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Article abstract

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Understanding the Relationship Among Self-Efficacy, Utility Value, and the Community of Inquiry Framework in Preservice Teacher Education

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Abstract

School closures during the COVID-19 pandemic have shown the importance of distance education, and teachers have been tasked with designing and delivering online courses in a short amount of time without much preparation or deliberation. As the future generation of teachers, preservice teachers need to be prepared to teach online, and their motivation to do so is a key factor in how successfully they do it. The community of inquiry framework provides researchers and practitioners with a framework for designing and delivering online courses, while self-efficacy and utility value are important motivational constructs predicting future engagement and success in tasks. In this cross-sectional survey study, we investigated preservice teachers' (n = 344) perceptions of their self-efficacy, utility value, the importance of the three components of the community of inquiry framework: teaching presence, social presence, and cognitive presence. Our results show that overall, preservice teachers had high motivation to teach online and high perceptions of the three presences. Our regression analyses indicated that while preservice teachers' self-efficacy was a significant predictor of teaching presence, utility value only significantly predicted social presence. We discuss the implications of these findings for teacher education programs, including a holistic approach to teaching online learning and instructional design.

Keywords: distance education, teacher education, community of inquiry, self-efficacy, utility value

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Despite its long history, it was not until the COVID-19 pandemic that distance education became the primary mode of education for almost all educational institutions around the world. Before the pandemic, countries preferred traditional, in-person instruction. Particularly in K–12 settings, computer-supported distance learning was rarely used. As a result, most institutions did not have the required experiences and preparations to develop and deliver effective online learning experiences during the school closures of 2020. Furthermore, it has been revealed that neither learners nor teachers were fully prepared in terms of individual efficacies and using technological hardware and software facilities to teach and learn online (Mishra et al., 2020; Rapanta et al., 2020).

Given the increasing importance of teaching online, the future generation of teachers will be required to engage in designing and creating effective online learning environments. This necessitates that they are introduced to pedagogical and design-related aspects of online learning during their preservice education. Therefore, teacher education programs along with professional development activities carry the responsibility of preparing future and current teachers for teaching and learning online.

Previous studies regarding online learning support the community of inquiry (CoI) as a well-founded theoretical framework to understand the process and planning online learning in line with both instructors' and learners' experiences, interests, and needs (Garrison & Akyol, 2013; Garrison & Arbaugh, 2007). CoI has been one of the most used and cited theoretical frameworks in research on online teaching and distance education in the last decade (Bozkurt et al., 2015; Kim & Gurvitch, 2020; Valverde-Berrocoso et al., 2020). According to the CoI framework, there are three main components of regulating and preserving the effectiveness of online learning in educational settings: teaching presence, social presence, and cognitive presence (Garrison et al., 1999). The framework has been frequently tested in research studies focusing on online learning to improve students' learning experiences (Burgess et al., 2010; Garrison et al., 2010; Kazanidis et al., 2018; Rubin et al., 2013).

For both preservice and in-service teachers, motivation for effectively integrating technology is as essential as having the skills required for effective teaching (Ertmer et al., 2012). Creating and teaching online courses also operate on similar principles. To this end, one of the prominent motivation theories, expectancy–value theory (Wigfield, 1994; Wigfield & Eccles, 2000), has been used as a framework to understand individuals' task choices and success in those tasks. According to this theory, one's belief that they can do a task (i.e., expectancies) and the value they place on the task (e.g., utility value) are predictors of their success in the task (Wigfield et al., 2004). Such a task may be, for students, success in coursework or, for teachers, integration of technology or ability to teach online.

Aiming to understand both the underlying motivational processes and perceptions of the CoI framework, our purposes in this study were to (a) investigate the perceptions of preservice teachers in terms of their approaches to online teaching from the CoI perspective, and (b) examine the relationship between the components of CoI and some key motivational factors that influence preservice teachers' perceptions.

Background

The Community of Inquiry Framework

The CoI framework places community, critical thinking, and knowledge construction at the center of learning, especially in the online learning process (Garrison & Archer, 2000). The framework is based on Dewey's progressive education approach and is built on the social constructivist perspective (Kim & Gurvitch, 2020). Dewey (1959) thought that educational experiences should serve the common interests of the individuals and society, that individual development depends on the community, and that learners' inquiry process is at the center of educational experiences. Dewey viewed cooperative learning, constructivism, and practical inquiry as at the heart of the CoI framework; these are thought to guide the theory and practice to be used during the online learning process. It should be noted, however, that due to this specific pedagogical and epistemological emphasis, there may be situations where following the CoI framework may not be feasible or necessary.

The three components of the CoI framework (i.e., social, cognitive, and teaching presence) are based on experiences and enhance the quality of online learning (Garrison et al., 1999). Social presence includes affective expression, open communication, and group cohesion. It focuses on "the ability of participants to identify with the group or course of study, communicate purposefully in a trusting environment, and develop personal affective relationships progressively by way of projecting their individual personalities" (Garrison, 2009, p. 352). Social presence also focuses on the communication skills of learners and supports the promotion of a collaborative learning environment (Akyol & Garrison, 2011). It is regarded as a mediating variable between the other two components of the CoI (Garrison et al., 1999, 2010).

Cognitive presence refers to "the extent to which learners are able to construct and confirm meaning through sustained reflection and discourse in a critical community of inquiry" (Garrison et al., 2001, p. 11). Its focus is on students' development of meaningful knowledge and centers on four phases: (a) a triggering event, (b) exploration, (c) integration, and (d) resolution (Garrison et al., 2001). A triggering event can be the identification of a problem that requires extra inquiry; exploration involves critical reflection and discourse to investigate an issue; integration means to construct meaning based on the explored ideas; and resolution denotes applying the recently developed knowledge to the school environment.

Finally, teaching presence focuses on "the design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes" (Anderson et al., 2001, p. 5). According to Anderson et al. (2001), teaching presence has three subdimensions: (a) instructional design and organization, (b) facilitation of discourse, and (c) direct instruction. Research results show that teaching presence is necessary for creating and sustaining the CoI environment (Anderson et al., 2001; Joo et al., 2011; Pardo & Peñalvo, 2008; Pecka, 2014; Van Niekerk, 2015).

Self-Efficacy

Self-efficacy refers to one's perceptions or beliefs about one's perceived ability to learn or fulfill tasks at certain levels and an individual's belief in successfully performing a task related to learning or practice (Bandura, 1986). Studies examining the relationship between self-efficacy and academic achievement have

revealed that self-efficacy predicts academic achievement and that individuals with high self-efficacy are more inclined to perform tasks, are more determined, and work harder (Ferede et al., 2016; Valentine et al., 2004; Vogel & Human-Vogel, 2016; Wang & Finch, 2018).

The sources of self-efficacy imply that experiences, both mastery and vicarious, play a crucial role in the formation of self-efficacy beliefs (Bandura, 1997). While mastery experiences are related to the gains we make when we take on a new task and successfully complete it, vicarious experiences are those in which self-efficacy is achieved by observing and imitating a role model who accurately completes a specific task. Therefore, self-efficacy alone can be thought of as both a cause and an effect, which is changed and affected by the educational experiences and collaborative environment in a community of inquiry (Akyol & Garrison, 2011).

Self-Efficacy in Online Teaching and Learning

In the online learning process, self-efficacy is an important element that encourages productive and self-directed learning while also contributing to learners overcoming the effect of being alone (Hodges, 2008; Ponton et al., 2005; Song & Hill, 2007). Furthermore, teacher self-efficacy is an essential variable in explaining the integration of technology in classroom activities (Kwon et al., 2019). For this reason, self-efficacy might be considered a prerequisite for success in online learning environments (Taipjutorus et al., 2012; Yavuzalp & Bahcivan, 2020). In addition, high self-efficacy is closely related to feeling able to work independently and able to self-regulate a learning process, which is very important in online learning environments (Busch, 1996; Putarek & Pavlin-Bernardić, 2020).

Self-efficacy in the context of online learning also has an essential role in determining students' confidence level to accomplish learning tasks. Therefore, we think that self-efficacy, required to describe and identify active and successful learners, could be a very important component for the development of a theoretical framework for online education, especially in the absence of a traditional classroom environment.

In each of the CoI framework's components, along with psychological features of learners (e.g., attitudes, efficacy, and motivation) and sociological aspects (e.g., collaboration and interaction), there are experiences Dewey (1986) advocates as the roots of learning and Bandura (1997) shows as the source of self-efficacy. Both psychologists have emphasized the importance of experiences and interaction in the learning process. With an emphasis on learning by doing and living, Dewey advocated the same thoughts as Bandura about students' experiencing and interacting with a concept so that they could learn.

A relationship exists between teacher self-efficacy and the intention to use technology (Joo et al., 2018; Park, 2009; Teo & Zhou, 2014; Valtonen et al., 2015). Similarly, research results (e.g., Anderson et al., 2011) have shown that preservice teachers' beliefs regarding the importance of using technology in the classroom significantly predicted their intention to use technology. Researchers also state that the intention to use information and communication technologies is positively affected by the self-efficacy of preservice teachers (Joo et al., 2018; Valtonen et al., 2015). Based on prior research, in this study, we propose that self-efficacy can function as an antecedent for supporting the components in the CoI framework.

Utility Value

As a component of the expectancy–value theory (Eccles, 1983), utility value refers to the value of a task in terms of its usefulness for one's future life. Utility value or the prospective relevance of a task can be in the form of, for example, a course's usefulness for a student's future career plans (Hulleman & Harackiewicz, 2009). These real-life connections may not be readily visible to individuals; therefore, support might be needed for them to find and understand these connections (Hulleman et al., 2017).

In the context of online teaching, especially considering the experiences of preservice teachers in their formal educational experiences, it may not always be possible for them to seek and understand the relevance of online teaching skills for their future teaching. Notably, learning about distance education conceptually may not also mean developing perceived value and interest in it to engage with this task in the future. In the context of online learning, we do not know how the utility value of distance learning (a) varies among preservice teachers and (b) relates to the CoI framework's specific components. Therefore, in this study, we also investigated the relationship between utility value and preservice teachers' perceptions toward online teaching in the context of CoI.

The Present Study

Given the increasing importance of distance education, in this study, our purpose was to investigate the perceptions of future teachers toward teaching online from a CoI framework perspective. Therefore, we first descriptively investigated the perceptions of preservice teachers:

1. What are preservice teachers' self-efficacy and utility value beliefs about distance education?

2. What do the preservice teachers feel about the three components of the CoI framework?

Since expectancies and value—utility value in specific—are strong predictors of future engagement and success, we were also interested in investigating their relationship with the preservice teachers' future distance teaching perspectives:

1. Does self-efficacy predict the preservice teachers' perceptions toward CoI components?

2. Does utility value predict the preservice teachers' perceptions toward CoI components?

Method

In order to answer our research questions, we conducted a cross-sectional survey study.

Participants

The participants in this study were teacher education students studying Extra-Curricular Activities in Education and Principles and Methods of Teaching courses at a midsized public university in the Western Black Sea Region of Turkey during fall 2020. A total of 360 students participated in the survey.

We identified outliers by creating a variable that calculated the mean of all items for each student. Outliers with a score of 4.8 and above (n = 16) were removed from the analyses as this score indicated that these students elected to choose the highest score for almost all survey items regardless of the question (i.e., maximum Likert scale option was 5). The analyses were conducted with the remaining 344 students (251 female, 93 male). The students came from various teacher education programs. Table 1 shows the distribution of students across different programs.

Table 1

Participants' Distribution Across Majors

Program	n	%
Art and Crafts Education	10	2.9
Computer Education and Instructional Technologies	17	4.9
Guidance and Psychological Counseling	90	26.2
Elementary Education	12	3.5
Elementary Mathematics Education	24	7
Early Childhood Education	67	19.5
Religious Culture and Ethics Education	65	18.9
Science Education	8	2.3
Social Studies Education	22	6.4
Turkish-Language Teaching	27	7.9
Missing	2	0.6

The majority of students were in their second year (54%), while 34% were in their third year. First- and fourth-year (11%) students represented a total of 12% of the participants. The age average of the participants was 21.7 (*SD* = 3.2).

Instruments and Measures

Participants' perceived utility value was measured by an adapted version of Hulleman et al. (2017)'s utility value scale (Example scale item: "The material in this class is useful in my everyday life"). These items were

adapted for preservice teachers' perceptions of how distance education can be relevant for their future teaching careers (Example scale item: "When I become a teacher, knowing about distance education will be useful"). The reliability calculated from our data of the scale was high: Cronbach's alpha (α) = .85.

We measured participants' self-efficacy using patterns of adaptive learning scales (PALS) by Midgley et al. (2000). More specifically, we adapted the items in the academic efficacy scale (Example scale item: "I'm certain I can master the skills taught in class this year") so that they would apply to our participants' future teaching using distance education (Example scale item: "When I start teaching, I am certain I can master the necessary skills for distance education"), similar to the utility value items. The reliability calculated from our data of the scale was high: α = .88.

The participants' CoI perceptions were measured via an adapted version of a survey created by Arbaugh et al. (2008). To measure the three components of the CoI framework, Arbaugh et al. (2008) created a 34-item survey. The survey had three factors that matched with the three components of CoI: items 1–13 measured teaching presence (Example scale item: "The instructor clearly communicated important course topics"); items 14–22 measured social presence (Example scale item: "Getting to know other course participants gave me a sense of belonging in the course"); and items 23–34 measured cognitive presence (Example scale item: "Problems posed increased my interest in course issues"). Like the previous scales in this study, we also adapted these items to measure preservice teachers' perceptions of these components for their future distance education teaching (Example scale item: "In distance education, as a teacher, I need to clearly communicate important course topics to the students"). The reliability of the three scales calculated from the data in this study was moderate to high: α = .91, α = .79, and α = .92, respectively.

Procedures and Data Analysis

We created an online version of the survey and distributed it within the online courses taught by the coresearcher in this study. The survey remained available to the students for 10 days. There were no incentives for participation.

All statistical analyses were conducted using JASP software (JASP Team, Amsterdam, the Netherlands, 2020). JASP is an open-source free alternative to commercial statistical software that allows for robust statistical analyses and has a user-friendly interface (Love et al., 2019).

To answer the first and the second research questions, we obtained descriptive statistics. To answer the third and fourth research questions, we ran multiple regression analyses treating each CoI component as the dependent variable and the remaining CoI components and motivation variables as independent variables.

Results

Self-Efficacy, Utility Value, and CoI Components

First, we descriptively investigated preservice teachers' self-efficacy and utility value perceptions to get a sense of their preparedness for distance education. The means indicated that preservice teachers, in general, agreed with the utility value and self-efficacy statements, indicating that they had strong beliefs that they could teach online and that they believed teaching online would be valuable for their future careers.

Next, we conducted similar descriptive analyses to investigate the perceptions of the importance of the three components of the CoI framework. It is notable that for all three components, the preservice teachers tended to strongly agree with the statements regarding the components' importance in their future online teaching experiences, with self-efficacy being the lowest-rated construct (Table 2).

Table 2

Descriptive Statistics for Self-Efficacy and Utility Value

	Utility value	Self-efficacy	Teaching presence	Social presence	Cognitive presence
M	4.149	3.799	4.706	4.409	4.649
SD	0.763	0.714	0.366	0.485	0.443

Relationship Between Motivation Beliefs and CoI Components

Before conducting the correlation analyses, we checked the normality for the distribution of the variables. The Shapiro–Wilk test indicated that the variables violated the normality assumptions. Therefore, we used Spearman's rho correlation coefficient. Preliminary analyses indicated that the variables had significant positive correlations with one another, notably and expectedly among the three components of the CoI framework (Table 3).

Table 3

Correlations for Community of Inquiry Components and the Motivation Variables (Spearman's Rho)

Variable	UV	SE	TP	SP	CP
UV	-				
SE	0.393	-			

TP	0.441	0.320	-		
SP	0.398	0.302	0.647	-	
CP	0.384	0.286	0.777	0.662	-

Note. Correlations are significant at p < .001 level. UV = utility value, SE = self-efficacy, TP = teaching presence, SP = social presence, CP = cognitive presence.

Next, to understand the relationship among the preservice teachers' motivation beliefs (i.e., self-efficacy and utility value) and the three components of the CoI framework (teaching, social, and cognitive presence), we ran multiple hierarchical regressions using each component of the CoI framework as the dependent variable in each regression and using the remaining variables as independent variables.

To find out the predictors for teaching presence, first, we ran a stepwise regression with teaching presence as the dependent variable and utility value, self-efficacy, social presence, and cognitive presence as covariates. The regression model with self-efficacy, social presence, and cognitive presence explained the most variance: R^2 = .66. Utility value was not included in the model since it did not significantly increase the R^2. It should be noted, however, that self-efficacy was only slightly over the acceptance threshold of $p < .05$.

Next, we ran a stepwise regression with social presence as the dependent variable and utility value, self-efficacy, teaching presence, and cognitive presence as covariates. The model with utility value, teaching presence, and cognitive presence explained the most variance: R^2 = .51. Self-efficacy was not included in the model since it did not significantly increase the R^2.

Finally, we ran a stepwise regression with cognitive presence as the dependent variable and utility value, self-efficacy, teaching presence, and social presence as covariates. The model with teaching and social presence explained the most variance: R^2 = .67. Self-efficacy and utility value were not included in the model since they did not significantly increase the R^2. The results of the regression analyses can be found in Table 4. The quantile–quantile (Q-Q) plots of residual distribution for all regression analyses indicated normality.

Table 4

Regression Results Predicting CoI Components

Predictor	β	t	p
Teaching presence (DV)			
(Intercept)	-	11.427	< .001
CP	0.640	15.127	< .001
SP	0.200	4.611	< .001

SE	0.068	1.975	.049
Social presence (DV)			
(Intercept)	-	0.962	.337
CP	0.412	5.951	< .001
TP	0.390	4.611	< .001
UV	0.104	3.969	< .001
Cognitive presence (DV)			
(Intercept)	-	0.177	.860
TP	0.763	15.364	< .001
SP	0.232	6.212	< .001

Note. DV=dependent variable; CP = cognitive presence; SP = social presence; SE = self-efficacy; TP = teaching presence; UV = utility value.

Based on the results of the regression and correlation analysis, Figure 1 shows a conceptual path model visualizing the network of relationships among the motivation and CoI variables.

Figure 1

Conceptual Path Model of the Self-Efficacy, Utility Value, and Community of Inquiry Components
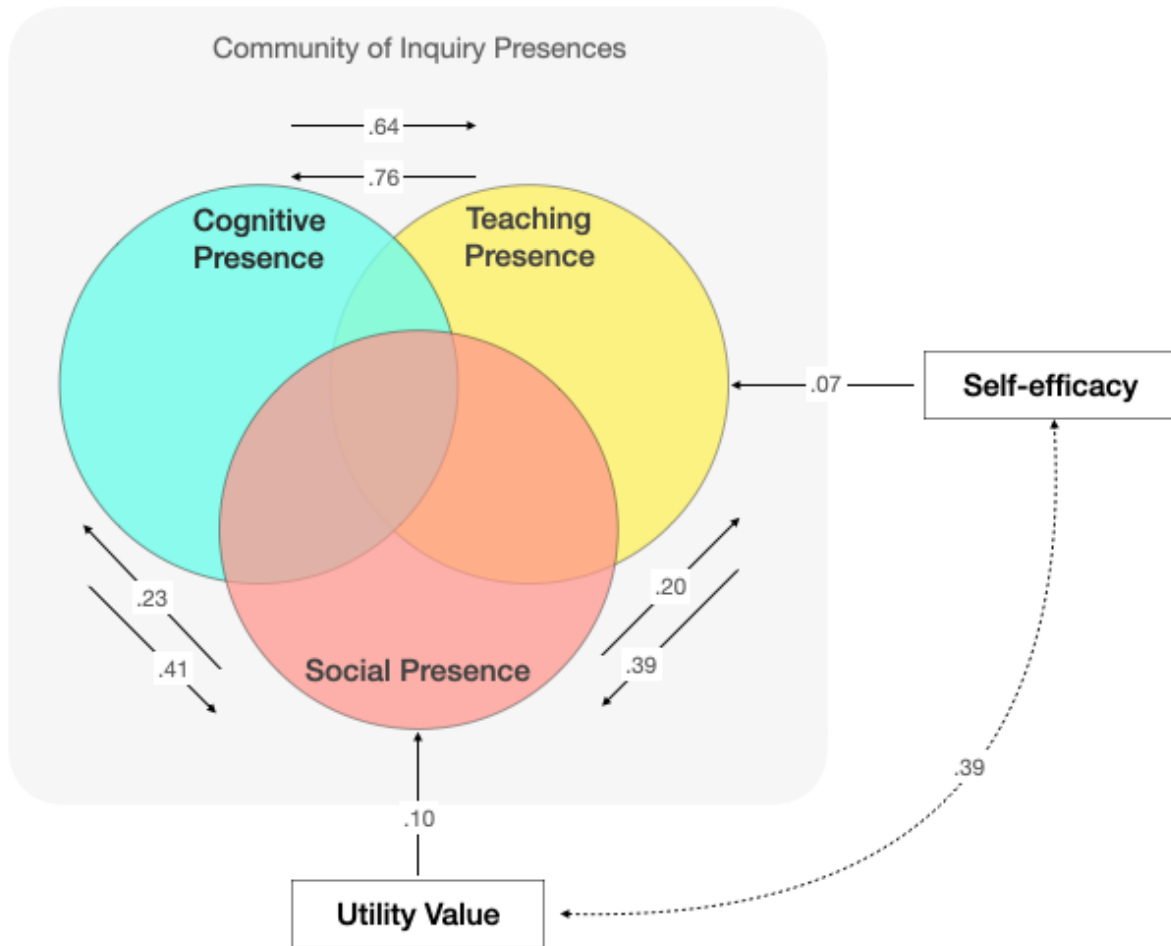
Note. The dashed line represents correlation, while solid arrows represent regressions.

Discussion and Implications

The purpose of this research was twofold: first, we examined the preservice teachers' current levels of perceived self-efficacy and utility value toward distance teaching, as well as the importance they attribute, as future teachers, to the three dimensions of the CoI model. We also investigated the relationship between the motivation constructs and perceptions toward the importance attributed to the specific CoI components. Our results indicate that the participants had high perceptions of utility value and self-efficacy for distance education and the components of CoI. These results alone suggest that preservice teachers (a) feel ready for online teaching and (b) see the three distinct dimensions of the CoI as important aspects of teaching online.

More interesting, and the significant contribution of this study to the field, are the results of the investigation of the relationship between the motivation constructs and the CoI domains. Our regression analyses indicated that the CoI components predicted one another. This was an expected result, but it confirms the theoretical underpinnings of the model in that these components are interconnected (Garrison et al., 2010). More interestingly, however, in our analyses, we found that self-efficacy and utility value each predicted a different component of CoI. Specifically, while we found that self-efficacy predicted teaching presence, utility value predicted social presence.

The result from our regression analyses and the constructed conceptual path model are important and can be used to inform teacher education programs. These results can be interpreted in several ways. First, teaching presence refers to the overall design of the course, including selecting materials, organizing content, and facilitating the learning activities (Garrison et al., 1999). From this perspective, it seems that preservice teachers' self-efficacy to teach online is related to their perceptions of design, organization, and facilitation skills. Given that these tasks require knowledge of design, hardware, and software, these knowledge areas and practices seem to be directly linked with teachers' self-efficacy to teach online. Since self-efficacy can be supported through various experiences (e.g., mastery, vicarious) (Bandura, 1997), it then becomes essential for teacher education programs to offer such design and teaching experiences to preservice teachers to boost their self-efficacy to design, which then contributes to their perceptions of teaching presence (which then contributes to social and cognitive presence) (Garrison et al., 2010).

Second, our findings indicate that utility value, or one's perceptions of the relevance/usefulness of a task for one's future life or career, directly predicts preservice teachers' perceptions of the importance of social presence in CoI only. Social presence refers to one's perception of others in the learning environment as "real" people (Garrison et al., 1999). It involves building rapport and building personal connections among course participants. Extant research (e.g., Fryer & Ainley, 2019; Linnenbrink & Pintrich, 2003; Üner et al., 2020) indicates that utility value develops through interest development and is linked to self-efficacy. In other words, high levels of utility value are more likely to occur when one's interest and self-efficacy are also at higher levels (Bong, 2001; Linnenbrink & Pintrich, 2003; Wigfield & Eccles, 2000). Interpreting the findings from this perspective, we argue that for preservice teachers, social presence in online learning is considered the next step after the initial organization and delivery of course content. In other words, once preservice teachers reach a deeper level of utility value (through high self-efficacy and interest development), they begin to see social presence's importance. It should be noted, however, that these results are not definitive and should be interpreted with caution; we discuss this in more detail in the "Limitations and Future Research" section.

Based on our findings and suggested path model, we argue that teacher education programs should develop coursework and experiences to holistically support preservice teachers' perceived self-efficacy and utility value toward distance learning. Traditionally, the focus is on offering experiences that focus on the design, organization, and hardware/software aspects of online learning. Such traditional approaches may not be enough. Opportunities for these preservice teachers to understand the future relevance and connections of these experiences for their future teaching are also essential. Fortunately, extant research investigating interest and utility value development has identified that these motivational constructs can be targeted through simple classroom work (e.g., Akcaoglu et al., 2018; Kale & Akcaoglu., 2018; Hulleman et al., 2017;

Priniski et al., 2019). One such method is to give students chances to reflect on the utility value of classroom activities for their future careers and lives. For example, in their work, Hulleman et al. (2017) found that writing reflections helped students develop interest in and perceived value toward their coursework. Similarly, it can be argued that preservice teachers, during their undergraduate education, can be given opportunities not only to develop knowledge and skills related to the design and development of online learning but also to reflect on the usefulness of these experiences for their future teaching and for their students. Such a holistic approach would target teachers' self-efficacy and utility value perceptions, which in turn impact their perceptions of teaching, social, and cognitive presence, which are the key components of effective online learning.

Limitations and Future Research

There are several limitations to this study that might limit its generalizability. First, the data were collected from a public university in Turkey. Although university students all around the world had a chance to experience online education due to the COVID-19 pandemic, and therefore their perceptions of online learning can bear similarities to students in other contexts, it is possible that these students have characteristics that make them meaningfully different from other students in different contexts. Therefore, we believe that this research should be replicated in other settings to validate the generalizability of its findings.

Inherent limitations also exist in studies using cross-sectional surveys: self-reporting can introduce bias, and cross-sectional surveys present a one-time snapshot of a situation. Therefore, studies that incorporate other research methods, especially qualitative methods, should be conducted to further explore the relationships identified in our results. Other research designs that involve longitudinal data collection can also help us understand the developmental process and the relationships between preservice teachers' motivation and their perceptions of CoI components.

It should be noted that, although validated, the CoI survey used in this study (Arbaugh et al., 2008) may need revisions. Notably, the number of items for each sub-construct could be more balanced. There are also, as identified by previous CoI work (Anderson et al., 2001; Garrison et al., 2001), subcomponents of each CoI presence, and a more nuanced survey that considers these distinctions would provide a clearer picture of the participants' perceptions toward the CoI framework and its components and subcomponents. Research to develop and validate such a survey would be beneficial to both researchers and educators interested in designing, developing, and evaluating online learning environments.

Conclusions

The CoI framework has been widely used by researchers and educators in studying the design and implementation of online learning (Garrison & Cleveland-Innes, 2005; Kazanidis et al., 2018; Lee et al., 2020; Nagel & Kotzé, 2010; Popescu & Badea, 2020; Richardson et al., 2016; Tan et al., 2020). Results of previous research have consistently shown that the CoI presences are an effective framework to show factors

affecting students' satisfaction with online learning. In this study, we shed light on an area that has not been studied before: the connection between preservice teachers' motivation and CoI components. We believe this important contribution can provide evidence for holistic approaches to undergraduate teacher education and provide clues about the need for experiences and activities that target not only self-efficacy but also interest and value development. We believe that through such a holistic approach, a future generation of teachers with an understanding of effective online learning can be guided.

The continuing uncertainty regarding the pandemic shows that the process of distance education may be implemented for a long time and can be a viable alternative to in-person instruction when schools are closed. School closures have given educational institutions a chance to see successful and unsuccessful examples of online teaching and the opportunity to consider online learning environments as alternatives to traditional learning environments in the long run. We believe teacher education institutions can ride the tailwinds of this momentum and introduce holistic courses that focus on skill and value development.

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