THE INFLUENCE OF MOTIVATION AND SELF-REGULATION ABILITY ON STUDENTS' ONLINE LEARNING SATISFACTION

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ABSTRACT

This study examined the influence of motivation and online self-regulation on students' online learning satisfaction. A sample of 1649 middle school students participated in the study. The findings suggested that online self-regulation and motivation played a driving role in students' online learning satisfaction and that motivation indirectly affected their online learning satisfaction through the three elements of a Community of Inquiry. These findings imply that both teachers and students should be targeted with interventions to improve students' satisfaction with their online learning. Future research should consider the impact of the relationship between motivation and online self-regulation.

KEYWORDS

Online Self-Regulation, Motivation, Community of Inquiry, Satisfaction

1. INTRODUCTION

The use of the Internet is becoming more and more prevalent in many fields. Studies have shown that online self-regulation strategies are the key to successful online learning and that students' motivation levels will have an enormous influence on their learning state. As a significant indicator of online learning performance, online learning satisfaction can directly reflect the learning state of online learners. Studying the factors of online learning satisfaction can help to guide online learning in the post-epidemic era. This study uses structural equation modeling to explore how motivation and self-regulation affect students' online learning satisfaction.

2. LITERATURE REVIEW

2.1 Description of Variables

Many factors influence online learning satisfaction. Learners' academic motivation is reflected in their effort into learning. In online course learning, the influence of students' learning motivation can be summarized into cognitive, behavioral, and environmental aspects. The relationships between learners' cognition, behavior, and environment are not linear. Self-regulated learning is the process of students actively regulating their cognition, motivation, and behavior. Puzziferro (2006) pointed out that meta-cognitive self-regulation is significantly correlated with learning satisfaction. Therefore, we speculate that online self-regulation is also vital to predict online learning satisfaction. The community of inquiry (CoI) framework consists of cognitive presence, teaching presence, and social presence (Kozan & Richardson, 2014). Joo et al. (2010) found that teaching presence and cognitive presence significantly influenced learning satisfaction, and social presence was closely related to learning achievement and satisfaction.

2.2 Hypotheses

Studies have found that motivation and self-regulation ability influence students' satisfaction during online learning and that the CoI elements of cognitive presence, teaching presence, and social presence also impact online learning satisfaction. However, there is still a lack of systematic and comprehensive exploration of the relationship between motivation, self-regulation ability, and satisfaction. Based on these considerations, we propose the hypothetical model shown in Figure 1. H1-H3: motivation has a direct and positive impact on teaching, social, and cognitive presence. H4-H6: online self-regulation has a direct and positive impact on teaching, social, and cognitive presence. H7-H9: teaching presence, social presence, and cognitive presence directly and positively impact satisfaction.

3. METHOD

3.1 Participants

The participants were middle school students from nine schools in the province of Hubei in China. The questionnaires were administered to students online at the end of the school term. There were 1649 student participants, of whom 548 were in Grade 7, 531 in Grade 8, 16 in Grade 9, 530 in Senior 1, 12 in Senior Two, and 12 in Senior 3.

3.2 Instruments

The study used online questionnaires to measure the learning satisfaction of 1649 students during the COVID-19 pandemic. The 78 questionnaire items were adapted from previous studies and measured six constructs: motivation (12 items), self-regulation ability (24 items), cognitive presence (13 items), teaching presence (13 items), social presence (9 items), and online learning satisfaction (7 items), with reliability coefficients are 0.929, 0.985, 0.954, 0.983, 0.985, and 0.930. The responses were given on a 5-point Likert scale ranging from 1 = strongly *disagree* to 5 = *strongly agree*, and SPSS 22.0 and AMOS 23.0 were used in the data analysis.
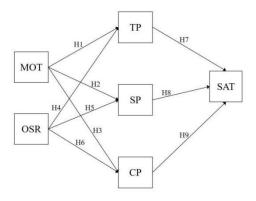
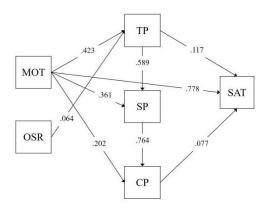## 4. RESULTS

Figure 1. Hypotheses model

Figure 2. Final model

Table 1. Descriptive statistics and correlation analysis

	Mean	SD	MOT	OSR	TP	SP	CP	SAT
MOT	3.17	.79	1					
OSR	3.55	.85	.10**	1				
TP	4.08	.89	.43**	.10**	1			
SP	3.75	.87	.61**	.11**	.74**	1		
CP	3.65	.92	.67**	.11**	.64**	.89**	1	
SAT	3.37	.92	.88**	.10**	.50**	.64**	.67**	1

**: Correlation significant at the .01 level (two-tailed). MOT: motivation; OSR: online self-regulation; TP: teaching presence; SP: social presence; CP: cognitive presence; SAT: satisfaction.

4.1 Descriptive Statistics

As shown in Table 1, students perceived a high level of motivation, online self-regulation, teaching presence, social presence, and cognitive presence—for example, the mean of motivation values on 4.08, followed by social presence values on 3.75. We conducted a correlation analysis to inquiry if there exist relationships between satisfaction and other variables. The results suggested that all the factors are significantly related. Uncommonly, motivation is most strongly correlated to satisfaction, the value of 0.88, followed by cognitive presence, the value of 0.67, and social presence, the value of 0.64, indicating that motivation may impact students' satisfaction.

4.2 Path Analysis

The final model (Figure 2) shows that students' academic motivation directly influences the satisfaction of students, as well as the teaching, social and cognitive presence, with the estimates respectively are 0.423, 0.361, 0.202, and 0.778. In addition, motivation also has an indirect influence on satisfaction through the meditating of teaching, social and cognitive presences. These results indicted that motivation is a vital factor in this model, as it not only strongly determines the satisfaction of students but also may influence the experiences of students on learning and communication.

However, there exists no direct relationship between online self-regulation and learning satisfaction. Online self-regulation only influences teaching presence, with an estimate of 0.064. Nevertheless, with the mediating of presences, online self-regulation may indirectly influence satisfaction (path A: OSR→TP→SAT and path B: OSR→TP→SP→SAT).

5. DISCUSSION

The results of this study suggest that motivation is a strong affection of students in the online learning context, according to previous studies. Motivation is the most strongly potential predictor of satisfaction, teaching presence, social presence, and cognitive presence. It means that students' motivation, like interest, value, responsibility, and pressure, determined their satisfaction with the courses, which also predicted their intended behaviors. Although online self-regulation has no direct or significant impact on satisfaction, it does directly influence teaching presence, which could directly influence satisfaction or indirectly by having an impact on social presence and cognitive presence. Thus, in our study, we find that online self-regulation plays a regulated role, which revealed the mechanism of regulation—affecting the process of the online learning experience.

There are a few limitations and implications in our study. First, we found that motivation is a very important role in online learning, but in our study, 'motivation' is an element. Therefore, more specific researches should be completed. Then, online self-regulation has a specific relationship with other variables, which need to be investigated deeply with more quantitative and qualitative data. In the future, researchers can focus on improving students' learning motivation and online self-regulation and further explore the three presences of the CoI. As learners' motivation and the dynamics of self-regulated learning processes appear to be more complex than expected, further research should determine the complicated relations between these two factors and the three presences to generate more meaningful instructional implications for educators.

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