

EXAMINING THE INFLUENCE OF GENDER AND SOCIAL SUPPORT IN ONLINE LEARNING MOTIVATION

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Abstract: *The shift to online learning in Malaysia's education system, prompted by the COVID-19 pandemic, necessitates an examination of student motivation towards online learning mode. Understanding what drives students to participate in online educational activities is crucial. This study seeks to explore the factors affecting students' motivation that relates to expectancy beliefs, task value, and social support by focusing on gender differences. It also assesses the relationship between social support and online learning motivation. A questionnaire based on Fowler's framework was administered to undergraduate students at a public university in Kelantan. Analysis using t-test was applied to 165 responses which revealed no significant gender influence on expectancy beliefs, task value, or social support concerning online learning motivation. However, a strong positive correlation was found between social support and online learning motivation. The findings suggest that while gender does not significantly impact motivation variables, it has implications for both practical and theoretical aspects of online learning motivation. Future research frameworks should incorporate these various dimensions to create effective motivational strategies tailored to both genders. By identifying and addressing the specific motivational factors relevant to each gender, educators can implement more equitable online learning experiences that cater to the diverse needs of their students. This approach can enhance engagement and success in online learning environments, ultimately benefiting individual learners and the educational system as a whole.*

Keywords: *Gender, Social support, Expectancy beliefs, Task value, Online learning motivation*

Introduction

The education system has been revolutionized with the introduction of online learning which breaks down geographical barriers and provides accessible avenues for knowledge acquisition. It was firstly introduced in the 1990s with the creation of the internet and since then online learning has been prevalent in higher education. Online learning is defined as distance education mediated by technological tools where learners are geographically separated from the instructor and the institution (Hartnett, 2016). It also refers to internet-based learning environment that connects students from diverse backgrounds with different perspectives where they learn in a fully virtual setting, without the need for physical presence in a classroom. Online learning allows learners to access instructional content through the internet and offers the opportunity to acquire knowledge and skills from anywhere in the world.

Through the integration of flexible scheduling, online learning integrates a diverse array of academic subjects, multimedia tools and interactive modules, which are available at one's fingertips and cater various learning styles and preferences. Its adaptability has been proven especially during the times of global pandemic since it allows continuous education despite physical limitations. During the COVID-19 pandemic, online learning became a critical component of education since schools and universities had to shift into remote instruction, while the students and instructors had to adapt to new online learning platforms and strategies (Zheng et al., 2021). Even though the transition has presented various challenges regarding student engagement, academic performance quality and technological barriers, online learning has been found to be effective provided that instructors employ suitable teaching methods that focus on student interaction and collaboration (Zheng et al., 2021). Since the pandemic has accelerated the adoption of online learning, this leads to innovations and lessons that can shape the future of education. As such, online learning has also impacted student motivation.

Motivation plays a pivotal role in the learning process as it influences engagement, effort and the ability to overcome challenges. Svinicki and Vogler (2012) defined motivation as a process of interaction between the learner and the environment, which is marked by selection, initiation, increase, or persistence of goal-directed behaviour. Motivation involves various factors including intrinsic motivation that stems from personal interest and enjoyment, and extrinsic motivation that is driven by external rewards or recognition (Bandhu, 2024). Individuals who are motivated to learn will exhibit increased curiosity, enthusiasm, and willingness to invest time and effort, ultimately enhancing their overall learning experience and outcomes.

Learning motivation refers to the internal drive that propels students to engage in and persist with their studies, which is a crucial factor in academic achievement as highly motivated students tend to exert more effort, set higher goals, and perform better academically (Firmansyah et al., 2023; Narca & Caballes, 2021). Research has been done to explore strategies that enhance student motivation in online learning environment. A study by Narca and Caballes (2021) found that strategic activities like report writing, online debates and virtual experiments can capture students' interest and attention in an online setting. In addition, Firmansyah et al. (2023) highlighted the importance of student mentality, emotions, and behaviour towards learning motivation of English language learning. These studies emphasize the need for efficient motivational strategies to sustain student engagement and to develop effective pedagogical approaches of online learning environment particularly in the post-pandemic era.

Since online learning has become a common practice in the context of the Malaysia education system, the students' motivation towards online learning should be investigated as it involves

understanding the reasons that make the students engage in online educational activities, particularly due to the increasing use of online learning platforms. Similarly, online learning motivation encompasses intrinsic factors (personal interest, sense of accomplishment or curiosity) and extrinsic factors (recognition, rewards, or career advancement). Studies related to online learning motivation have been conducted in the Malaysian education system. Teo et al. (2023) highlighted the importance of academic motivation and online learning on Malaysian tertiary students' psychological well-being and perceived learning performance while Yong and Thi (2022) found a positive implication of online education towards the undergraduate students at Malaysian private higher learning institutions. The study findings indicate the relevance of online learning motivation to the Malaysia education system since it has impacted student engagement, performance, and well-being. As such, this study intends to investigate the motivational factors for online learning which can help educators and policymakers design effective strategies to support and motivate students in the online learning environment.

The remaining part of this paper discusses the problem statement that leads to the study, literature reviews and conceptual framework development followed by research methodology and the findings of the study. The results are then discussed in the next section, and lastly, the paper discusses the implications of the study.

Statement of Problem

Over the past few decades, online learning motivation studies have evolved significantly which reflected the changing landscape of education technology and pedagogical approaches. The rise of online education has led researchers to explore the motivational challenges and opportunities presented by online learning environment. Initial studies highlighted issues like the lack of physical presence and its impact on student engagement, emphasizing the need for interactive elements to foster motivation (Meşe & Sevilen, 2021; Yahiaoui et al., 2022). With the advancement of online learning platforms that integrate multimedia and collaborative tools, researchers have begun to focus on how these innovations could enhance intrinsic motivation and learner autonomy. Current studies have shown that e-learning systems can improve motivation and lead to better learning outcomes through students' personalized experiences and a sense of community (Hartnett, 2016; Yahiaoui et al., 2022).

Based on established motivational theories, Fowler (2018) investigated the various types of motivation to enhance online educational experiences which include intrinsic motivation, extrinsic motivation, social support, expectancy beliefs and task value. While several studies have individually explored the factors of social support, expectancy beliefs and task value, there is a lack of comprehensive research examining the interplay between these factors in the context of online learning motivation. In addition, investigating the influence of gender on online learning motivation is also crucial for several reasons, particularly in the context of educational equity and effectiveness in e-learning environments. The findings from various studies indicate that gender differences can significantly affect learners' motivation, engagement, and overall performance in online settings. Research has shown that male and female learners may exhibit different motivational patterns when it comes to online learning (Yu & Deng, 2022; Chung & Chang, 2017). As such, the following research questions are addressed in this study:

1. Does gender have an influence towards the variables of expectancy beliefs, task value and social support of online learning motivation?
2. Is there a relationship between social support and online learning motivation?

By addressing these research questions, this study aims to provide a more comprehensive understanding of the factors that influence students' motivation to learn online. Subsequently, the study intends to examine the role of gender towards the variables of expectancy beliefs, task value and social support of online learning motivation. In addition, this study also seeks to determine if there is a relationship between social support and motivation in online learning. In the context of this study, motivation includes both expectancy beliefs and task value components. From the findings of this study, it could provide valuable knowledge for educators and policymakers, as it can help them design strategies to enhance the online learning experience for students, ultimately improving learning outcomes in online learning environment.

Literature Review

This section presents the relevant literature that focuses on the studies of online learning and motivation, including the works that investigated the influence of gender towards the related variables.

Online Learning

Online learning, also known as e-learning, refers to education that is conducted via electronic media, primarily on the internet. This mode of learning has evolved significantly over the years, driven by advancements in technology and the increasing demand for flexible educational options. Online learning encompasses a variety of definitions, reflecting its complexity and the diverse contexts in which it is applied. The core elements of online learning include the use of digital platforms for instruction, the ability to access resources remotely, and the facilitation of interaction between students and instructors through various multimedia tools (Singh & Thurman, 2019).

The development of online learning can be traced back to the late 20th century, with the advent of the internet and digital communication technologies (Zheng et al., 2021). Initially, online learning was limited to basic course materials and email communication. However, as technology advanced, so did the sophistication of online learning environments. Today, online learning incorporates interactive elements such as video conferencing, discussion forums, and collaborative tools, which enhance the educational experience (Hollister et al., 2022). The COVID-19 pandemic further accelerated this transition, forcing many educational institutions to adopt online learning rapidly, thereby revealing both its potential and its limitations (Zheng et al., 2021; Hollister et al., 2022).

The benefits of online learning are numerous. It offers flexibility, allowing students to learn at their own pace and on their own schedule, which is particularly advantageous for those balancing work, family, and education. Additionally, online learning can provide access to a broader range of courses and resources, enabling students to pursue subjects that may not be available locally (Zheng et al., 2021). Research has shown that online learning can lead to comparable learning outcomes when designed effectively, particularly when it incorporates interactive and engaging elements that foster student participation and collaboration (Hollister et al., 2022).

Despite these advantages, online learning also presents several challenges. One significant concern is the potential for reduced student engagement and interaction, which can lead to feelings of isolation (Zheng et al., 2021). The effectiveness of online learning is often contingent on the quality of the instructional design and the level of interaction facilitated by

instructors (Singh & Thurman, 2019). Studies have indicated that many students may struggle with motivation and self-discipline in online setting, which can adversely affect their academic performance. Furthermore, the abrupt shift to online learning during the pandemic highlighted disparities in access to technology and the internet, raising questions about equity in educational opportunities (Zheng et al., 2021; Hollister et al., 2022).

Researchers in the field of online learning have explored a variety of topics that reflect the evolving nature of education in digital environments. The most common themes identified in recent studies include course design and development (Baldwin et al., 2018), assessment and feedback (Elaraby et al., 2022; Prasetya & Syarif, 2022), technology integration (Shak et al., 2022; Akram et al., 2022), the impact of COVID-19 pandemic on online learning (Aristovnik et al., 2023; Mohamad & Yusuf, 2022), and learner engagement and motivation (Simunich et al., 2015; Li et al., 2022).

Motivation in Online Learning

Motivation is a crucial psychological factor that drives individuals to engage in learning activities, especially in online environments. It can be defined as the internal and external forces that stimulate desire and energy in individuals to be continually interested and committed to a task, which in the context of education, translates to persistence in learning activities (Adam et al., 2023). Motivation is typically categorized into two types; intrinsic and extrinsic motivation which are the key concepts in understanding student engagement in online learning environments.

Intrinsic motivation refers to engaging in an activity that stems from personal interest, enjoyment, or the inherent satisfaction derived from the task itself (Siok et al., 2023). In the context of online learning, students who are intrinsically motivated participate because they find the subject matter interesting or enjoyable. This form of motivation is characterized by curiosity (a natural desire to learn and explore new topics), challenge (the pursuit of personal growth and mastery of skills), and self-fulfilment (satisfaction from achieving personal goals and understanding concepts deeply) (Mansour et al., 2023). Studies have indicated that students with high levels of intrinsic motivation tend to perform better academically and exhibit greater persistence in their studies (Mansour et al., 2023; Gulatee et al., 2022).

Extrinsic motivation involves performing a task to earn a separable outcome like grades or rewards or avoid negative consequences (Siok et al., 2023). In online learning, this can manifest through grades and certifications where students may be motivated to complete assignments and participate in discussions primarily to achieve good grades or earn certifications. Gaining rewards or incentives such as praise from instructors, small gifts, or recognition can also enhance motivation. Another reason that drives students to engage in their studies is avoidance of punishment which denotes the desire to avoid failing a course or receiving negative feedback (Zhou & Zhang, 2023). Studies have shown that while extrinsic motivation can effectively initiate engagement, it may not lead to sustained interest in learning, as students may focus more on the rewards than the learning process itself (Zhou & Zhang, 2023; Lamanauskas et al., 2021).

Both intrinsic and extrinsic motivations play significant roles in online learning. An effective educational environment often incorporates strategies to foster intrinsic motivation while also providing appropriate extrinsic rewards to enhance overall student engagement and satisfaction.

Understanding these motivations can help educators design better online learning experiences that cater to diverse student needs and preferences.

The significance of motivation in online learning cannot be overstated. Motivation can directly influence learners' engagement, persistence, and overall academic success. In online learning, where students often study independently and may lack direct supervision, motivation becomes even more critical. Motivated learners are more likely to engage with the material and persist through challenges. A study by Siok et al. (2023) has shown that intrinsic motivation enhances engagement and leads to deeper learning experience. It means that when students find the content interesting and relevant, they are more likely to invest time and effort into their studies, resulting in better learning outcomes.

Setting clear goals is another aspect where motivation plays a vital role. When learners have specific, measurable, achievable, relevant, and time-bound goals, they are more inclined to stay focused and motivated throughout their learning journey (Adam et al., 2023). This structured approach allows learners to track their progress and celebrate milestones, which further reinforces their motivation. In addition, providing learners with a sense of autonomy or allowing them to make choices in their learning can significantly boost motivation. Autonomy supports intrinsic motivation by fostering a sense of ownership over the learning process (Adam et al., 2023). On top of that, a supportive learning environment that encourages collaboration and provides timely feedback can enhance motivation levels, making learners feel valued and connected to their peers and instructors (Siok et al., 2023).

Several studies have examined online learning motivation which highlighted various factors that influence students' engagement in virtual educational environment. Meşe and Sevilen (2021) investigated the impact of teacher feedback towards the motivation of Thailand students, and they suggested that students who are accustomed to traditional classrooms may struggle with motivation in online settings due to the lack of structured oversight. Another study by Vimala et al. (2021) identified the elements that contribute to students' overall motivation of online courses which include the role of self-discipline, peer interaction, and instructor support. Meanwhile, Azmi et al. (2022) explored the psychological impact of virtual learning by examining how factors like stress and the fear of examinations correlate with students' motivation, and the study found that a lack of motivation can lead to negative academic behaviour.

These studies have collectively underscore the complexity of motivation in online learning, which can be influenced by factors such as instructional quality, peer support, and individual student characteristics. As such, understanding and fostering motivation in online learning environments is essential for enhancing learner engagement, persistence, and overall academic success. Strategies that promote intrinsic motivation, set clear goals, and create supportive learning environments are vital for effective online education.

The Influence of Gender towards Motivation

The influence of gender on motivation in online learning environment has garnered increasing attention in educational research. The relationship between gender and the variables of expectancy beliefs, task value, and social support in online learning motivation has been explored in several studies.

Studies have found mixed results regarding the influence of gender on students' expectancy beliefs for succeeding in online learning. Female students tend to have lower confidence in their ability to use computers and information and communication technologies (ICT) compared to male students (Korlat et al., 2021). This lack of confidence could negatively impact their expectancy beliefs for succeeding in online courses. However, another research found that female learners are more perseverant and engaged than males in online courses (Yu, 2021). This suggests female students may have higher expectancy beliefs despite their lower confidence in ICT abilities. In contrast, male students tend to hold more stable positive attitudes toward online learning compared to females (Yu, 2021). This could indicate that males have higher expectancy beliefs for succeeding in online courses. The inconsistent findings may be due to offsetting factors; while females have stronger self-regulation skills, males use more learning strategies and have better technical skills (Yu, 2021). These factors could balance out gender differences in expectancy beliefs.

Studies on the influence of gender on task value in online learning motivation reveal significant differences in perceptions, motivations, and engagement levels between male and female students. A study by Frikha et al. (2024) found that Saudi female students have greater perceptions of autonomy and competence during online physical education classes which suggests female students are generally more motivated and engaged in online learning environment than males, particularly in contexts where intrinsic motivation is crucial for academic success. Another study highlighted that female students tend to perceive higher levels of teacher support, intrinsic value, and engagement in digital learning settings compared to male students which indicate females demonstrate greater engagement when supported effectively (Korlat et al., 2021). In contrast, Yu (2021) concluded that male students have better technical skills and favoured online learning for its convenience which means they might leverage their technical advantages to navigate online learning more effectively. Overall, the influence of gender on task value in online learning motivation is multifaceted, with females generally exhibiting higher intrinsic motivation and engagement, while males demonstrate advantages in technical skills and learning strategies.

One of the important aspects in online learning is social support since it can lessen the feelings of loneliness and enhance motivation. Research on gender differences has suggested that female students often perceive a higher value of social support than male students, which then influences their motivation to participate in online learning (Izni et al., 2024). This is because female students are more likely to seek help and collaborate with their peers, which enhance learning experience and increase motivation (Elshareif & Mohamed, 2021). Yu and Deng (2022) also concluded that females may benefit more from emotional support as compared to males who prioritize informational support; thus, those who receive adequate support are more likely to engage and succeed in their studies. In addition, males often demonstrate a preference for competitive and collaborative learning environments, while females tend to favour exploration and thematic tasks (Chung & Chang, 2017). This distinction can lead to variations on how each gender engages with online content, ultimately impacting their motivation levels and learning outcomes.

Understanding the influence of gender on expectancy beliefs, task value, and social support can inform the design of online learning environments. Educators should consider implementing strategies that foster a supportive atmosphere for all learners, particularly for those who may feel less confident in their abilities. This could be done by creating collaborative learning opportunities that encourage peer interaction and support (Izni et al., 2024), particularly for

female students who may benefit from increased social engagement. In addition, providing targeted training on technology use with a focus on building confidence (Yu & Deng, 2022) may help to increase students' self-efficacy and boost their motivation.

In summary, gender plays a significant role in shaping the expectancy beliefs, task value, and social support experienced by learners in online education. While males often demonstrate higher self-efficacy and motivation, females can thrive in supportive environments that enhance their confidence and engagement. Recognizing and addressing these differences is essential for fostering effective online learning experiences that promote motivation across all genders. Future research should continue to explore these dynamics to further refine educational practices and support systems in online learning contexts.

Conceptual Framework

The study of online learning motivation has gained significant attention, particularly in light of the rapid transition to digital education necessitated by recent global events. A conceptual framework for motivation in online learning was developed by Fowler (2018) which emphasizes the interplay of various psychological factors that influence students' engagement and persistence in digital educational environments. As presented in Figure 1, the key components of this framework include expectancy beliefs, task value and social support. Each of these elements plays a crucial role in shaping students' motivation to engage in online learning environments.

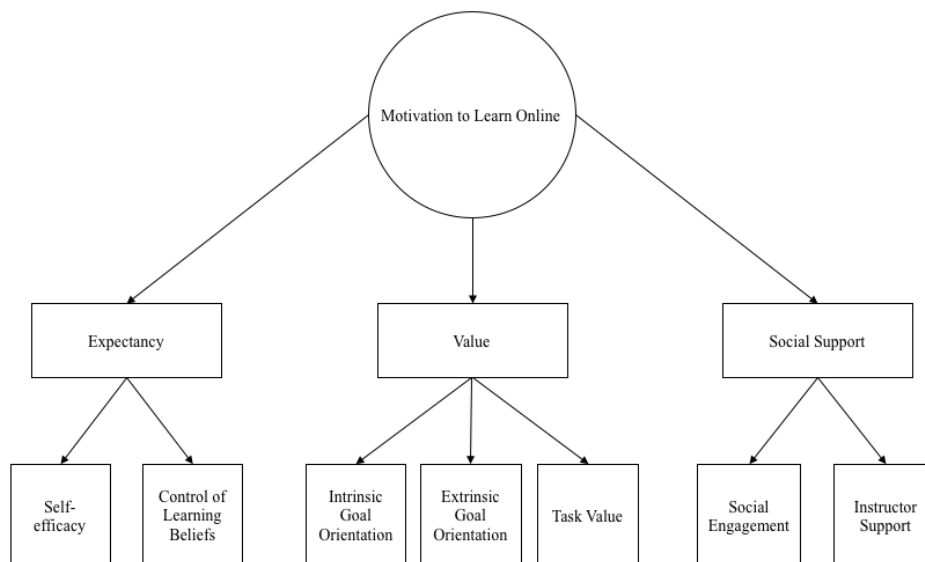


Figure 1: Relationship between Expectancy Beliefs, Task Value and Social Support for Online Learning Motivation

Expectancy beliefs refer to the students' beliefs about their capabilities to succeed in online learning (Chen et al., 2023). High expectancy beliefs can lead to increased motivation, as students who feel confident in their abilities are more likely to engage actively in the learning process. Task value encompasses the perceived importance and relevance of the learning tasks to the students which include intrinsic value (interest in the subject matter) and extrinsic value (perceived benefits of learning) (Safitri et al., 2021). When learners find the content meaningful

or beneficial for their personal or professional goals, their motivation to engage in online learning increases. Social support highlights the positive interactions with peers and instructors that foster a sense of community and belonging, which is crucial in an online setting where students may feel isolated (Lin et al., 2023). Social support can manifest in several forms which include emotional support (encouragement and reassurance from friends and family), informational support (guidance and feedback from instructors) and instrumental support (resources or help with technology) (Chen et al., 2023).

Several studies have been conducted to examine the relationship between the key components of online learning motivation (Lessard & Puhl, 2021; Joo et al., 2015; Izni et al., 2024; Saleh et al., 2023). A study by Lessard and Puhl (2021) investigated students' learning motivation based on task value, expectancy beliefs, and affective components which found that expectancy beliefs and task value are significant motivational factors for online learning. Research also indicates that when students believe they can succeed, they are more likely to engage actively in their studies. Joo et al.'s (2015) study on college students concluded that both expectancy beliefs and task value components have significant direct effects on academic achievement in online courses which suggests that enhancing students' self-efficacy can lead to improved motivation and performance in online learning settings.

In addition, a study by Izni et al. (2024) found a significant correlation between task value and the motivation of online learning among Malaysian higher education students. Meanwhile, Saleh et al. (2023) concluded that task value has a higher mean score compared to expectancy beliefs which indicates students may prioritize task relevance over their confidence in completing them. This means that educators need to design online courses that resonate with students' interests and aspirations since task value refers to perceived importance and relevance of the learning material. On top of that, social support is considered a critical factor in fostering motivation of online learning as it refers to the assistance and encouragement that students receive from peers, instructors, and the broader educational community. Research by Izni et al. (2024) concluded that social support is positively related to expectancy beliefs and task value, which suggests that the presence of supportive relationships can mitigate feelings of isolation that often accompany online education, thereby enhancing students' engagement and persistence.

Fowler's (2018) conceptual framework provides a comprehensive understanding of the motivational factors that influence online learning. Social support enhances students' expectancy of success and helps them recognize the value of their learning, ultimately fostering a more motivated and engaged learning experience. As educators and institutions continue to adapt to online learning environments, understanding and leveraging these factors will be essential for enhancing student motivation and success. By addressing these components, educators can better support students in navigating the challenges of online learning, ultimately leading to improved educational outcomes.

Methodology

This research applies quantitative study with the objective to assess the influence of gender towards the variables of online learning motivation and to determine the relationship between social support and online learning motivation among undergraduate students. A set of questionnaire was adapted from Fowler (2018) with three main variables of expectancy beliefs, task value and social support. Table 1 depicts the distribution of items for the questionnaire

with 12 items for expectancy beliefs component, 14 items for task value and 12 items for social support.

Table 1: Distribution of Items (Fowler, 2018)

Variables	Sub-variables	No of items
Expectancy Beliefs	Self-efficacy (ESE)	8
	Control of learning beliefs (ECB)	4
Task Value	Intrinsic goal orientation (VIG)	4
	Extrinsic goal orientation (VEG)	4
	Task value (VTV)	6
Social Support	Social engagement (SSE)	5
	Instructor support (SIS)	7
	Total	38

The respondents of this study are undergraduate students taking degree courses at a public university in Kelantan. These students are selected based on the nature of their teaching and learning mode in the university in which the course they have registered applies blended learning style. The course involves the students to undergo a combination of 2-hour face-to-face class and 2-hour online learning class per week. Specifically, the degree course selected requires the students to conduct online learning with their instructors and peers especially when completing their assessments. Since these students need to conduct a part of their learning through online mode, they are considered to have the relevant experience in relation to the objectives of this study, which is to assess their online learning motivation. As such, the total population of the respective respondents is 312 students. Based on Krejcie and Morgan's (1970) table for determining sample size, this study requires a total of 169 respondents. By considering the non-response rate of obtaining questionnaire feedback, the researchers decided to distribute the questionnaire to the whole selected population.

The questionnaire with the chosen items is created in Google form for easy dissemination and data collection. The researchers requested the respective instructors teaching the selected degree courses to share the Google form link to the study participants. Data collection was done in 2 weeks' time and a notice was issued to the instructors to remind the students to complete the questionnaire.

Before conducting the analysis to achieve the objectives of this study, descriptive and reliability analyses are performed on the collected data. Next, the study carries out t-test analysis to determine whether gender has an influence on the variables of online learning motivation. A t-test is a statistical method used to determine whether there is a significant difference between the means of two groups of gender. Following to that, correlation analysis is performed to analyse the relationship between social support and online learning motivation. The data analysis is conducted using Statistical Package for the Social Sciences (SPSS 28.0).

Findings

From a total of 312 respondents, this study managed to collect 165 responses (52.8% response rate) which fulfil the minimum requirement of sample participants as suggested by Krejcie and Morgan (1970). The analysis on demographic profile of the collected data constitutes a significant majority (72%) of female respondents while males account for only 28%. For age distribution, the majority fell within the 22 to 23 years old with 59%. In terms of academic level, the vast majority are degree students (94%) with business management program as the

highest takers at 43%, followed by information management and computer science & mathematics at 16% and 14%, respectively. It is also noted that the respondents predominantly utilize laptops (49%) for online learning, followed by smartphones (27%), tablets (17%), and desktop computers (7%). The data underscores prevailing demographics and technological preferences among the surveyed population, offering valuable insights for targeted strategies in education.

Reliability Analysis

The study applies questionnaire for gathering the data that relate to the study’s objectives. The Likert scale applied consists of 5 scales with the options of 1-Never, 2-Seldom, 3-Sometimes, 4-Often, and 5-Almost Always. The main variables for this study are expectancy beliefs, task value and social support which are then categorised into seven observed variables of self-efficacy, control of learning beliefs, intrinsic goal orientation, extrinsic goal orientation, task value, social engagement and instructor support. Before the data are analysed to test the hypotheses, reliability analysis is conducted to examine the credibility and consistency of a measurement scale by assessing its ability to produce consistent and relevant results when the measurement process is repeated multiple times (Gajendrakar, 2024). The most commonly used test is Cronbach's alpha coefficient with the accepted value of Cronbach’s alpha is 0.7 and above; however, values above 0.6 are also accepted (Taber, 2018).

Referring to Table 2, the Cronbach's Alpha of .908 shows that the variable self-efficacy demonstrates high internal consistency reliability for the eight items used to measure the variable. A Cronbach's Alpha of .704 indicates moderate internal consistency reliability for the four items of control of learning beliefs. The four items measuring intrinsic goal orientation are strongly correlated which show a Cronbach's Alpha of .859, indicating high internal consistency reliability. Similarly, extrinsic goal orientation also demonstrates high internal consistency reliability with a Cronbach's Alpha of .869. With six items assessing task value, the Cronbach's Alpha of .920 indicates very high internal consistency reliability. However, the five items measuring social engagement show a satisfactory Cronbach's Alpha of .805, suggesting a satisfiable internal consistency reliability. With a Cronbach's Alpha of .946, the seven items assessing instructor support is highly correlated and have strong reliability. Finally, the overall analysis on 38 items shows a Cronbach alpha of .950, thus, revealing a good reliability of the instrument used.

Table 2: Reliability Analysis

Variable	No. of Items	Cronbach Alpha
Expectancy Beliefs:		
Self-efficacy	8	.908
Control of learning beliefs	4	.704
Task Value:		
Intrinsic goal orientation	4	.859
Extrinsic goal orientation	4	.869
Task value	6	.920
Social Support:		
Social engagement	5	.805
Instructor support	7	.946
Overall	38	.950

Influence of Gender towards Expectancy Beliefs, Task Value and Social Support

T-test is a particularly useful technique when investigating the influence of gender on the variables of expectancy beliefs, task value, and social support. The null hypothesis (H₀) assumes that there is no significant difference between the means of the two groups (e.g., male and female) while alternative hypothesis (H₁) assumes a significant difference exists between the means of the two groups. The significance of the results is determined by examining the p-value; if the p-value is less than 0.05, the null hypothesis is rejected, indicating a significant difference between the groups.

Table 3 presents the analysis of gender differences on the variables of expectancy beliefs, task value and social support. For the variable expectancy beliefs, the results revealed a non-significant difference between the two gender groups of female and male with $t(df) = 1.337$, $p = .183$. The analysis also found gender has no significant difference for the task value variable with $t(df) = -.629$, $p = .531$. Lastly, it is concluded that social support variable does not support any significant difference between the female and male respondents with $t(df) = -.033$, $p = .974$. Thus, hypothesis (H₀) is accepted which means gender does not have any influence towards the variables of expectancy beliefs, task value and social support of online learning motivation.

Table 3: Analysis of Gender Differences

Variable	Groups	Mean	Std. dev.	t	df	p	Result
Expectancy beliefs	Female	3.8496	.55617	1.337	163	.183	H ₀ accepted
	Male	3.7171	.57640				
Task value	Female	4.0187	.61087	-.629	66.006	.531	H ₀ accepted
	Male	4.0813	.46344				
Social support	Female	3.8622	.56453	-.033	163	.974	H ₀ accepted
	Male	3.8655	.58041				

The Relationship between Social Support and Online Learning Motivation

The next analysis involves determining the relationship between social support and online learning motivation. In the context of this study, motivation includes both expectancy beliefs and task value components. The data are analysed using SPSS for correlations to determine if there is a significant association in the mean scores between social support and motivation. The result is presented in Table 4 below.

Table 4: Correlation between Social Support and Motivation

		Social Support	Motivation
Social Support	Pearson Correlation	1	.918**
	Sig. (2-tailed)		.000
	N	165	165
Motivation	Pearson Correlation	.918**	1
	Sig. (2-tailed)	.000	
	N	165	165

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

From the result, it shows there is an association between social support and motivation. Correlation analysis shows that there is a significant association between social support and motivation ($r=.918^{**}$) and ($p=.000$). According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. With the value of $r=.918$, it means that there is a strong positive relationship between social support and motivation.

Discussion and Conclusion

The study aims to explore how gender influences expectancy beliefs, task value, and social support in the context of online learning motivation. Additionally, it seeks to investigate the relationship between social support and motivation in online learning. Here, motivation encompasses both expectancy beliefs and task value elements.

The influence of gender on expectancy beliefs, task value, and social support in online learning has been a focal point of research, revealing complex and often contradictory findings. Expectancy beliefs refer to students' confidence in their ability to succeed in a given task. Statistical analysis of this study showed no significant gender differences in expectancy beliefs, indicating that both genders may hold similar expectations for success in online learning environments despite their differing confidence levels, as mentioned by Yu (2021). This finding suggests that while gender may influence individual perceptions, it does not necessarily translate into significant differences in overall expectancy beliefs. In other words, male and female students have equal competence beliefs in their ability to learn effectively in digital environments especially during the COVID-19 pandemic. The insignificant result of this study concurs with the research of Korlat et al. (2021) which concluded gender does not have a substantial impact on their beliefs of digital learning abilities. In addition, another study that examined the influence of gender towards self-regulated online learning during COVID-19 found no significant differences between males and females (Alghamdi et al., 2020) which suggests that both genders have similar expectancy beliefs about their ability to plan and prepare for online learning. Even though most research found that male students tend to have higher confidence in their ICT abilities as compared to females, Vekiri (2013) concluded that this gender gap has been narrowing in recent years. As such, both genders demonstrate equal confidence in their ability to learn effectively in digital environments, with female students outperforming the males in some areas of self-regulated online learning.

Task value reflects the perceived importance and relevance of a task to the learner. Similar to expectancy beliefs, the analysis of this study revealed no significant gender differences in task value. This suggests that both male and female students may value online learning similarly, despite their differing motivations and engagement strategies (Yu, 2021). Research findings that indicate no significant gender differences between task value and online learning reflect a complex educational outcomes influenced by various factors, including engagement, self-regulation, and perceived support. For instance, Alghamdi et al. (2020) found that while female students reported higher intrinsic value and learning engagement, there is no significant difference in overall competence beliefs regarding digital learning between genders. Meanwhile, Vandeveld et al. (2013) asserted that females generally exhibit stronger self-regulatory behaviours than males; however, Alghamdi et al. (2020) found no significant differences of gender when assessing self-regulation strategies employed during online learning. Moreover, perceived teacher support has also been shown to influence learning experiences across genders. Nevertheless, Alghamdi et al. (2020) concluded that perceived

support does not lead to significant differences in task value of online learning environments, which aligns with this study that found both genders can thrive in supportive digital learning contexts without significant differences in results. The result of this study is in line with various studies (Chung & Chang, 2017; Korlat et al., 2021; Yu, 2021) which concluded task value in relation to learning outcomes is not significantly different between male and female students even though female students show higher perceived teacher support, intrinsic value, and learning engagement (Korlat et al., 2021) while males leverage their technical skills to navigate online learning environments effectively (Yu, 2021). In addition, Idrizi et al. (2023) also found no significant differences in academic performance between genders in online courses. As such, while there are observable trends in engagement and self-regulation between genders, it does not lead to significant differences in task value of online learning environments.

Social support refers to the perception and actuality of having assistance, care, and a sense of belonging from other people. It plays a crucial role in online learning, influencing motivation and engagement. This study also found no significant differences in social support between genders which implies that while the experiences of social support may differ, the overall impact of perceived social support on motivation does not vary significantly between male and female students (Yu, 2021). The result supports the findings of Sulistyorini and Roswiyani (2021) which found social support from their family and peers plays a crucial role in online learning success of both male and female students but does not differ significantly by gender. Thus, it emphasises the notion that both genders have equal benefits from social support systems in educational contexts. This study's result contradicts the result of other studies which discovered that females have greater inclination to seek help and collaborate with peers, fostering a more enriching learning experience while males prioritize competitive and informational support, which shape their engagement differently (Yu, 2021; Qazi et al., 2022). However, Yu and Deng's (2022) study indicated that while there are differences in how males and females interacted with e-learning platforms, these do not translate into significant differences in performance. Consequently, Korlat et al. (2021) highlighted the importance of social relationships and support in digital learning contexts, which can be equally beneficial for both genders. In overall, research has consistently supported the idea that there is no significant gender difference in social support related to online learning which means male and female students experience similar levels of social support in digital learning environments.

The last part of the analysis discovered that there is a strong positive relationship between social support and motivation of online learning. Social support incorporates various forms of assistance that students receive from their social networks which include family, friends, peers, and educators. Social support plays a crucial role in nurturing a positive learning environment and developing the motivation of the students. Studies have shown that students with higher levels of social support would exhibit greater motivation towards their studies. The result of this study corresponds to the study of Amseke et al. (2021) which confirmed the positive impact of social support on learning outcomes with social support describing 53.6% of the variance in student motivation. Research has also shown that emotional support received from family and friends is particularly influential in motivating students during online learning. Students who gain support through positive peer interactions are more likely to be active in online learning processes as social support increases their motivation levels (Pramana & Wilani, 2023), intensifies academic self-efficacy and become more resilient against academic challenges (Saefudin et al., 2021). During COVID-19 pandemic, effective social support systems can alleviate the students' feelings of helplessness and academic stress, thereby enhancing their motivation to learn (Alshahrani et al., 2022). In general, research from multiple studies

highlights a strong link between social support and motivation in online learning settings. Building strong social networks can play a crucial role in boosting students' motivation and academic success as they face the challenges of remote education.

Implications and Suggestions for Future Research

The influence of gender towards expectancy beliefs, task value, and social support presents both practical and theoretical implications in the area of online learning motivation. It is crucial for educators and policymakers to grasp these dynamics in order to improve student engagement and achievement in digital learning environments. Recent research has proven that the gap between the two genders towards expectancy beliefs is narrowing; thus, theories of motivation like Expectancy-Value Theory could be applied to further investigate its significant impact towards students' engagement levels. This also applies to task value and social support since both have been documented to have negative impact towards students' online learning practices. As such, research frameworks on motivation should integrate social support mechanisms and the various aspects of task value like engagement, self-regulation, and perceived support to develop a more effective motivational strategies that correspond to both genders.

Recognizing the influence of gender on online learning motivation has practical implications for course design and instructional strategies. Educators should consider gender-specific needs when designing online learning courses by accommodating different motivational factors that can enhance the engagement of the students. For example, collaborative activities may be more appealing to male students, while thematic exploration activities could better engage female students (Yu, 2021). Moreover, creating an environment that promotes strong self-efficacy among female learners could help close the motivation gap of navigating online learning platforms by offering structured support like mentoring or peer collaboration. By recognizing and addressing the unique motivational factors that link to each gender, educators can improve the learning outcomes and adopt more equitable online learning experiences. This approach not only meets the needs of individual learners but also enhances the overall success of online learning programs.

Future research should continue to explore the role of gender across various age groups, cultures, and educational backgrounds to better understand how these factors intersect with online learning motivation. In addition, researchers should conduct longitudinal studies that would examine how gender-based motivational differences evolve over time, particularly as learners adapt to digital environments. Investigating the psychological aspects of students, such as self-efficacy, confidence, and sense of belonging across genders in online learning contexts could also further strengthen the valuable insights of this study. These avenues of research would help deepen the understanding of gender differences in online learning motivation and guide the development of more inclusive digital educational practices. As such, investigating the influence of gender on online learning motivation is vital for understanding how to optimize educational practices in digital environments.

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References

- Adam, S., Varma, S. B., Kadar, N. S. A., Yadri, W. S. W., Ibrahim, Q., & Rahmat, N. H. (2023). A study of autonomy, openness, connectivism, and diversity in online learning motivation. *International Journal of Academic Research in Business and Social Sciences*, 13(4), 1705 – 1723.
- Akram, H., Yingxiu, Y., Al-Adwan, A. S., & Alkhalifah, A. (2021) Technology integration in higher education during COVID-19: An assessment of online teaching competencies through technological pedagogical content knowledge model. *Front. Psychol.*, 12. doi: 10.3389/fpsyg.2021.736522
- Alghamdi, A., Karpinski, A. C., Lepp, A., & Barkley, J. (2020). Online and face-to-face classroom multitasking and academic performance: Moderated mediation with self-efficacy for self-regulated learning and gender. *Computers in Human Behavior*, 102, 214-222.
- Alshahrani, M., Alshahrani, A., & Alshahrani, S. (2022). College students' degree of support for online learning during the COVID-19 pandemic: The role of social support systems. *Journal of Educational Psychology*.
- Amseke, F. V., Daik, M. A., & Liu, D. A. L. (2021). Dukungan sosial orang tua, konsep diri dan motivasi berprestasi mahasiswa di masa pandemi Covid 19. *Jurnal Muara Ilmu Sosial, Humaniora, Dan Seni*, 5(1), 241.
- Aristovnik, A., Karampelas, K., Umek, L., & Ravšelj, D. (2023) Impact of the COVID-19 pandemic on online learning in higher education: A bibliometric analysis. *Front. Educ.*, 8. doi: 10.3389/educ.2023.1225834.
- Azmi, F. M., Khan, H. N. & Azmi, A. M. (2022). The impact of virtual learning on students' educational behavior and pervasiveness of depression among university students due to the COVID-19 pandemic. *Global Health*, 18(70). <https://doi.org/10.1186/s12992-022-00863-z>
- Baldwin, S. J., Ching, Y.-H., & Friesen, N. (2018). Online course design and development among college and university instructors: An analysis using grounded theory. *Online Learning*, 22(2), 157-171. doi:10.24059/olj.v22i2.1212
- Bandhu, D., Mohan, M. M., Nittala, N. A. P., Jadhav, P., Bhadauria, A., & Saxena, K. K. (2024). Theories of motivation: A comprehensive analysis of human behavior drivers, *Acta Psychologica*, 244.
- Chen, C., Zhu, Y., Xiao, F., & Que, M. (2023). Academic motivation and social support: Mediating and moderating the life satisfaction and learning burnout link. *Psychological Research and Behavior Management*, 16, 4583-4598. doi: 10.2147/PRBM.S438396. PMID: 38024656; PMCID: PMC10631375.
- Chung, L-Y, & Chang, R-C. (2017). The effect of gender on motivation and student achievement in digital game-based learning: A case study of a contented-based classroom. *EURASIA Journal of Mathematics, Science & Technology Education*, 13(6), 2309-2327.
- Elaraby, S. E., Ghoneim, F. M., & Elsamanoudy, A. Z. (2022). Evaluating online learning strategy and assessment methods in the course of human biology for the preparatory year medical students during COVID-19 pandemic lockdown. *Education in Medicine Journal*, 14(1), 17–25. <https://doi.org/10.21315/eimj2022.14.1.2>
- Elshareif, E., & Mohamed, E. (2021). The effects of e-learning on students' motivation to learn in higher education. *Online Learning*, 25(3), 128-143. doi:10.24059/olj.v25i3.2336
- Firmansyah, B., Hamamah., & Emaliana, I. (2023). Recent students' motivation toward learning English after the COVID-19 post-pandemic. *JOLLT Journal of Languages and Language Teaching*, 11(1), 130-136. <https://doi.org/10.33394/jollt.v%vi%i.6635>

- Fowler, S. (2018) *The Motivation to learn Online Questionnaire*. Doctor of Philosophy Dissertation. The University of Georgia. https://getd.libs.uga.edu/pdfs/fowler_kevin_s_201805_phd.pdf
- Frikha, M., Mezghanni, N., Chaâri, N., Ben Said, N., Alibrahim, M. S., Alhumaid, M. M., Hassan, M. M., Alharbi, R. S., Amira, M. S., & Abouzeid, N. (2024). Towards improving online learning in physical education: Gender differences and determinants of motivation, psychological needs satisfaction, and academic achievement in Saudi students. *PLoS One*, *19*(2). doi: 10.1371/journal.pone.0297822. PMID: 38319952; PMCID: PMC10846739.
- Gajendrakar, P. (2024). Reliability analysis. *WallStreet Mojo*. <https://www.wallstreetmojo.com/reliability-analysis/>
- Gulatee, Y., Combes, B., Yoosabai, Y., & Jaerasukon, P. (2022). Extrinsic and intrinsic for online classroom. *Higher Education Studies*, *12*(1). <https://files.eric.ed.gov/fulltext/EJ1335208.pdf>
- Hartnett, M. K. (2016). The importance of motivation in online learning. In *Motivation in Online Education*. Springer, Singapore. https://doi.org/10.1007/978-981-10-0700-2_2.
- Hollister, B., Nair, P., Hill-Lindsay, S., & Chukoskie, L. (2022) Engagement in online learning: Student attitudes and behavior during COVID-19. *Front. Educ.*, *7*. doi: 10.3389/educ.2022.851019
- Idrizi, E., Filiposka, S., & Trajkovikj, V. (2023). Gender impact on STEM online learning: A correlational study of gender, personality traits and learning styles in relation to different online teaching modalities. *Journal of Computer Networks and Communications*.
- Izni, N. A., Jana Aksah, S. J., Mohd Aslam, S. N. A., & M. N. Mohammed (2024). Motivation to learn online: Analysis of the relation between expectancy, value and social support in Malaysian higher education. *ESTEEM Journal of Social Sciences and Humanities*, *8*(1), 174-193.
- Jackson, S. L. (2015) *Research methods and statistics - A critical thinking approach (5th ed.)*. Cengage Learning.
- Joo Y. J., Oh E., & Kim S. M. (2015). Motivation, instructional design, flow, and academic achievement at a Korean online university: A structural equation modeling study. *Journal of Computing in Higher Education*, *27*(1), 28–46. <https://doi.org/10.1007/s12528-015-9090-9>.
- Korlat, S., Kollmayer, M., Holzer, J., Lüftenegger, M., Pelikan, E. R., Schober, B., & Spiel, C. (2021). Gender differences in digital learning during COVID-19: Competence beliefs, intrinsic value, learning engagement, and perceived teacher support. *Front Psychol.*, *30*(12). doi: 10.3389/fpsyg.2021.637776. PMID: 33868109; PMCID: PMC8043960.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, *30*(3), 607-610. <https://doi.org/10.1177/001316447003000308>
- Lamanauskas, V., Makarskaitė-Petkevičienė, R., Gorghiu, G., Manea, V. I., & Pribeanu, C. (2021). Extrinsic and intrinsic motivation in online education during the pandemic as perceived by Lithuanian and Romanian university students. *Proceedings of the International Conference on Human-Computer Interaction – RoCHI 2021*.
- Lessard, L. M., & Puhl, R. M. (2021). Adolescent academic worries amid COVID-19 and perspectives on pandemic-related changes in teacher and peer relations. *School Psychology*, *36*(5), 285– 292. <https://doi.org/10.1037/spq0000443>
- Li, Q., Jiang, Q., Liang, J.-C., Pan, X., & Zhao, W. (2022). The influence of teaching motivations on student engagement in an online learning environment in China. *Australasian Journal of Educational Technology*, *38*(6), 1–20. <https://doi.org/10.14742/ajet.7280>

- Lin, X., Hu, Y., Chen, C., & Zhu, Y. (2023). The influence of social support on higher vocational students' learning motivation: The mediating role of belief in a Just World and the moderating role of gender. *Psychology Research and Behavior Management*, 16, 1471-1483. <https://doi.org/10.2147/PRBM.S402643>
- Mansour, A., & Fatmi, A., & Jelloul, M. (2021). Investigating students' intrinsic and extrinsic motivation in online learning environments. *Moroccan Journal of Communication Studies*, 1(1), 82-99.
- Meşe, E. & Sevilen, Ç. (2021). Factors influencing EFL students' motivation in online learning: A qualitative case study. *Journal of Educational Technology & Online Learning*, 4(1), 11-22.
- Mohamad, F. F., & Yusuf, S. (2022). COVID 19 and the impact of online learning on the higher institution students' health. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*, 7(9). <https://doi.org/10.47405/mjssh.v7i9.1756>
- Narca, M. L., & Caballes, D. G. (2021). Learning motivation: Strategies to increase students' engagement in online learning at San Sebastian College-Recoletos, Manila. *International Journal of Asian Education*, 2(4), 573–580. <https://doi.org/10.46966/ijae.v2i4.217>
- Pramana, R., & Wilani, S. (2023). Social support and learning motivation for new students during online learning: A study at SMA Negeri Bali Mandara. *Journal of Education*.
- Prasetya, R. E. ., & Syarif , A. (2022). Assessment and feedback to enhance online English language learning. *Metathesis: Journal of English Language, Literature, and Teaching*, 6(1), 85–100. <https://doi.org/10.31002/metathesis.v6i1.185>
- Qazi, A., Hasan, N., Abayomi-Alli, O., Hardaker, G., Scherer, R., Sarker, Y., Kumar Paul, S., & Maitama, J. Z. (2022). Gender differences in information and communication technology use & skills: A systematic review and meta-analysis. *Educ Inf Technol (Dordr)*, 27(3), 4225-4258. doi: 10.1007/s10639-021-10775-x. Epub 2021 Oct 21. PMID: 34697533; PMCID: PMC8528947.
- Saefudin, W., Sriwiyanti, & Yusof, S. H. M. (2021). Role of social support toward student academic self-efficacy in online learning during pandemic. *Jurnal Tatsqif*, 19(2), 133-154.
- Safitri, P. R., Tumanggor, R. O., & Tasdin, W. (2021). Social support and learning motivation for new students during the COVID-19 pandemic. *Proceedings of the International Conference on Economics, Business, Social, and Humanities (ICEBSH 2021)*, pp. 229-234. Atlantis Press.
- Saleh, N. S., Taib, S. A., Sa'adan, N., Noorezam, M., Iliyas, S. M. M., Jenal, N., & Rahmat, N. H. (2023). Learning motivation: A correlational study between value and expectancy components. *International Journal of Academic Research in Business and Social Sciences*, 13(6), 678 – 694.
- Shak, P., Hiew, W., & Tobi, B. (2022). Challenges in technology integration for online teaching and learning for English sessional academics. *Computer Assisted Language Learning Electronic Journal (CALL-EJ)*, 23(1), 233-258.
- Simunich, B., Robins, D. B., & Kelly, V. (2015). The impact of findability on student motivation, self-efficacy, and perceptions of online course quality. *American Journal of Distance Education*, 29(3), 174-185.
- Singh, V., & Thurman, A. (2019). How many ways can we define online learning? A systematic literature review of definitions of online learning (1988-2018). *American Journal of Distance Education*, 33(4), 289-306.
- Siok, T. H., Sim, M. S., & Rahmat, N. H. (2023). Motivation to learn online: An analysis from McClelland's Theory of Needs. *International Journal of Academic Research in Business and Social Sciences*, 13(3), 215 – 234

- Sulistiyorini, E., & Roswiyani, R. (2021). Social support and quality of life on online-learning university students. *Advances in Health Sciences Research*, 41. Proceedings of the 1st Tarumanagara International Conference on Medicine and Health (TICMIH 2021).
- Svinicki, M. D., & Vogler, J. S. (2012). Motivation and learning: Modern theories. *Encyclopaedia of the Sciences of Learning*, 2336-2339. 10.1007/978-1-4419-1428-6_392
- Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, 48(6), 1273-1296.
- Teo, S. C., Lilian, A., & Koo, A. C. (2023). Examining the effects of academic motivation and online learning on Malaysian tertiary students' psychological well-being and perceived learning performance. *Cogent Education*, 10(1). <https://doi.org/10.1080/2331186X.2023.2186025>
- Vandavelde, S., Keer, H., & Rosseel, Y. (2013). Measuring the complexity of upper primary school children's self-regulated learning: A multi-component approach. *Contemporary Educational Psychology*, 38, 407-425. 10.1016/j.cedpsych.2013.09.002.
- Vekiri, I. (2013). Information science instruction and changes in girls' and boy's expectancy and value beliefs: In search of gender-equitable pedagogical practices. *Computers & Education*, 64, 104-115.
- Vimala, K., Jung, S., Ab Rahim, H., & Rasu, F. (2021). Motivating factors influencing online learning among university students: A study of a private university in Malaysia. *Journal of Social Science Studies*, 8(2), 88-100.
- Yahiaoui, F., Aichouche, R., Chergui, K., Brika, S. K. M., Almezher, M., Musa, A. A., & Lamari, I. A. (2022). The impact of e-learning systems on motivating students and enhancing their outcomes during COVID-19: A mixed-method approach. *Front. Psychol.*, 13. doi: 10.3389/fpsyg.2022.874181
- Yong, S. M., & Thi, L. S. (2022). Online learning motivation during COVID-19 pandemic: The role of learning environment, student self-efficacy and learner-instructor interaction. *Malaysian Journal of Learning and Instruction*, 19(2), 213-249. <https://doi.org/10.32890/mjli2022.19.2.8>
- Yu, Z. (2021). The effects of gender, educational level, and personality on online learning outcomes during the COVID-19 pandemic. *Int J Educ Technol High Educ.*, 18, 14. <https://doi.org/10.1186/s41239-021-00252-3>
- Yu, Z., & Deng, X. (2022). A meta-analysis of gender differences in e-learners' self-efficacy, satisfaction, motivation, attitude, and performance across the world. *Frontiers in Psychology*, 13. doi: 10.3389/fpsyg.2022.897327. PMID: 35664150; PMCID: PMC9159470.
- Zheng, M., Bender, D. & Lyon, C. (2021). Online learning during COVID-19 produced equivalent or better student course performance as compared with pre-pandemic: Empirical evidence from a school-wide comparative study. *BMC Medical Education*, 21, 495. <https://doi.org/10.1186/s12909-021-02909-z>
- Zhou, Z., & Zhang, Y. (2023). Intrinsic and extrinsic motivation in distance education: A self-determination perspective. *American Journal of Distance Education*, 38(1), 51-64. <https://doi.org/10.1080/08923647.2023.2177032>