Kurdish Studies
Feb 2024
Volume: 12, No: 2, pp.1346-1363
ISSN: 2051-4883 (Print) | ISSN 2051-4891 (Online)
www.KurdishStudies.net

Received: December 2023 Accepted: January 2024
DOI: https://doi.org/10.58262/ks.v12i2.102

Digital Competencies as a Mediating Variable in the Relationship between Strategic Optimism and Defensive Pessimism among Faculty Members

Kazim Adil Al Ghoul[1]

Abstract

This study examines the association between digital competencies and psychological strategies, namely, defensive pessimism and strategic optimism, among faculty members in higher education. Using the Self-Determination Theory (SDT) as a theoretical lens, we investigate how faculty digital competencies - and their satisfaction of relatedness, competence, and autonomy needs - shape their perceptions and practices for digital technologies. A mixed-methods approach was used, and the "Digital Competency Mediation Scale and Faculty Members Questionnaire (DCMSFMQ)" was developed for data collection. Analysis of DCMSFMQ responses provided by 183 academics teaching in Jordanian private universities indicates that digital competencies were significantly related to both strategic optimism and defensive pessimism. The results suggest that higher levels of digital competencies were associated with more strategic optimism, indicating that faculty with strong digital skills were more likely to adopt a future-oriented, positive episode. At the same time, a strong direct (positive) association between digital competencies and defensive pessimism was also found, indicating that faculty with greater digital competency might also adopt anticipatory strategies to handle challenges and uncertainties when employing technologies. The implications point to the complex interplay between psychological strategies and digital skills of educators. The development of digital competencies should be promoted in line with supportive psychological techniques to facilitate the effective integration of technology into colleges and universities.

Introduction

The widespread use of digital technology is completely transforming the world's educational systems and, like many other countries, Jordan is responding by prioritizing the integration of technology in its higher education institutions, Professors are at the forefront of this paradigm shift; it is their job to seamlessly incorporate these digital innovations into their own teaching methodologies. the integration of digital technology in higher education has made it possible to revolutionize traditional pedagogical approaches, offers instructors with numerous challenges and opportunities (Crompton, 2019). Digital competences are a composite construct including the knowledge, the abilities, and the attitudes that people need to efficiently understand and operate digital technology in several contexts in life. A high level of digital competence is needed both for organizations and individuals to be able to thrive in a digital environment that is profusely expanding in the course of the twenty-first century (Eteokleous, 2018). This notion includes a set of necessary skills required for the current period, such as digital literacy, information management, critical thinking, and ethical use of technology.

[1] Associate Professor of Educational Administration Faculty Arts and Educational Sciences, middle East University, Amman, Jordan
Email: Kal-ghoul@meu.edu.jo

Several digital competences have been delineated that are focusing on particular aspects of the digital realm. One of these literacies encompasses the ability to comprehend, critically analyze, and utilize digital information in a variety of media, which permits individuals to be capable of recognizing reputable sources across the unbounded confounds of the Internet (Eteokleous, 2018). The skills associated with digital communication are "the product of textual, aural, and visual channels of communication used across a range of digital media platforms" (Eshet-Alkalai, 2020). Digital literacy, then, has fully matured when someone can acquire, evaluate, and use digital information effectively. In a society where information is increasingly open and available on the Internet, having the ability to make an informed decision is crucial. It mostly involves a high level of competence in information management so that users may systematically and effectively archive, manage and access very large digital information volumes (Martin & Rader, 2018).

Digital competencies correspond to a new kind of functional knowledge conferred for proficiencies including judgment, the ability to analyze and appraise data, and the ability to identify digital content that is biased or contains errors (Hone & El Said, 2021). The skills associated with digital communication are "the product of textual, aural, and visual channels of communication used across a range of digital media platforms" (Eshet-Alkalai, 2020). Digital literacy, then, has fully matured when someone can acquire, evaluate, and use digital information effectively. In a society where information is increasingly open and available on the Internet, having the ability to make an informed decision is crucial. It mostly involves a high level of competence in information management so that users may systematically and effectively archive, manage and access very large digital information volumes (Martin & Rader, 2018).

Strategic optimism - a mental process of effectively developing an optimistic view in the face of obstacles, uncertainty, and hardships. This notion, pulled from psychology and business literature, is built on the evidence that optimism is critical in making strategic choices. Strategic optimists have a lasting mindset and are strategically oriented to see possibilities for growth and advancement, all while picturing favorable outcomes. Seligman and Csikszentmihalyi, as referenced by Wang et al. (2023), propose that positive psychology, which investigates the importance of positive emotions, strengths, and virtues in human well-being, forms the basis for strategic optimism. Optimistic individuals use decision-making processes that are highly adaptive, which in turn promotes innovation and creativity (Han, Luo, & Luo, 2021). Strategic optimism, when used inside enterprises, enhances performance, risk management, and organizational resilience. Strategic optimism leaders inspire and encourage their workforce by promoting a culture of positive thinking and determination (Dadich & Farr-Wharton, 2020). Strategic optimism promotes an optimistic perspective, but it does not ignore possible problems. It helps people balance a practical evaluation of dangers with optimism by recognizing cognitive biases (Sharot, 2011). This improved approach discourages unnecessary arrogance and encourages well-informed decision-making. Faculty members who embrace strategic optimism possess a belief in positive results and have confidence in their capacity to adapt to changing situations and overcome challenges (Carver & Scheier, 2022).

Defensive pessimism is a cognitive approach in which people anticipate and mentally prepare for probable negative situations in order to control anxiety and improve performance. The hypothesis, first proposed in the late 1980s by Nancy Cantor and her colleagues, suggests that persons who practice defensive pessimism anticipate negative outcomes and have low expectations before engaging in a task or activity. Guth (2018) states that Cantor and Norem

proposed that people exhibit increased physiological arousal when faced with stressful events, suggesting that the expectation of negative consequences elicits a preparatory response. Norem's (2001) "The Positive Power of Negative Thinking" significantly advances our understanding of defensive pessimism. Norem amplifies the notion that defensive pessimism may serve as an adaptive coping strategy rather than simply representing a fundamentally damaging style of thought. The author demonstrates that, through interviews and research, individuals who have embraced a defensive pessimistic mindset may enhance their performance through channeling the power of dread to drive fastidious preparation (Ramrez-Maestre et al., 2020). Thomas (2020) noted defensive pessimism, as characterized in Norem and Cantor's 1986 paper, involves people setting low expectations as a way of effectively managing their anxiety. However, such a maneuver may paradoxically improve performance in some situations. The presence of these divergent views among faculty, then, generates a thought provoking framework for assessing the variety of impacts that they engender on the academic environment.

Psychological factors, such as the relationship between defensive pessimism and strategic optimism, and digital competences have received little attention in educational research. The relevant literature has mostly focused on the latter in the context of students' achievement and expertise in the use of digital technology (Goldie, 2016). As a result, little is known about which psychological techniques faculty members use impact their acceptance and usage of digital technology in their professional practice. Defensive pessimism and optimism techniques in this study are were examined by Riveiro (2014) among secondary school students. The research noted a higher incidence of optimistic strategies compared to defensive approaches on the one hand and a strong positive relationship between the two on the other. Their academic driving and learning strategies were further examined, resulting in the identification of four types of students based on the use of these strategies. Their learning style, motivation and the relationship between defensive pessimism and optimism were further studied by Riveiro (2014). In their study, Wang et al. (2021) took up the concept of digital competence and combining it with the conceptual framework of Self-Determination Theory (SDT); they investigated its impact on university students' psychological well-being during the COVID-19 pandemic. Self-Determination Theory (SDT) involves three basic psychological needs, i.e., autonomy, competence, and relatedness. It is argued that having digital competence is crucial to effective online learning and dealing with the psychological challenges of remote education when learning is entirely devoid of instructors and peers. Psychological distress of remote education may worsen especially when digital technology is not used very well and/or attitudes toward online education are ambivalent at best. Meeting these psychological needs might lead to intrinsic motivation, which is essential to persistent engagement in academic-related tasks and for persevering in the face of challenges (Wang et al., 2021, p. 1).

Ibrahim and Aldawsari (2023) conducted a study at Fatima College of Health Sciences in the United Arab Emirates to assess the relationship between digital skills and academic performance, with self-efficacy as a moderator. The study used a quantitative, cross-sectional, correlational, and descriptive research design to investigate the impact of self-efficacy and digital skills on the academic performance of nursing students.

The research used a digital capabilities and self-efficacy measure to assess many characteristics, such as digital autonomous learning, digital information/data management, digital communication and collaboration, digital creativity, and digital identity. The study revealed that both digital competence and self-efficacy were seen to be at a high level. An intermediate degree

of intellectual attainment was noted the mediation analysis results supported the idea that the effect of digital skills on student achievement was moderated by a mediator. As indicated by Ibrahim and Aldawsari (2023), the association between digital skills and student achievement was somewhat influenced by self-efficacy. This study contributes to an understanding of the relationship between self-efficacy and digital skills in the context of academic achievement. Wachtel (2014) discusses the transition from high school to college, during which students use self-awareness to negotiate their social environment in order to reduce anxiety and improve their motivation for academic achievement. Two of the highlighted strategies of this section are defensive pessimism and optimism. Research reveals a possible disconnection from both in the use of defensive pessimism—a strategy where individuals expect unfavorable results and all negative potential outcomes in a situation. This strategy helps with academic achievement at first, but over time, they experience increased stress and decreased performance compared to optimists.

Ferradás et al. (2020) explore how the effect of defensive pessimism on relationships between self-esteem and achievement goals is studied throughout a sample of 1028 students from a Canadian university. The macro process in SPSS was used to test mediation and moderation. The study found that defensive pessimism plays an active role in moderating and buffering the effects of self-esteem on implementation goals, particularly learning and performance goals. Defensive pessimism did not significantly mediate or moderate the relationship between self-esteem and performance-avoidance goals.

The study's results indicate that the use of defensive pessimism might successfully motivate students with poor self-esteem to engage in academic activities (Ferradás et al., 2020). In addition to cognitive and behavioral techniques, Suárez (2014) said that students might use affective-motivational tactics to enhance their learning. The use of defensive-pessimistic strategies and the cultivation of optimistic outlooks have therefore been closely linked to conceptual frameworks that distinguish between pessimism and optimism. The researcher analyzed the motivational and strategic characteristics that distinguished the different types of pupils that were identified from their application to a sample of 1753 secondary school students. The findings indicate that individuals relied on positive expectations (optimism) more often than defensive pessimism. Furthermore, a positive and significant correlation was observed between these two strategies. Additionally, it was found that both strategies were associated with sufficient academic motivation and the use of effective learning strategies. Suárez (2014) identified four student typologies based on the use of both approaches. However, while defensive pessimism may use stress-inducing methods that ultimately hinder performance, both strategic optimism and defensive pessimism are strongly associated with how people approach learning activities and self-motivation. Additional investigation in this field, particularly examining faculty members, has the potential to enhance our comprehension of how these cognitive processes operate as mediating factors in educational settings.

Nevertheless, this study aimed to overcome gaps in previous studies by using the existing literature. Within the dynamic landscape of higher education, it is the faculty members who have the duty of molding the learning environment to address these gaps. The relationship between digital skills and psychological characteristics is becoming more important as educational institutions incorporate digital technology into their teaching methods. This research aims to examine the correlation between defensive pessimism and strategic optimism, two contrasting cognitive strategies, among faculty members. We will also investigate the possible role of digital skills as a mediator. Previous research has separately investigated the

distinct ideas of defensive pessimism, strategic optimism, and digital skills. Nevertheless, there is a significant lack of understanding about the interaction between these characteristics in the particular setting of university faculty members. Previous research has mostly focused on analyzing psychological factors and digital proficiency separately. Integrating many areas is crucial for obtaining a thorough comprehension of how faculty members adapt to the always evolving problems posed by digital innovations in education. No apparent relationship has been established so far between defensive pessimism and strategic optimism among faculty. For the depth of faculty members' attitudes and behaviors, only with an examination of the coexistence and potential mutual impact of differing cognitive strategies can one get a comprehensive understanding. Despite a growing emphasis on digital literacy and competencies in academia, there has been a absence of research into the possible relationship between digital competences and defensive pessimism among faculty. In review of the previous studies and the literature gaps, the present study seeks to identify and outline the following objectives to guide the study:

1. Examine the relationship between digital competencies and strategic optimism among faculty members in Jordanian private universities.
2. Examine the relationship between digital competencies and defensive pessimism among faculty members in Jordanian private universities.

Research Questions

The Following Questions Will Guide the Study

1. What is the relationship between digital competencies and strategic optimism among faculty members in Jordanian private universities.
2. What is the relationship between digital competencies and defensive pessimism among faculty members in Jordanian private universities.

Research Hypotheses

HO$_1$: *Examine the relationship between digital competencies and strategic optimism among faculty members in Jordanian private universities.*

HO$_2$: *Examine the relationship between digital competencies and defensive pessimism among faculty members in Jordanian private universities.*

Rationale for the Study

There is a lack of academic research on the relationship between digital competences, strategic optimism, defensive pessimism, and faculty members, despite the growing acknowledgment of their significance. A review of how digital competences may alter how defensive pessimism connects with strategic optimism would be highly germane for the adaptation strategies faculty members employ during technological innovations.

Significance of the Study

This study holds significance for those organizations and educational policy makers as well as faculty development programs in Jordan and beyond that are seeking to better understand the impact the interplay between defensive pessimism, strategic optimism and digital competences may have on the development of targeted interventions and training initiatives designed to enhance the digital readiness of faculty member

Theoretical Framework

Self-Determination Theory (SDT) by Deci & Ryan (1985)

Norem's (2001) "The Positive Power of Negative Thinking" significantly advances our understanding of defensive pessimism. Norem amplifies the notion that defensive pessimism may serve as an adaptive coping strategy rather than simply representing a fundamentally damaging style of thought. The author demonstrates that, through interviews and research, individuals who have embraced a defensive pessimistic mindset may enhance their performance through channeling the power of dread to drive fastidious preparation (Ramrez-Maestre et al., 2020). Thomas (2020) noted defensive pessimism, as characterized in Norem and Cantor's 1986 paper, involves people setting low expectations as a way of effectively managing their anxiety. However, such a maneuver may paradoxically improve performance in some situations. The presence of these divergent views among faculty, then, generates a thought provoking framework for assessing the variety of impacts that they engender on the academic environment.

Psychological factors, such as the relationship between defensive pessimism and strategic optimism, and digital competences have received little attention in educational research. The relevant literature has mostly focused on the latter in the context of students' achievement and expertise in the use of digital technology (Goldie, 2016). As a result, little is known about which psychological techniques faculty members use impact their acceptance and usage of digital technology in their professional practice. Defensive pessimism and optimism techniques in this study are were examined by Riveiro (2014) among secondary school students. The research noted a higher incidence of optimistic strategies compared to defensive approaches on the one hand and a strong positive relationship between the two on the other. Their academic driving and learning strategies were further examined, resulting in the identification of four types of students based on the use of these strategies. Their learning style, motivation and the relationship between defensive pessimism and optimism were further studied by Riveiro (2014). In their study, Wang et al. (2021) took up the concept of digital competence and combining it with the conceptual framework of Self-Determination Theory (SDT); they investigated its impact on university students' psychological well-being during the COVID-19 pandemic. Self-Determination Theory (SDT) involves three basic psychological needs, i.e., autonomy, competence, and relatedness. It is argued that having digital competence is crucial to effective online learning and dealing with the psychological challenges of remote education when learning is entirely devoid of instructors and peers. Psychological distress of remote education may worsen especially when digital technology is not used very well and/or attitudes toward online education are ambivalent at best. Meeting these psychological needs might lead to intrinsic motivation, which is essential to persistent engagement in academic-related tasks and for persevering in the face of challenges (Wang et al., 2021, p. 1).

Ibrahim and Aldawsari (2023) conducted a study at Fatima College of Health Sciences in the United Arab Emirates to assess the relationship between digital skills and academic performance, with self-efficacy as a moderator. The study used a quantitative, cross-sectional, correlational, and descriptive research design to investigate the impact of self-efficacy and digital skills on the academic performance of nursing students.

Currently, it consists of five mini-theories, each of which explores a distinct aspect of motivated psychology:

Cognitive Evaluation Theory (CET) states that intrinsic motivation arises when the basic psychological requirements for competence and autonomy are satisfied. The importance of proficiency and independence in promoting innate motivation is emphasized by CET (Legault et al. 2017).

Organismic Integration Theory (OIT) investigates the many types of external motivation and the situational circumstances that support or impede its internalization and integration. The OIT states that greater levels of autonomous extrinsic motivation are linked to improved psychological well-being, persistence, and performance.

Causality Orientations Theory (COT) explains the factors that contribute to differences in individuals' inclination to adopt regulated, impersonal, or autonomous orientations towards settings. A link exists between these orientations and the development of different self-regulation and personality components.

According to Basic Psychological Needs Theory (BPNT), fundamental psychological needs comprised of relatedness, competence and autonomy are prerequisites for peak performance and resilience as well as for psychological welfare. Goal Contents Theory (GCT) differentiates among extrinsic and intrinsic aspirations or life goals (e.g. wealth, fame, community and affiliation) and their effects on motivation and wellness (Center for Self-Determination Theory, 2023).

The works of Deci and Ryan, particularly in the evolution of SDT, have greatly impacted other fields; such as sports psychology, business, health care, and education. Examinations of their work have contributed to significant advances in how we understand the effects of different motivational types on students' learning, performance, personal growth, and overall well-being.

Present Study

the Present Study SDT reveals precisely this in relation to motivation because relevance of relatedness, competence, and autonomy. The degree to which faculty digital competence is connected to the extent they are believed to possess technical skill is there. The degree of individual autonomy in the adoption and utilization of digital technology being connected to the motivating influence of strategic optimism and defensive pessimism is a possibility.

Application

It is possible that we might be able to measure the impact of the three basic psychological needs of Self-Determination Theory (SDT), that is, relatedness, competence and autonomy, on the faculty's attitudes/behaviours regarding digital skills (if we use SDT within the study).Moreover, the assist of self-determination theory (SDT) might assist us in understanding better "how these faculty members' internal psychological needs influence their propensity to adopt defensive pessimism or strategic optimism and, in turn, how these orientations manifest in their digital skills" (Gunn & Korn, 2018). By the way, in SDT, relatedness, competence and autonomy are the three basic psychological needs. They are essential when it comes to determining whether (and to what extent) it is possible to facilitate (or thwart) intrinsic motivation and well-being.

In terms of autonomy, faculty members who present strategic optimism is a more likely to sustain a sense of control over their professional development, including the acquisition of digital skills – the possibility to choose ways of incorporating these skills into their courses with

the hope of their active participation affecting the selection of the most powerful and suitable instructional and pedagogical approaches more closely connected to their individual and professional objectives. A defensive pessimistic worldview will cause contact with digital tools to be interpreted as a source of impotence in the face of the rapid progress of the world or of impossibility and as a consequence, these will not be embraced.

Drawing on an understanding based on the principles of Self-Determination Theory (SDT), the concept of competence is absolutely essential here. It could be the case that individuals with a strategic mindset see the utility of digital capabilities as a resource that they can exploit and leverage to enhance their functioning as faculty. With that enhanced confidence in their ability to understand digital technology, they would be more motivated and their capabilities would be better-integrated into their professional role, as a result. Defensive pessimists may distrust their own ability to develop the capabilities this approach demands — and they are thus likely to have lower motivation to embrace digital technology as a result.

Lastly, relatedness: This is one final tantalizing piece of the puzzle because it is a big one. In taking a strategic approach people may see their digital capabilities as a means to relate more effectively to their colleagues, students, and the broader academic community.

This sense of belonging might increase their motivation to acquire talent in this area. Cantankerous pessimists might instead experience a sense of isolation or disconnectedness as a function of the fact that they feel they're hopeless in the digital realm. One other thing that might discourage people from trying to develop their skills is a perception about themselves.
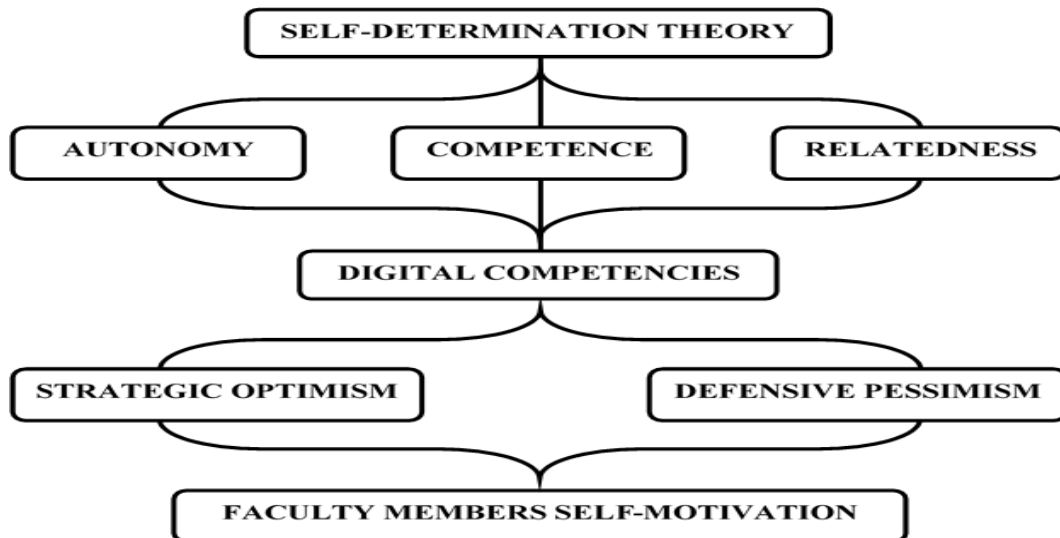

Figure 1: Authors Construct.

Implication

The Self-Determination Theory (SDT) suggests that people have inherent psychological needs relating to connection, competence, and independence. Meeting these needs promotes optimum Research in the area of personal development and overall well-being has become widespread in our world today. Given the impact of traditional views of personal development in Western societies and the importance of people's well-being, there is little doubt that personal development is a worthwhile area of study for the research community. The article

'Digital Competencies as a Mediating Variable in the Relationship Between Defensive Pessimism and Strategic Optimism Among Faculty Members.' piqued our interest. We've all witness the power of autonomy in the educational world. Autonomy clearly allows faculty members to embrace strategic optimism, which clearly works to promote a healthy, optimistic view of our digital capabilities. Conversely, defensive pessimism can show its face when faced with a threat to our autonomy, such as having our digital preparedness called into question. . . . Instructional institutions should look to promote autonomy in a real and digital setting, fostering a climate of digital competence to enhance faculty development programs. Faculty will respond in kind with a greater degree of strategic optimism and a greatly-facilitated absence of panic at the state of digital preparedness. For those who are not familiar with the research article, it takes a closer look at just how critical meeting the needs for autonomy and competence truly is. Autonomy gives faculty members the freedom they need to practice strategic optimism, a practice that does nothing less than champion a healthy perception of our digital capabilities. When our autonomy feels questioned, we will often adopt defensive pessimism, and that does nothing less than breed a pessimistic perception of our digital capabilities. Emotional autonomy and competence in the digital realm, part and parcel to Self-Determination Theory-work more than a little towards muting the link between defensive pessimism and strategic optimism among faculty. So, yes, SDT just may have the answer. A great starting point in all things faculty development, and with that comes technological growth and well-being At the very least, it wouldn't hurt to have a slightly more optimistic view, with or without the dramatics hallmark of defensive pessimism.Mism, M. B.

Methodological Approach

In order to quantitatively measure the interplay of these variables we administered a survey instrument comprised of scales measuring faculty's strategic optimism, defensive pessimism, and digital competencies.Given our qualitative orientation towards the phenomena under study our qualitative survey instrument is called the "Digital Competency Mediation Scale and Faculty Members Questionnaire (DCMSFMQ)." The instrument had two distinct components.

In Part A, the information pertaining to the respondents was presented. Section B evaluated the faculty members' digital competencies in relation to strategic optimism and defensive pessimism. Each variable was assigned a numerical score ranging from 0 to 4 on an internal scale that included the response options "Strongly Agree" (SA), "Agree" (A), "Disagree" (D), and "Strongly Disagree" (SD), when the question was formulated in a positive manner.

Validity: Face and content validation of the instrument was carried out by an expert from Jordanian private universities in testing, measurement, and evaluation to ensure that the instrument has the accuracy, appropriateness, and completeness for the study under consideration.

Reliability: The reliability of the instrument was obtained using Pearson Product Moment Correlation which yielded reliability co-efficient of 0.80.

Participants and Sample of the Study: The study consisted of 183 lecturers in the Jordanian private universities which includes 102 male and 81 female respondents. Participants ranged in age from 30 and above. The study employed the simple random sampling approach to ensure that both gender and the variables under consideration were well represented.

Method of Data Analysis: Research questions were answered using descriptive statistics, and the null hypothesis was tested by Pearson Product Moment Correlational analysis of the data.

Data Analysis

Research Questions

Research Question One: What is the relationship between digital competencies and strategic optimism among faculty members in Jordanian private universities.

Table 1: Descriptive Analysis of the Relationship Between Digital Competencies and Strategic Optimism Among Faculty Members in Jordanian Private Universities.

S/N	Variables	X	SD	Skewness	Kurtosis
1.	I feel confident in using digital tools and technologies in my teaching.	6.32	1.042	.158	-1.171
2.	I integrate digital resources and multimedia in my course materials.	7.25	1.091	.205	-1.311
3.	I believe that digital competencies are essential for effective teaching in today's educational environment.	5.61	.824	.130	-.622
4.	I believe that the integration of digital technologies in education positively contributes to the university's strategic goals	6.61	.913	.337	-.994
5.	I am confident in the university's ability to adapt to technological changes in the education sector	7.21	1.081	.252	-1.279

Legend: X = Mean; SD = Standard Deviation; N183
Source: Field Survey.

In the following Table 1 we present the descriptive statistics. The correlation between digital competencies and strategic optimism among faculty members in Jordanian private universities are presented. As it can be seen from Table 1 (mean values of 6.32, 7.25, 5.61, 6.61 and 7.21 and standard deviation of the variables were 1.042, 1.091, .824, .913 and 1.0881) the mean value of all the variables for this study exceeded their respective standard deviations. This implies that the variables were relatively relevant. In other words, this mean of the variables of this study tends to present that remarkable relationship between digital competencies and strategic optimism among faculty members. Similarly, the skewness values of 1.393, 2.620, .781, -1.024 and -1.209 indicate that the variables are positively skewed toward normality as the variables were all positive. Also kurtosis values of 1.896, 6.140, -1.141, 3.050 and 4.014 of the present study shows that the variables are not leptokurtic. These results were consistent with the studies of Al-Fraihat, Joy, Masa'deh, and Sinclair (2020) on academic staff need to have digital skills to achieve educational purposes and the highly favorable average ratings of confidence and integration, signifying the reliance of faculties on digital tools for embedding technology into their instruction. This recognition of digital competence as a necessary precondition for effective education is in compliance with the Technological Pedagogical Content Knowledge (TPACK) framework of Mishra and Koehler (2006), which emphasizes the importance of the development of expertise at the interconnection of the technological, the pedagogical and the content. As mentioned in these works, the present focus on strategic optimism indicates that a faculty that is both knowledgeable of the technical and possesses a forward-looking perspective is better positioned to meet the challenges that confront modern education. They were consistent further with the work by Wladis, Conway and Hachey (2016) on the factors affecting the readiness of students and instructors to utilize electronic resources and their readiness for

online education (Ryan, Doug, and Don, 2014), respectively. The faculties of the present study were more likely to succeed in the contemporary teaching and learning environments.

Research Question Two: What is the relationship between digital competencies and defensive pessimism among faculty members in Jordanian private universities

Table 2: Descriptive Analysis of the Relationship Between Digital Competencies and Defensive Pessimism Among Faculty Members Jordanian Private Universities.

S/N	Variables	X	SD	Skewness	Kurtosis
1.	I regularly update my digital skills to adapt to technological advancements.	6.28	1.030	.198	-1.132
2.	I believe that my digital competencies positively influence my overall confidence in handling academic challenges.	7.21	1.081	.252	-1.279
3.	I often dwell on potential problems or obstacles before engaging in new initiatives.	5.57	.822	.169	-.579
4.	The university provides adequate support and resources for enhancing digital competencies.	6.57	.904	.380	-.900
5.	I find that defensive pessimism helps me to perform better in my academic responsibilities.	6.74	1.243	.164	-.778

Legend: X = Mean; SD = Standard Deviation; N183.
Source: Field Survey.

Table 2 presents the summary statistics of relationship between digital competencies and defensive pessimism among faculty members in Jordanian private universities. Based on the result, it is seen that the mean values were 6.28, 7.21, 5.57, 6.57 and 6.74 respectively, while the standard deviation of the variables were 1.030, 1.081, .8.22, .904 and 1.243. Given their means and standard deviation values, it is evident that the mean value of all the variables for this study all exceeds their respective standard deviations. This implies that the variables were relatively relevant. To put differently, the findings shows that from item no. 1 to 5 reveals remarkable relationship between digital competencies and defensive pessimism among faculty members. Similarly, the skewness values imply that the variables are positively skewed towards normality. This is based on the fact that they all exhibit positive skewness values. Also, the kurtosis values from the analysis shows that the variables are not leptokurtic. This study is in agreement with the research work of Sieber's (2019), which found that having advanced digital abilities in academia may enhance academics' self-confidence and their readiness to tackle educational difficulties. Norem (2001) suggests that defensive pessimism might function as a motivational tactic, leading to increased accomplishment by means of anticipating and addressing potential problems. This discovery corroborates the idea that defensive pessimism is linked to enhanced performance, as shown by the mean score. Unlike the university's average support score, Margaryan, Littlejohn, and Vojt (2011) highlighted the importance of institutional support in fostering digital skills effectively. The notions shown in the table represent an increasing comprehension of how psychological tactics, including defensive pessimism, interact with digital capabilities in academic environments.

Hypotheses Testing

Hypothesis One: *The null hypothesis states that there is no significant relationship between digital competencies and strategic optimism among faculty members in Jordanian private universities.*

Table 3: Pearson Product Moment Correlation Analysis of the Relationship Between Digital Competencies and Strategic Optimism among Faculty Members in Jordanian Private Universities.

Variable	$\sum x$	$\sum x^2$
	$\sum xy$	r
	$\sum y$	$\sum y^2$
Strategic Optimism (x)	3048	46984
	53464	0.88*
Digital Competencies (y)	3480	61000

*Significant at 0.05 Level; df = 181; N = 183; Critical R-Value = 0.139.

In Table 3: Pearson Product Moment Correlations, significant positive correlation (r = 0.88), n= 181, p < 0.05, 2-tailed, are between digital competencies and strategic optimism among faculty members in Jordanian private universities at (p = 0.05). According to Gilbert (2013) a strong positive relationship r-value of 0.88 is significant, with a critical r-value of 0.139 at the 0.05 level (df = 181). This means, as faculty members' digital competencies increase, their strategic optimism tends to be higher. The result indicates that there is significant relationship between digital competencies and strategic optimism among faculty members in Jordanian private universities. This correlation is consistent with Selwyn's (2021) claim that there is a significant relationship between teachers' digital fluency and new pedagogical approaches, possibly linking to strategic optimism. It also supports Eshet-Alkalai (2020) linking teaching technology to the cognitive and social-emotional aspects of teaching, perhaps encouraging a strategic approach. Past research has also shown a positive correlation between digital literacy and various positive psychological traits, such as well-being and optimism (Hargittai & Shaw, 2019). The powerful correlation supports Vekiri's (2020) claim that digital competencies might enhance self-efficacy and proactive thinking among people.

Hypothesis Two: The null hypothesis regarding digital competencies and defensive pessimism among faculty members in Jordanian private universities is not supported.

Table 4: Pearson Product Moment Correlation Analysis of the Relationship between Digital Competencies and Defensive Pessimism among Faculty Members in Jordanian Private Universities.

Variable	$\sum x$	$\sum x^2$
	$\sum xy$	r
	$\sum y$	$\sum y^2$
Defensive Pessimism (x)	2704	36976
	47376	0.75*
Digital Competencies (y)	3480	61000

*Significant at 0.05 Level; Df = 181; N = 183; Critical R-Value = 0.139.'

The Pearson Product Moment Correlation Analysis, which examines the relationship between defensive pessimism and digital competencies among faculty members at Jordanian private universitiesan, is shown in Table 4 The relationship between the critical value (r-value = 0.139) and the estimated r (0.75) indicates a strong positive association. This implies that higher levels of defensive pessimism are linked to increasing levels of digital competence. The result is statistically significant at a significance level of 0.05, with 181 degrees of freedom. It contradicts some ideas, since defensive pessimism is often seen as a way to cope with worry and

uncertainty, and does not always correspond with improved cognitive ability. However, this might be seen in terms of preparedness; as educators become skilled in digital abilities, they may get a greater awareness of the possible difficulties linked to integrating technology in the classroom. Consequently, people may develop a protective and gloomy worldview as a way to cope with their situation

Conclusion

This study proposed and tested a model to investigate how digital competencies relate to strategic optimism and defensive pessimism in the professional lives of faculty members at Jordanian private universities. We used Self-Determination Theory (SDT) as an orientating heuristic to understand how digital competences and psychological orientations combine in the working lives of faculty members. Using a mixed-methods design, we found significant relationships between digital competencies and strategic optimism, and also between digital competencies and defensive pessimism. Faculty members with higher digital competencies were more likely to be strategically optimistic, indicating that digital tool proficiency is related to a future-minded and proactive stand. This finding aligns with the SDT premises that fulfillment of autonomy and competence needs provides a basis for a positive orientation towards digital skills. On the other hand, we also found a significant positive correlation between digital competencies and defensive pessimism. What this would suggest is that anticipation and readiness against the potential challenges of digital integration are heightened. This reflexive stance perhaps indicate the more attuned and prepared use of technology in educational settings. Our study argues that fostering a rich ecology of digital competence among faculty members necessitates institution-wide strategies that promote autonomy ultimately and a balanced stance towards digital adoption. As such, our study stresses the complex interplay of psychological orientations with digital competencies in academic settings. It suggests fostering strategic, yet tentatively optimistic usage of technology may be a viable course in higher education in order to help faculty members to negotiate effectively the challenges and opportunities of the digital epoch.

Recommendations

1. 1. Educational institutions need to empower faculty to be digitally competent through continual professional development and training programs, because this study finds a significant correlation between digital competences and strategic optimism among higher education faculty. Training faculty to be digitally competent can also further enable them to be strategic optimists.
2. Institutions should ensure that faculty have autonomy — the ability and confidence — to use digital technologies. According to Self-Determination Theory, autonomy and competence are essential for motivation; this will provide faculty autonomy to both explore and integrate digital tools and technologies into their instructional toolboxes.
3. Institutions should support faculty use defensive pessimism only during the early stages of digital technology adoption. They should help faculty not to get stuck in a defensive pessimist cycle. Particularly, when faculty are defensive pessimists, administer counseling sessions where faculty are offer evidence about how they have overcome previous challenges in their careers to help them visualize that they can do it again related to the anxiety/fear they have about the new digital technology.

4. Professional development programs should contain information on how psychology (defensive pessimism and strategic optimism) plays an important role in why higher educations faculty members adopt digital technologies. The hope is that faculty will develop a healthy balance of defensive pessimism (only when they are unfamiliar with a given digital technology) and strategic optimism (when they become competent with the digital technology). These psychological tools provide a more balanced and responsive approach to technology integration, one not rooted in fear or over-exuberance. Ensuring faculty understand these strategies and learn to internalize them via ongoing programs is a wise institutional investment.

5. The dynamic interplay between digital technologies, psychological strategies, and psychological theory suggests that ongoing research and assessment should be conducted to evaluate the occurrences of "how" faculty members adopted technologies, along with "why" they chose to adopt, reject, or ignore them. In essence, this cyclical model implies that institutions in their entirety should be involved with a nearly continual cycle of research and evaluation to assess the impact of their strategies and programs.

If faculty members are not meeting digital competencies, or if they are unable to improve their digital competencies, after an adequate number of program offerings, institutions need to adjust their strategies and/or programs.

Contribution to Literature

This research contributes to the literature in several ways. Firstly, it adds to the understanding of psychological strategies in academic settings, an area predominantly focused on students rather than faculty. Secondly, it provides insights into the role of digital competencies in mediating psychological constructs, a novel area in educational technology research. Finally, the findings have practical implications for faculty development programs, suggesting tailored approaches based on psychological predispositions towards technology use.

References

Abusaimeh, H. (2020). Distributed denial of service attacks in cloud computing. International Journal of Advanced Computer Science and Applications, 11(6).

Abusaimeh, H., Shkoukani, M., & Alshrouf, F. (2014). Balancing the network clusters for the lifetime enhancement in dense wireless sensor networks. Arabian Journal for Science and Engineering, 39, 3771-3779.

Al-Fraihat, D., Joy, M., Masa'deh, R. & Sinclair, J. (2020). Evaluating E-learning systems success: An empirical study. Computers in Human Behavior, 102, 67-86

Alhawamdeh, H., Al-Saad, S. A., Almasarweh, M. S., Al-Hamad, A. A.-S. A., Bani Ahmad, A. Y. A. B., & Ayasrah, F. T. M. (2023). The Role of Energy Management Practices in Sustainable Tourism Development: A Case Study of Jerash, Jordan. International Journal of Energy Economics and Policy, 13(6), 321–333. https://doi.org/10.32479/ijeep.14724

Carver, C. S., & Scheier, M. F. (2022). Dispositional optimism. Trends in Cognitive Sciences, 18(6), 293-299.

Center for Self-Determination Theory (2023). Theory. selfdeterminationtheory.org. (n.d.). retrieved from: https://selfdeterminationtheory.org/theory/

Dadich, A. & Farr-Wharton, B. (2020). Positive organisational scholarship in healthcare. Journal of Management & Organization, 26, 289–295

Daoud, M. K., Al-Qeed, M., Ahmad, A. Y. B., & Al-Gasawneh, J. A. (2023). Mobile Marketing: Exploring the Efficacy of User-Centric Strategies for Enhanced Consumer Engagement and Conversion Rates. International Journal of Membrane Science and Technology, 10(2), 1252-1262.

Daoud, M., Taha, S., Al-Qeed, M., Alsafadi, Y., Ahmad, A., & Allahham, M. (2024). EcoConnect: Guiding environmental awareness via digital marketing approaches. International Journal of Data and Network Science, 8(1), 235-242.

Deci, E. L. & Ryan, R. M. (1985). Intrinsic motivation and self-determination in human behavior. New York, NY: Plenum.

Deci, E. L. & Ryan, R. M. (2000). The 'what' and 'why' of goal pursuits: human needs and the self-determination of behavior. Psychol. Inq., 11, 227–268.

Eshet-Alkalai, Y. (2020). Digital Literacy: A Conceptual Framework for Survival Skills in the Digital Era. Journal of Educational Multimedia and Hypermedia, 13(1), 93–106.

Eshet-Alkalai, Y. (2020). Digital literacy: A conceptual framework for survival skills in the digital era. Journal of Educational Multimedia and Hypermedia, 13(1), 93-106.

Eteokleous, N. (2018). Employing Educational Robotics for the Development of Problem-Based Learning Skills. In M. Khosrow-Pour, D.B.A. (Ed.), Encyclopedia of Information Science and Technology, Fourth Edition (pp. 2492-2502). IGI Global.

Fernet, C. (2013). The role of work motivation in psychological health. Canadian Psychology, 54, 72–74.

Ferradás, M., Freire, C., Núñez, J.C. & Regueiro, B. (2020). The Relationship between Self-Esteem and Achievement Goals in University Students: The Mediating and Moderating Role of Defensive Pessimism. Sustainability, 12(18), 7531

Goldie, J. G. S. (2016) Connectivism: a knowledge learning theory for the digital age? Medical Teacher, 38(10), pp. 1064-1069.

Guth, E.A. (2018). Defensive Pessimism and Goal Setting. College of Science and Health Theses and Dissertations. 265

Han, J., Luo, X. & Luo, H. (2021). Development and Validation of Preschool Teachers' Caring Behaviour Questionnaire and Its Internal Mechanism with Work Performance. Open Journal of Social Sciences, 9(2), 484-508.

Hargittai, E., & Shaw, A. (2019). Digital inequalities: From unequal access to differentiated use. In The Handbook of Media and Mass Communication Theory, (pp. 282-299). Wiley-Blackwell.

Hone, K. S., & El Said, G. R. (2021). Exploring the factors affecting MOOC retention: A survey study. Computers & Education, 98, 157-168.

Ibrahim, R.K. & Aldawsari, A.N. (2023). Relationship between digital capabilities and academic performance: the mediating effect of self-efficacy. BMC Nurs., 22, 434.

Karsenti, T., & Fievez, A. (2023). Integrating Information and Communication Technologies (ICTs) into teaching: Assessing the perceptions of university faculty. International Journal of Education and Development using Information and Communication Technology, 9(1), 64-79.

La Guardia, J. G., & Patrick, H. (2008). Self-determination theory as a fundamental theory of close relationships. Canadian Psychology, 49(3), 201.

Legault, L. & Inzlicht, M. (2013). Self-determination, selfregulation and the brain: Autonomy improves performance by enhancing neuroaffective responsiveness to self-regulation failure. Journal of Personality and Social Psychology, 105, 123–128.

Legault, L. (2017). Self-Determination Theory. In V. Zeigler-Hill, T.K. Shackelford (eds.), Encyclopedia of Personality and Individual Differences. Springer International Publishing AG.

Margaryan, A., Littlejohn, A. and Vojt, G. (2011). Are Digital Natives A Myth or Reality? University Students' Use of Technologies. Computers & Education, 56, 429-440.

Martin, A., & Rader, N. (2018). Information literacy and information skills instruction: Applying research to practice in the 21st century school library. ABC-CLIO.

Nasereddin, A. Y. (2023). Impact of the Blue Ocean Strategy Dimensions in Achieving Competitive Advantage from the Perspective of Faculty Members.

Nasereddin, A. Y. (2023). A Business Analytics Approach to Strategic Management using Uncovering Corporate Challenges through Topic Modeling.

Norem, J. K. (2001). The positive power of negative thinking: Using defensive pessimism to manage anxiety and perform at your peak. Basic Books.

Norem, J. K., & Cantor, N. (1986). Defensive pessimism: Harnessing anxiety as motivation. Journal of Personality and Social Psychology, 51(6), 1208-1217.

Ni, L., Ahmad, S. F., Alshammari, T. O., Liang, H., Alsanie, G., Irshad, M., ... & Ayassrah, A. Y. B. A. (2023). The role of environmental regulation and green human capital towards sustainable development: The mediating role of green innovation and industry upgradation. Journal of Cleaner Production, 138497.

Peng, Yixuan, Sayed Fayaz Ahmad, Ahmad Y. A. Bani Ahmad, Mustafa S. Al Shaikh, Mohammad Khalaf Daoud, and Fuad Mohammed Hussein Alhamdi. 2023. "Riding the Waves of Artificial Intelligence in Advancing Accounting and Its Implications for Sustainable Development Goals" Sustainability 15, no. 19: 14165. https://doi.org/10.3390/su151914165

Peiran Liang, Yulu Guo, Sohaib Tahir Chauhdary, Manoj Kumar Agrawal, Sayed Fayaz Ahmad, Ahmad Yahiya Ahmad Bani Ahmad, Ahmad A. Ifseisi, Tiancheng Ji,2024,"Sustainable development and multi-aspect analysis of a novel polygeneration system using biogas upgrading and LNG regasification processes, producing power, heating, fresh water and liquid CO2,"Process Safety and Environmental Protection,

Peiran Liang, Yulu Guo, Tirumala Uday Kumar Nutakki, Manoj Kumar Agrawal, Taseer Muhammad, Sayed Fayaz Ahmad, Ahmad Yahiya Ahmad Bani Ahmad, Muxing Qin, 2024. "Comprehensive assessment and sustainability improvement of a natural gas power plant utilizing an environmentally friendly combined cooling heating and power-desalination arrangement",Journal of Cleaner Production,Volume 436,,140387,

Pelletier, L. G., Fortier, M. S., Vallerand, R. J., & Brière, N. M. (2001). Associations among perceived autonomy support, forms of self-regulation, and persistence: A prospective study. Motivation and Emotion, 25, 279–306.

Ramírez-Maestre, C., Esteve, R., Serrano-Ibáñez, E.R., López-Martínez, A.E., Ruiz-Párraga, G.T. & Rivas-Moya, T. (2020). Psychometric characteristics and factorial structures of the Defensive Pessimism Questionnaire-Spanish Version (DPQ-SV). PLoS One. 15(4), e0229695.

Reeve, J., & Lee, W. (2014). Students' classroom engagement produces longitudinal changes in classroom motivation. Journal of Educational Psychology, 106, 527–540.

Ribble, M., Bailey, G., & Ross, T. (2020). Digital citizenship: Addressing appropriate technology behavior. Learning & Leading with Technology, 32(1), 6-11.

Riveiro, J.M.S. (2014). Optimistic and defensive-pessimist students: differences in their academic motivation and learning strategies. Span J Psychol., 17, E26.

Russell, K. L., & Bray, S. R. (2010). Promoting selfdetermined motivation for exercise in cardiac rehabilitation: The role of autonomy support. Rehabilitation Psychology, 55, 74–80.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. American Psychologist, 55, 68-78.

Ryan, W., Doug, L. & Don, T. (2014). Assessing Readiness for E-Learning. Performance Improvement Quarterly.

A. Y. A. Bani Ahmad, Y. M. A. Tarshany, F. T. M. Ayasrah, F. S. Mohamad, S. I. A. Saany and B. Pandey, "The Role of Cybersecurity in E-Commerce to Achieve the Maqasid of Money," 2023 International Conference on Computer Science and Emerging Technologies (CSET), Bangalore, India, 2023, pp. 1-8, doi: 10.1109/CSET58993.2023.10346972.

Rumman, G., Alkhazali, A., Barnat, S., Alzoubi, S., AlZagheer, H., Dalbouh, M., ... & Darawsheh, S. (2024). The contemporary management accounting practices adoption in the public industry: Evidence from Jordan. International Journal of Data and Network Science, 8(2), 1237-1246.

Singh, R., Gupta, N. R., & Ahmad, A. Y. (2024). An Empirical Study on Challenges of Working from Home During COVID-19 on Work-Life Domains in the Education Sector in Bengaluru. In S. Singh, S. Rajest, S. Hadoussa, A. Obaid, & R. Regin (Eds.), Data-Driven Intelligent Business Sustainability (pp. 111-121). IGI Global. https://doi.org/10.4018/979-8-3693-0049-7.ch008

Selwyn, N. (2021). The digital native - myth and reality. Aslib Proceedings, 59(4), 364-379.

Sharot, T. (2011). The optimism biases. Current Biology, 21(23), R941-R945.

Soenens, B., Berzonsky, M. D., Vansteenkiste, M., Beyers, W., & Goossens, L. (2005). Identity styles and causality orientations: In search of the motivational underpinnings of the identity exploration process. European Journal of Personality, 19(5), 427–442.

Spencer-Rodgers, J., Peng, K., & Wang, L. (2010). Dialecticism and the co-occurrence of positive and negative emotions across cultures. Journal of Cross-Cultural Psychology, 41(1), 109–115.

Suárez, J.M. (2014). Optimistic and Defensive-Pessimist Students: Differences in their Academic Motivation and Learning Strategies. The Spanish Journal of Psychology, 17, 1-8

Thomas, S.P. (2020). Defensive Pessimism. In: Zeigler-Hill, V., Shackelford, T.K. (eds) Encyclopedia of Personality and Individual Differences. Springer, Cham. Pp 1036–1038.

Vekiri, I. (2020). Socioeconomic differences in elementary students' ICT beliefs and out-of-school experiences. Computers & Education, 54(4), 941-950.

Wang, F., Guo, J. & Yang, G. (2023). Study on positive psychology from 1999 to 2021: A bibliometric analysis. Front. Psychol., 14, 1101157

Wang, X., Zhang, R., Wang, Z. & Li, T. (2021). How does digital competence preserve university students' psychological well-being during the pandemic? An investigation from self-determined theory. Front. Psychol., 12, 652594

Wladis, C., Conway Katherine M., Hachey Alyse C. (2016). Assessing Readiness for Online Education—Research Models for Identifying Students at Risk. Online Learning (Newburyport).

William, P., Ahmad, A. Y. B., Deepak, A., Gupta, R., Bajaj, K. K., & Deshmukh, R. (2024). Sustainable Implementation of Artificial Intelligence Based Decision Support System for Irrigation Projects in the Development of Rural Settlements. International Journal of Intelligent Systems and Applications in Engineering, 12(3s), 48-56.

Wang, C., Ahmad, S. F., Ayassrah, A. Y. B. A., Awwad, E. M., Irshad, M., Ali, Y. A., ... & Han, H. (2023). An empirical evaluation of technology acceptance model for Artificial Intelligence in E-commerce. Heliyon, 9(8).

Yahiya Ahmad Bani Ahmad (Ayassrah), Ahmad; Ahmad Mahmoud Bani Atta, Anas; Ali Alawawdeh, Hanan; Abdallah Aljundi, Nawaf; Morshed, Amer; and Amin Dahbour, Saleh (2023) "The Effect of System Quality and User Quality of Information Technology on Internal Audit Effectiveness in Jordan, And the Moderating Effect of Management Support," Applied Mathematics & Information Sciences: Vol. 17: Iss. 5, Article 12. DOI: https://dx.doi.org/10.18576/amis/170512

Zhan, Y., Ahmad, S. F., Irshad, M., Al-Razgan, M., Awwad, E. M., Ali, Y. A., & Ayassrah, A. Y. B. A. (2024). Investigating the role of Cybersecurity's perceived threats in the adoption of health information systems. Heli