencing students' WTC

A body of literature has identified several affective variables that may associate with second and foreign language learners' willingness to communicate, including L2 self-confidence (Lee & Lee, 2019; de Saint Léger & Storch, 2009; J. Peng & Woodrow, 2010), speaking anxiety (Lee, 2019; Lee & Lee, 2019; Macintyre & Legatto, 2011), motivation (Khajavy et al., 2016; Lee, 2019; Lee & Lee, 2019; MacIntyre et al., 2002; Yu, 2011), and grit (Lee & Lee, 2019). For example, Hashimoto (2002) investigated affective variables on the use of the second language in class. After examining 56 ESL Japanese undergraduate and graduate students, the results show that the increase of WTC has influenced students to use the target languages when in class. In addition, they also found that motivation had a significant correlation with WTC amongst the students.

In addition, Khajavy et al. (2016) examined Iranian EFL learners' WTC model based upon WTC theory. The study found that the communication confidence, motivation, classroom environment, attitudes toward learning English, and English language achievement had interrelationships with a classroom environment, which acted as a predictor of WTC in Iranian learners. The study indicated some affective variables that could predict learners' WTC such as communication confidence, motivation, and L2 speaking anxiety. The study also suggested the positive role of classroom environment in promoting WTC amongst the students.

In their study, Lee and Lee (2019) examined affective variables that might be associated with Korean students' WTC inside and outside the classroom and digital contexts, including motivation, self-confidence, risk-taking, L2 speaking anxiety, and grit. Findings of the study showed that the self-confidence factor was a strong predictor of all WTC contexts, particularly in the digital context. In the classroom context, Korean students with high WTC were reported to have high motivation and grit, and also to have low L2 speaking anxiety. Furthermore, in the outside classroom, affective variables like self-confidence and risk-taking were observed as predictors of WTC students.

Lee and Hsieh (2019) attempted to adapt Lee and Lee's (2019) study, and applied it into the Taiwanese university setting. In the study, Lee and Hsieh (2019) excluded the risk-taking as affective variables influencing students WTC. The findings showed that of the four factors, only self-confidence, grit, and L2 speaking anxiety played a significant role in WTC. The variables of "grit" and "self-confidence" were identified as strong predictors of WTC in the classroom, outside classroom, and digital settings, whereas a lack of anxiety was reported to occur particularly in conventional contexts (in-class, and out-class).

2.3. An overview of Lee and Hsieh (2019)

The current study was a replication of Lee and Hsieh (2019) study, who examined the relationship between second language (L2) learner affective variables (i.e., self-confidence, L2 speaking anxiety motivation, and grit) and their willingness to communicate in three different environments (i.e., in-class, out-of-class, and digital environment). Lee and Hsieh's study drew on a quantitative design involving a total of 261 Taiwanese EFL university students. The findings of the study suggest that students' grit and self-confidence were strong predictors of their WTC in inside, outside, and digital settings. Moreover, students with low level of L2 speaking anxiety tended to have higher L2 WTC in the conventional environment, but not in the digital setting.

In the current study, the methodological procedure of Lee and Hsieh (2019) study was replicated, particularly in reference to the instrument used and the data analysis procedure. The current study differed from the original study in that it involved a larger number of samples and it was situated in two Indonesian levels of education: secondary schools and university. More importantly, three of the four affective variables were investigated in reference to the internal consistency of each variable including self-confidence, speaking anxiety, and motivation (see Table 3). The following methodology section provides details about the participants and the study contexts, data collecting instruments and data analysis.

3. Method

3.1. Participant and context

The participants of the current study were selected using a convenience sampling method. The employment of the method enabled the researchers to target the nearest individuals to serves as research participants or respondents and thus the process of data collection could continue until the required sample size were fulfilled (Cohen et al., 2018). The selection of the target participants first was done by identifying the targeted population groups on social media (e.g., WhatsApp groups). Then, the researchers approached the groups and invited them to participate in the study through a Google form link. We also sent requests to teachers, lecturers, and school administrators to distribute the online survey in their school WhatsApp groups as a part of the targeted sampling. The potential participants were informed that their participation was voluntarily and had no consequences on their academic achievement at schools. Those interested filled out the consent form section in the questionnaire and submitted their responses.

After one-month duration, the researchers closed the survey and recorded 436 student responses. The participants were lower secondary school students (N = 81), upper secondary school students (N = 96), and university students (N = 259). There were 323 females and 113 males aged between 12 and 25 years old. Some studies have suggested the role of English language proficiency in determining factor of students' WTC (Khaki, 2013; Liu & Park, 2012; Rostami et al., 2016; Tan & Phairot, 2018). Due to limited access to the participants' background of English proficiency, the current study disregarded such an English proficiency background in further data analysis, which thus was viewed as the limitation of the current study.

3.2. Data collecting instrument

Data for the current study was collected using a five-point Likert scale questionnaire offered by Lee and Hsieh (2019). The questionnaire comprised of 33 items were divided into four affective variables (i.e., self-confidence, speaking anxiety, motivation, and grit) and two L2 WTC environments, such as face-to-face (e.g., inside the classroom and outside classroom) and the digital environment. Details of each item are presented in Table 2.

In addition, demography questions were added into the original questionnaire prior to the main questions, such as gender, age, level of education.

The questionnaire was translated into the native language of Bahasa Indonesia to allow the student participants to comprehend the information in each item. The questionnaire was read and reread to ensure its accuracy and readability (Zulaiha & Mulyono, 2020). The questionnaire was developed online to ease distribution, target wider participants and to enable automated data collection and tabulation (Cohen et al., 2018; Ningsih et al., 2018; Wright, 2005). The questionnaire then was administered to the research participants through a URL link. Before answering the questionnaire, the students were directed to fill out a consent and demographic information section.

Cronbach's α was evaluated to examine the reliability of each of the sub-scale of the questionnaire and the result is presented in Table 3.

As shown in Table 3, most of the sub-scales possessed adequate level of internal consistency (Cohen et al., 2018), except the sub-scale "Motivation" with marginally reliable and sub-scale "Grit" with "low reliable". Lee and Hsieh (2019) argued in their study that the sub-scale "Grit" in the original questionnaire was not particularly proposed for L2 context and thus encouraged further study involving more L2 contextualized items to improve content validity. Moreover, a meta-analysis on grit literature by Credé et al. (2017) has raised concerns regarding the validity of the grit scale in the questionnaire, thus, the current study opted to exclude the sub-scale "Grid" in further analysis.

Compared to Lee and Hsieh (2019) study, the value of Cronbach's α in the current study remained higher for the sub-scale "Self-confidence" and "F2F WTC outside classroom", and similarly for the sub-scale "Speaking anxiety", "F2F WTC inside classroom" and "WTC in a digital environment, while lower for sub-scale "Motivation", "Grit". It is worth bearing in mind that the standard deviation of the data reported in the current study was observed lower for some sub-scales compared to those in Lee and Hsieh (2019) study, indicating the variance of data in the current study was smaller than in the previous study.

3.3. Data analysis

The collected data were analyzed under the following procedure: 1. First, the collected data were downloaded from Google Form and converted into an excel file. Second, the data were tabulated and coded to ease the quantitative analysis of the data. Third, the data were scrutinized for the missing value and outliers. Four, descriptive and inferential statistical analyses (e.g., correlation and regression) of the scrutinized data were conducted using SPSS to identify the relationships amongst the variables.

4. Results

4.1. Descriptive data

As shown in Table 1, students were observed to be above-neutral for all the affective factors, that is, self-confidence ($M = 3.82$, $SD = .55$), speaking anxiety ($M = 3.28$, $SD = .88$), and motivation ($M = 4.20$, $SD = .57$), indicating that students had a high level of affective factors with motivation was the highest. Regarding the environments, students were reported to have WTC in both face-to-face learning inside and outside the classroom as well as in the digital environment (F2F WTC inside classroom, $M = 4.02$, $SD = .73$; F2F WTC outside classroom, $M = 3.92$, $SD = .79$; WTC in a digital environment, $M = 4.17$, $SD = .72$). Compared to the two F2F WTC environment, students were observed to have higher WTC in a digital environment.

Table 4 above shows that in reference to their gender, both male and female students possessed higher WTC in F2F and digital environments. In reference to gender, students' WTC in digital environment remained higher than in F2F settings. Similar results were also found in level of education and age (see Table 5)

Table 1. Demography of the participants

Level of education	Gender	Age
Lower secondary school students (N = 81)	Male (N = 36)	10–12 y.o (N = 1)
		12–14 y.o (N = 74)
		15–17 y.o (N = 5)
	Female (N = 45)	18–20 y.o (N = 1)
		21–23 y.o (N = 0)
		23–25 y.o (N = 0)
Upper secondary school students (N = 96)	Male (N = 28)	10–12 y.o (N = 0)
		12–14 y.o (N = 1)
		15–17 y.o (N = 57)
	Female (N = 68)	18–20 y.o (N = 25)
		21–23 y.o (N = 13)
		23–25 y.o (N = 0)
University students (N = 259)	Male (N = 49)	10–12 y.o (N = 0)
		12–14 y.o (N = 0)
		15–17 y.o (N = 4)
	Female (N = 210)	18–20 y.o (N = 85)
		21–23 y.o (N = 160)
		23–25 y.o (N = 10)

Note: y.o = years old

Table 2. Affective variables and EFL WTC environments in the questionnaire

Variables/ environments	Total item	Item number	Response scale (five- point Likert Scale)
Self-confidence	6	Item 1–6	Strongly disagree (1) to strongly agree (5)
Speaking anxiety	6	Item 7–12	Strongly disagree (1) to strongly agree (5)
Motivation*	4	Item 13–16	Strongly disagree (1) to strongly agree (5)
Grit*	5	Item 17–21	Not like me at all (1) to Very much like me (5)
F2F WTC inside classroom	4	Item 22–25	Definitely not willing (1) to definitely willing (5)
F2F WTC outside classroom	4	Item 26–28	Definitely not willing (1) to definitely willing (5)
WTC in a digital environment	4	Item 28–33	Definitely not willing (1) to definitely willing (5)

Note: Item no 2 in Motivation and item no 2, 4, and 5 in Grit were reverse coded

4.2. Correlation analysis

Statistical analysis using correlation was performed to investigate the connection amongst WTC environments, students' demography, and the three affective variables (Table 6).

The correlation analyses, as shown in Table 6, found that F2F WTC inside classroom significantly correlated with two demography aspects, that is, age ($r = .206, p < .01$) and level of education ($r = .192, p < .01$) and the affective variables, such as self-confidence ($r = .442, p < .01$) and motivation ($r = .491, p < .01$). F2F WTC inside classroom was shown to negatively link with speaking

Table 3. Cronbach's α of Lee and Hsieh (2019) study and the current study

Scales	Lee and Hsieh (2019) study		α	The current study		α
	M	SD		M	SD	
Self-confidence	3.30	.60	.79	3.82	.55	.84
Speaking anxiety	3.20	.66	.88	3.28	.88	.88
Motivation	3.17	.62	.76	4.20	.57	.69
Grit	2.74	.63	.75	3.11	.51	.36
F2F WTC inside Classroom	2.86	.85	.91	4.02	.73	.87
F2F WTC outside Classroom	3.07	.75	.86	3.92	.79	.88
WTC in a digital environment	3.52	.80	.87	4.17	.72	.82

Note. M = Mean; SD = Standard deviation; α = Cronbach's alpha.

Table 4. Descriptive data for gender and level of education

Scales	Gender		Level of education		
	Male M(SD)	Female M(SD)	LS M(SD)	US M(SD)	U M(SD)
Self-confidence	3.85(.56)	3.79(.54)	3.79(.51)	3.70(.51)	3.87(.57)
Speaking anxiety	3.24(.86)	3.29(.88)	3.08(.90)	3.33(.90)	3.32(.86)
Motivation	4.10(.64)	4.23(.54)	4.13(.62)	4.16(.55)	4.23(.56)
F2F WTC inside Classroom	3.96(.73)	4.04(.74)	3.76(.78)	3.97(.67)	4.12(.71)
F2F WTC outside Classroom	3.81(.85)	3.96(.77)	3.7(.81)	3.89(.74)	3.99(.80)
WTC in a digital environment	4.11(.72)	4.19(.72)	4.03(.77)	4.15(.65)	4.23(.72)
N	113	323	81	96	259

Note. M = Mean; SD = Standard deviation

anxiety ($r = -.152, p < .01$). Similarly, F2F WTC outside classroom was associated with age ($r = .132, p < .01$) and level of education ($r = .134, p < .01$) and two affective variables, including self-confidence ($r = .369, p < .01$) and motivation ($r = .407, p < .01$). The other WTC in a digital environment was reported to significantly correlate with level of education ($r = .104, p < .05$), self-confidence ($r = .335, p < .01$) and motivation ($r = .403, p < .01$).

4.3. Regression analysis

A regression analysis was performed to enable the prediction of students' WTC in F2F and digital environments with an assumption of the value of the four affective variables. Pallant (2016) suggests some statistical assumptions for conducting regression analysis such as the requirement of sample size, outlier issue, multicollinearity issue, and normal distribution of the residuals. The

Table 5. Descriptive data for age

Scales	Age					
	10–12 M(SD)	12–14 M(SD)	15–17 M(SD)	18–20 M(SD)	21–23 M(SD)	23–25 M(SD)
Self-confidence	3.67(-)	3.79(.49)	3.71(.51)	3.75(.51)	3.88(.59)	4.23(.61)
Speaking anxiety	2.50(-)	3.11(.88)	3.29(.98)	3.55(.85)	3.21(.81)	2.65(.88)
Motivation	4.25(-)	4.11(.63)	4.19(.49)	4.15(.63)	4.26(.53)	4.27(.64)
F2F WTC inside Classroom	3.50(-)	3.74(.79)	3.94(.69)	4.06(.72)	4.14(.67)	4.30(.93)
F2F WTC outside Classroom	3.50(-)	3.67(.81)	3.93(.73)	3.97(.88)	3.98(.73)	4.20(.90)
WTC in a digital environment	4.50(-)	3.99(.78)	4.21(.66)	4.27(.70)	4.18(.71)	4.07(.62)
N	1	75	66	111	173	10

Note. M = Mean; SD = Standard deviation

evaluation of the data in the current study fitted these assumptions. The sample size of the current study was observed higher than the assumption of sample size ($\geq 50 + 8 \times$ number of independent variables). Prior to the statistical analyses, all data had been scrutinized and there were no missing values and outliers identified. In reference to the multicollinearity issue, the current study had shown the correlation analysis result of the correlation coefficient was less than .80, indicating the correlation was lower than strong correlation.

A critical issue appeared in the regression analysis concerned with the normal distribution of the data. In the previous study, Lee and Hsieh (2019) proposed two regression models: Model 1, where they carried out regression of demography aspects alone without including the affective variables, and Model 2, regression was analyzed by including all demography aspects and affective variables. However, in the current study, the calculation of regression for model 1 did not meet the assumption of normal distribution of the residuals and thus was excluded for further analysis (see Table 7).

Regression model 2 was developed for two WTC environments, that is, F2F WTC (inside and outside classrooms) and WTC in a digital environment and the results are presented in Table 8 above. As shown in the table, all models, that is, regression model 2(a), 2(b) and 2(c) showed similar results. In the regression model 2 (a), F2F WTC inside classroom explained 38.2% of the variance showing that gender, age and level education were not significant predictors of F2F WTC inside classroom, but self-confidence ($B = .269, p < .01$), speaking anxiety ($B = .089, p < .05$), and motivation ($B = .39, p < .01$) were. The regression model 2 (b), F2F WTC outside classroom indicated that 23.5% of the total variance in F2F WTC in outside classroom can be explained by self-confidence ($B = .277, p < .01$), speaking anxiety ($B = .160, p < .01$), and motivation ($B = .342, p < .01$), but not by gender, age and level of education. Finally, regression model 2(c) revealed that self-confidence ($B = .244, p < .01$), speaking anxiety ($B = .168, p < .01$), and motivation ($B = .364, p < .01$) were strong predictors of WTC in digital environment. These findings should be interpreted in reference to the goodness of fit of the three models. By evaluating the adjusted R^2 , the regression model 2(a) was shown to have moderate level of goodness of fit while the other model 2(b) and 2(c) were at a modest level.

Table 6. Correlations among variables

Variable	1	2	3	4	5	6	7	8	9
Gender	1	.137**	.221**	-.05	.022	.092	.047	.082	.048
Age		1	.865**	.115*	.008	.085	.206**	.132**	.064
Level of education			1	.083	.092	.072	.192**	.134**	.104*
Self -confidence				1	-.340**	.412**	.442**	.369**	.335**
Speaking anxiety					1	-.373**	-.152**	-.06	-.040
Motivation						1	.491**	.407**	.403**
F2F WTC inside classroom							1	.717**	.503**
F2F WTC outside classroom								1	.584**
WTC in a digital environment									1

Note. ** $p < .01$, * $p < .05$

Table 7. Normality of the data

	Kolmogorov-Smirnova		
	Statistic	df	Sig.
Model 1 F2F WTC inside classroom	.084	436	.000
Model 1 F2F WTC outside classroom	.080	436	.000
Model 1 WTC digital environment	.108	436	.000
Model 2 F2F WTC inside classroom	.041	436	.072
Model 2 F2F WTC outside classroom	.037	436	.181
Model 2 WTC digital environment	.042	436	.064

Table 8. Regression model 2

	F2F WTC inside classroom (a)		F2F WTC outside classroom (b)		WTC in a digital environment (c)	
	B (SE)	B	B (SE)	B	B (SE)	B
(Constant)	-.144 (.357)		-0.4 (.415)		.551 (.379)	
Gender	.000 (.068)	.000	.089 (.079)	.049	.011(.072)	.007
Age	.061 (.050)	.097	.028 (.058)	.041	-.080 (.053)	-.130
Level of Education	.043 (.076)	.047	.025 (.088)	.025	.140 (.08)	.153
Self Confidence	.393 (.059)	.296**	.402 (.069)	.277**	.319 (.063)	.244**
Speaking Anxiety	.074 (.037)	.089*	.144 (.043)	.160**	.137 (.039)	.168**
Motivation	.495 (.058)	.39**	.474 (.067)	.342**	.456 (.061)	.364**
R2		.338		.245		0.23
Adjusted R2		.382		.235		0.219

Note B = Beta (standardized regression coefficient), SE = Standard error; ** $p < .01$, * $p < .05$

5. Discussions

The current study aimed to examine the role of three affective variables (i.e., self-confidence, speaking anxiety, and motivation) in Indonesian EFL students' WTC in F2F and digital environment. Key findings of the current study have suggested that self-confidence and motivation significantly correlated with WTC in face-to-face and digital settings, indicating the increase of students' self-confidence and motivation may, in turn, enhance students' WTC inside classroom, outside classroom, and the digital environment. The correlation analysis also showed that speaking anxiety had a significant negative correlation with students' WTC inside classroom setting but not in outside and digital environments. This indicates that speaking anxiety was particularly associated with WTC inside the classroom, rather than WTC outside classroom and in the digital environment. There are two possible interpretations of the findings. First, students' anxiety in foreign language is varied in reference to their learning context (Horwitz, 2016). In the inside classroom settings, EFL students are required to speak in the presence of the interlocutors requiring them to pay more attention to several factors such as degree of formality and language choice, fear of making mistakes, attitude, and sociocultural aspects. In many

Indonesian classrooms, for example, teachers posit a high social status and such a position requires the students to highly respect them (H. Mulyono et al., 2019). Furthermore, Indonesian EFL students are typically shy and reluctant to use the target language in the classroom with their teachers as well as peers. These factors, in reference to literature (Blume, 2013; Hammad & Ghali, 2015; Horwitz, 1986, 2016; H. Mulyono et al., 2019), are believed to promote language anxiety for EFL students. The second interpretation concerns with the capability of the digital tool in promoting a more comfortable learning environment. Previous studies (e.g. Freiermuth & Jarrell, 2006, p. e.g.; Kissau et al., 2010; Reinders & Wattana, 2015) have evidenced that digital tools can create a more comfortable environment for students to interact and communicate. Such a comfortable environment is believed to reduce their anxiety and encourage their WTC.

Key findings of the current study also suggest that all three affective variables; self-confidence, speaking anxiety, and motivation were significant predictors for Indonesian EFL students' WTC in both F2F and the digital environment. In other words, the three variables were reported to play positive roles in enhancing students' WTC inside classroom, outside classroom, and the digital environment. The finding partly corresponds to an earlier study by Lee and Hsieh (2019) that suggests the variable of self-confidence is a strong predictors of students' WTC in F2F and the digital environment, and the variable of speaking anxiety as a strong predictor of WTC in F2F settings. Regarding the role of motivation, the finding of the current study confirms a study by Jarrell and Freiermuth (2005) indicating that digital tools play a positive role in motivating students and enhance students' WTC in the digital environment. Other studies (i.e. Freiermuth & Jarrell, 2006; Jarrell & Freiermuth, 2005; Kissau et al., 2010; Reinders & Wattana, 2015) also evidenced the positive effect of using digital tools on students motivation and students' WTC. It is worth bearing in mind that these studies did not particularly focus on evaluating the role of affective variables in WTC in digital environment, but the use of particular digital tools to facilitate WTC. The correlation analysis of the data in the current study has indicated that Indonesian EFL students had a high level of motivation and consequently enhanced their WTC in digital environment. Two possible explanations to such a condition may be that, first, the digital environment offers more opportunities for students to think and prepare for the responses particularly in written communication (Satar & Özdener, 2008). The other explanation might be concerned with the social supports and psychological benefits that students may obtain when participating in digital communication, which thus motivate them to actively communicate (Lee & Hsieh, 2019; Reinders & Wattana, 2015; Satar & Özdener, 2008). Further qualitative study is therefore needed to substantiate the explanations.

6. Conclusion

In general, findings of the current study has emphasized that self-confidence, speaking anxiety, and motivation, were significant predictors for Indonesian EFL students' WTC in both F2F (i.e., inside and outside classroom) and the digital environment. Students were reported to have a higher level of WTC when participating in digital communication than in F2F settings. The findings of the current study confirmed the earlier research on EFL students' WTC in F2F and digital environment. More importantly, the findings have a practical implication to the EFL hybrid learning practices suggesting that students' affective variables might differently affect their WTC depending on the context of communication they participate. Teachers thus are required to prepare and adapt their instructional strategies and media use in reference to the classroom communication situation.

However, the current study did not specifically address the issue of mode and discourse of digital communication environment. While students' WTC in the digital environment may vary depending on the delivery mode, for example, synchronous and asynchronous and communication discourse, i.e. written and oral communication (see Jarrell & Freiermuth, 2005; Lee & Hsieh, 2019), further research is needed to address these issues. In addition, the current study mainly drew on quantitative analysis of the data with the use of statistical calculation. The employment of such

an analysis has limited the qualitative exploration of the role of affective variables in digital communication and its effect on EFL students' WTC.

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Conflicts of interest

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