

## The Effectiveness of CBT Group Counseling with a Cognitive Restructuring Technique to Reduce Students' Smartphone Usage Problems

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### Abstract

Smartphone usage problems contribute negative impacts on students' physical and psychological development. Thus, the present study attempted to determine the effectiveness of CBT group counseling with a cognitive restructuring technique to reduce students' smartphone usage problems through a randomized pretest-posttest control group design. This intervention was given to the experimental group, while the control group received the conventional counseling. Further, students' data were collected using a smartphone addiction scale (SAS) whose reliability was 0.95 and was adapted using scientific procedures. Once the data collected, Wilcoxon signed rank and Mann-Whitney U tests were carried out. Findings showed that the CBT group counseling with a cognitive restructuring technique implemented gained more effective than that of conventional in the control group. Based on this finding, this study contributes to the improvement of a guidance and counseling service quality in terms of the use of CBT group counseling with a cognitive restructuring technique to reduce students' smartphone usage problems.

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## INTRODUCTION

The rapid technological development facilitates individuals to communicate virtually through a smartphone. Smartphone is the most common communication tool used by adolescents or adults that can be beneficial to today's needs, change the way individuals communicate, manage information, and finish jobs (Horwood & Anglim, 2018). Smartphone usage problem is defined as an excessive usage that leads to negative impacts on the users (Sunanjar et al., 2019).

Previous studies have revealed that smartphone usage problems are increasing every year. Based on the digital data report (Kemp, 2020) in 2020, there happened an increase in a cellular connection. In details, there were 338.2 million cellular connections in Januari 2020. It increased 15 million (+4.6%) from Januari 2019 until Januari 2020. Overall, the number is similar to 124% of the total population, and the most significant increase was from 2019 until 2020.

The above data are in line with the result of Indonesia Internet Provider Association or *Asosiasi Penyelenggara Jasa Internet Indonesia* (APJI) that in 2018, most people accessed the internet by using a smartphone, and it was dominated by adolescents aged 15-19 years by 91%. This fact surely arises the potential of smartphone usage problems in Indonesia, especially among adolescents (Proborini & Septania, 2021).

Problematic smartphone usage is a phenomenon that is prone to occur in adolescents and has a negative impact on physical and psychological development (Mulyana & Afriani, 2017).

Improper use of a smartphone can have an impact on students' physique. It is stated in a study by (Xie et al., 2018) that there is a strong relationship between excessive smartphone usage and physical health problems, including visual impairment, spinal disorders, wrist pain, poor sleep quality, lack of physical energy, attention disorders, and immune disorders.

In addition to physical problems, the inappropriate smartphone usage can trigger several psychological disorders for students. It is in line with findings in a study by (Pereira et al., 2020), namely students with problematic smartphone usage are risky to mood disorders and depression symptoms. In addition, some psychological disorders caused by problematic smartphone usage are such as the increase in stress, loss of control, and depression (Brooks et al., 2020).

The use of a cognitive behavior approach in this study was inspired by the findings of a study by (Young, 2013) which concludes that CBT-IA (internet addict) is effective to cope with any internet addiction symptoms after clients were given twelve weekly sessions consistently within a month, three months, and six months after the therapy. Here, internet addiction was considered by the researchers as a form of smartphone problematic usage.

With regard to the use of Cognitive Behavior Therapy (CBT) interventions, a study by Orzack, et al (King et al., 2012) states that CBT is not effective in reducing internet addiction symptoms in smartphone usage, but it the increases perceived quality of life and can reduce depressive symptoms.

According to the above gap, it was urged to do a follow-up investigation related to the use of a CBT intervention with a cognitive restructuring technique to reduce smartphone problematic usage. Generally, the present study aimed at analyzing the effectiveness level of the CBT group counseling with a cognitive restructuring technique to reduce students' problematic smartphone usage. It is expected that this study can be beneficial to the consideration and basis for the future studies about the implementation of CBT group counseling with a cognitive restructuring technique to reduce smartphone problematic usage.

## METHODS

A purposive sampling technique was used to select 14 subjects from 167 students in grade

VIII at SMP Negeri 1 Way Jepara and group them into two groups with 7 students in each. In details, the subjects' inclusion and exclusion criteria are presented in table 1.

**Table 1.** Inclusion and Exclusion Criteria

No	Inclusion	Exclusion
1	Students in grade VIII at SMP Negeri 1 Way Jepara in the academic year of 2021/2022	Students at SMP Negeri 1 Way Jepara in the academic year of 2021/2022
2	Students with the high level of smartphone problematic usage	Students whose smartphone problematic usage is low
3	Students are willing to join the counseling activities	Students are not willing to join the counseling activities

Students' data were collected using a smartphone addiction scale (SAS) developed by (Kwon et al., 2013) which has been adapted based on scientific principles and gained the reliability of 0.95. Since this instrument is originally from abroad, a back translation process was carried out. Further, this scale has 48 items and covers 6 aspects, namely (1) daily life disturbance, (2) positive anticipation, (3) withdrawal, (4) cyberspace-oriented relationship, (5) overuse, and (6) tolerance.

This study used a randomized pretest-posttest control group design. The intervention was given to the experimental group in the form of CBT group counseling with a cognitive restructuring technique, while the control group was given conventional counseling.

Some procedures were taken in this investigation. First, a pretest was given to determine suitable students with high level of problematic smartphone usage. Second, the selected subjects were grouped. Third, the CBT group counseling with a cognitive restructuring technique was given for 2x45 minutes. In session 1, the activity was giving information related to an overview of the CBT group counseling with a

cognitive restructuring technique. In session 2, counselees' experience and cognition were identified. Session 3 was used to train group members' cognitive and feedback trainings. Session 4 consisted of cognitive practice and assignments. In session 5, the counselees were directed to transfer and practice better behavior. Finally, session 6 covered a reflection of the new behavior obtained during 5 sessions and termination. Meanwhile, the control group achieved a conventional counseling. In the fourth step, a posttest was given to the subjects following the treatment using the same scale as in the pretest. Then, data analysis was carried out quantitatively using Wilcoxon signed rank test and Mann-Whitney U tests to determine the reduction the issue.

## RESULTS AND DISCUSSION

In table 2, the level of smartphone usage problem of the experimental group and control groups prior to the treatment were high, namely ( $M=171$ ,  $SD=13.28$ ) and ( $M = 171.29$ ,  $SD = 13.66$ ) respectively.

**Table 2.** Data description

Group	Pretest		Posttest		Z <sub>1</sub>
	M	SD	M	SD	
Experimental	171	14,28	150,57	10,95	-2.37*
Control	171,29	13,66	170,14	13,42	-0.60
Z <sub>2</sub>	-0.06		-2.24*		

Notes: Z<sub>1</sub>= WilcoxonZ<sub>2</sub>= Mann Whitney

\* p &lt; 0.05

The Wilcoxon test results showed that the smartphone usage problems got reduced when the initial results were compared to the end results after the counseling ( $Z = -2.37$ ,  $p < 0.05$ ). However, there found no difference in the problematic level of smartphone usage before and after the counseling ( $Z = -0.60$ ,  $p > 0.05$ ).

In terms of the Mann-Whitney U test, there was no difference among both groups in their pretest results ( $Z = -0.06$ ,  $p > 0.05$ ). Then, the posttest scores showed that there was a difference in the problematic level of smartphone usage between the experimental group and the control group, namely ( $Z = -2.24$ ,  $p < 0.05$ ). Thus, the CBT group counseling with cognitive restructuring technique has proven effective in reducing the problematic level of students' smartphone usage.

Providing a cognitive restructuring technique can shift students' thoughts and behavior to be more positive which finally can manage to reduce the smartphone usage problems. The implementation of the group counseling with a cognitive restructuring technique facilitated students to realize their negative thoughts which underlay their behavior and manage them to be more positive ones (Ayu et al., 2020). In addition, the implementation of CBT group counseling with a cognitive restructuring technique in a group format would give students a support system because they will seem to have friends who have similar problems and finally observe how others think, behave, and revisit attitudes and reactions through interactions with various people. Besides, the positive experiences learned from the therapy can help students cope with distortions of thought and maladaptive behaviors that arise. Interventions with a cognitive restructuring

technique can help students change negative ways of thinking and behaving into positive ones and focusing on current situations or problems.

The findings of this study have evidenced that the 7 students in the experimental group which received a cognitive restructuring technique got their smartphone usage problems reduced. Thus, it has proved how successful the intervention was.

Findings of this study are in line with a study by (Kim, 2021) that a cognitive restructuring technique in a cognitive behavior therapy approach is effective to treat individuals who are highly exposed to smartphone addiction symptoms, depression, impulsiveness, and anxiety. It is purposively done to shift behavior and reconstruct the smartphone addicts automatically.

Smartphone usage problem is a term used to describe how someone is addicted to smartphone, uses it excessively and compulsively, and this issue is related to the internet and online game addiction symptoms (Elhai et al., 2017). Froese (Singh & Samah, 2018) revealed that the use of smartphones in schools can interfere with student's learning. This shows that smartphones are not only for entertainment but can be a learning support and disrupt the student's learning process depending on how students apply it. If students use it correctly, it will have a positive impact, and vice versa.

A study by (Sholihah, 2019) shows that the implementation of a cognitive restructuring technique in a group settings is effective in reducing adolescent's online game, smartphone and internet addiction which can encourage someone to always be online which leads to phubbing behavior. Moreover, smartphone and

internet addiction are important aspects of phubbing behavior (T'ng et al., 2018).

The results of a study by (Fadil et al., 2019) revealed that students who received group counseling with cognitive restructuring and self-management techniques experience a reduction in internet addiction. This means that a cognitive restructuring technique is effective as an intervention for internet addicts. In this case, problematic internet use has a significant influence on problematic smartphone use, as revealed in the findings of (Ben-Yehuda et al., 2016), namely there is a relationship between the frequency of smartphone use and internet addiction, and in this case it is not influenced by interest in or involvement in daily activities

## CONCLUSION

Based on the findings of this study, it can be concluded that the CBT group counseling with a cognitive restructuring technique is effective to reduce smartphone usage problems of the students at SMP Negeri 1 Way Jepara. About this, the present study can be an alternative for guidance and counseling teachers to solve smartphone usage problems. Meanwhile, the future researchers are expected to expand the coverage of the subjects of the study and analyze gender.

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