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Does Personality Type Affect Online Learning Satisfaction? Perception Based on Myers-Briggs Personality Type

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Abstract

The COVID -19 pandemic created new norms and impacted the education sector in Malaysia, forcing both institutions and students to adapt to online learning. The level of satisfaction and perceived learning in online learning environments varied from student to another. Therefore, this study aimed to investigate whether different personality types expressed more or less satisfaction with online courses. Attempts to characterize the relationship between learners' personality and their satisfaction with a online academic study. A survey method was used to conduct this study. The study examined 137 students who are civil servants sponsored by the Public Service Department of Malaysia (PSD). The Myers-Briggs Type Indicator (MBTI) and a Likert-type questionnaire were used to inquire about their preferences and perceptions of online learning. The results show that introverted students prefer online learning overall compared to extroverted students. However, it was also found that the Thinking (T)-Feeling (F) indicators played some role in their preference and perception, with those with F-type leaning towards online learning compared to those with T-type. Thus, this research can help educational institutions to design and offer programs that are either face-to-face, online, or a hybrid to attract more students to enroll; taking into consideration student preferences and perceptions.

Keywords: Personality Type, Online Learning, Satisfaction, Myers-Briggs Personality Type Indicator (MBTI), MBTI Theory.

Introduction

Online learning has been around for decades, along with advances in communications technology. The computer and the Internet have innovated teaching and learning concepts that have been incorporated into online learning. Compared to traditional classroom learning, online learning environments have several advantages, such as flexibility, ubiquity, and cost effectiveness. Online courses are convenient because they do not require physical attendance. Learners can learn in their own environment. Because of ubiquity, students can access course information from virtually any location at any time. Online courses are cost-effective programmes that eliminate the need for transportation and facility maintenance. In

addition, online courses can accommodate more students, be offered more frequently, and reduce infrastructure costs. In this regard, online learning offers certain advantages over traditional classroom learning, especially in today's environment. The COVID -19 pandemic has not only affected the health, economic indicators, and well-being of people around the world, but has also changed the landscape of the education sector. The higher education landscape has changed tremendously with the digitization of teaching and learning methods. The COVID -19 pandemic has led to a significant increase in online learning, pushing students to participate regardless of their satisfaction or/and preference for the technology. Indeed researchersindicated that the synchronous delivery of online learning via livestream lectures promotes live interaction between the instructor and students, provides the opportunity for immediate feedback, and opportunities for socialization (Oki, Sunariani, Irmawati, & Luthfi, 2020; Poláková & Klímová, 2021). In the recent study, Benito and his colleagues compared the outcomes at four universities using online learning method, the majority of students found the online experience satisfactory during COVID -19 (Benito, Dogan, Khanna, Masis, Monge, Tugtan, & Vig 2021). The question is, who is most satisfied with online learning? What kind of personality do those who are truly satisfied have? The answer to these questions is the goal of this article.

Some studies have focused on identifying personality traits in online learning. Researcher as Meredith examined the relationship between students' personality types and their performance in online courses and found that personality had an impact on students' success in terms of final grade and retention rate (Meredith, 2011). Indeed, Bolliger & Erichsen examined differences in learner satisfaction in online and blended learning based on personality type and found that personality type influences learner satisfaction in both situations (Bolliger, & Erichsen, 2013). They concluded that personality factors influence satisfaction ratings in online learning but do not influence learner performance. The researchers discuss the relationship between personality and online learning using the Myers-Briggs Type Indicator (MBTI) personality type. Interest in understanding how MBTI personality traits affect online learning includes preferences, learning styles, and strategies among adult students. Currently, the impact of personality on online learning is being investigated in the direction of adaptive learning and e-learning content development, as well as machine learning performance (The Myers & Briggs Foundation, 2022).

The MBTI was developed based on Carl Jung's in 1971 theory of psychological types. Later, Katherine Briggs and her daughter Isabel Myers eventually designed a pragmatic personality instrument, the Myers-Briggs Type Indicator (MBTI) (Myers, 1987). The MBTI is a series of questions designed to assess non-psychopathological personality traits in the spirit of Jung's psychoanalytic theory (Myers, & McCaulley, 1985). The MBTI assesses individuality in four psychological variables known as Entraversion (E) - Introversion (I), Intuition (N) - Sensing (S), Feeling (F) - Thinking (T), and Judging (J) - Perceiving (P). The MBTI tool assigns 4 different types to each individual based on their preferences for each variable. In addition, the MBTI is a popular personality test used in some parts of the world, for example, in the Republic of South Korea (Seo-jin, 2020). Its popularity has increased greatly as Koreans use this tool for self-expression as well as blood type. The MBTI tool characterises preferences, but it does not determine character, potential, or intelligence. The focus is on preferences rather than specific personality types. Therefore, this study used the MBTI tool to examine students' preferences for online learning. This study also has the same interest in examining PSD-funded students' perceptions of online learning and relating them to MBTI personality types. The first outcome of this study is that a particular MBTI personality type prefers online

learning than others (Russell, 2002), indeed, Patitsa and his colleagues obtained similar results (Patitsa, Sahinidis, Tsaknis, & Giannakouli, 2021).

In addition, this study examines the personality of students sponsored by the Public Service Department (PSD) of Malaysia; these students are working adults (civil servants) who are on study leave. Since the early outbreak of COVID -19 pandemic in December 2019 in Malaysia, the Malaysian government has issued several Movement Control Orders (MCOs) and consequently directed all classes and learning units to be held online in 2020, including higher education institutions. These students are among the first sponsored government employees to take their classes entirely online. Therefore, this study will examine the personalities of these adults and their preference for online learning. Thus, this study aims to contribute to the existing knowledge in the field of training and development with a focus on optimizing costs, energy, and time for students studying online. Research in this area is essential, especially in our increasingly digital and remote learning environments.

Research Methodology

This descriptive study included an analysis of surveys of graduate students regarding their preferences and perceptions of online learning. One hundred thirty-seven (137) students sponsored by the Public Service Department (PSD) participated in the assessment of online learning, completing the survey online. Students who had no personal experience with online courses were excluded from the study. Data for this study were collected by analysing students' preferences and perceptions based on their personal experiences with online learning. The survey was designed in a Likert scale format for rating statements on three broad topics. These include: Preferences and perceptions regarding online learning, knowledge and skills in using online learning technologies, and accessibility of technological devices for online learning. The fifteen statements in the survey were categorised into the above categories for the purpose of answering the research questions. All students also went through the MBTI tool to determine their type.

Findings & Result

This section presents the discussion on the key findings with a focus on the personality types and online learning.

Respondents' Background

Figure 1 shows the dissemination of participants' characteristics and respondents' background; the distribution is based on their gender, age, educational level, etc.

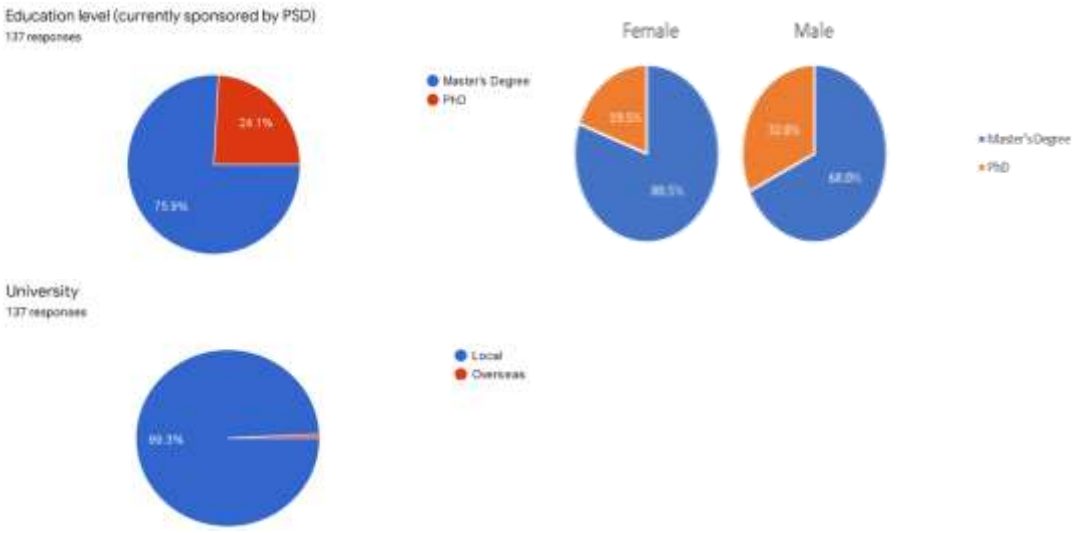

Figure 1: Respondent's Bacground

The survey was conducted from January 14 to 28, 2022, via an online platform. Within this period, 137 respondents participated in the survey. Of the 137 responses, 87 or 63.5% of the respondents are female, while 50 or 36.5% of the respondents are male. The figure above illustrates the proportion of male and female respondents. The majority of respondents are between the ages of 31 and 40, representing 59.1% of the total sample (see below). 40.1% of the respondents are between 41-50 years old, while only 0.8% are in the 51-60 age group. In fact, 104 of the respondents are studying at the postgraduate master's level, while 33 respondents are continuing their studies at the doctoral level. Of the 104 master's students, 70 respondents are female and 34 are male. For doctoral students, there are 17 female and 16 male respondents. And 99.3% of the students at both levels studied at local universities. Since the respondents are students under the auspices of PSD, various public institutions participate in the survey. However, most respondents belong to the M-scheme, which means they are administrators and diplomats. Most respondents belong to the M 44 grade (30.7%), followed by the M 48 grade (16.8%) and the M 52 grade (10.2%). The other schedules are listed together in the following table:

Table 1
Respondent's Scheme and Grade

Scheme		**Grade**	**Quantity**
Cultural Officer	B	48	1
Science Officer	C	41 44 48	1 1 1
Education Service Officer	DG	44	1
Vocational Training Officer	DV	44 52	5 1
Statistician	E	41 44 48 52	1 1 3 1

Information Technology Officer	F	44 48	2 1
Forestry Officer	G	44	1
Veterinary Officer	GV	52	1
Engineer	J	44	5
Enforcement Officer	KP	44	1
Legal Officer	L	44 48 54	1 1 1
Administrative and Diplomatic Officer	M	41 44 48 52 54	1 42 23 14 2
Administrative Officer	N	44 54	2 1
Research Officer	Q	43 44 52	1 2 1
Sosial Officer	S	44	1
Financial Officer	W	44 48	2 1
Custom Superintendent	WK	44 48	3 2
Senior Police Officer	YA	16	1
Undetermined	N/A	N/A	7

Personality Types

Based on the MBTI personality types, there are 16 identified types and out of all these types, only two types are not represented in the total respondents. Two MBTI personality types that are missing are ESTP and ISTP (see below):

Table 2
Respondent's MBTI Personality Types

MBTI TYPES	COUNT	%	MBTI TYPES	COUNT	%
ENFJ	23	16.8	INFJ	8	5.8
ENFP	6	4.4	INFP	2	1.5
ENTJ	27	19.7	INTJ	14	10.2
ENTP	1	0.7	INTP	1	0.7
ESFJ	23	16.8	ISFJ	9	6.6
ESFP	1	0.7	ISFP	2	1.5
ESTJ	10	7.3	ISTJ	10	7.3
TOTAL	91	66.4	**TOTAL**	46	33.4
	GRAND TOTAL			**137**	

ESTJ	ISTJ	ENTJ	INTJ
ESTP	ISTP	ENTP	INTP
ESFJ	ISFJ	ENFJ	INFJ
ESFP	ISFP	ENFP	INFP

The highest MBTI type is ENTJ (19.7%), while both ENFJ and ESFJ are second (16.8%), followed by INTJ (10.2%) and ISTJ and ESTJ (7.3%). ISFJ, INFJ, ENFP, ISFP, INFP, ENTP, ESFP, and INTP are less than 10 respondents.

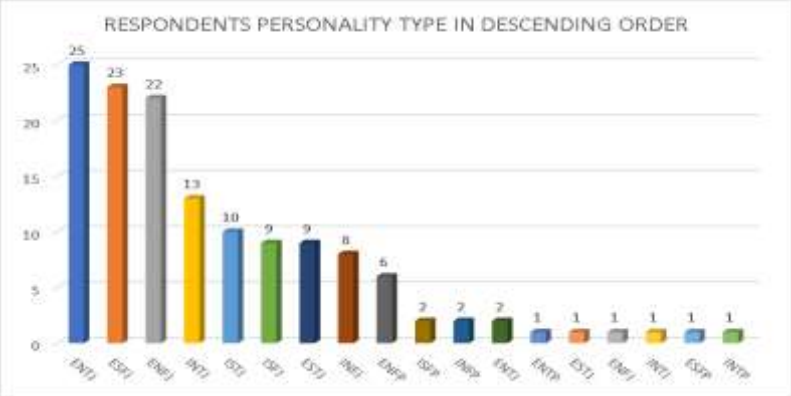

Figure 2: Respondents Personality Type In Descending Order

Discussion

Many studies have found that the MBTI Extraversion (E) - Introversion (I) indicator in a student's personality has a strong influence on online learning. Indeed, E and I are the most important indicators because these two determine the preference for the external or internal world. In online learning, students have limited opportunity to physically interact with instructors and their classmates. To find out the influence of online learning preference, the collected data is first analyzed based on the E-I indicator. Then, to investigate which personality type is highly inclined in the perception of online learning; the data is analyzed based on the Thinking (T) - Feeling (F) indicator. The data collected is presented below:

Table 3
Total of Extraversion/Introversion and Feeling/Thinking

Entraversion (E)		Introversion (I)	
Type	Count	Type	Count
ENFJ	23	INFJ	8
ENFP	6	INFP	2
ENTJ	27	INTJ	14
ENTP	1	INTP	1
ESFJ	23	ISFJ	9
ESFT	1	ISFT	2
ESTJ	10	ISTJ	10
Total	91	Total	46
Grand Total = 137			

Feeling (F)		Thinking (T)	
Type	**Count**	**Type**	**Count**
ENFJ	23	ENTJ	27
ENFP	6	ENTP	1
ESFJ	23	ESTJ	10
ESFP	1	INTJ	14
INFJ	8	INTP	1
INFP	2	ISTJ	10
ISFJ	9		
ISFP	2		
Total	**74**	**Total**	**63**
Grand Total = 137			

Extraversion (E) – Introversion (I) Indicator

The following statements were included in the survey to indicate respondents' preference for online learning

i. I am confident in taking an online course.
ii. I enjoy learning in the online classroom.
iii. I usually have no problems participating in online classes.
iv. I have more control over my daily schedule because my classes are held online.
v. I have no difficulty completing group discussions and group assignments in the online classroom.
vi. I find it easier to interact with instructors in online learning than in physical learning.
vii. I feel comfortable submitting assignments in soft copy rather than hard copy.

From this study, it appears that individuals with extraverted indicators like online courses less than individuals with introverted indicators. The data obtained shows that 68 percent of the students who disliked online courses were among the individuals with extraversion indicators compared to 32 percent of the individuals with introversion indicators. These data support the statement that individuals with extraversion indicators are those who enjoy being with people and participating in social gatherings. The results also supported by Harrington & Loffredo, with the same conclusion (Harrington, & Loffredo, 2010). Even after a decade of study and technological innovation in virtual meeting applications that facilitate online learning, the result remains.

Based on students' experiences with conducting group discussions and online assignments, the data showed that 71 percent of students who had no problems with conducting group discussions and online assignments were individuals with extraversion types, while only 29 percent of students with introversion types had no problems with conducting group discussions and online assignments. This problem can be solved by increasing student interaction through different platforms (Ferguson, & DeFelice, 2010). They

stated that "live chat rooms, threaded discussions, and the use of blogs in conjunction with prompt responses to all email inquiries are strategies that would provide opportunities for increased interaction" (p. 5). Indeed, Annamalai adds podcasts, Skype, Jing, and Wiki to this list to encourage engagement (Annamalai, 2019). Another idea is to use a discussion board where students can interact with each other. This would encourage interaction among students and alleviate feelings of isolation behavior (Saklofske, 2012).

Thinking (T) - Feeling (F) Indicator

The T-F indicator refers to the way a person makes a decision. The T-F indicator is used to analyze the data because respondents are forced to participate in an online learning environment because the government has implemented MCO to curb the spread of Covid-19. Thus, in order to complete their studies, PSD-supported students have little choice but to continue their studies through virtual platforms. For this reason, the T-F indicator would best describe how these students choose online learning as a method of instruction while also revealing their attitudes toward online learning (Kim, Lee, & Ryu, 2013; Bhagat, Wu, & Chang, 2019). The statements developed in the survey to capture respondents' attitudes toward online learning are listed below:

i. I have a positive attitude toward online learning
ii. I believe that I will enjoy online classes more than face-to-face classes
iii. I believe that my instructors are able to handle online instruction well
iv. I believe that I can perform better in online learning than in physical learning
v. I can concentrate throughout the online learning session

For statements [i], [iii], and [v], the responses show that the majority of respondents agree with the statements, as shown in the following graph. As can be seen from the graph, the Likert scale responses of 4 and 5 are high for all three statements. 105 respondents have a positive attitude toward online learning, 97 respondents feel their instructors are knowledgeable, and 68 respondents feel they are focused during the online session.

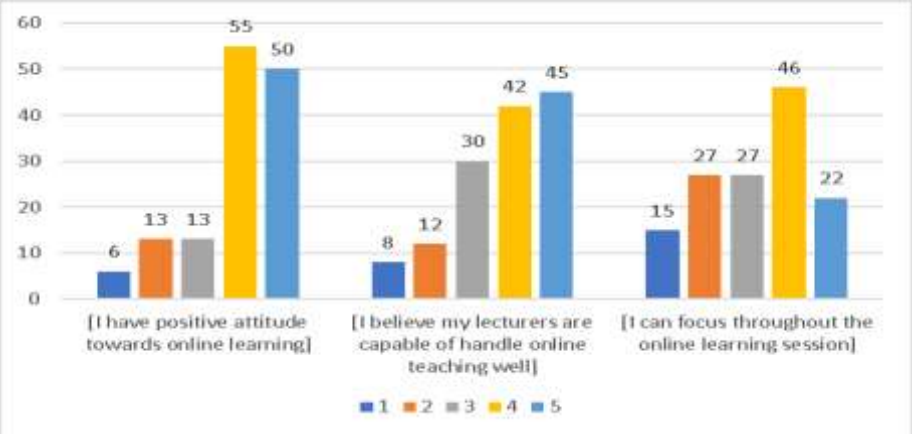

Figure 3: Respondent's Perception Towards Online Learning

For the statement I believe I can perform better through online learning than through physical learning, the highest response on the Likert scale is 3: Medium. This is most likely due to the fact that respondents are not able to make a comparison with learning in a physical class because they had no or very few face-to-face sessions during the study period. Therefore, there are no significant differences between indicators T and F.

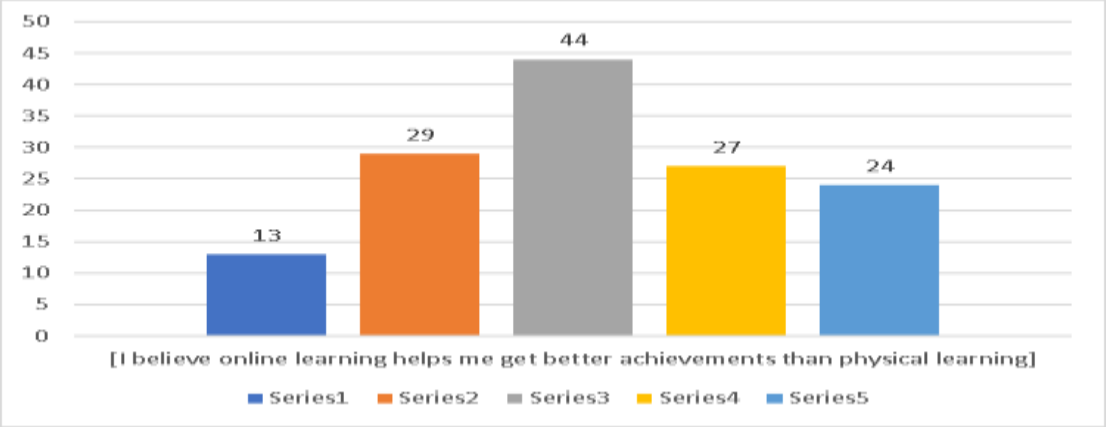

Figure 4: Perception Towards Learning Outcome

On the thinking-feeling dimension, Dewar and Whittington discovered apparent preferences (Dewar, & Whittington, 2000), with F-types preferring face-to-face instruction and viewing Internet communication as "cold and impersonal" (p. 396). Discussion of ideas appealed to the thinking types, so they liked the online environment. The results of this study confirm Dewar and Whittington's statements, as they show that individuals with feeling indicators accounted for 54 percent of those who found it difficult to interact with instructors during online learning sessions, compared to 46 percent of those with thinking indicators.

However, the results for the statement I think I will enjoy online classes more than face-to-face classes are interesting. Based on the (T) indicator, we can say that all personality types have responses for Likert scale 2: Low. In contrast to the (F) indicator, almost all personality types responded with this indicator on Likert scale 5: Highest. This is in contrast to the results of Dewar and Whittington (Dewar, & Whittington, 2000), but similar to the results of Fedynich (Fedynich Bradley, & Bradley, 2015). In terms of perception, it is consistent with Dewar and Whittington, that learners who must choose an (F) type are more likely to be tactful than honest. A (T) type, on the other hand, will do the opposite when given the choice. Simply put, this result shows that (F)-types are considerate of current learning situations when answering question 5 compared to (T) responses.

Table 4
(T) – (F) Indicator Responses

I think I will enjoy online class more than physical class

MBTI TYPE		Likert Scale				
		1	**2**	**3**	**4**	**5**
ENTJ	**THINKING (T)**	6	9	3	5	4
ENTP		0	1	0	0	0
ESTJ		0	4	4	2	0
INTJ		0	3	6	3	2
INTP		0	1	0	0	0
ISTJ		1	4	4	1	0
TOTAL		**7**	**22**	**17**	**11**	**6**
ENFJ	**FEELING (F)**	0	8	5	2	8
ENFP		2	1	2	0	1
ESFJ		4	3	4	6	6
ESFP		0	0	0	0	1
INFJ		2	1	4	1	0
INFP		1	0	0	0	1
ISFJ		2	2	2	1	2
ISFP		0	1	0	0	1
TOTAL		**11**	**16**	**17**	**10**	**20**

Table 5
(T) – (F) Characteristics

Thinking (T)	Feeling (F)
• wants logical reasons before accepting new ideas	• is personal, likes warm personal relationships
• tries to be fair; is impersonal, impartial	• is more interested in people than things or ideas
• finds ideas and things more interesting than people	• is more tactful than truthful, if forced to choose
• is more truthful than tactful, if forced to choose	• is likely to agree with others in the group
• is brief and businesslike	• thinks as others think, believing them probably right
• takes very seriously facts, theories, and the discovery of truth	• finds it difficult to be brief and businesslike
• takes seriously the solution of objective problems	• takes emotional relationships and ideals very seriously
• treats emotional relationships and ideals quite casually	• is offended by a lack of personal consideration in other
• contributes intellectual criticism	• is motivated by others
• exposes wrongs in the habits and beliefs of others	• may comply or conform to avoid disharmony
• is offended by illogic in others	• permits feelings to override logic
• holds firmly to a policy or conviction	• forecasts how others will feel
• hurts other people's feelings without knowing it	• arouses enthusiasm
• has a low need for harmony	• is upset by conflicts; values harmony
• is upset by injustice	• dislikes telling people unpleasant things
• seems not to know how his or her own actions affect other people's feeling	• relates well to most people
	• is sympathetic

Source: (Dewar and Whittington, 2000)

Conclusion

As stated above, it is concluded that the MBTI personality type provides possible and reliable assessments of adult students' learning patterns, approaches, and performance at higher educational institutions in an online environment. This study apparently supports previous studies on introversion personality type, which tends to prefer and perceive online learning. In the (T) - (F) dimension, this study suggests that while the (F) type prefers physical learning instruction, the (F) personality types' perceptions of online learning are more likely to be comfortable and considerate of current situations (Storm, 2021).

This study cannot only be a good basis for future studies, but also for universities to see an opportunity in it. Universities can plan their future approaches to providing quality education and sustaining their institutions through online learning. Clearly, offering online courses presents tremendous opportunities in the education sector. For example, to attract more students to engineering programs, hybrid methods can be offered, as engineering students are generally more introverted type (Embarak, Khan, & Gurung, 2019). For example, face-to-face courses can be offered specifically for lab modules and online courses for theory. Online learning also provides easy access for anyone, anywhere, at any time, so commuting to attend class is no longer a problem, as distance is one of the factors driving these students to choose their college. Therefore, universities can increase their student enrollment both locally and internationally. Program modules can be created and customized based on studies of how a person's personality affects online learning.

The results of this study suggest that personality type influences personal choices for online and offline media. Keep in mind, however, that this is more a matter of desire than ability. A personality profile, such as MBTI theory, refers to people's innate tendency to take a certain approach to the world, and does not imply that alternative approaches are beyond their ability. In conclussion, research into the impact of personality types on online learning contributes to our understanding of learner variability. It helps us recognize that learners have diverse preferences, strengths, and needs, which can inform the design and customization of online educational experiences. It also guide the development of online courses and platforms, facilitate personalized learning experiences, and lastly lead to strategies for improving student retention rates, lead to the development of new teaching methods, technologies, and strategies that better cater to the diverse array of learners' personalities and learning styles.

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Conflict of Interest

The authors hereby declare that they have no conflict of interests.

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