
The effectiveness of religion-based self-management training to reduce internet addiction in madrasah aliyah students

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Abstract

Like a double-edged sword, the internet has many benefits but can also have negative impacts. The use of the internet in education can help improve student academic achievement, but its excessive use can make students addicted to the internet. Internet addiction can reduce academic achievement, reduce psycho-social abilities, and cause psycho-emotional problems. It is not easy and takes time to reduce internet addiction, because it has to wait for the individual to realize that he is experiencing a problematic behavior and wait for his will to change. Training self-management with a religious approach is seen as effective in reducing internet addiction for students who have religious lives. This study showed a significant decrease in internet addiction by 0.458 in students who took part in religion-based self-management training. Although the effectiveness is still low ($N\text{-Gain} = 0.2$) or $N\text{-Gain} < 0.3$, religion-based self-management training can raise awareness and willingness to change behavior and can significantly reduce internet addiction in all trainees.

Keywords: Self management, religion based, internet addiction

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Introduction

In today's post modern era, the need for internet access is increasing. Internet users in the world as of January 2021 were 4.66 billion (59.5%) of the world's current population of 7.83 billion (in Digital 2021: Global Overview Report — DataReportal – Global Digital Insights). Meanwhile, according to the Director General of Informatics Applications of the Ministry of Communication and Information of the Republic of Indonesia, Samuel A. Pangerapan, internet users in Indonesia in 2021 will increase by 11% from the previous year, from 175.4 million to 202.6 million users (in Warganet Meningkatkan, Indonesia Needs to Improve Cultural Values on the Internet – Directorate General of Aptika (kominformasi.go.id)).

According to Oxford Dictionary (in internet nouns - Definition, pictures, pronunciation and usage notes | Oxford Advanced Learner's Dictionary at OxfordLearnersDictionaries.com), the internet is "an international computer network connecting other networks and computers that allows people to share information around the world". Meanwhile, the internet according to KBBI (Kamus Besar Bahasa Indonesia/Indonesian Dictionary) is an electronic communication network that connects computer networks and organized computer facilities around the world via telephone or satellite (in Arti kata internet - Kamus Besar Bahasa Indonesia (KBBI) Online).

The internet has become an inseparable part of life today, the internet provides convenience and comfort for human life. Through the internet it is easy for people to communicate anytime and anywhere even without meeting physically, trading activities are easier and safer to do through digital transfer payments without having to pay with money in physical form, the world of education is growing very rapidly because of scientific information, articles and virtual books (e-books) and school information, can be obtained easily and quickly.

The correct use of the internet in education can help improve academic achievement. The internet can help teachers create effective classrooms, it can also make students more active, productive and enthusiastic in the learning process (Carey Jewitt, 2011). However, it must be admitted, the existence of the internet can also have a negative impact on human life. Excessive internet use can lead to internet addiction (Akdeniz et al., 2020; Weinstein & Lejoyeux, 2010). Furthermore, internet addiction can cause negative effects, namely a decrease in individual psychosocial abilities (Menon et al., 2018; Spada, 2014), can also cause comorbid psycho-emotional problems such as; loneliness, social phobia, major depression, anxiety, personality disorders, and drug abuse (Savolainen et al., 2020).

The Internet can change the way people communicate. Individuals communicate no longer directly with their interlocutors, but individuals prefer to communicate through social media with the help of Smartphones. This phenomenon mostly occurs in the millennial generation called phubbing. Phubbing behaviour can cause the millennial to be indifferent to others, delay, short attention span, depression or other mental disorders (Afdal et al., 2019)

Especially for students, the ease of accessing the internet sometimes causes the content to be accessed that is not in accordance with their age development, such as accessing pornographic content. Pornography can cause students to behave aggressively, the more often they watch porn, the higher the level of aggressiveness (Mesch, 2009). They watch pornography tend to behave aggressively, steal, play truant, deceive others, arson, and perform sexual coercion (Alexy EM, Burgess AW, 2009).

Furthermore, the results of the study also concluded that students who often watched pornography experienced difficulties in making adjustments in class, exams, assignments, extra-curricular activities, and social life. The inability of students to deal with these difficulties can affect their physical, mental, emotional, cognitive, and behavioral functions, thus, their academic performance is affected so that it decreases (Nofle & Robins, 2007). Students with emotional instability become anxious and stressed so that they lose motivation to engage in learning and this has an impact on deteriorating their academic performance (Moldasheva & Mahmood, 2014).

Internet addiction can also cause a decline in student academic achievement (Ambad SNA, Kalimin KM, 2017). The results of Duchesne et al's research concluded that internet addiction causes emotional instability among students, furthermore, emotional instability is often associated as a factor causing poor student academic performance (Duchesne et al., 2008). Students who experience emotional instability are not able to handle stress well (John. OP & Srivastava, 1999). Students who are not able to handle stress well cause their learning motivation to be lost and have a bad impact on their performance during exams (Khan et al., 2013).

There are various instruments to identify students who are addicted to the internet, including the IADQ (Internet Addiction Diagnostic Questionnaire) developed by Young (1998). According to Young, students who are categorized as internet addicts are students who: 1) Their minds are busy on the internet; 2) spend a lot of time on the internet and fail to reduce it; 3) feel uncomfortable if not online; 4) online until late and lack of sleep; 5) prioritize online even if sacrificing something more valuable; 6) lying to family to cover up online activities; 7) stealth online; and 8) make the internet a place to vent problems.

Preliminary research through an internet addiction questionnaire adapted from the IADQ (Internet Addiction Diagnostic Questionnaire) which was randomly distributed to 161 students at Madrasah Aliyah Negeri (MAN) Kapuas, Central Kalimantan Province, showed that some students indicated symptoms of internet addiction. The distribution of student answers on the IADQ can be seen in the following table:

Based on the data in Table 1, of the 8 items of the internet addiction questionnaire indicator, there are 6 items (ie item 1, 2, 3, 5, 6 and 8) were answered by most of the students (55% - 71%) with the answers "Often" and "Always". The data is sufficient to show that the majority of students are indicated to be addicted to the internet as stated by Young (1998: 2): "Respondents who answered 'yes' to five or more of the criteria are classified as addicted Internet users (dependents)". The answers "Often" and "Always" also show that internet addiction in students is in the "High" and "Very High" categories.

Handling of students who are addicted to the internet can be done including by restructuring (rearranging) cognitive and behavioral techniques that encourage excessive internet use. Cognitive restructuring is aimed at correcting negative beliefs and cognitive distortions about Internet use, while behavioral restructuring is intended to help re-learn how to use the Internet to achieve certain goals (Young, 2007).

Table 1 <Distribution of IADQ/Internet Addiction Diagnostic Questionnaire>

No	Indicator	1	2	3	4	5	Total
1.	My thoughts are focused on the enjoyment of the internet and social media applications all the time	11.2% (18)	17.4% (28)	12.4% (20)	39.1% (63)	19.9% (32)	100% (161)
2.	I tried to reduce the time I spend online, but failed	9.3% (15)	19.9% (32)	12.4% (20)	32.3% (52)	26.1% (42)	100% (161)
3.	If I'm not online, status updates, etc., I feel weird and <i>in a bad mood</i>	10.6% (17)	9.30% (15)	13% (21)	42.9% (69)	24.2% (39)	100% (161)
4.	Often lose sleep due to being online late at night	16.1% (26)	21.1% (34)	15.5% (25)	36.6% (59)	10.6% (17)	100% (161)
5.	It doesn't matter if my grades drop, but my heart and mind are satisfied with being online	23.0% (37)	12.4% (20)	9.9% (16)	32.3% (52)	22.4% (36)	100% (161)
6.	I once lied to my family to cover up internet activities	13.7% (22)	10.6% (17)	8.7% (14)	19.3% (31)	47.8% (77)	100% (161)
7.	I sneak online when someone asks me about what I do	52.2% (84)	11.2% (18)	13% (21)	17.4% (28)	6.2% (10)	100% (161)
8.	I feel afraid to live without internet, because there is no place to vent my problems	11.2% (18)	8.1% (13)	9.3% (15)	37.3% (60)	34.2% (55)	100% (161)

Cognitive and behavioral restructuring activities can be packaged through planned and systematic activities in the form of training. Young said that handling teenagers (students) who are addicted to the internet can be given through a Self Management Training, the activities consist of: 1) Goal-Setting and Self-Monitoring, 2) Behavioral Contracting, 3) Arranging Reinforcers and Punishers, 4) Social Support, 5) Self-Instructions and Self Praise (Young & Abreu, 2011). This treatment is a combination of time management strategies, techniques to build awareness about the problematic nature of internet use, positive coping strategies, and strengthening social support in real life (Walz et al., 2010).

The concept that is built and developed in Western culture is very likely to have a mode of thought based on the life values of Western society which are partly different from the values of Islamic teachings, therefore, it needs consideration in understanding and using it. On the other hand, religious people, especially those with a strong religious nature, their perceptions and conceptions of life are strongly influenced by the values of their beliefs (belief system) and religious teachings (Ali et al., 2013; Ma'ruf, 2020). Based on the consideration that belief system can affect all aspects of his life, activities such as training aimed at changing a person's attitudes and behavior are important to include materials and activities that are in accordance with his religious beliefs, views and attitudes.

As a student of Madrasah Aliyah who is Muslim and studies at an Islamic educational institution, it is assumed that his perception and conception of life is influenced by the values of Islamic teachings. Based on these considerations, the handling of students who are addicted to the internet through Self Management Training is predicted to be more effective if the materials and activities are carried out based on Islamic values and teachings.

Method

This study used an experimental design one group pre-test post-test design. The independent variable in this study is self-management training based on religion, namely training in managing thoughts and behavior to get rid of internet addiction through Islamic spiritual activities with material sourced from Islamic religious values. The dependent variable in this study is internet addiction in students, namely thoughts that tend to always be focused and undirected activities that spend a lot of time online with the internet.

The high or low of internet addiction were revealed through a questionnaire adapted from the IADQ (Internet Addiction Diagnostic Questionnaire) developed by Young. The categorization of the level of internet addiction is divided into five categories, namely: Very High, High, Medium, Low, and Very Low (Not Addicted) as shown in Table 2 below:

Table 2 <Categorization of Internet Addiction Level>

No.	Category Boundary*	Category
1	8 - 14.4	Very Low/Not Addicted
2	>14.4 - 20.8	Low
3	> 20.8 - 27.2	Moderate
4	> 27.2 - 33.6	High
5	> 33.6 - 40	Very High

Remarks:

* The Internet Addiction Questionnaire consists of 8 items. Each questionnaire item has 5 categories (1 – 5), the highest number = 40 (obtained from the 8x5 result), the lowest number = 8 (obtained from the 8x1 result). Distance/interval per category = $\frac{40-8}{5} = 6.4$

Based on the results of questionnaires that have been distributed to 161 students, it can be seen the number of students addicted to the internet by category as in Table 3 below:

Table 3 <Number and Categories of Internet Addiction Students>

No.	Internet Addiction Category	f	%
1	Very Low	2	1.2
2	Low	25	15.5
3	Medium	94	57.8
4	High	35	21.7
5	Very High	6	3.7
	Total	161	100

The experimental group consisted of 16 students, taken randomly from students who were addicted to the internet in the High and Very High categories. The results of the questionnaire showing the level of internet addiction of the 16 students who were in the experimental group are presented in Table 4 below:

Table 4 <The Level of Internet Addiction of Students in the Experimental Group>

No. res.	Item Number								Score	Category
	1	2	3	4	5	6	7	8		
1	4	4	3	4	4	4	4	4	31	High
2	5	4	4	5	3	4	4	4	33	High
3	5	5	4	4	3	5	5	5	36	Very High
4	5	4	3	3	3	3	4	3	28	High
5	4	4	3	4	3	4	4	4	30	High
6	4	4	4	3	4	4	4	4	31	High
7	4	5	3	4	3	3	4	3	29	High
8	3	4	4	4	3	4	4	4	30	High
9	4	5	4	4	4	5	5	5	36	Very High
10	4	4	3	3	3	4	4	3	28	High
11	5	5	4	5	4	4	5	5	37	High
12	4	4	4	5	4	4	4	4	33	High
13	4	4	3	4	3	3	4	3	28	High
14	5	5	4	3	3	3	4	3	30	High
15	4	5	4	4	4	4	4	5	34	Very High
16	5	5	5	4	4	4	4	5	36	Very High

Based on Table 4 above, the experimental group consisted of 11 students who were addicted to the internet with the "High" category, namely student no. 1, 2, 4, 5, 6, 7, 8, 10, 12, 13, and 14, and 5 students who are addicted to the internet in the "Very High" category, namely students number 3, 9, 11, 15 and 16.

The training is designed to last for 5 days, consisting of 9 sessions with a duration of 25 - 120 minutes per session. Activities in sessions 1-2 consist of delivering information about the internet, internet addiction and its negative impacts; sessions 3-5 consist of activities that encourage students to be able to monitor themselves regarding internet use, and identify internal and external factors that can make students spend a

long time with the internet; sessions 6-7 contain practice activities to plan behavior change related to internet use (setting rules, reducing usage time, planning other activities, and getting support from others); Sessions 8-9 are filled with guidance activities to deal with stress and increase religious activities that are fun and improve self-control. All of the above activities are packaged in the form of Islamic spiritual activities; fardlu prayer in congregation, sunnah prayer and tadarrus Al-Qur'an.

The effectiveness of religion-based self-management training to reduce internet addiction in students can be determined through the process of comparing the level of internet addiction before training (*pretest*) with the level of internet addiction after training (*posttest*). *Posttest* was given a week after completion of training.

Results and Discussion

One week after completing the training, the IADQ was distributed back to 16 trainee students to see their level of addiction to the internet. Comparison of students' internet addiction levels before training (*pretest*) and after training (*posttest*) can be seen in Table 5 below:

Table 5 <Comparison of Internet Addiction Levels of Experimental Group Students Before Training (*Pretest*) and After Training (*Posttest*)>

No. res.	<i>Pretest</i>		<i>Posttest</i>	
	Score	Category	Score	Category
1	31	High	16	Low
2	33	High	15	Low
3	36	Very High	17	Low
4	28	High	14	Very Low
5	30	High	17	Low
6	31	High	13	Very Low
7	29	High	16	Low
8	30	High	13	Very Low
9	36	Very High	18	Low
10	28	High	13	Very Low
11	37	Very High	14	Very Low
12	33	High	15	Low
13	28	High	18	Low
14	30	High	13	Very Low
15	34	Very High	17	Low
16	36	Very High	14	Very Low

Before done In data analysis, a normality test is first performed to determine whether the data to be analyzed is normally distributed or not. The results of the normality test are presented in Table 6 below:

The results of the normality test on the Table 6 indicate that the data is normally distributed, because the significance value in the Kolmogorov-Smirnov and Shapiro-Wilk tests is above 0.05 ($p > 0.05$). Thus the next step of data analysis can be done using the *Paired T Test*.

Testing the effectiveness of religion-based self-management training to reduce internet addiction in students was analyzed using *Paired T Test* through SPSS. The comparison of the average values between the *pretest* and *posttest* is presented in table 7:

Table 6 <Normality Test Results>

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistics	df	Sig.
Pretest	.172	16	.200*	.901	16	.083
Posttest	.179	16	.182	.893	16	.062

a. Lilliefors Significance Correction
*. This is a lower bound of the true significance.

Table 7 <Average Value of Pretest and Posttest>

		Paired Samples Statistics			
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	31.88	16	3.160	.790
	Posttest	15.19	16	1.834	.458

The data in Table 7 shows that the mean value of the *pretest* is 31.88 with a standard deviation of 3.160. average value *posttest* is 15.19 with a standard deviation of 1.834. Because the *posttest* average value *pretest* (15.19 < 31.88), descriptively the data shows that there is a difference between the *pretest* value and the *posttest* as a result of training. average *posttest* average value *pretest* indicating a decrease in the value of the internet addiction category in students after religion-based self-management training.

Then to prove whether or not there is a significant difference between the average *pretest* average values *posttest*, it can be seen in Table 8 below:

Table 8 <Correlation Pretest and Posttest>

		Paired Samples Correlations		
		N	Correlation	Sig.
Pair 1	Pretest & Posttest	16	.200	.458

Based on the results of the correlation test above, it is known that the correlation coefficient is 0.200 with a significance value of 0.458. Because the significance value is greater than the probability value (0.458 > 0.05), it can be interpreted that there is no relationship between the *pretest* variable and the *posttest* variable, in other words there is a significant difference between the *pretest* value and the *posttest*.

Furthermore, to determine whether or not there is an effect of religion-based self-management training to reduce internet addiction in students, it can be shown in Table 9 below:

Table 9 <Output Paired Sample Test>

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
Pair 1 Pretest - Posttest		16,688	3,321	.830	Lower	Upper	20,099	15	.000
					14,918	18,457			

Based on Table 9 above, it can be seen that the value of Sig. (2-tailed) is smaller than the probability value (0.000 < 0.05), thus it can be interpreted that there is a difference between the *pretest* value and the *posttest*, or in other words, there is an effect of religion-based self-management training on the decline internet addiction in students, the average value of the decline is 16,688.

Furthermore, to find out how much the value of the effectiveness of religion-based self-management training to reduce internet addiction in students, the *N-Gain Score* the results of which can be seen in Table 10 below:

Table 10<Output Test Results N-Gain Score>

		Descriptives		Statistics	Std. Error
NGain_Score	Experiment	Class			
		Mean		-.2473	.01485
		95% Confidence Interval for Mean	Lower Bound	-.2789	
			Upper Bound	-.2156	
		Minimum		-.37	
		Maximum		-.14	
		Skewness		-.260	.564
		Kurtosis		.035	1.091

Pay attention to the *N-Gain* in the Table 10 above, it can be seen that the average value of *N-Gain* is -.2473, the magnitude of this number can be interpreted that the decrease in internet addiction in students based on the calculation of the *N-Gain Score*, the average value is only 0.2.

The determination of the value of training effectiveness in this study is based on the criteria set by Meltzer (2002) as contained in Table 11 below:

Table 11 <N-Gain>

No.	<i>N-Gain Score</i>	Criteria
1.	0.7 <i>N-Gain</i> 1	High
2.	0.3 <i>N-Gain</i> < 0.7	Medium
3.	<i>N-Gain</i> < 0.3	Low

Based on the above criteria, if the average value of *N-Gain* is as shown in Table 10 is only 0.2, it means that the *N-Gain* included in the low criteria (*N-Gain* < 0.3). Thus, it can be interpreted that religion-based self-management training to reduce internet addiction in students has low effectiveness.

The low value of the effectiveness of religion-based self-management training to reduce internet addiction in students does not mean that the training failed or did not provide benefits. Even though the effectiveness is low, if you look at Tables 7, 8 and 9, it can be seen that internet addiction in all students has decreased significantly with the average value of the decline being 16,688.

Changing behavior into new habits is not easy (Jackson, 2005), requires extra effort and in certain situations behavior change takes longer than expected, because it waits for the individual to realize that he is experiencing a problematic behavior and wait for his willingness to change (Prochaska & Velicer, 1997). Research conducted by Lally *et al.*, (2010) concluded that it takes 18 to 254 days for a person to form a new habit.

From the observations during the training, it was seen that the students' activity was very high, they took every stage of the training seriously and enthusiastically. Training materials filled with religious values and training activities packaged in the form of religious spiritual activities seem to have a strong influence on accelerating the growth of students' awareness and willingness to change their internet addiction behavior. Belief in religion can provide self-control and support to reduce feelings of loneliness and isolation keterasingan (Koenig, 2009; Rote *et al.*, 2013). Religion can also provide guidance regarding important choices faced by individuals in their lives (Hommel & Colzato, 2010).

Taking into account the descriptions and opinions above, the occurrence of a significant decrease in internet addiction in all students shows positive symptoms that training can increase students' awareness

and willingness to change. However, it takes time and ongoing social support so that students can be free from internet addiction.

Conclusion

Based on the results of the analysis using the *Paired T Test* through SPSS, it is known that the average level of internet addiction of students before participating in the training (*pretest*) is 31.88 (high), while the average value of internet addiction after participating in the training (*posttest*) is 15.19 (low). mean score *posttest* average *pretest* ($15.19 < 31.88$), descriptively these data indicate a decrease in internet addiction in students after religious-based self-management training.

Next, through the correlation test between the *posttestpretest* and *variables* a significance value of 0.458 was obtained. Because the significance value is greater than the probability value ($0.458 > 0.05$), it can be interpreted that the decrease in internet addiction in students after religion-based self-management training has a significant value.

Although in terms of effectiveness it is still relatively low because the average *N-Gain* is only 0.2 ($N-Gain < 0.3$), but religion-based self-management training can foster awareness and willingness to change behavior and can significantly reduce internet addiction in all trainee students.

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