The Effectiveness of Motivational Interviewing in Reducing Students' Smartphone Addiction

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ABSTRACT

This study examined the effectiveness of motivational interviewing in alleviating students' smartphone addiction. To this end, an experimental study with a repeated pretest-posttest design was applied. Six students were recruited using a purposive sampling technique based on their high smartphone addiction level. The data were collected using Kwon et al.'s (2013) smartphone addiction scale -short version (SAS-SV) and analyzed using mixed ANCOVA repeated measure. (Kwon et al., 2013). The motivational interviewing was conducted in four sessions for each participant, in the form of an individual counseling session. The study result showed that the mean score of T1 was 56.67 (SD =1.75) and dropped to 30.67 in T4 (SD = 0.82). In general, motivational interviewing is effective in reducing students' smartphone addiction. This study showed that motivational interviewing is recommended for school counselors in order to reduce students' smartphone addiction.

Keywords: smartphone addiction, motivational interviewing, counseling.

INTRODUCTION

Smartphone has played an increasingly important role in most people's daily life as it offers various application for information, communication, education, and even entertainment purposes (Haug et al., 2015). Smartphone functions have gone beyond merely a communication device and provided its users with eases, especially adolescents.

However, smartphone also has negative effects on its users, especially adolescents who find it difficult to keep themselves away from their phone and suffer from excessive dependence on the smartphone. In this regard (Hussain et al., 2017) reported that out of 2.097 smartphone users in the USA, 60% of them could not leave for one hour without checking their phone, and 54% reported that they check their smartphone when laying in bed. 39% of them bring their smartphone to bathroom, and 30% bring their smartphone when eating with other people.

The study by Boumosleh and Jaalouk, (2017) investigated smartphone addiction

among 688 university students and found that 36.9% of participants reported exhaustion and lethargy during the day because they used smartphones until late at night, 38.1% of participants reported disturbed sleep quality, and 36.8% reports having less than 4-hour sleep due to excessive smartphone use. This condition indicates that most adolescents suffer from smartphone addiction. Excessive smartphone use is responsible for decreased productivity and academic achievement among adolescents, especially students (Wolniewicz et al., 2018). The study by (Haug et al., 2015) found that smartphone addiction is more common among adolescents (14-16 years of age) than adults (19 years old and more).

Taking various issues caused by smartphone addiction into account, school guidance and counseling service interventions are necessary to help students reduce and even stop the negative impact of smartphone addiction on them. In this regard, motivational interviewing is one of the counseling approaches that can be used to reduce students' smartphone addiction. This method is reported to effectively overcome addiction issues (Frost, 2018). This approach is developed to help individuals learn new behavioral skills using various techniques like open questions, reflective listening, affirmation, and summary, which may be helpful for individuals to express their concerns and ambivalence regarding changes (Miller & Rollnick, 2012).

Motivational interviewing approach deemed suitable for addressing smartphone addiction. A previous study by (King et al., 2011) suggests that motivational interviewing is one of the therapeutic recommendations for reducing addiction. The result of this study is expected to provide school counselors with a reference for reducing smartphone addiction using the motivational interviewing approach.

METHODOLOGY
This experimental study applied a repeated measure design, known as pretest and multiple posttest design. The study population was twelve 8th-grade students suffering from smartphone addiction, identified using smartphone addiction criteria adapted from (Kwon et al., 2013). Six students were recruited using a random sampling technique. Data were collected using the Smartphone Addiction Scale-Short Version (SAS-SV) adapted from (Kwon et al., 2013) and analyzed using mixed ancova repeated measures.

RESULT AND DISCUSSION
Data were collected by distributing SAS-SV to the participants in four stages of the study: Before receiving treatment (pretest/T1), after receiving treatment (posttest/T2), one week after receiving treatment (follow-up 1/ T3), and two weeks after receiving treatment /follow-up (follow-up 2/ T4). The study result may provide a depiction of the degree to which students' smartphone addiction changes. The score changes in T1, T2, T3, and T4 are presented in Tables 1 and 2.

Table 1
Smartphone Addiction Score Distribution

Category	Smartphone Addiction score			
	T1	T2	T3	T4
	MI	MI	MI	MI
High	6 (100%)	2 (33.3%)	1 (16.7%)	
Moderate		4 (66.7%)	5 (83.3%)	6 (100%)
Low				

As shown in Table 1, Participants' smartphone addiction in T1 was categorized as high (> 43.33). After receiving the first intervention, students' addiction exhibited a decrease. In the T2 stage, two students (33.3%) still exhibited high addiction level, while four students (66.7%) were in the moderate category (26,67 <X≤43,33). In T3 stage, one student reported high addiction level, and five students (88.3%) reported a moderate level of addiction. Lastly, in the T4 stage, all students (100%) reported a moderate level of smartphone addiction (26,67 ≤X<43,3).

Tabel 2
*Pretest, Posttest, Follow-up 1,
and Follow-up 2 Results*

Parameter	Mean	SD	T	P
T1	57.67	1.75	0.967	0.356
T2	44.0	4.86	-2.631	0.025
T3	36.50	3.88	-3.516	0.006
T4	30.67	0.82	-5.835	0.000

Table 2 displays Students' smartphone addiction score changes in mean value from T1 to T4. In T1, students' smartphone addiction mean value was 57.67 (SD =1.75), which decreased to 44.0 (SD=4.86) in T2. One week later, T3 measurement result exhibited far lower mean value of 36.50 (SD=3.88), and two weeks after T2, students in this study reported an even lower mean value, i.e., 30.67 (SD=0.82).

Tabel 3
Pairwise Comparison Analysis Result

Parameter	Mean Difference	P
Pretest and Posttest	13.67	< 0.05
Pretest and Follow-up 1	21.17	< 0.05
Pretest and Follow-up 2	26.83	< 0.05
Posttest and Follow-up 1	7.50	< 0.05
Posttest and Follow up 2	13.17	< 0.05
Follow-up 1 and Follow-up 2	5.67	< 0.05

Table 3 shows that students' smartphone addiction exhibited significant difference among the measurement stages. This result indicated that the motivational interviewing approach is highly effective for reducing students' smartphone addiction from high to moderate categories.

For students, smartphone may be a useful learning device to support their education (Ardiansya & Nana, 2020). Smartphone has been used as a means to facilitate online learning and to gain more information and learning materials. In addition to being helpful for educational purpose, smartphone is also used in the health sector as mobile application providing a number of methods for preventing and curing chronic disease like diabetes (Arsand et al., 2015). However, excessive smartphone use may also lead to new

problems, including addiction (Rahmawati, 2020).

Smartphone addiction is indicated by discomfort and restlessness when being far from a smartphone. It represents one's dependence on smartphone (Kwon et al., 2013). Excessive dependence on smartphone may adversely affect individuals, and when left unattended, it can lead to more complex issues.

Motivational interviewing is a non-directive counseling skill that invites clients to assess and identify their problems. It can also help clients to make a personal judgment on the degree to which a certain problem has affected him/herself. By doing so, clients will likely be motivated to address their problematic behaviors, or in this context, to reduce their smartphone addiction.

Motivational Interviewing (MI) is a client-focused method that provides clients with directions to enhance their intrinsic motivation to change their understanding and resolve ambivalence between their current behaviors and their target goals or values. The study result showed that MI could effectively reduce students' smartphone addiction. The first measurement result (T1) showed that students' smartphone addiction was in the high category, and after four sessions of motivational interviewing, they reported a moderate level of addiction. This result supports (King et al., 2011), who assert that MI is a good approach to overcoming addictions and a recommended therapeutic to address addiction. (Antonius J. van Rooij, Mieke F. Zinn, Tim M. Schoenmakers, 2012) Stated that MI could be helpful for addressing internet addiction. Applying this technique, the counseling session may direct clients to exhibit changes by exploring and resolving their ambivalence.

Motivational interviewing could be done using a number of techniques. Techniques in MI are aimed at helping help clients stimulate their intrinsic motivations and realize their strength. Motivational interviewing also helps clients to change their behaviors by exploring and resolving ambivalence (Nareswari, Khairi, & nafi', 2020). Clients are expected not to focus only on the weakness that causes them

to have low self-esteem, but also acknowledge their strengths to achieve positive improvement.

Motivational interviewing views motivation as a process or one's readiness to make changes Sugiharto, Hariyadi, Amin & Muslikah (2019). It may facilitate clients to build readiness to make changes.

It is a client-centered, directed method to motivate clients' positive changes. It could also be used to stimulate lifestyle changes and positive health (Spencer & Wheeler, 2016). Although motivational interviewing is viewed as a simple approach, mastering this approach is not easy (Dunn et al., 2016). It requires specific languages and strategies to motivate clients' changes, respect their readiness to change and their autonomy (Miller & Rollnick, 2012).

In this experimental study, we observed clients' changes and knowledge based on the post-counseling session evaluation. It begins by observing clients' daily activities, providing a change plan in which clients are free to set their direction and be free from ambivalence, in addition to being motivated to make changes and reduce smartphone addiction.

CONCLUSION

The study result showed that motivational interviewing could reduce students' smartphone addiction. An intensive motivational interviewing could improve the client's understanding of positive changes, and such changes could stem from their intrinsic motivations. Future studies are suggested to add an observation sheet during the counseling process to support the follow-up results regarding clients' positive changes. Furthermore, future studies could also involve university students and even the public.

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