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Internet Dependence, Empathy, and Student Knowledge Management: Student Survey in Surakarta

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Abstract:
This study presents a new model of student knowledge management. The data were processed using 218 respondents with path analysis; the results showed that the average student in Surakarta and their surroundings had moderate KI, high empathy, and performed MPM well. Internet dependence turned out to have a positive effect on empathy. KI has a negative effect on MPM, while empathy has a positive effect on MPM. Opportunities to create various empirical research models are still open and theoretical constructions still need to be strengthened.

Keywords: internet dependence, empathy, student knowledge management, IoT.

互联网依赖、同理心和学生知识管理：梭罗的学生调查

摘要：
本研究提出了一种新的学生知识管理模式。数据是使用 218 名受访者进行路径分析处理的；结果表明，梭罗及其周边地区的普通学生具有中等基、高同理心，并且最小功率计表现良好。事实证明，互联网依赖对同理心有积极影响。基对最小功率计有负面影响，而同理心对最小功率计有正面影响。创建各种实证研究模型的机会仍然存在，理论建设仍需加强。

关键词：互联网依赖，同理心，学生知识管理，物联网。

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1. Introduction

Internet users in Indonesia in early 2021 reached 202.6 million people. This number increased 15.5% or 27 million people compared to 2020 or internet penetration in Indonesia in early 2021 to reach 73.7%. This is contained in a recent report released by the content management service HootSuite, and the social media marketing agency *We Are Social* in a report titled "Digital 2021." Internet users between the ages of 16 and 64 own various electronic gadgets, according to HootSuite, including 98.3% of mobile phones (including smartphones and non-smartphones), laptops/PCs, tablets, wearables, and other devices. Internet users now frequently access the internet via their mobile phones. 195.3 million Indonesians, or 96.4% of the population, are found to use mobile devices to access the internet. Indonesian internet users use the web for an average of 8 h and 52 min every session (Kompas.com, 2021).

Social media is still the most common online activity for Indonesian internet users, reports Kompas.com (2021). There are about 170 million active social media users in Indonesia. They log onto social networking sites for 3 h and 14 min on average each day. In addition to social media, Indonesian internet users spend much time watching television (either streaming or broadcast), reading news articles from media outlets (online or in print), and listening to music on streaming services for an hour and a half. The least often visited type of online content among Indonesian internet users is audio-based content like podcasts and radio. Almost all Indonesian internet users, or 98.5%, view online videos each month, according to the Digital 2021 survey. Meanwhile, 74.3% of internet users in Indonesia view vlogs monthly.

Today and in the future, internet use will be required. The availability of the internet is thought to be tremendously beneficial in daily life. The internet was developed to facilitate human labor. In short, the internet is a medium or means of information that can be accessed by all people and groups. The advantages and disadvantages of the internet are pros and cons by some people (Kuss & Griffiths, 2014). As a media source for information, education, communication, data exchange, and business, the internet has several benefits. While media fraud, pornography, theft (carding, cracking, hacking), gambling, lessened the socialization of addiction, violence or gore, and health issues have been recognized as weaknesses (Sendari, 2020).

Generally, research on internet addiction from a demographic aspect assesses inequalities in internet access that exists in society, including income, education, rural/urban, immigration status, and age, all of which affect internet usage patterns (Haight et al., 2014; Perdew, 2014). Most studies only examined the impact of internet addiction (Esfahani et al., 2020), smartphone addiction (Pinasti & Kustanti, 2017), gadget addiction (Prasetyo, 2018), and online gaming addiction (Kurniawati & Harmaini, 2020) on empathy. The effects of empathy on other factors, which are equally important to investigate, especially in educational institutions, have not typically been studied.

According to Jain and Gupta (2019), it is still uncommon to do empirical research on the impact of Knowledge Management Systems (KMS) on student performance in educational institutions. In businesses, the effect of KMS on performance is typically assessed empirically. As of today, knowledge management (KM)-based performance monitoring in universities is still incredibly uncommon (García-Pérez et al., 2016). It is anticipated that this orientation would be accepted everywhere. So far, knowledge management has been an antecedent variable, but this research takes a different approach by tracing back from young adult behavior in the IoT era to its impact on knowledge management. This study develops the research by Carrier et al. (2015) by bringing up a new concept of student knowledge management. This study is intended to examine the direct or indirect effect of internet dependence on knowledge management through empathy.

2. Theoretical Framework

2.1. Internet Addiction

According to psychology, addiction is a condition in which people feel motivated to consume drugs or engage in other unhealthy behaviors to experience a positive result (Sarafino, 1990). Internet addiction, on the other hand, is a syndrome that is defined by excessive internet use and an inability to regulate it online (Young, 1996; Davis, 2001). When they are not online, many who suffer from this syndrome feel frightened, unhappy, or empty. When a person becomes dependent on many behaviors that are not at first damaging, including love, sex, the internet, job, or shopping, they develop an addiction (Tao et al., 2010). Internet addiction, on the other hand, is a compulsive behavior in people connected with excessive usage of online apps that negatively impacts one's life, according to Kuss and Griffiths (2014).

The China Youth Association for Network Development (CYAND) (2005) states that a person is considered to have internet addiction symptoms if at least one of the following three criteria is met: 1) believes that self-actualization is more accessible online than in real life; 2) Feeling depressed or dysphoric when the internet is disabled or stops working; 3) Hiding from family members the true amount of time spent online. The following are the specifics of internet addiction, as described by Tao et al. (2010), Young and Abreu (2011): preoccupation, withdrawal, intolerance, trouble in self-control, disregard for negative outcomes, lack of communication and social interest, and avoidance or reduction of dysphoric mood.

The Daily Media Use scale, which was previously used by Carrier et al. (2015), Atzori et al. (2010), and

Rosen et al. (2010), was used to measure internet use as well as participation in other technology-based activities, face-to-face communication, and face-to-face interaction (2010). The scale offers participants 24 tasks (Santoro et al., 2018), each of which is scored based on how many hours it takes to complete on a typical day. Young adults engage in the following daily activities: texting, face-to-face communication, music listening, website browsing, offline computing, TV viewing, online social networking, emailing, phone calls, im/chat, watching DVDs, video gaming, pleasure reading, gaming, alone on console, online shopping, alone on computer, group on console, virtual worlds, skype/video chat, online classes, and group on computer.

Adolescents between the ages of 13 and 18 tend to have heightened conditions of anxiety and sadness, according to issues with internet reliance related to mental health concerns during the pandemic (Duan et al., 2020). The increased risk of internet gaming problems and smartphone addiction affects mental health as well (Ko & Yen, 2020). Adolescents now have issues with emotional resiliency due to the COVID-19 epidemic. A skill related to difficult situations people encounter is emotional resilience. People require strong emotional resiliency to recover from stress and psychiatric problems (Widyanto et al., 2011). Zhang et al. (2020) conducted research on how the effects of COVID-19 stress affect psychological or emotional resilience and how well students learn.

2.2. Knowledge Management

Knowledge potential management is a useful strategy to boost organizational effectiveness in the context of globalization and transformation. Knowledge management, according to DiMattia and Oder (1997), is the process of gathering and arranging knowledge to create lucrative and effective organizations. Knowledge management is the process of gathering collective organizational expertise from wherever it exists in databases, documents, or people's heads, and then disseminating it widely to generate the best results (Hsiao et al., 2011). According to Townley (2001), knowledge management is a collection of procedures for producing and disseminating knowledge across the organization to maximize the accomplishment of the mission and objectives of the latter.

Although knowledge itself is a resource, effective knowledge management (KM) enables people within the company to extract more from all available resources (Attia & Salama, 2018). Through the provision of a coordinating mechanism to increase the conversion of resources into capabilities, knowledge management serves as a crucial auxiliary role (Darroch, 2005). According to Cerchione and Esposito (2017), the knowledge management (KM) process is divided into three distinct sub-processes: knowledge creation, where knowledge is created, acquired, and validated; knowledge repository, where knowledge is maintained and organized; and knowledge transfer, where various actors exchange, share, and disseminate knowledge.

Since only explicit knowledge can actually be preserved in digital information systems, books, and operational manuals, the knowledge storage process in an organization must be thoroughly understood (Marques Júnior et al., 2020). Coding, structuring, and externalizing tacit knowledge, a difficult task, will be necessary before the storage process. This organization adheres to the definition of desired knowledge management (KM) outcomes put forth by Argote et al. (2003): knowledge creation, which happens when new knowledge is generated within the organization; knowledge retention, which involves incorporation into warehouses for long-term access; and transfer of knowledge, which is demonstrated when the experience gained by one unit affects other units.

2.3. Student Knowledge Management

Knowledge management processes have been defined differently in different studies. Knowledge management has been in the organizational context, through this research is revealed in a narrower context, the individual context. Insights and experiences can be stored, analyzed, organized, improved, and shared using various tools, techniques, and strategies called knowledge management. Such knowledge is the foundation of understanding and experience, whether it is embodied in an individual or integrated into the operational procedures and programs of an organization. The goal of knowledge management is to develop new methods for transforming unstructured data into meaningful forms of knowledge (Feng et al., 2005). According to the knowledge presented above, knowledge management can be applied to the context of persons, especially students.

Critical success factors (infrastructure) and knowledge management processes are the two halves of knowledge management (Gold et al., 2001; Inkinen et al., 2015). The generation, acquisition, storage, and usage of knowledge are all parts of the knowledge management process, according to Costa and Monteiro (2016), Inkinen (2016), who conducted a systematic literature review on the relationship between knowledge management and innovation performance.

Numerous studies evaluating the relationship between knowledge management activities and organizational performance have been conducted in developing nations with varying degrees of success (Abbas & Sagsan, 2019). According to several researchers (Abbas & Sagsan, 2019; Mothe et al., 2018), knowledge acquisition and innovation performance are significantly positively correlated. Tseng (2014) revealed that knowledge acquisition has a considerable positive impact on business performance. These researchers contend that even while some studies have discovered a neutral or no association between knowledge acquisition and company performance, investing in R&D can aid firms in understanding new concepts, which can enhance inventive performance.

A review of the literature reveals that the connection

between knowledge application (KAp) and performance yields various outcomes. According to Abbas and Sagsan (2019), KAp is crucial for successful technology and performance improvement. Darroch (2005) concluded that KAp is a key aspect for organizational innovation. KAp and inventive performance have a good relationship (Abbas & Sagsan, 2019).

Jain and Gupta (2019) provide evidence that supports the idea that knowledge management systems (KMS) have a direct and significant impact on student performance in higher education within the framework of a different and infrequently carried out empirical investigation. The findings of Anggraeni and Aulawi's (2018) research demonstrate that knowledge-sharing activities in student organizations have a significant impact on the growth in student or member absorption. Knowledge sharing activities in student organizations, such as discussions and sharing of course experiences and learning experiences, as well as knowledge sharing, establish strong relationships in boosting students' learning abilities and absorbing knowledge.

2.4. Empathy

According to Borba (2008), empathy is psychologically defined as the capacity to comprehend the reasons behind other people's behaviors in various circumstances, which improves social interactions and results in positive connections with others. According to Islamic principles, the concepts of empathy and cooperation are closely related. There are common elements in the approaches to growing empathy from the perspective of psychology and Islamic underpinnings and many approaches to developing empathy in other fields. According to Goleman (2007), the factors that influence a person in receiving and giving empathy are as follows: 1) socialization, 2) mood and feeling, 3) learning process, 4) behavior and parenting patterns, 5) situation and place, 6) communication and language. Personality factors, age, and degree of maturity of thinking also affect a person's empathy.

There are two ways to look at empathy: cognitively and emotionally. The capacity to comprehend through visualizing and considering a situation from the perspective of another person is the foundation of the cognitive component of empathy (Baron, 2005). The ability to modify one's emotional experience to that of others, such as patiently listening to others' concerns and understanding and sharing when others weep, feel sad, or are otherwise distressed, represent the affective component of empathy (Pinasti & Kustanti, 2017). Empathy in this emotive component entails sympathy, sensitivity, and sharing the sorrow of others through visualizing their struggles as if they were your own (Byrne, 2005).

Real-world empathy and virtual empathy are two different ways that people might exhibit their empathy, according to research by Carrier et al. (2015). According to Esfahani et al. (2020), attributes or characteristics of empathy include the following: 1) Participate, feel what other people feel; 2) Built on self-awareness, there is a willingness in a person to be sensitive to the feelings of others; 3) Sensitive to non-verbal language, a person can be said to be empathetic if the person can feel the non-verbal language shown by others; 4) Taking a role, meaning that a person can take action on the problems he/she is facing; 5) Does not dissolve or remain in control of self-emotions, meaning that a person can control himself/herself in helping solve problems. Online interactions can elicit empathy from others, but since technology-based communication has become so common, empathy among young people has decreased. It is anticipated that switching between offline and online activities will have a damaging effect on empathic abilities.

Few empirical studies have been conducted to determine the connection between Internet use and empathy (Carrier et al., 2015). According to research on real-world empathy, virtual empathy, social support, and internet use demographics (Carrier et al., 2015), there is not much evidence that using the internet negatively affects cognitive ability or real-world empathy, which effectively and genuinely lengthen the amount of time spent in face-to-face interactions. Both real-world and virtual empathy were positively correlated with social support; however, the correlation for real-world empathy was 5–6 times greater. Online activities such as video games, rather than the overall quantity of time spent online, appear to have a negative impact on empathy. The study by Savci and Aysan (2017), which demonstrates that addiction to the internet, social media, video games, and smartphones, strongly predicts 25% of social connectivity, supports the aforementioned findings.

Numerous investigations into how KI affects empathy have produced contradictory or erratic findings (Jiaojiao et al., 2017). According to Kurniawati and Harmaini's (2020) research, there is a bad correlation between online game addiction and empathy among students at UIN Sultan Syarif Kasim Riau's Faculty of Science and Technology. Pinasti and Kustanti's (2017) research demonstrates a positive inverse relationship between empathy and smartphone addiction. Only 1.4% of empathy actually contributes to smartphone addiction. Additionally, according to Prasetyo (2018), there is a bad correlation between device addiction and empathy. Empathy accounts for 79.52% of gadget addiction. Esfahani et al. (2020) show that empathy significantly negatively predicts internet dependence and the extraversion factor negatively moderates the relationship between empathy and internet dependence. Other findings showed no gender difference and that high-income students exhibited internet-dependent behaviors more frequently than low-income students.

However, it is different from the results of Efendi's (2018) research, which states that there is a positive relationship between dependence on social media and empathy for KPI students, although with a low level of

relationship. Bukhori and Hidayah (2019) also show that psychology students at UIN Malang have a gadget (smartphone) addiction level in the low category and empathy in the high category, and there is a significant positive effect of gadget (smartphone) addiction on empathy in UIN Malang psychology students.

Jiaojiao et al. (2017) made an unbiased claim that different internet usage patterns have different effects on empathy. For example, playing violent video games online will reduce empathy while playing prosocial video games online can boost empathy. Online forums offer a perfect setting for the unrestricted expression of empathy. Overuse of the internet has a damaging impact on empathy.

3. Research Methods

3.1. Respondents and Sampling

This study is a survey with a descriptive methodology. Students that attend school in Surakarta and the neighboring areas make up the respondents to this study. Due to their propensity for internet addiction, groups of students or teenagers were selected (Tao et al., 2010). Adolescents are thought to be the right age to gauge empathy and knowledge management skills in accordance with the research's goals. If the population is huge, it is possible to take 10-25% of the population, depending on skill, to obtain a representative sample (Marzano, 2003). Simple random sampling was used as the sample method.

3.2. Variable Measurement

Data collection was carried out by distributing questionnaires with closed questions. The questionnaire was made using the google form application through the WhatsApp Group social media. All variables were measured using a Likert scale. Alternative answers on a Likert scale ranging from very often answers to never, with a score on this scale is 1 to 5 for unfavorable questions and a score of 5 to 1 for favorable questions.

Table 1. Indicators of each variable

Variable	Indicator	Number of Question	Sources
Internet addiction	a. Spending time online	1, 6, 12, 13, 17, 18	Young (1996), Widyanto and Griffiths (2006)
	b. Less direct interaction	2, 3, 15	
	c. Psychological/emotional impact	8, 9, 10, 11, 16	
	d. The reaction of people around	4, 14	
	e. Impact on performance	5, 7	
Empathy	a. Feelings present	1, 2	Jolliffe and Farrington (2006)
	b. Share the feeling	3, 4, 11, 12	
	c. Self-awareness	5	
	d. Interactivity	6, 7	
	e. Take the role	8	
	f. Motivation awakens	9, 10	
Student knowledge management	a. Knowledge creation	1, 2, 4	Cerchione and Esposito (2017)
	b. Maintaining knowledge	5, 6, 7, 8	
	c. Knowledge dissemination		
	d. Application of knowledge	3, 9, 10, 11	

Table 2. Assessment indicator

Level	Scoring Range	Condition Predicate
1	1,00–1,79	Atrocious
2	1,80–2,59	Poor
3	2,60–3,39	Average
4	3,40–4,19	Good
5	4,20–5,00	Excellent

3.3. Analysis Techniques

The SPSS 22 program was used to process the data. To determine the direct and indirect effects of the study's variables on the data, route analysis was used. The Sobel test formula yields the following results when calculating the indirect standard error (SYX1YX2):

$$S\rho YX_1\,\rho YX_2) = \sqrt{(\rho YX_2)^2 S\rho X_2X_1)^2 + (p X_2X_1)^2 S(\rho YX_2)^2 + S\rho X_2X_1)^2 S(\rho YX_2)^2)}$$

Numerous samples can be employed with the Sobel test formula, and the value of the mediation coefficient follows a normal distribution. In a tiny sample, the distribution is reportedly not typically normal, according to Ghozali (2013).

4. Finding and Discussion

Research that collects primary data through the distribution of questionnaires must have the test instrument's validity and reliability evaluated. Up to 218 respondents filled out the survey. The instrument has passed the test, according to the test results. Table 3 summarizes the results for each variable, including internet reliance (KI), empathy, and student knowledge management (MPM), in Surakarta and its environs.

Table 3. Descriptive test results

	Mean	SD	Mean (5 scale)	n
MPM	42.9817	5.9643	3.9074	218
KI	56.1835	9.4899	3.1213	218
Empati	44.4587	7.0284	3.7049	218

The descriptive test's results revealed that the KI variable's average score was 3.1213, according to the data. This demonstrates that Surakarta's students fall within the medium range in terms of their dependence on or addiction to the internet. The empathy variable has an average score of 3.7049. This demonstrates that

the typical students in Surakarta and the area still have a high level of empathy. The average MPM score for students in Surakarta and the surrounding area is 3.9074, which indicates that they have a high (excellent) level of knowledge management.

When the descriptive test data are examined, they provide pretty positive findings. First off, there are no serious issues with internet addiction among the students in Surakarta and the area. Second, the empathy levels among students are still quite high. This conclusion differs slightly from that of Carrier et al., (2015), which may be the result of variations in individual behavior, educational trends, and national or regional cultures. Third, most students are competent knowledge managers. They had a good capacity for knowledge creation, storage, dissemination, and application.

Table 4. Path coefficient, model test, significance, and explanatory ability

	Coefficient	Sig. t	Sig. F	R Square	E
KI on E	0,149	0.028	0.028	0.022	0.956
KI on MPM	-0,120	0.056	0.000	0.183	0.667
E on MPM	0.429	0.000			

Based on Table 4 shows the coefficient that has a direct effect on KI (X) on Empathy (Z) is 0.149 (total effect). Furthermore, for the effect of KI (X) on MPM (Y) a direct effect of -0.120 and an indirect effect (through Z) of 0.429 to -0.120 + 0.429 = 0.309 so that the total effect of KI on MPM is 0.309.

The first test model demonstrates that internet dependency significantly and favorably affects empathy. The influence of KI accounts for 2.2% of empathy. However, the second test model demonstrates that KI has a damaging impact on MPM, while the management of student knowledge is benefited by empathy. While other factors not included in the research model account for 81.7% of the variance in MPM, KI and empathy only account for 18.3% of the variance.

4.1. KI Has a Positive Effect on Empathy

In this study, KI had a negligibly small impact on empathy; its contribution to the connection, measured as the value of e1 (error rate or variance), was only 2.2%, or a very high 0.956, or 95.6%. When examined, empathy is revealed to be a psychological sensitivity factor that is very probably influenced by hereditary factors, factors from daily life, factors from experience, factors from the local culture, factors from the environment, and factors from the process of understanding something. According to Goleman (2007), factors that affect a person's empathy include 1) socialization, 2) mood and feeling, 3) parenting behavior and patterns, 4) situation and place or environment, 5) communication and language, 6) personality, 7) age and degree of thinking and emotional maturity. In fact, according to Widyanto and Griffiths (2006), they add the concept of "culture" to the three already-existing constructs in their study on internet addiction to empathy. The most significant influencing factor for internet addiction has been found to be education level. Principal component analysis also demonstrates that the only variables that may account for changes in the phenomenon of internet use more generally are demographic ones, such as age, gender, income level, and education (Khan & Gadhoum, 2018).

According to the test results, KI has a beneficial impact on empathy. Actually, the outcome does not support Hypothesis 1, which contends that KI has a damaging impact on empathy. Thus, circumstances may arise if respondents are students without severe KI issues; within specific bounds, respondents who have moderate KI issues, nonetheless, exhibit high levels of empathy. According to Carrier et al. (2015), online participation actually increases the amount of time spent in face-to-face conversations and generally has very little negative impact on cognitive and emotional real-world empathy. Although virtual empathy scores were lower than real-world empathy levels, there was a positive correlation between the two. The study by Savci and Aysan (2017) on internet addiction, social media addiction, digital game addiction, and smartphone addiction strongly predicts 25% of social connectivity, supports the aforementioned findings.

The findings of this study, however, are consistent with those of studies by Efendi (2018), Bukhori and Hidayah (2019), which found that social media reliance (Efendi, 2018) and the degree of gadget addiction (Bukhori & Hidayah, 2019) had a favorable impact on student empathy. Therefore, it is advisable to rely on Jiaojiao et al. (2017), who claim that different internet usage patterns have diverse effects on empathy. For example, playing violent video games online would reduce empathy, whilst playing prosocial video games online can improve empathy.

4.2. KI Has a Negative Effect on MPM Either Directly or Indirectly through Empathy

The effect of KI on MPM has a relatively low coefficient of -0.120 and the effect of empathy on MPM has a coefficient of 0.429. In Test Model 2, the contribution of KI and empathy to MPM is 0.183 (18.3%) and if the value of e2 (error rate or variance) is seen, the influence is still quite large, namely 0.667 or 66.7%. According to the test results, MPM is negatively impacted by KI. These findings support the theory and Hypothesis 2, which contends that KI has a damaging impact on MPM. Students with moderate KI issues may impact or degrade the quality of MPM, according to this condition, if it is made clear to them. All interested parties should take this seriously to improve the health, emotional health, and academic performance of kids.

The outcome of the following experiment shows that empathy has a beneficial impact on MPM. These findings support Hypothesis 3, which claims that empathy has a beneficial impact on MPM. This circumstance demonstrates that pupils with high levels

of empathy typically have good MPM quality. Although empathy cannot be taught overnight, it must be instilled or taught from an early age in order for it to shape positive social behavior by the time an individual reaches puberty.

Although significantly different in context, the study's findings are relatively consistent with those of Jain and Gupta (2019), who concluded that the knowledge management system (KMS) has a significant and direct impact on students' academic performance in higher education. Similar findings were reached by Anggraeni and Aulawi's (2018) study, which found that knowledge-sharing activities in student organizations have a significant impact on the rise in student or member absorption. Student organizations' knowledge-sharing activities, such as conversations and the sharing of class and learning experiences, as well as knowledge sharing, foster strong relationships that help students and members of student organizations learn more effectively and assimilate knowledge.

5. Conclusion and Suggestion

The average level of internet addiction or dependence among students in Surakarta and the surrounding area falls within the medium range. Most pupils in Surakarta and the surrounding areas continue to have high empathy levels and demonstrate effective knowledge management. Internet dependency has a beneficial impact on empathy, despite its small (2.2%) contribution. The relatively small value of -0.120 indicates that KI has a damaging impact on MPM. However, empathy has a beneficial impact on MPM. The theory and hypothesis are supported by both results. This circumstance demonstrates that pupils with high levels of empathy typically have good MPM quality. Empathy is a sensitive trait that very certainly depends on a wide range of variables. To establish effective social behavior when you are a teenager, empathy must be reinforced since childhood because it cannot be learned overnight. To develop empathy and a noble character, children and adolescents need good parents, a solid educational system, habits, a supportive environment, and a good learning process.

Students with mild or medium internet dependence issues may provide less effective knowledge management. All interested parties should take this issue seriously to improve student performance, mental and physical health, and cognitive ability. It can be improved for future researchers by looking at the effects of empathy on other factors. According to Jiaojiao et al. (2017), theoretical constructions also need to be reinforced to undertake more application research in future studies, including areas of study outside businesses and educational institutions, such as those in the health, social services, tourism, agriculture, and so forth.

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