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The Impact of Online Learning on 7th Grade Students' Perception of Engagement, Social Presence, and Satisfaction During the COVID-19 Pandemic

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ABSTRACT

Rapidly escalating COVID-19 cases have forced educational institutions to close their doors. In an effort to reduce the spread of the infectious disease, online learning was implemented for students, interrupting face-to-face education in schools. Studies suggest that students' engagement, social presence, and satisfaction are crucial in the implementation of online learning. Therefore, the aim of this study was to analyze how online learning has impacted students' perceived engagement, social presence, and satisfaction during the COVID-19 pandemic in a middle school in Anchorage, Alaska. A descriptive correlational research design was implemented in this study. Utilizing three Likert scale questionnaires, 7th grade students, with a sample size of 139, were questioned about their perceived engagement, social presence, and satisfaction with online learning during COVID-19. In addition, a Pearson correlation coefficient was employed to examine the correlation between the perceived outcomes of engagement, social presence, and satisfaction. The results indicate that the vast majority of students perceived themselves to have low levels of engagement, social presence, and satisfaction. Additionally, it was found that engagement and social presence greatly contribute to students' overall satisfaction. Therefore, it is paramount that 7th grade educators implement well-structured online courses to promote engagement and communicate effectively with these students to improve their satisfaction with online learning.

1. Introduction

On March 11, 2020, the World Health Organization (WHO) announced the COVID-19 outbreak as a global pandemic. Consequently, the drastic increase in COVID-19 cases forced educational institutions around the world to close face-to-face teaching. A recent article published by the United Nations Educational, Scientific and Cultural Organization (UNESCO), suggests that 1.3 billion students — 80% of the world's student population — have experienced a transition from the traditional classroom environment into a home setting. To maintain COVID-19-safe education, online learning was implemented for students (Maqsood et al., 2021). Online learning, defined as education in which instruction and content are delivered primarily over the Internet, became the main source of interaction between students' peers and instructors, replacing face-to-face teaching in schools (Cojocariu et al., 2014). However, the unprecedented transition into online learning has left students and instructors in an unfamiliar environment.

This educational struggle is greatly noticeable in the Anchorage School District (ASD) in Anchorage, Alaska. Specifically, 7th grade students with the ASD have reported the challenging use of the online system. Continuously, the apparent distinction between student perceptions of online learning motivated the researcher to examine different variables of student perception. Nambiar (2020), notes that taking into account the students' perspective on how online learning is designed can be a fundamental process of enhancing online learning. Because no studies have simultaneously examined 7th graders' self-perceived engagement, social presence, and satisfaction as a result of online learning

in response to COVID-19, it was selected to be analyzed in this study. Furthermore, analyzing engagement, social presence, and satisfaction is crucial to understanding the effectiveness of online courses (Nataranjan & Joseph, 2021).

2. Literature Review

2.1 Engagement

Student engagement is defined as "the student's psychological investment in and effort directed toward learning, understanding, or mastering the knowledge, skills, or crafts that academic work is intended to promote" (Newmann et al., 1992, p. 12). Furthermore, Bomia et al. (1997) describe engagement as a student's "willingness, need, desire, and compulsion to participate in, and be successful in, the learning process" (p. 294).

Student engagement is undeniably a vital factor that contributes to effective learning in-person and online and adds value to learning (Ginsberg & Wlodkowski, 2009). Nonetheless, students who use online learning platforms are shown to have discrepancies in engagement levels. This could be due to characteristics of programs that constitute boredom, frustration, confusion, and lack of overall learning (Dewan et al., 2019). Advancing the notion of Ginsberg and Wlodkowski (2008), Perišić (2012) concluded her study by emphasizing the necessity of engagement and its significance in the occurrence of learning. Although the claim may be disputable, engagement is an essential motivator for students' willingness to learn (Schullery, 2013). Mandernach et al. (2011) identified several factors that impact students' engagement including attitude, personality, motivation, effort, and self-confidence. Martin and Bolliger (2018) elaborated further and revealed that student engagement: increases satisfaction, reduces the sense of isolation, and enhances student motivation to learn, resulting in an overall improvement in online courses. When a student is motivated to succeed in their classes, "invested in their desire to learn, and willing to exert the effort expected by their instructors" engagement levels drastically increase (Mandernach et al., 2011; Gray & DiLoreto 2016). Additionally, retention rates in distant online learning courses are reported to be significantly lower than in face-to-face courses (Dietz-Uhler et al., 2007). However, Russell (2005) discovered in his review of over three hundred fifty comparative studies that there was no remarkable difference in students' learning achievements between face-to-face learners and those instructed online. As lacking student engagement in online settings is a comparatively new problem, it requires additional empirical research to expand the understanding of the subject (Czerkawski & Lyman, 2016).

2.2 Social Presence

Social presence "refers to an individual's perception of the quantity and quality of interpersonal communication in an online learning environment" (Reio & Crim, 2013, p.21). It can be further defined as "the degree to which a person is perceived as a 'real person' in mediated communication" (Gunawardena, 1995, p.151). Social presence's significance has become well-known over the years. Many researchers have examined social presence to determine if it plays a vital role in students' online learning (Gunawardena & Zittle, Tu, 2001; Richardson & Swan, 2003; Tu & McIsaac, 2002). Tu and McIsaac (2002) concluded that improvement in levels of social presence results in an increase in online interactions. Elaborating further, Jaggars et al. (2013) discovered that "higher levels of interpersonal interaction were correlated with better student performance in their online courses." Affirming the study, Richardson and Swan (2003) revealed that learners who were evaluated higher on the social presence scale received considerably high scores for perceived learning. However, several studies have found that social presence in online environments creates inconsistencies in perceived learning outcomes. It was determined that online learning was not as effective as physical classrooms, due to the lack of face-to-face interactions (Bullen, 1998; Ward & Newlands, 1998). Furthermore, Lowry et al. (2006) discovered that when students are not motivated to participate in a "timely manner..., it results in limited interaction and reciprocity, low communication quality, and subsequently, students perceive low social presence." As

a result, students' performance in online learning becomes negatively impacted, thus lowering their levels of social presence.

In recent years, growing works of literature have focused on social presence regarding online learning environments increasing prevalence. Yet according to Whiteside (2015), researchers have struggled to "understand the potential of social presence" in this context. Furthermore, the authors claim that learners and instructors have become susceptible to the reduction of online interactions, which calls for greater adaptability and the need to explore the realm of social presence in these environments (Whiteside, 2015).

2.3 Satisfaction

According to Lo (2010), "student satisfaction is the subjective perceptions, on students' part, of how well a learning environment supports academic success." Ke and Kwak (2013) examined and identified learners' relevance, active learning, authentic learning, learner autonomy, and computer technology competence as different components of student satisfaction. Additionally, a study conducted by Dziuban, Moskal, Brophy-Ellison, and Shea (2007, as cited in Dziuban, Moskal, Thompson, Kramer, DeCantis, & Hermsdorfer, 2015) determined six major factors that contributed to students' perceived satisfaction: (a) an enriched learning environment, (b) well-defined rules of engagements, (c) instructor commitment, (d) reduced ambiguity, (e) environment's engagement, and (f) reduced ambivalence about the course's value. Contrary to Dziuban et al. (2015) description of positive satisfaction, challenges in online learning are also present. Muilenburg & Berge (2005) identified some student barriers to online learning. The barriers include social, technical, time/interruption, infrastructure/support services, motivation, and prerequisite skills. The authors discovered that students who enjoyed online classes compared to traditional classes tend to have moderate barrier levels, while students who didn't enjoy the online experience had exceedingly high barrier levels. Moreover, they concluded that the lack of social interaction was the most detrimental barrier, resulting in a severe reduction in satisfaction and perceived online course effectiveness. The social interaction, as argued by Bali & Liu (2018), between learner and instructor greatly contributes to overall satisfaction. In other words, a greater level of social presence is significantly correlated with students' satisfaction online. One study evaluated the satisfaction of online nursing students and discovered that the level of social presence heavily influenced the students' overall satisfaction with online nursing courses (Natarjan & Joseph, 2021). In addition, countless researchers have argued that learners were more likely to be satisfied with face-to-face interactions than online interactions (Hiltz, 1994). Dziuban, Wang, and Cook (2004) affirmed the work of Hiltz (1994) and further elaborated by concluding that students were more likely to score highly on satisfactory ratings "if they believed their professors communicated effectively, facilitated or encouraged their learning, organized the course effectively, showed interest in students' learning and progress, demonstrated respect for students, and evaluated students' work accurately. The body of literature surrounding online satisfaction indicates that social presence contributes substantially to students' online satisfaction. Although assessing satisfaction is beneficial in enhancing courses only small amounts of research have investigated learners' satisfaction in online learning environments (Craig et al., 2008; Mykota & Duncan, 2007). Therefore, focusing on the topic of satisfaction needs further study and clarification.

3. Method

This study attempted to answer the question, "How has online learning impacted 7th grade students' self-perceived engagement, social presence, and satisfaction during the COVID-19 pandemic? Although numerous studies have investigated engagement and social presence concerning online learning, no studies have simultaneously examined all three factors - engagement, social presence, and satisfaction - of 7th grade students in the presence of COVID-19. To do so, within the given time frame and accounting for the feasibility of this study, voluntary surveys were distributed.

3.1 Design

A descriptive correlational study was conducted to analyze the impact of online learning on 7th grade students' perception of engagement, social presence, and satisfaction during COVID-19.

3.2 Participants

For replicability and accessibility purposes, middle schools in the Anchorage School District were surveyed. Specifically, 7th-grade students (n=139) were examined in this study as they experience one of the most stressful transitions into higher education (Zeedyk et al., 2003). This provided greater insight into how 7th grade students' engagement, social presence, and satisfaction was impacted by utilizing online learning.

3.3 Instruments

Three survey instruments were employed in this study to analyze the relationship between engagement, social presence, and satisfaction during online learning as a result of COVID-19: The Online Student Engagement Scale (OSE), the Social Presence Scale, and the Satisfaction Scale. The following sections describe each instrument in detail.

Online Student Engagement Scale

The Online Student Engagement Scale (OSE) is a 19-item questionnaire (see Appendix B) developed by Dixon (2015), which measured whether statements of behavior, thought, or feeling about online learning were characteristics of the participants using a 5-point Likert scale. The OSE consists of four subscales: skills, emotion, participation, and performance. Scores of the OSE ranged from 1 to 5. A score of 1 = not at all characteristic of me, 2 = not really characteristic of me, 3 = moderately characteristic of me, 4 = characteristic of me, and 5 = very characteristic of me. The maximum possible score for the OSE in this study was 70. A score above 45 indicates good skills engagement, emotional engagement, participation engagement, and performance engagement. Statements in the scale examined thoughts and behavioral items such as "really desiring to learn the material during COVID-19" and "making sure to study on a regular basis during COVID-19"; perceived performance like "getting a good grade during COVID-19"; and participation items like "participating actively in small-group discussion forums during COVID-19." Five items from the initial scale were removed to achieve a better understanding of a focused topic around engagement in online learning. Furthermore, "during COVID-19" followed the end of each item in the OSE to determine what characteristics were impacted throughout COVID-19.

Social Presence Scale

The Social Presence Scale was developed by Cobb (2009) to measure social relationships and interactive communication (Stankovska et al., 2021) with Web-based nursing courses. The Social Presence Scale utilizes a 14-item questionnaire scored on a 5-point Likert scale (see Appendix C). All five scores include 1 = strongly disagree, 2 = disagree, 3 = uncertain, 4 = agree, and 5 = strongly agree. The maximum possible score of the Social Presence Scale employed in this study was 60. A score above 37 was considered a good social presence from utilizing online learning. To avoid misunderstanding, small adjustments in word choices on the scale were made with the additional removal of words such as "online nursing courses," "computer-mediated communication (CMC)," and "text-based medium" which were replaced with "online courses" and "online learning" to better reflect the online courses of the participants in the study. Two items regarding "audio teleconference discussions" and "video teleconference discussions" were removed from the Social Presence Scale as it was not relevant to the analyzed participants.

Satisfaction Scale

The Satisfaction Scale (Gunawardena & Zittle, 1997) was revised by Cobb (2009) in Social Presence and Online Learning: A Current View from a Research Perspective and was employed in this study to measure satisfaction in online courses during COVID-19. The scale consists of a 9-item questionnaire scored on a 5-point Likert scale ranging from a score of 1=strongly disagree to 5=strongly agree (see Appendix D). The maximum possible score on the Satisfaction Scale for this study was 40. A score above 26 represents good satisfaction with online learning. For the purposes of this study, one item from Cobb's modified Satisfaction Scale was deleted which required worldwide interaction inside online courses and was not relevant to school-specific online courses particular to this study. Additionally, slight word modifications were made to the scale. The words "CMC" and "online nursing course" were replaced with "online learning" or "online courses" to appropriately address online courses for 7th-grade students. At the end of each item, "during COVID-19" was added to identify the relationship of satisfaction during COVID-19 in online courses, constituting my gap. The scale successfully addressed essential components of satisfaction in online courses during COVID-19 for 7th-grade students.

3.4 Procedure

Teachers of middle schools in the ASD were asked to forward an email of the survey to their 7-grade students. The survey was sent out via Google Forms and consisted of the Online Student Engagement Scale (OSE; Dixon, 2015), Social Presence Scale (Cobb, 2009), and Satisfaction Scale (Cobb, 2009). In total, 11 middle schools were contacted and over 100 emails were sent to 7th grade teachers in the ASD. The survey informed the participants of the objective of this study and guaranteed confidentiality to ensure anonymity in the final paper (see Appendix A).

3.5 Data Analysis

All data were analyzed using IBM Statistical Package for the Social Sciences (SPSS) version 28. Descriptive statistics were analyzed using means and standard deviations as well as a Pearson correlation coefficient to examine the correlation between the perceived outcomes of engagement, social presence, and satisfaction with online learning.

4. Results

4.1 Self-perceived Engagement

While 4.5% of the 7th grade students perceived themselves to have had low engagement during online learning, only 29% claimed to be highly engaged (Figure 1). A significant result is present with students' engagement. Students generally scored the highest with items belonging to the participation and performance subcategories of the OSE. In the skills category, the item with the highest mean score questioned students about carefully listening/reading during COVID-19 (M = 3.26, SD = 1.029). The highest scoring item within the emotional category regarded the effort put forth by the students during COVID-19 (M = 3.22, SD = 0.998). One item - engaging in conversations online (chat, discussions, email) during COVID-19 - pertaining to the participation category, displayed the highest mean score (M = 3.12, SD = 1.276). The highest-scoring item of the OSE questionnaire belonged to the performance category, where students were asked to determine if they had received a good grade during COVID-19 (M = 3.49, SD = 1.322). On the contrary, the item with the lowest mean in the OSE pertained to the emotional category regarding their desire to learn material during the COVID-19 pandemic (M = 2.50, SD = 1.062).

Table 1. *OSE with Descriptive Statistics*

	N	Minimum	Maximum	Mean	Std. Deviation
Making sure to study on a regular basis during COVID-19	138	1	5	2.52	1.005
Putting forth effort during COVID-19	137	1	5	3.22	.998
Looking over class notes between getting online to make sure I understand the material during COVID-19	137	1	5	2.91	1.047
Being organized during COVID-19	136	1	5	2.89	1.263
Taking good notes over readings, PowerPoints, or video lectures during COVID-19	138	1	5	2.81	1.150
Listening/reading carefully during COVID-19	137	1	5	3.26	1.029
Finding ways to make the course interesting to me during COVID-19	136	1	5	2.76	1.145
Really desiring to learn the material during COVID-19	138	1	5	2.50	1.062
Having fun in online chats, discussions, or via email with the instructor or other students during COVID-19	138	1	5	2.80	1.505
Participating actively in small-group discussion forums during COVID-19	138	1	5	2.91	1.113
Helping fellow students during COVID-19	137	1	5	2.99	1.243
Getting a good grade during COVID-19	136	1	5	3.49	1.322
Engaging in conversations online (chat, discussions, email) during COVID-19	138	1	5	3.12	1.276
Getting to know other students in the class during COVID-19	138	1	5	2.84	1.476

4.2 Self-perceived Social Presence

The majority of students (63%) perceived themselves to have a low social presence with the minority (27.5%), claimed high social presence (Figure 1). The highest scoring items were associated with the instructor(s) facilitating discussions in the course and determining whether discussions through online learning tend to be more impersonal than face-to-face discussions during COVID-19 (M = 3.17, SD = 0.909 and M = 3.15, SD = 1.141, respectively). Contrarily, the lowest-scoring items were related to finding online learning an excellent medium for social interaction and feeling comfortable introducing themselves through online courses during COVID-19 (M = 2.45, SD = 1.131 and M = 2.44, SD = 1.281).

Table 2. *Social Presence Scale with Descriptive Statistics*

	N	Minimum	Maximum	Mean	Std. Deviation
Messages in the online courses were impersonal during COVID-19.	134	1	5	3.03	.840
Online learning is an excellent medium for social interaction during COVID-19.	137	1	5	2.45	1.131
I felt comfortable conversing through my online courses during COVID-19.	136	1	5	2.84	1.284
I felt comfortable introducing myself in my online courses during COVID-19.	136	1	5	2.44	1.281
The online courses enabled me to form a sense of online community during COVID-19.	136	1	5	2.79	1.105
I felt comfortable participating in the course discussions during COVID-19.	136	1	5	2.97	1.128
The instructor(s) created a feeling of an online community during COVID-19.	135	1	5	2.96	1.109
The instructor(s) facilitated discussions in the course during COVID-19.	133	1	5	3.17	.909
Discussions through online learning tend to be more impersonal than face-to-face discussions during COVID-19.	134	1	5	3.15	1.141
I felt comfortable interacting with other participants in my online courses during COVID-19.	134	1	5	2.69	1.276
I felt that my point of view was acknowledged by other participants in my online courses during COVID-19.	134	1	5	2.77	1.089
I was able to form distinct individual impressions of some course participants even though we communicated only online during COVID-19.	135	1	5	2.88	1.107

4.3 Self-perceived Satisfaction

A vast majority of students (70.3%) were not satisfied with utilizing online learning during the COVID-19 pandemic (Figure 1). The highest scoring items for the Satisfaction Scale pertained to learning to value other points of view during COVID-19 (M = 3.20, SD = 0.995). On the other hand, the lowest-scoring item asked students if they would participate in more online courses in the future as a result of their experiences with online learning (M = 2.30, SD = 1.309).

Table 3. *Satisfaction Scale with Descriptive Statistics*

	N	Minimum	Maximum	Mean	Std. Deviation
I was able to learn through the system of online learning during COVID-19.	134	1	5	3.05	1.282
I was able to learn from the online discussions during COVID-19.	133	1	5	2.99	1.125
I was motivated to do additional reading or research on topics discussed in online courses during COVID-19.	134	1	5	2.49	1.187
I learned to value other points of view during COVID-19.	134	1	5	3.20	.995
As a result of my experience with online learning, I would like to participate in more online courses in the future during COVID-19.	134	1	5	2.30	1.309
The online courses were a useful learning experience during COVID-19.	132	1	5	2.83	1.245
The diversity of topics in the online course prompted me to participate in the discussions during COVID-19.	132	1	5	2.71	1.067
I put a great deal of effort into learning the system of online courses during COVID-19.	133	1	5	3.01	1.197

4.4 Correlation between students' engagement, social presence, and satisfaction

The Pearson correlation analysis suggests that a significant correlation exists between engagement, social presence, and satisfaction, with the strongest correlation being between social presence and satisfaction ($r=0.676$, $p<0.001$). Furthermore, a moderate, positive correlation is found between engagement and social presence ($r=0.446$, $p<0.001$) and engagement and satisfaction ($r=0.354$, $p<0.001$). No relationships were found to have a negative and insignificant correlation.

Table 4. *Correlation of students' perception of engagement, social presence, and satisfaction*

		Student Engagement	Student Social Presence	Student Satisfaction
Student Engagement	Pearson Correlation	1	.446**	.354**
	Sig. (2-tailed)		<0.001	<0.001
	N	138	137	134
Student Social Presence	Pearson Correlation	.446**	1	.676**
	Sig. (2-tailed)	<0.001		<0.001
	N	137	137	134
Student Satisfaction	Pearson Correlation	.354**	.676**	1
	Sig. (2-tailed)	<0.001	<0.001	
	N	134	134	134

**. Correlation is significant at the 0.01 level (2-tailed).

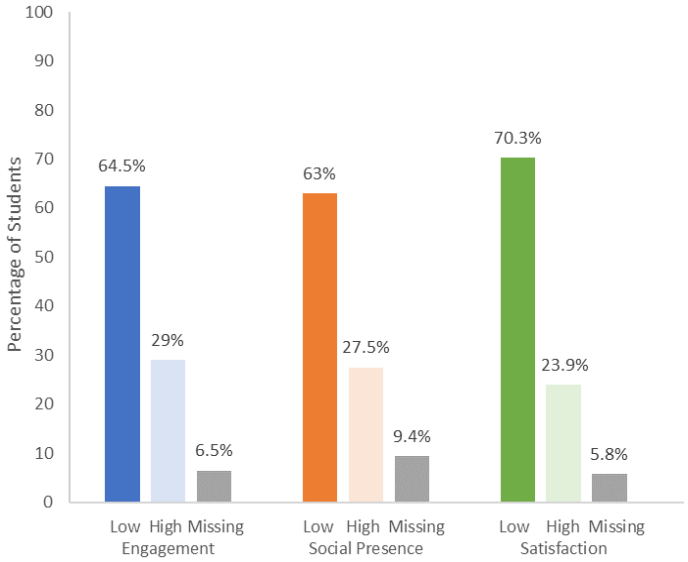

Figure 1. *Percentage of students' perception of low and high engagement, social presence, and satisfaction*

5. Discussion

The study attempted to examine how online learning has impacted 7th-grade students' self-perceived level of engagement, social presence, and satisfaction during COVID-19. Essentially, it was found that the results of all three variables, engagement, social presence, and satisfaction, have a significant difference. First, students struggled to remain engaged with online learning with the majority expressing the unlikeliness to study on a regular basis and being unwilling to learn the material during COVID-19. Second, when asked about their level of social presence, students indicated that they did not feel comfortable introducing themselves in the online courses during COVID-19. Furthermore, they strongly disagreed that online learning was an excellent medium for social interaction. Finally, students were not satisfied with the online learning experience and expressed their reluctance to participate in more online courses in the future.

The results of the data analysis indicate that 7th grade students were not fully engaged in online learning. One major factor that contributes to online student engagement is the poor learning habits that may have developed since the first use of online teaching (Werang & Leba, 2022). This could explain why the majority of the students who took part in this study expressed an undesire to study on a regular basis. Additionally, Werang and Leba (2022) found that the unfamiliarity with technology could have majorly affected student engagement online. The transition from face-to-face interaction into online learning was assisted by implementing the learning management system (Canvas) in March 2020. Because both the students and instructors in the ASD were freshly introduced to Canvas, the unfamiliarity of the platform could have accounted for the drastic decrease in student engagement. Moreover, since the 7th grade educators have never delivered content and taught online prior to the COVID-19 pandemic, they may have lacked in organizing well-structured courses to enhance student engagement. This could explain why the vast majority of the 7th grade students in this study were unwilling to learn the course material. Therefore implementing effective engagement strategies is crucial in supporting the online engagement of 7th grade students. Educators should strive to incorporate engagement strategies such as screen sharing, class recordings, reminders, and Q and A sessions to successfully engage students with emergency online courses (Abou-Khalil et al., 2021).

Inconsistent with past research by Natarajan and Joseph (2021), the study found a significant difference in social presence levels. More than half of the participants perceived themselves to be low in social presence. In other words, 7th grade students felt a lack of communication and interaction with their peers and instructors online during the pandemic. The abundance of whole class discussions but a lack of small group discussions in online courses may have influenced the decrease in social presence levels (Akcaoglu & Lee, 2016). This could explain why students believed their instructors facilitated discussions in courses but reported that they felt uncomfortable introducing themselves to their peers and instructors through online courses. Furthermore, the students found that online learning during COVID-19 was not an excellent medium for social interaction which may be due to the new experience of asynchronous learning which could have contributed to this result. Therefore, implementing social strategies such as collaborative assignments, can drastically increase social presence (Stankovska et al., 2021).

Although students agreed to have been engaged during online conversations and acknowledged that the instructors facilitated discussions in online courses, which were thought to be more impersonal than face-to-face discussions, 7th grade educators were unsuccessful in satisfying the majority of the students. Approximately two-thirds of the participants revealed that they were less satisfied with online learning. This result is consistent with another study conducted on the impact of emergency remote teaching on nursing students, which reported that the vast majority of the participants were not satisfied with online nursing courses (Natarajan & Joseph, 2021). Furthermore, this conclusion supports studies that have discovered that students were more satisfied with face-to-face instructions than through an online medium (Garratt-Reed et al., 2016; Driscoll et al., 2012). Despite the fact that our results indicated that social presence had a stronger correlation with satisfaction than engagement, it was also revealed that both possess a significant correlation with the overall satisfaction of students with online learning. Therefore, enhancing students' engagement and social presence is critical in improving their satisfaction.

To answer the research question of this study, "How has online learning impacted 7th grade students' self-perceived engagement, social presence, and satisfaction during the COVID-19 pandemic?" online learning has negatively influenced the 7th grade students' perception of engagement, social presence, and satisfaction. The findings indicate that more than half of the 7th grade students perceived themselves to be low in engagement and social presence and about two-thirds of participants revealed a lack of satisfaction with online learning.

6. Conclusion

6.1 Implications

The findings from this study are exceptionally important for 7th grade educators. The results indicate that the vast majority of the 7th grade population experienced low engagement, social presence, and satisfaction with online learning. By utilizing the data provided in this study, 7th grade educators can help target individual students who were specifically affected by the COVID-19 pandemic. Additionally, it was found that engagement and social presence greatly contribute to students' overall satisfaction. It is essential for instructors to construct well-structured courses to promote engagement and maintain communication and presence within these courses. Furthermore, research on students' perception of engagement, social presence, and satisfaction worldwide is paramount because these variables are significantly correlated in impacting students' learning outcomes.

6.2 Limitations

The study consisted of certain limitations. First, because all participants were provided the option to skip any question which they felt was undesirable to answer, an average of 7.2% of data was missing between the OSE, Social Presence Scale, and Satisfaction Scale. Although completely filling out the survey was encouraged, it was never enforced, resulting in a significant reduction of viable data. This could have either widened or reduced the difference in students' perception of engagement, social presence, and satisfaction. Second, inaccuracies in survey responses were displayed. This may be due to the fact that the participants may have experienced recall bias since the complete transition into a fully virtual environment occurred a year ago. In other words, the 7th grade students may not accurately remember how they felt from the start of online learning in March 2020. Third, not all 7th grade educators employed the same teaching methods and may have differed in ways of delivering online courses. The considerable distinction between educators' approaches in teaching 7th grade students may have affected the students' perception. Finally, this study was limited to the 7th grade population in Anchorage, Alaska and therefore the results cannot be generalized to other middle schools' 7th grade students around the world.

6.3 Future Research

Studies that are conducted hereafter should take into consideration the delimitations of this study. Future studies should investigate student challenges with online learning and measure its correlation with student perceptions of engagement, social presence, and satisfaction. Identifying student barriers will help better understand ways of maintaining high engagement and social presence to contribute to overall high satisfaction with online learning. Furthermore, future research should strive to incorporate other variables of student perceptions that may have been affected by online learning (performance, technology self-efficacy, and course outcomes). To expand the body of knowledge around this study, one could conduct this research outside of Anchorage, Alaska.

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