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Interrelationships Between Perceptions of Social and Teaching Presences and Satisfaction of Basic Psychological Needs, Persistence, Intrinsic Motivation, and Negative Emotions in Online Education

Salman Hintaw Abdulhussein¹ , Mohammad Amiryousefi² , &
Manijeh Yuhanaee³ 

Abstract

The common belief regarding the lack of interaction in online education raises some concerns about students' psychological well-being and the satisfaction of their needs. The relations between teaching and social presences as the two major factors accounting for social-contextual conditions in online education with students' basic psychological needs satisfaction, persistence, and motivation are mostly ignored in the context of teaching English in higher education in Iraq. Therefore, the purpose of the present study was to examine the interrelationships between the perception of social and teaching presences and the satisfaction of basic psychological needs, persistence, intrinsic motivation, and negative emotions of Iraqi EFL learners in online courses. To this end, 200 intermediate Iraqi university students studying English at the English departments of several institutions of higher education were recruited to participate in the study. Then they were asked to complete self-report questionnaires on their perception of social and teaching presence, satisfaction of basic

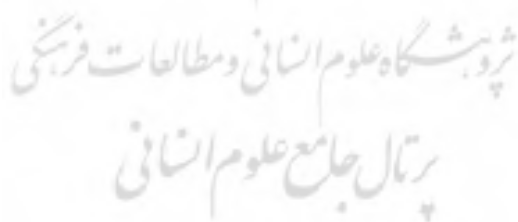
¹ Ph.D. Candidate in TEFL, Department of English Language and Literature, University of Isfahan, Isfahan, Iran; ORCID: <https://orcid.org/0000-0002-4993-9655>

² Corresponding Author, Associate Professor in TEFL, Department of English Language and Literature, University of Isfahan, Isfahan, Iran. Email: m.amiryousefi@fgn.ui.ac.ir, ORCID: <https://orcid.org/0000-0003-3779-1523>

³ Associate Professor in TEFL, Department of English Language and Literature, University of Isfahan, Isfahan, Iran; ORCID: <https://orcid.org/0000-0001-8521-0581>

psychological needs, intention to persist, intrinsic motivation, and negative emotions. The link for questionnaires was shared among the participants via email. SEM analysis showed that the students' perceptions of social and teaching presence had a positive relationship with their satisfaction of basic psychological needs, persistence, and intrinsic motivation. The results, however, showed that there was a negative relationship between the students' perceptions of social and teaching presences and boredom, anxiety, and shame. The results imply that providing opportunities for students to interact effectively with their instructors and peers in online classes in a socially supportive environment can lead to positive outcomes. The implications for online teaching and learning are discussed, and suggestions for further research are proposed.

Keywords: intrinsic motivation, negative emotions, persistence to learning, satisfaction of basic psychological needs for autonomy, relatedness, and competence, teaching presence and social presence



1. Introduction

The introduction of distance learning and online education has raised some concerns for practitioners regarding how to increase the quality of online classes (Naidu, 2021). One of the main concerns regarding online courses is the lack of teacher-student and student-student interactions (Caskurlu et al., 2020; Qi & Derakhshan, 2025; Wang et al., 2019). The other factor determining the outcome of online learning and dropout rates is motivation (Wang & Stein, 2021). Self-determination theory (SDT), a recent theory of motivation, has conceptualized how socio-contextual variables can either suppress or support students' motivation by fulfilling their basic psychological needs (Ryan & Deci, 2017). Indeed, besides making a distinction between extrinsic and intrinsic motivation, SDT implies that human beings have three basic psychological needs, i.e., competence, relatedness, and autonomy. The satisfaction of these basic psychological needs is believed to influence students' interpersonal interactions and enjoyment of learning or intrinsic motivation (Shah et al., 2021).

Community of Inquiry (CoI) is also a social-constructivist framework (Garrison et al., 2000), which examines the interactions in all educational settings. In this framework, three basic elements, i.e., cognitive presence, social presence, and teaching presence are addressed. The theory is significant in that through this framework, online educators can experience deep understanding, meaning-making, and trust (Peacock & Cowan, 2016). The concept of social presence makes understanding the psychological processes involved in distance education possible (Weidlich et al., 2022). Besides, it can be inferred from this theory that to meet the aforementioned psychological needs and have a high-quality learning experience, these three elements of presence should go hand in hand. On top of that, given the high rate of dropouts in online education (Chiyaka et al., 2016), this study is significant in that it finds variables that are related to persistence in learning. To date, although the significance of teaching and social presences are well-documented (Mutezo & Suné Maré, 2023; D'Alessio et al., 2019; Poquet et al., 2018) most of the available studies are limited to the context of developed countries. Moreover, although the importance of student retention and persistence in online courses is evident, little theoretical and empirical development is made (Dewberry & Jackson,

2018). Besides, despite evolutions made in L2 teaching using virtual platforms, there is a limited body of knowledge concerning how students' motivation, negative emotions, and intent to persist can be linked to social relations among students and instructors (Lee & Lim, 2022). Based on the existing literature, it can be argued that students' perceptions of social and teaching presences can predict their intrinsic motivation, lead to the satisfaction of their basic psychological needs, and decrease their negative emotions, which will consequently result in lower rates of course dropouts and a higher level of intent to persist (Molinillo et al., 2018; Law et al., 2019; Caskurlu et al., 2020; Lee & Lim, 2022). The purpose of the present study is to add to the existing literature by filling the above-mentioned lacunae. Therefore, the present research posits the following questions:

1. Is there any relationship between EFL learners' perceptions of teaching and social presences and their satisfaction of basic psychological needs in online classes?
2. Is there any relationship between EFL learners' perceptions of teaching and social presences and their negative emotions in online classes?
3. Is there any relationship between EFL learners' perceptions of teaching and social presences and their intent to persist in online classes?
4. Is there any relationship between EFL learners' perceptions of teaching and social presences and their intrinsic motivation in online classes?

2. Literature Review

2.1. Basic Psychological Needs and CoI

It is a widely acclaimed fact that motivation plays a vital role in second language learning (Li et al., 2025; Pourgharib & Shakki, 2024). Scholars now agree that motivated language learners actively pursue their language learning goals (Derakhshan et al., 2025). On the other hand, unmotivated language learners may be involved with procrastination and do not invest energies (Alamer, 2022). Therefore, scholars (Alamer, 2022; Shah et al., 2021) have always tried to examine different motivational perspectives to find out how motivation is related to L2 learning and how it can be fostered in different environments. SDT, one of the recent theories of

motivation dealing with the influence of socio-contextual variables on the satisfaction of basic psychological needs (Ryan & Deci, 2017), makes a distinction between the learning activities performed because of personal enjoyment and interest (intrinsic motivation) or because of external factors (extrinsic motivation). It states that human beings have three basic psychological needs of relatedness, competence, and autonomy, and these needs are best satisfied when learning activities are intrinsically motivated.

Autonomy refers to human beings' tendency of having a sense of volition and choice. It is considered to be among the factors playing a predominant role in the outcome of learning a foreign language (Ghassemi et al., 2023). Competence refers to human beings' tendency to successfully perform tasks and have a feeling of efficacy. Relatedness, on the other hand, refers to human beings' tendency of being connected to other members of a group (Ryan & Deci, 2000). Apparently, the satisfaction of these basic psychological needs is associated with interpersonal interactions and enjoyment of learning or intrinsic motivation (Shah et al., 2021). Consequently, the existence of these factors, i.e. interpersonal interactions or social presence and enjoyment of learning, is a determining factor for the success of educational systems and environments.

Research has shown that to satisfy students' basic psychological needs, teachers are important agents who can make a big difference (Turk et al., 2021). Besides, learners' basic psychological needs are likely to be influenced by the nature of online education (Chen & Jang, 2010). Müller et al. (2021) compared students' satisfaction of basic psychological needs during the distance learning period and before the Covid-19 pandemic. The results showed that the satisfaction level and intrinsic motivation were substantially lower, while frustration was significantly higher. These findings indicate that the satisfaction of basic psychological needs dropped substantially during the distance learning period.

Community of Inquiry (CoI) is, on the other hand, a social-constructivist model framework (Garrison et al., 2000), which examines the interactions that should exist in all educational settings. According to this model, three core elements, i.e., cognitive presence, social presence, and teaching presence should exist in educational

contexts if we want our students to have a high-quality learning experience. Social presence can be defined as the extent to which students feel that they have social and emotional connections with others. Cognitive presence, on the other hand, refers to students' abilities of meaning construction and confirmation. Finally, teaching presence refers to the obtainment of the learning goals through planning, facilitating, and directing of social and cognitive processes.

Social and teaching presences are two main foundations within CoI framework, which have the potential to satisfy students' basic psychological needs assumed within SDT theory (Turk et al., 2022; Zhao & Ma, 2018). As stated by Arbaugh et al. (2008), some of the factors contributing to social presence in online conditions are forming distinct impressions of others; developing a sense of belonging; conversing, participating, and interacting comfortably through the online medium; and developing a sense of trust and collaboration. These unique characteristics are believed to have the potential to support students' basic needs for relatedness, autonomy, and competence (Turk et al., 2022). The results of previous research represent that social presence in online classes plays a vital role in engaging students in effective intellectual and social interactions to construct knowledge and make meaning (Richardson et al., 2017). On top of that, social presence in online environments can not only give students a sense of support but also help them develop trust; this can make the learning and teaching environment a safe place where peers and instructors can develop their abilities (Meyer, 2014). When students perceive social presence, they feel connected to other classmates, which can further function as a source of inspiration and motivation for them to learn (Sweet & Michaelson, 2012).

Teaching presence, on the other hand, provides support to facilitate instruction and enhance students' learning (Garrison, 2017). Arbaugh et al. (2008) state that some of the unique elements of teaching presence in online social-contextual conditions are planning clear course structure and clear communication of course topics, encouraging students to control their learning, assisting students to understand their learning process, and helping them learn the course content. Concerning the importance of teaching presence, the study conducted by Ghaemi (2021) has shown that there is a significant relationship between this variable and students' sense of community. As posited by Anderson et al. (2001), the way by which teachers manage

the interactions and discussions inside the class and design the course can influence students' perception of the existence of teaching presence, which can, in turn, influence satisfaction of students' needs for autonomy, relatedness, and competence (Turk et al., 2022). Moreover, teaching presence is an indispensable and crucial necessity for students' perception of social and cognitive presence (Garrison et al., 2010). In the same vein, Caskurlu et al. (2020) argue that students' outcomes in online courses can be predicted to a large extent by the existence of teaching presence.

CoI model elucidates that teaching and social presences automatically exist in face-to-face learning environments (Garrison et al., 2000). However, when it comes to online learning environments, the story changes. Teaching presence and social presence are fundamental in virtual learning contexts (Johnson & Altowairiki, 2021). As suggested by SDT, there are powerful connections between teaching and social presences and need-supportive social-contextual conditions (Ryan & Deci, 2000). Previous studies have demonstrated that students' basic psychological needs for competence, autonomy, and relatedness can be satisfied by teaching and social presences (Ahn & Reeve, 2021; Shah et al., 2021; Chen & Jang, 2010; Turk et al., 2022). However, Turk et al. (2022) strongly believe that the link between CoI presences and basic psychological needs satisfaction should be examined in other contexts and institutions. Moreover, scholars (Ryan & Deci, 2000; Turk et al., 2022) believe that students' satisfaction of basic psychological needs has the potential to influence their intrinsic motivation, persistence, and negative emotions. However, the link between English as a foreign language (EFL) learners' perceptions of the existence of the presences, their satisfaction of basic psychological needs, and the mentioned factors is yet to be examined.

2.2. Persistence

Motivation also plays an important role in second language acquisition (SLA) and is defined as "the primary impetus to initiate L2 learning and later the driving force to sustain the long, often tedious learning process" (Dörnyei & Ryan, 2015, p. 72). One aspect of motivation is persistence, which has been mostly overlooked in the field of SLA. One explanation for the scarcity of research in this domain might be that doing

research on persistence requires longitudinal and resource-intensive research designs (Feng & Papi, 2020). More importantly, the available studies have tried to predict persistence either without using any theoretical framework (Yukselturk et al., 2014) or merely focusing on academic and social integration aspects.

In fact, persistence refers to students' willingness to complete the course they have enrolled in and has attracted researchers' attention because it is a great predictor of students' emotions, motivation, behaviors, and cognition (Jung & Lee, 2018). Cross-cultural awareness, a positive attitude toward the instructor, and engagement in L2 learning are related to L2 persistence (Awad, 2014). Language learners' perceptions of the importance of language learning and their success can lead to persistence (Loh, 2019). Fryer (2019) also argues that triggering learners' interest is the key to maintaining their persistence. In addition, research by Ivankova and Stick (2005) and Hart (2012) lend support to the fact that factors such as constructive feedback and meaningful input, and clarity and quality of communication and interactions between students and instructors can greatly influence students' persistence in online classes. Additionally, students' persistence can be enhanced by creating an active and social classroom atmosphere (Basko & McCabe, 2018). As the purpose of teaching and social presences assumed within CoI framework is creating active and socially interconnected environments, it can, therefore, be argued that they can have a direct effect on students' persistence in online courses (Jung & Lee, 2018).

2.3. Negative Emotions

Pekrun et al. (2002) made a comprehensive attempt to shed light on achievement emotions in academic contexts. They categorized emotions based on their valence into positive versus negative emotions. Thus far, research has shown that L2 classes are full of negative emotions. Dewaele et al. (2019) emphasize that negative emotions are usually experienced in the language learning process. Anxiety, negative evaluation by the instructor or peers, embarrassment, frustration, and shame are the most cited negative emotions (Suleimenova, 2013; Mendez, 2018). These negative emotions can exert detrimental effects on students such as demotivation, the use of shallow learning strategies, distractions, and irrelevant thoughts, which can reduce

students' cognitive resources for task performance (Pekrun et al., 2017). Moreover, they are highly likely to despair the optimal learning potential of L2 learners and weaken their L2 competence (Dewaele & MacIntyre, 2014). For instance, Teimouri (2018) takes the stance that guilt is positively linked with motivation and the final language outcome and achievement. Kruk and Zawodniak (2020) postulate that implementing one identical method of teaching repeatedly and not having variety in the class, focusing on topics that do not appeal to students are the main factors contributing to boredom and fatigue in classes.

2.4. Intrinsic Motivation

Intrinsic motivation is also one of the important affective variables that can be defined as “doing something because it is inherently interesting or enjoyable” (Ryan & Deci, 2000, p. 55). Given the tenets of SDT, those individuals who are actively involved and engaged in an activity solely for the sake of its enjoyment or pleasure resulting from performing it are intrinsically motivated (Ryan & Deci, 2000). L2 motivation involves an interrelationship of a variety of factors that are dynamic and vary over the course of time (Pishghadam & Shakeebae, 2020; Yaghoubinejad & Abbasi, 2019). It plays the role of an accelerator in working memory performance (Feng & Rawian, 2022). Since the dawn of computer-assisted or web-based language teaching, there have been some concerns about the extent to which motivation may suffer using the new medium of teaching and learning since there is a conventional assumption that language learning benefits the most from face-to-face environments (Pozón-López et al., 2020). Russell and Murphy-Judy (2020) proffer that students require higher levels of motivation in online classes than in face-to-face ones.

There are also several studies demonstrating that due to the lack of interaction, which exists between peers and instructors in traditional classes, in online courses, there is a problem with motivation as well as the emotional state of the students and accordingly in the outcome of learning (Händel et al., 2020; Holzer et al., 2021). Despite this, along with the findings gathered by research in the realm of language education, it is indicated that if online components are incorporated effectively, computer-assisted language learning systems have the potential to positively affect

L2 learners' motivation, and students can get the most satisfaction out of using virtual platforms (Pozón-López et al., 2020). Lee and Lim (2022) state that teaching and social presences can predict students' motivational growth in online classes. By the same token, Fiock (2020) argues that the three core elements of CoI (i.e., teaching, social, and cognitive) are required along with effective course design and facilitation to promote students' motivation and to reach a meaningful learning experience in online learning environments

However, the interrelationship of the perception of social and teaching presences and the satisfaction of basic psychological needs, persistence, intrinsic motivation, and negative emotions in online courses has not received the attention it deserves. Thus, this study aimed to see how the aforementioned variables are related to each other.

3. Methodology

3.1. Design

A correlational research design was used to examine the proposed link between the perception of teaching and social presences and satisfaction of basic psychological needs, persistence, intrinsic motivation, and negative emotions.

3.2. Participants

The participants were 200 (107 males and 93 females) Iraqi undergraduate students taking part in virtual university courses at the English departments of several institutions of higher education. The participants were from 22 to 39 years old and spoke Arabic as their native language. They majored in English Language Teaching and English Literature. The participants' level of language proficiency was at the intermediate level based on their scores on Oxford Placement Test. The scores of the participants were in the range of 41 to 60 which is regarded as the intermediate level of proficiency based on the guidelines of the test. According to their self-reports, all of them had the experience of learning English using virtual space and online platforms and over the course of data collection they were passing online English

courses. To select the participants, convenience sampling was applied.

3.3. Instruments

3.3.1. Community of inquiry survey

The CoI survey scale designed by Arbaugh et al. (2008) was used to gather data on the participants' perceptions of teaching and social presence. This scale contains 34 items divided into three sections of teaching presence, social presence, and cognitive presence. Considering the aim of this study, the first two sections of the scale consisting of 22 items on teaching presence ($N = 13$ items) and social presence ($N = 9$ items) were used. The participants responded to the items on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The higher the score for each item, the higher the level of that specific presence will be. The reliability of social presence and teaching presence subscales was reported by Turk et al., (2022) to be ($\alpha = 0.883$) and ($\alpha = 0.924$) respectively. The Cronbach's alpha for the social presence section in the present study was 0.874 and 0.90 for teaching presence.

3.3.2. Achievement emotion questionnaire (AEQ)

The AEQ developed by Pekrun et al., (2011) was used to measure emotions experienced by EFL learners in their online classes. The items on the scale are classified into two distinct categories: negative-activating versus negative-deactivating emotions. The emotions that were included are anger ($N = 8$ items), anxiety ($N = 11$ items), and shame ($N = 11$ items) as negative activating emotions, and hopelessness ($N = 10$ items), and boredom ($N = 11$ items) as negative-deactivating emotions. The original items of the questionnaire are 53; however, after piloting the scale with 20 students, it was reported that the majority of them had problems with items number 2 and 11 of the scale. Therefore, the researchers decided to rule out these two items, and 51 items were used in this research. Pekruan et al. (2011) reported the reliability indexes of $\alpha = .86$ for anger, $\alpha = .86$ for anxiety, $\alpha = .89$ for shame, $\alpha = .90$ for hopelessness, and $\alpha = .93$ for boredom. The items were rated based on the anchor points of 1= strongly disagree to 5= strongly agree.

3.3.4. Basic psychological needs satisfaction (BPNS) scale

To examine the participants' perceptions of the satisfaction of basic psychological needs, the scale developed by Goldman et al. (2017) including 24 items on autonomy (8 items), competence (8 items), relatedness with classmates (4 items), and relatedness with the instructor (4 items) was used. The participants were asked to rate the items on a 5-point scale ranging from 1 = Not at all true to 5 = Very true. Goldman, Goodboy, and Weber (2017) reported Cronbach alpha reliability coefficients of 0.94 for competence, 0.88 for autonomy, 0.86 for relatedness with classmates, and 0.81 for relatedness with the instructor.

3.3.5. Intrinsic motivation scale

To measure the participants' level of intrinsic motivation, the Intrinsic Motivation Scale developed and validated by Goldman et al. (2017) was used. This instrument contains 10 items assessing students' interest and enjoyment in both online and face-to-face classes. The participants were asked to rate the items using a 7-point scale ranging from 1 = strongly disagree to 7 = strongly agree. The reliability estimate for the scale in this study was 0.898.

3.3.6. Students' intent to persist scale

To examine the participants' intent to persist, the Students' Intent to Persist items developed by Feng and Papi (2020) were used. The original items devised by Feng and Papi (2020) were used for persistence in learning Chinese. However, considering the purpose of this study, the items were reformed by replacing 'learning Chinese' with learning English online. The participants responded to the items based on a 6-point Likert scale with 1 representing Strongly Disagree and 6 representing Strongly Agree. In this study, Cronbach's reliability estimate for the questionnaire was 0.89.

3.4. Procedure

Consequent to obtaining the necessary permissions, university instructors were requested to share the online questionnaires, which had gone through validity and reliability checks as well as piloting with a group of 20 university students resembling the main sample. By sharing the questionnaires, the participants were provided with a link containing inventories on Community of Inquiry Survey, Students' Intent to Persist, Negative Emotions, Intrinsic Motivation, and Satisfaction of Basic Psychological Needs scales. The participants were asked to read the items carefully and rate them based on the response categories available.

3.5. Data Analysis

SPSS version 26.0 was used for calculating descriptive statistics and Smart PLS 3.3 software was used for partial least squares (PLS) and examining the outer (i.e., validity and reliability) and inner models (i.e., hypotheses testing). After checking the assumption of sample size and data normality, structural equation modeling (SEM) was run.

4. Results

4.1. Preliminary Analyses

Table 1 indicates the means, standard deviations, Kurtosis, Skewness, and intercorrelations of the variables investigated in this study. As the results suggest, there was no violation of normality for each variable. Besides, all variables had skewness and kurtosis values within -2.0 and $+2.0$.

Table1*Measurement Model, Collinearity Statistics, and descriptive statistics*

| Construct | Measurement | | | Collinearity ity VIF | Descriptive | | Normality | |
|------------------------------|--------------------------------|-------|-------------|----------------------------|-------------|-----------|--------------|--------------|
| | loadi ng | t | p | | Mea n | SD | Skewn ess | Kurto sis |
| Achievement Emotions | Anger | 0.845 | 38.00 3 | 0.00 0 | 21.0 95 | 6.20 6 | 0.600 | 0.780 |
| | Anxiety | 0.929 | 93.19 8 | 0.00 0 | 31.1 00 | 8.01 1 | 0.281 | 0.274 |
| | Boredom | 0.818 | 30.97 0 | 0.00 0 | 31.6 90 | 8.11 4 | 0.232 | -0.170 |
| | Hopelessness | 0.83 | 34.52 3 | 0.00 0 | 28.6 20 | 6.76 4 | 0.193 | 0.250 |
| | Shame | 0.929 | 109.2 58 | 0.00 0 | 29.8 40 | 8.42 4 | 0.181 | 0.267 |
| Basic Psychological Needs | Autonomy | 0.828 | 33.90 5 | 0.00 0 | 24.1 25 | 6.36 8 | -0.175 | -0.370 |
| | Competence | 0.854 | 37.16 8 | 0.00 0 | 26.9 05 | 5.89 8 | -0.374 | 0.329 |
| | Relatedness with Classmates | 0.903 | 68 0 | 0.00 0 | 12.6 45 | 3.22 0 | -0.164 | 0.053 |
| | Relatedness with Instructor | 0.927 | 93.85 4 | 0.00 0 | 12.7 20 | 3.45 7 | -0.107 | -0.097 |
| | Teaching Presence | | | 1.649 | 42.7 65 | 8.02 5 | -0.294 | -0.478 |
| Community of inquiry | Social Presence | | | 1.649 | 24.2 55 | 5.61 0 | -0.079 | 0.293 |
| | Intrinsic Motivation | | | | 28.4 05 | 6.39 2 | -0.266 | 0.454 |
| | Persistence | | | | 20.2 35 | 4.73 1 | 0.053 | -0.158 |

4.2. Assessing the Measurement Model

To assess the construct validity of the questionnaires used in the study, their items were subject to CFA using AMOS 24. As suggested by Kline (2015), the recommended values for loadings are set at > 0.5 , the average variance extracted (AVE) should be > 0.5 , and the composite reliability (CR) should be > 0.7 . AVE values were 0.528 for social presence, 0.767 for relatedness with the instructor, and CR values were 0.878 for relatedness with classmates, and 0.973 for achievement emotions. Thus, all AVE and CR values were above the threshold. Table 2 provides

the fit indices for the final CFA model. Further, from Figure 1 it can be seen that we had achievement emotions and basic psychological needs as second-order constructs.

Table 2

Model Fit Summary

| Model | Chi-square/DF | NFI | IFI | TLI | CFI | RMSEA | GFI | AGFI |
|---------------------------|---------------|-------|-------|-------|-------|-------|-------|-------|
| Achievement Emotions | 2.371 | 0.924 | 0.938 | 0.904 | 0.937 | 0.075 | 0.894 | 0.854 |
| Basic Psychological Needs | 2.007 | 0.932 | 0.965 | 0.951 | 0.964 | 0.064 | 0.944 | 0.908 |
| Overall Model | 2.524 | 0.917 | 0.947 | 0.933 | 0.947 | 0.08 | 0.917 | 0.876 |
| Critical Value | <3 | >0.9 | >0.9 | >0.9 | >0.9 | >0.9 | >0.8 | >0.8 |

Table 3. shows that the results of the measurement model exceeded the recommended values indicating sufficient convergence validity.

Table 3

Construct Reliability and Validity

| Construct | CA | Rho_A | CR | AVE | MSV |
|-----------------------------|-------|-------|-------|-------|-------|
| Critical Value | >0.6 | >0.7 | >0.7 | >0.5 | <AVE |
| Anger | 0.912 | 0.915 | 0.929 | 0.619 | 0.426 |
| Anxiety | 0.924 | 0.929 | 0.936 | 0.573 | 0.472 |
| Autonomy | 0.908 | 0.91 | 0.926 | 0.611 | 0.472 |
| Boredom | 0.916 | 0.92 | 0.93 | 0.547 | 0.48 |
| Competence | 0.904 | 0.906 | 0.923 | 0.6 | 0.598 |
| Hopelessness | 0.878 | 0.898 | 0.902 | 0.589 | 0.598 |
| Intrinsic Motivation | 0.898 | 0.91 | 0.919 | 0.561 | 0.581 |
| Persistence | 0.898 | 0.905 | 0.921 | 0.661 | 0.468 |
| Relatedness | 0.889 | 0.895 | 0.912 | 0.767 | 0.454 |
| Relatedness with Classmates | 0.814 | 0.823 | 0.878 | 0.643 | 0.48 |
| Relatedness with Instructor | 0.864 | 0.872 | 0.908 | 0.713 | 0.429 |
| Shame | 0.921 | 0.923 | 0.933 | 0.561 | 0.429 |
| Social Presence | 0.874 | 0.895 | 0.899 | 0.528 | 0.453 |
| Teaching Presence | 0.9 | 0.903 | 0.916 | 0.559 | 0.426 |
| Achievement Emotions | 0.972 | 0.974 | 0.973 | 0.624 | - |
| Basic Psychological Needs | 0.945 | 0.946 | 0.95 | 0.743 | - |

Note: AVE = Average Variance Extracted, CR = Composite Reliability, CA=Cronbach Alpha. MSV=Maximum Squared Loading

After confirming the convergent validity, the discriminant validity was examined. To do so, the square root of the AVE was compared with correlations. The results are provided in Table 4. It can be seen that the values in the diagonals are greater than the values in their respective row and column indicating that the measures used in this study are distinct.

Table 4

Square Root AVE and Correlations of Latent Variables (Discriminant Validity)

| Construct | Ang | Anx | Aut | Bor | Com | Hop | IM | Per | RC | RWC | Sh | SP |
|-----------------------------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Anger | 0.787 | | | | | | | | | | | |
| Anxiety | 0.601 | 0.757 | | | | | | | | | | |
| Autonomy | -0.394 | -0.304 | 0.781 | | | | | | | | | |
| Boredom | 0.535 | 0.687 | -0.055 | 0.74 | | | | | | | | |
| Competence | -0.33 | -0.327 | 0.499 | -0.391 | 0.774 | | | | | | | |
| Hopelessness | 0.615 | 0.685 | -0.055 | 0.642 | -0.309 | 0.799 | | | | | | |
| Intrinsic Motivation | -0.155 | -0.367 | 0.66 | -0.31 | 0.773 | -0.372 | 0.749 | | | | | |
| Persistence | -0.362 | -0.377 | 0.587 | -0.317 | 0.699 | -0.385 | 0.762 | 0.813 | | | | |
| Relatedness with Classmates | -0.395 | -0.375 | 0.567 | -0.307 | 0.607 | -0.324 | 0.684 | 0.626 | 0.802 | | | |
| Relatedness with Instructor | -0.324 | -0.34 | 0.625 | 0.024 | 0.603 | -0.32 | 0.606 | 0.651 | 0.674 | 0.844 | | |
| Shame | 0.653 | 0.635 | -0.308 | 0.693 | -0.425 | 0.632 | -0.335 | -0.351 | -0.353 | -0.318 | 0.749 | |
| Social Presence | -0.313 | -0.307 | 0.595 | -0.423 | 0.532 | -0.48 | 0.655 | 0.6 | 0.505 | 0.607 | -0.073 | 0.727 |

*The diagonal figures in bold indicate the average variances extracted (AVE) for constructs.

4.3. Structural Equation Modeling

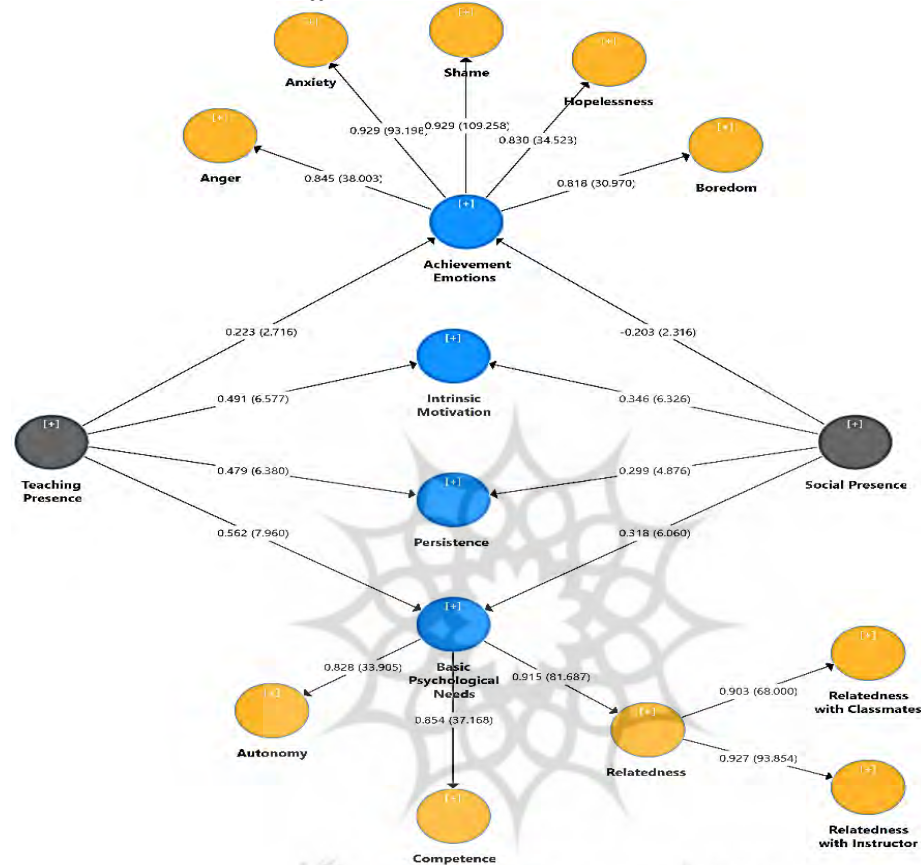
To examine the effect of teaching and social presence on the satisfaction of basic psychological needs, intrinsic motivation, persistence, and negative emotions, the hypothesized structural model was submitted to AMOS 24. The results were ($t=2.58$ $P<0.01$ and $t=1.96$ $P<0.05$). Table 5 and Figure 1 show the structural model analysis.

Table 5
Structural Model Results

| Hypothesis | Beta | t-value | P | R ² | R ² _{adjusted} | Result | Sign |
|--|--------|---------|-------|----------------|------------------------------------|-----------|------|
| Social Presence -> Achievement Emotions | -0.203 | -2.316 | 0.034 | 0.38 | 0.367 | Supported | - |
| Teaching Presence -> Achievement Emotions | -0.223 | 2.716 | 0.07 | | | Supported | - |
| Social Presence -> Intrinsic Motivation | 0.346 | 6.326 | 0.00 | 0.574 | 0.57 | Supported | + |
| Teaching Presence -> Intrinsic Motivation | 0.491 | 6.577 | 0.00 | | | Supported | + |
| Social Presence -> Basic Psychological Needs | 0.318 | 6.06 | 0.00 | 0.64 | 0.637 | Supported | + |
| Teaching Presence -> Basic Psychological Needs | 0.562 | 7.96 | 0.00 | | | Supported | + |
| Social Presence -> Persistence | 0.299 | 4.876 | 0.00 | 0.498 | 0.493 | Supported | + |
| Teaching Presence -> Persistence | 0.479 | 6.38 | 0.00 | | | Supported | + |
| Social Presence -> Anger | 0.019 | 0.182 | 0.855 | 0.046 | 0.036 | NA | |
| Teaching Presence -> Anger | -0.226 | -2.204 | 0.028 | | | Supported | - |
| Social Presence -> Anxiety | -0.138 | -2.362 | 0.031 | 0.051 | 0.041 | Supported | - |
| Teaching Presence -> Anxiety | -0.248 | -2.941 | 0.03 | | | Supported | - |
| Social Presence -> Hopelessness | 0.059 | 0.407 | 0.685 | 0.035 | 0.025 | NA | |
| Teaching Presence -> Hopelessness | -0.218 | -2.563 | 0.019 | | | NA | |
| Social Presence -> Shame | -0.186 | -2.779 | 0.07 | 0.144 | 0.135 | Supported | - |
| Teaching Presence -> Shame | -0.253 | -2.665 | 0.07 | | | Supported | - |
| Social Presence -> Boredom | -0.188 | -2.649 | 0.07 | 0.18 | 0.16 | Supported | - |

| Hypothesis | Beta | t-value | P | R ² | R ² _{adjusted} | Result | Sign |
|--|--------|---------|--------|----------------|------------------------------------|-----------|------|
| Teaching Presence -> Boredom | -0.173 | -2.471 | 0.0836 | 0.0 | 0.0 | Supported | - |
| Social Presence -> Autonomy | 0.33 | 4.654 | 0.001 | 0.466 | 0.461 | Supported | + |
| Teaching Presence -> Autonomy | 0.426 | 6.886 | 0.001 | 0.0 | 0.0 | Supported | + |
| Social Presence -> Competence | 0.205 | 3.12 | 0.002 | 0.446 | 0.441 | Supported | + |
| Teaching Presence -> Competence | 0.52 | 6.584 | 0.001 | 0.0 | 0.0 | Supported | + |
| Social Presence -> Relatedness with Classmates | 0.218 | 2.606 | 0.009 | 0.384 | 0.378 | Supported | + |
| Teaching Presence -> Relatedness with Classmates | 0.459 | 5.101 | 0.001 | 0.0 | 0.0 | Supported | + |
| Social Presence -> Relatedness with Instructor | 0.304 | 4.84 | 0.001 | 0.509 | 0.504 | Supported | + |
| Teaching Presence -> Relatedness with Instructor | 0.482 | 6.256 | 0.001 | 0.0 | 0.0 | Supported | + |

As shown in Table 5 and Figure 1, teaching and social presence could positively predict the satisfaction of basic psychological needs, persistence, and intrinsic motivation; however, they could negatively predict shame, anxiety, and boredom. SEM indicated that social presence ($\beta = 0.019$; $P > 0.05$) did not have a significant effect on anger. However, teaching presence ($\beta = -0.226$; $P < 0.05$) was found to have a negative effect on this negative emotion. There was no significant relationship between social presence and hopelessness ($\beta = 0.059$; $P > 0.05$). However, the results were representative of the significant negative effect of teaching presence ($\beta = -0.218$; $P < 0.05$) on hopelessness. Both social and teaching presence could negatively predict shame, anxiety, and boredom.

Figure 1*Paths Standardized Coefficient and Absolute T-value (t)*

5. Discussion

5.1. Teaching and Social Presence in Relation to the Satisfaction of Basic Psychological Needs

This research showed perceived teaching and social presence is linked to the satisfaction of basic psychological needs. Therefore, our findings can empirically support the significant role played by the former in predicting the latter in online learning environments. These findings emphasize the necessity of providing support for online students both on part of teachers and classmates (Wang et al., 2019). The

results are, therefore, in line with Hsu et al. (2019) stating that teaching and social presences set the ground for providing an effective online pedagogy in which students can fulfill their SDT needs. This study also endorses the findings of Turk et al. (2022) suggesting that social and teaching presences are predictors of the satisfaction of basic psychological needs.

The positive correlation between teaching and social presence perception can be justified in the light of SDT theory. Consistent with SDT principles, the need for competence is met by social-contextual factors such as teachers' motivating styles, the structure of the course, and the supportive or controlling role of the teacher (Ryan & Deci, 2000). If online students consider their teacher as a person who is eager to provide them with clear instructions regarding the most proper way of performing online tasks, help them to understand the topics of the sessions, and provide them with constructive feedback concerning their progress in the process of learning, they will gain the necessary levels of self-confidence and perceive themselves to be capable of gaining new knowledge in distance education, in so doing students' need for competence can be catered for. Indeed, providing students with support and feedback that is indicative of their progress and capability can help them optimally satisfy the need for competence (Niemic & Ryan, 2009). By the same token, the positive correlation between the perception of social presence and satisfaction of the need for relatedness can also be explained by SDT. When students feel that they have positive interactions with their classmates and teacher, they are highly probable to feel a sense of relatedness. In fact, relatedness is satisfied in social-contextual environments involving social interactions along with the support of students' autonomy (Standage et al., 2006).

5.2. Teaching and Social Presence in Relation to Intrinsic Motivation

The results of the present study represented a strong positive link between teaching and social presence and intrinsic motivation. This finding corroborates the results of the research by Lee and Lim (2022) showing that the perception of teaching and social presences is deemed to be a critical factor determining motivational growth. These positive associations are consistent with Cole et al's (2017) research stating

that students' perception of teaching presence can be regarded as a strong predictor of motivation in online courses. These positive correlations show that providing teaching and social support can help students maintain their motivation in their classes. Our results also support the results of Law et al. (2019) stating that teaching and social presences influence motivation.

In addition, these results imply a correlation between instructor characteristics and students' level of intrinsic motivation. If students feel that their teachers are personable and approachable, they may perceive him/her as supportive enough to help them overcome the difficulties they might encounter while processing course information (Finn et al., 2009). The high perceptions of support provided by the teacher along with immediate assistance can serve as encouragement for students to pursue their academic program (Witt, 2014). As it is pointed out by Ryan and Deci (2000), under the conditions that autonomy and competence are supported, the human motivational tendency will be fostered. These researchers further explain that in social contexts that are responsive to individuals' basic psychological needs, motivational growth will be reliably facilitated.

The results of this study also corroborate the findings of Bowers and Kumar (2015) in that there is a positive relationship between instructor responsiveness, students' perceptions of connectedness and interactivity, satisfaction, and motivation. They mentioned that a deep understanding of these concepts can be of great help in designing online learning environments with high effectiveness. Likewise, research has demonstrated that when the frequency of interaction especially between peers and instructors is not high, students' motivation will decrease (Meşe & Sevilen, 2021).

5.3. Teaching and Social Presence in Relation to Negative Emotions

The findings of the present study showed that there was a negative relationship between the participants' perception of the existence of teaching and social presence and their feelings of anxiety, shame, and boredom. However, neither teaching presence nor social presence showed a significant relationship with hopelessness. Likewise, there was not a significant relationship between social presence and anger.

These findings can be discussed considering SDT (Deci & Ryan, 1985). Competent teachers tend to deliver their course materials in a way that everything is clear and understandable enough for students. They also try to present their instruction in a way that is appropriate and compatible with the pace of their students' learning. To do so, they take into account the level and potential of their students. These teachers make their students feel that they pay attention to the students their interests and concerns. These elements can reduce the psychological distance between instructors and students. As a result, they can help anxious students to experience less anxiety and defensiveness since they will not be afraid of participating in the course and will, hence, become engaged in the learning process. In other words, they will feel fewer levels of anxiety as well as shame in class.

Another probable reason for the negative relation between perception of social and teaching presence and anxiety, shame, and boredom might be that students who perceive their class with high levels of social and teaching presence, are encouraged to have active communication with their instructor and peers, and are, therefore, highly motivated to learn, attend their class, and study the materials; this can help students be more successful, which can enhance their positive affect and emotion. The other plausible justification is that as it is found by Asoodar et al. (2014), those students who get higher scores on the CoI scale, usually have better academic performance, which can help them have positive feelings in the class.

5.4. Teaching and Social Presence in Relation to Persistence

A significant positive correlation was found in the present study between teaching and social presence and students' persistence to continue distance education. This finding verifies that of Lakhal et al. (2021) in that engagement, encouragement, and facilitating conditions are the major drivers of persistence in online education. As it was found by Awad (2014), L2 persistence is related to L2 learners' positive perception of the role of their teacher. This research supports Ilyas' (2020) suggestion that the persistence or drop-out decisions of students are guided by online students' peers, denoting that the emotional support provided by online educators' closely related people can be very influential in their intention to persist. Likewise, this result

corroborated the results of Khammat Al-iessa et al. (2023) stating that the components of the community of inquiry are predictors of L2 learners' engagement and attention in online courses.

This result implies that students persist in online language learning courses as long as they perceive support on the part of their teachers and classmates. These results can also be explained by SDT, suggesting that the learning environments in which students feel that they are interpersonally connected to one another and to their instructors, feel competent enough to comprehend the materials of the course (Deci & Ryan, 1985, McCroskey & Teven, 1999). As formulated by Ivankova and Stick (2005), it is irrefutable that a sense of virtual community acts as the most important contributor to student persistence. On the contrary, non-persistent students have a low sense of community. That link is also in line with the result of research done by Liu et al. (2009), stating that there is a strong positive relationship between student retention and social presence.

6. Conclusion

This study investigated the relationship between Iraqi EFL students' perception of social and teaching presences and their satisfaction of basic psychological needs, persistence, intrinsic motivation, and negative emotions in online courses. The findings imply that high levels of perception of teaching and social presence can contribute to the satisfaction of basic psychological needs and develop intrinsic motivation and persistence. Furthermore, the findings show that teaching and social presence can negatively predict negative emotions in online classes. These findings are deemed valuable in that the satisfaction of basic needs exerts an influence on motivation, engagement, and final achievement (Hsu et al., 2019; Wang et al., 2019). This study suggests that students with a low level of motivation can be encouraged by incorporating a well-organized course design and providing sufficient support and encouragement. It is also suggested that a positive atmosphere in which students can share their ideas and feel a sense of community can boost their motivation and satisfy their psychological needs, while at the same time decreasing the probability of feeling negative emotions. The researchers hope that the results of this study can raise online

instructors' awareness about the significance and effect of their course design, support, and facilitation on language learners' persistence, intrinsic motivation, and satisfaction of psychological needs. Hopefully, the findings can help practitioners to hold efficient and more effective L2 online courses.

This research had some limitations. First, this research was restricted to the shortcomings of correlational research not providing cause-effect relation inference. Second, since the study was quantitative, the data were collected through questionnaires. Third, our population was limited to Iraqi EFL students. Future research can examine students' attitudes by collecting data from other methods of data collection such as interviews. Furthermore, future studies are suggested to examine the link between social and teaching presences and basic needs satisfaction in online courses in other contexts.



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About the Authors

Salman Hintaw Abdulhussein is a PhD candidate in the Department of English Language and Literature at the University of Isfahan, Iran.

Mohammad Amiryousefi is an Associate Professor in Applied Linguistics (TESOL) in the Department of English Language and Literature at the University of Isfahan, Iran. His research interests include Computer-Assisted Language Learning (CALL), Task-Based Language Teaching (TBLT), and Second Language Acquisition (SLA). He has contributed to numerous publications in these areas and is recognized for his expertise in English as a Foreign Language (EFL) education .

Manijeh Youhanaee is an Associate Professor in Applied Linguistics (TESOL) in the Department of English Language and Literature at the University of Isfahan, Iran, specializing in English language teaching and Second Language Acquisition. Her research focuses on various aspects of language learning, including vocabulary acquisition, language teaching methodologies, and the cognitive processes involved in language learning. She has authored and co-authored multiple publications in these fields.

