



RESEARCH ARTICLE

THE CORRELATION BETWEEN INTROVERT-EXTROVERT PERSONALITIES AND SATISFACTION WITH USING TELEMEDICINE SERVICE

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Abstract

The COVID-19 pandemic created a catastrophic impact on many people's lives globally. Technologies, especially telemedicine services, have increasingly played significant roles in human lives. Applications for telemedicine are being developed more often as well as becoming more in demand (Bestsenny et al., 2022). A lot of doctor's appointments are now conducted virtually. Telemedicine use is growing significantly in Thailand. The importance of telemedicine has become even more obvious. As COVID-19 is a human-to-human transmission disease, the virus spread widely, and many people got infected. There are several preventative measures used to protect an individual from this situation, including a lockdown policy. However some people went to the hospital for treatment, but others were afraid of going to the hospital. For this reason, telemedicine is used to facilitate patients who do not want to leave their homes. It directly affected extroverted people. Extroverted people are people who feel comfortable being in large groups; they enjoy other people's energy and get to engage with people around them and they may be more likely to spearhead group sports or group outings. To investigate whether personality types influence the satisfaction of using telemedicine, this research was conducted to find the correlation between introverted-extroverted personality and the satisfaction to use a telemedicine service. We conducted a cross-sectional survey consisting of 25 questions and data was collected from 127 participants who use telemedicine services in Thailand using an online survey questionnaire through Google form. Correlation analysis revealed that there is a weak positive correlation between the introverted-extroverted personality and the contentment from using a telemedicine service ($r(127) = .46, p < 0.01$).

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Introduction:-

We all have different personalities so our expressions, emotions, and feelings are not the same. Therefore, personalities might result in levels of satisfaction with something. It's been 25 years since psychologists discovered that personalities are formed by five basic traits (Woo, 2019). Everybody can have diverse levels of agreeableness, conscientiousness, extraversion, neuroticism or open-mindedness to experience.

The difference in what they like leads to their levels of satisfaction. In psychology, there are many personality types such as introversion and extroversion. Introversion and extroversion can mean where people receive energy from. Extroverts gain energy by interacting with large groups of people whereas introverts gain energy by being alone or with small groups of friends. Introverted people mostly focus on what is going on in their inner thoughts rather than focusing externally. They feel more comfortable staying with one or two people. Sometimes, they are shy, quiet and like to spend time with people which does not mean that they love to go to parties every single day. They may not consider parties as fun things. Extroverted people focus more on what is going on around them rather than what is going on in their heads. They are outgoing and reply to messages immediately when notifications appear.

There are several telemedicine applications such as ChiiWii, Raksa, See Doctor Now, Doctor A to Z and Ooca. Due to the impact of Covid-19, people are encouraged to stay home, work from home and order food by using online delivery which reduces the spread of diseases. This favors the personalities of the introverts. Technology is becoming more significant in our daily lives during the pandemic. More telemedicine applications are created and the demand for them increases. Many medical appointments are converted to virtual. In Thailand, the use of telemedicine services is quickly increasing. According to the story from Dr. Kawirat in 2020, the rise of Telemedicine technology in Thailand has changed the culture of visiting doctors physically. It is expected that, within 1 year, Chula Hospital expects people to switch to Telemedicine apps to reduce the number of people coming to the hospital by 20% (Tantiwong, 2020).

Based on the characteristics of introverts, they do not prefer to be in crowded places and would like to stay home to avoid social situations. They are more likely to see doctors via telemedicine applications so they do not have to go to hospitals and meet other people. With the help of Telemedicine, patients are now able to sit in front of their screen to consult with doctors instead. However, it is still unclear whether the majority of people who choose to use telemedicine services are introverts. This convinces us to research the correlation between the introverted-extroverted personality and the satisfaction of using telemedicine services. This is to find out whether each person's personality affects their satisfaction.

Methodology:-

This research is cross-sectional survey research that was randomly distributed to anonymous participants in Bangkok, Thailand. The survey was distributed online through various social media platforms. The questionnaire consisted of 25 questions; all of which were designed according to established research from Bangkok university, about a causal relationship of factors affecting the decision to use the telemedicine application, and Richmon, V.P., & McCroskey Introversion Scale, which determined the person's personality type.

The three parts of the questionnaire include:

- [1] Personal information: This consists of six questions to examine the participants' background and frequency of using telemedicine services. It can determine and explain the usage tendency of users.
- [2] Participants' satisfaction with the application: this section includes eight questions asking about users' experiences with telemedicine services.
- [3] Personality type test: In this section, there are eleven questions. We used the Introversion Scale test from Richmon, V.P., & McCroskey Introversion Scale to determine the participants' personality types. Whether they are more of an introvert or extrovert.

The quantitative data was then analyzed by Statistic Product and Service Solutions version 26.0 (SPSS). Followed by calculations of the internal reliability value (Cronbach's Alpha) from the pilot study group (consisting of 22 responses) to ensure that the survey results were reliable. The reliability of Cronbach's Alpha test should exceed 0.7, which is the minimum acceptable rate worldwide (Ursachi et al., 2013). The calculated Cronbach's score from our pilot group was 0.867 which indicated acceptable internal reliability.

Results:-

Table 1:- General Information about participants.

General Information		Valid Percentage (%)
Age	Under 18 years old	25.2
	18-25	9.4
	26-45	18.1
	46-60	42.5

	60 up	4.7
Gender	Men	33.1
	Women	64.6
	Others	2.4
Occupation	Office worker	24.4
	Student	33.9
	Teacher	3.9
	Freelancer	4.7
	Others	33.1
Average salary per month	Less than 10,000 Baht	30.7
	10,000-16,000 Baht	8.7
	16,001-20,000 Baht	7.9
	20,000-30,000 Baht	11.0
	30,000 Baht up	41.7
Medical condition	Have	31.5
	No	68.5
Frequency of using the application	Less than once a month	55.1
	Twice to three times in 6 months	9.4
	Twice to three times in 3 months	7.9
	Once a month	11.0
	More than once a month	16.5

Table 1 shows the general information about the participants. The majority of the participants are 46-60 years old with 42.5%. This was followed by under 18 years old, 26-45 years, and 18-25 years with 25.2%, 18.1% and 9.4%, respectively, while 60 up years were only at 4.7%. Moreover, there were more participants who were women (64.6%) than men (33.1%). Lastly, most of our participants do not have any medical conditions.

Table 2:- Descriptive Statistics (Average and Standard Deviation).

Mean		Std. Deviation	N
Telemedicine service	3.71	0.76	127
Personality	3.44	0.52	127

Table 2 shows the mean and standard deviation of each variable. The mean of the telemedicine service was 3.71, while its standard deviation was 0.76. For personality, the mean was 3.44 and its standard deviation was also 0.52. Their means and standard deviations depend on the same population which is 127 participants.

Table 3:- The Correlation between application and Personality.

		Application	Personality
Telemedicine service	Pearson Correlation	1	0.460
	Sig. (2-tailed)	-	<0.001
	N	127	127
Personality	Pearson Correlation	0.460	1
	Sig. (2-tailed)	<0.001	-
	N	127	127

Table 3 indicates Pearson's correlation coefficient between the introverted-extroverted personality and satisfaction with the use of telemedicine service. Of the 127 participants, results showed that the two variables have a weak positive correlation ($r(127) = 0.460$, $p < 0.001$), presenting evidence in support of our theory that satisfaction with using a telemedicine service is correlated with the introverted-extroverted personality.

Discussion:-

As predicted, the data results specified a relationship between personality type and satisfaction with telemedicine usage. This could be because telemedicine requires an advanced level of communication skills, in part to compensate

for the lack of visual cues (Morony, Weir, Duncan, G. et al. BMC Health Serv Res 18, 162 (2018)). The communication needs to be precise so that the doctor and patients would understand each other virtually, through lenses. Therefore, individuals who tend to be extroverted show higher satisfaction with their experience of the telemedicine service.

Following the questions in part 2, regarding an individual's personality type, the higher the participant scored, the higher the tendency of being an extroverted person. Hence, participants that scored higher in section 2 also appeared more content with their use of telemedicine services.

According to Myers-Briggs Type indicator: The 16 personality types 2022, introverts tend to require more time to process information before giving a reply. This contrasts the idea of telemedicine that encourages the patients to speak up more to explain and elaborate on their conditions. Introverts are prone to exhaustion and overwhelm (Graneman, Introvert Dear, 2020). Being pressured to speak can give introverts anxiety, therefore, preventing them from communicating with doctors or physicians through the lens. It is also crucial to consider that the extroverted population has a higher capacity for communication skills, hence, making them a suitable target audience for telemedicine services. This may explain why the majority of participants who are satisfied with the telemedicine services also score higher on the introversion scale.

The telemedicine service price can range between 450 THB to 1000 THB per visit, approximately 30 minutes each, (Banchanont, 2020). The average. For that reason, there might be chances that the opportunity to get a hand on technology may depend on their age, gender, occupation, salary, medical condition. On that account, we decided to do the mean comparison on IBM SPSS statistics application. The analysis was done on the questionnaires from section one, using One-Sample T test and the ANOVA One-way F test.

Even if the overall SPSS value showed a high correlation between personality type and contentment of the telemedicine users. The results from the general information section, both the One-Sample T-test and the ANOVA One-way F test, showed that It cannot be implied that one of the questions from general information influenced the correlation between personality type and satisfaction in telemedicine usage. The mean scores of each question from section one to both satisfaction and personality type are higher than 0.05. This indicates that the primary factors: age, gender, occupation, salary, medical condition, and frequency of application usage have no association with the level of correlation. It was purely personalities that impact the correlation.

Conclusion:-

According to the table 3, the personalities correlate with telemedicine service. Extroverted people show a higher satisfaction with using telemedicine services which does not link to our hypothesis that introverted people are more likely to see doctors via telemedicine applications. Age may have a significant effect on the result. However, there are other factors such as the pandemic and lack of time that influence satisfaction after using telemedicine services.

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