

The Effectiveness of Siswa Tangguh Training to Improve Mental Toughness on Students of Junior High School in Medan

Rahmi Rizky¹, Desvi Yanti Mukhtar², Fasti Rola³

Department of Educational Psychology,

Faculty of Psychology, University of North Sumatra

Medan, Indonesia



Abstract – This research aims to evaluate how effectively Siswa Tangguh Training to increasing mental toughness of junior high school students. Siswa Tangguh Training is a psychoeducation developed by researcher based on similar training modules. This research used quantitative methods with quasi experimental design. Participants in this study were 32 junior high school students in Medan and they were separated into the experimental group and the control group. The results of the Kruskal Wallis test showed Chi square = 17.307, $p < 0.05$, which means Siswa Tangguh Training has significant influence on the level of students's mental toughness. The Siswa Tangguh Training has a big impact on students as well test showed $U = 29$, $d = 1.03$ (55.4%). This results indicate that Siswa Tangguh Training is effective to increasing mental toughness on junior high school students.

Keywords – Mental Toughness; Training; Junior High School Students.

I. INTRODUCTION

During the transition period, junior high school students face various problems, challenges, and changes related to mental toughness. Challenges that students often face are exam pressure, peer pressure, bullying, social isolation, and uncertainty during the developmental period into an adult [12]. Carrying out the role of an adolescent, students face various problems related to mental toughness. This ultimately affects academic performance, school attendance and peer relationships. Problems that generally occur in students of SMP X Medan are related to aspects of mental toughness. Based on the results of the Training Need Assessment (TNA), the problems were grouped into several aspects of mental toughness, namely: (1) commitment, related to the lack of sense of responsibility and low learning motivation so that there are students who do not do their assignments and be lazy in learning; (2) control, related to the rampant bullying and low student morale which is addressed by bullying behavior and resisting teachers; (3) challenge, related to the attitude of students who give up easily, do not want to try new things, and choose tasks; and (4) confidence, where students are shy to express opinions, ask questions, and complain about tasks that they consider difficult.

One way to maintain and strengthen students in helping to face challenges, overcome difficulties and stress experienced during adolescence is to increase mental toughness [6]. Mental toughness is a state in which a person shows defensive behavior in various situations that are open to self-improvement and development so that it leads to goals [9]. Mental toughness is one of the psychological constructs associated with successful performance in academics, management, and sports [10].

Mental toughness is a combination of personality characteristics that enable individuals to excel in achievement. It needs to be frequently identified and developed by each individual despite the challenges and pressures that come their way [5]. Students with mental toughness show commitment and control over stressful life events, so they have a high mentality in facing new

environmental challenges with confidence and making it an opportunity to develop [11]. Students with high category mental toughness are able to overcome various demands and pressures faced, such as challenges in the field of education, namely academic achievement [1].

Training in junior high school students is conducted as a preventive effort to help students to be more resilient in facing various challenges. Mental toughness can be forged and developed throughout a person's life through training, researchers can plan training programs by targeting behavioral problems as needed [2]. Training is one of the activities that can be done in helping students to master the basics of mental health, help understand challenges or difficulties and developmental demands, develop understanding and social skills [14].

In this study, training to improve students' mental toughness was provided based on the Siswa Tangguh Training Module [8]. The topics were focused on three areas of psychoeducation, which are academic, social, and personal. The methods applied included: case discussions, task force training methods, simulations and games, group discussions, individualized exercises, and presentations. These methods are integrated into the material: Building goals and strategies to achieve them, Mental toughness, Recognizing strengths and weaknesses, Strategies to make learning fun, Coping stress, Rope handcuffs and Moving cup.

Based on the descriptions presented above, researchers are interested in finding out more about the effectiveness of Siswa Tangguh Training to increase mental toughness in junior high school students in Medan.

II. PURPOSE AND METHODS

This study aims to examine the effectiveness of Siswa Tangguh Training to increase mental toughness among junior high school students in Medan. The participants in this study involved 32 students of SMP X in Medan who were divided into two groups, which were the experimental group and the control group. This study used a non-probability sampling method with purposive sampling technique which is a technique for determining samples based on certain considerations by researchers or experts [13]. Research data collection was carried out using the Mental Toughness Scale [8] based on the theory of Clough et al. [4] and consists of 47 items. This scale consists of 4 aspects and sub-aspects, namely: Commitment, Control (Emotional Control and Life Control), Challenge, Confidence (Confidence in Abilities and Interpersonal Confidence). The analysis technique used in this study is non-parametric statistical analysis using the Kruskal Wallis and Mann-Whitney's U tests.

III. RESULT AND DISCUSSION

Results of data description of research participants:

TABLE 1. DESCRIPTION OF SUBJECTS BY GENDER

Table with 5 columns: Gender, Control Group, Experiment Group, Total, Percentage. Rows include Laki-laki, Perempuan, and Total.

Based on table 1 above, it can be seen that the male research subjects are 50%, while the female research subjects are 50%.

TABLE 2. OVERVIEW OF MENTAL TOUGHNESS VARIABLE SCORE RESULTS

Table with 9 columns: Hypothetic (X_min, X_maks, Mean, SD) and Empiric (X_min, X_maks, Mean, SD). Row for Mental Toughness.

Based on table 2 above, it can be seen that hypothetically the minimum answer is 47, maximum 235, mean value 141 and standard deviation (SD) 31.33. Meanwhile, the empirical data shows that the minimum answer is 135, the maximum is 159, the mean value is 151, and the standard deviation (SD) is 5.6. The hypothetical mean is a prediction of the average picture of the score results from participants, while the empirical mean is the score value obtained by participants after filling out the Mental Toughness Scale. Based on these data, it can be said that the participants in this study had mental toughness in the moderate category.

TABLE 3. CATEGORIZATION OF MENTAL TOUGHNESS DATA BEFORE AND AFTER INTERVENTION

Score	Category	Experiment Group		Control Group	
		Pre-test	Post-test	Pre-test	Post-test
$197.39 < X$	Very high				
$159.8 < X \leq 197.39$	High		2		
$122.2 < X \leq 159.80$	Moderate	16	14	16	16
$84.61 < X \leq 122.2$	Low				
$X \leq 84.61$	Very low				
Total		16		16	

Based on the results of table 3 above, it can be seen that the categorization of the experimental group and control group at the time of the pre-test, each of 16 people had mental toughness with the same level, namely the moderate category. At the time of the post-test, out of a total of 16 subjects in the experimental group, 2 subjects were in the high category and 14 subjects were in the moderate category. Meanwhile, the control group showed no difference in categories before and after no treatment.

TABLE 4. AVERAGE SCORE OF MENTAL TOUGHNESS

Mean	Experiment Group	Control Group
Pre-test	152.38	149.06
Post-test	157.06	147.50
Follow-up	156.00	148.06

Based on table 4, it can be seen that there is an improvement in the mean score after being given treatment in the group with treatment, specifically from 152.38 to 157.06. In the group with no treatment, the mean score decreased from 149.06 to 147.5. It can be seen that the mean score of the experimental group has increased compared to the control group. In terms of follow-up scores, it can be seen that the experimental group experienced a slight decrease from 157.06 to 156 while the control group experienced a slight increase from 147.50 to 148.06.

TABLE 5. SIGNIFICANCE VALUE OF KRUSKAL WALLIS TEST IN EXPERIMENTAL GROUP AND CONTROL GROUP

	Experiment Group	Control Group
Chi-Square	17.307	.475
Df	2	2
Asymp.Sig	.000	.789

Based on table 5 above, we can see the significant value of the Kruskal Wallis test in the experimental group and the control group. The experimental group shows a Chi-Square value = 17.307; $p = .000$ ($p < .05$), which indicates that there is a significant difference between the pre-test, post-test, and follow-up measurements. Moreover, it can be concluded that students' mental toughness before the intervention, after the intervention, and a while after the intervention are not the same after the Siswa Tangguh Training.

TABLE 6. COMPARISON RESULTS OF PRE-TEST, POST-TEST, AND FOLLOW-UP OF EXPERIMENTAL GROUP

	Pretest-Posttest
Mann Whitney (U)	29.000
Wilcoxon W	165.000
Z	-3.762
Asymp.Sig (2-tailed)	.000
Exact Sig. [2*(1-tailed Sig.)	.000 ^b

Based on table 6 above, it can be seen the results of the comparison between the pre-test and post-test in the experimental group. From the Mann Whitney test, it was found that there was a significant difference between the pre-test and post-test scores, $U = 29.000$; $z = -3.762$; $p = .000$ ($p < .05$). The researcher further analyzed the magnitude effect.

The magnitude effect of a treatment that was given can be calculated based on Cohen's formula [3]. The results of the calculation of the effect size obtained by the researcher are $d = 1.03$. These results are then converted into percentage (%) based on the criteria for interpreting the value of Cohen's d [3]. Effect size 1.03 based on Cohen's percentage standard is 55.4% which is classified as high. This shows that the implementation of Siswa Tangguh Training has a large effect on students' mental toughness when the post-test is compared to the pre-test.

IV. CONCLUSION

The results showed that Siswa Tangguh Training was significantly effective in increasing mental toughness in students of SMP X Medan. This result is shown based on the Kruskal Wallis test which shows the Chi-Square value = 17.307; $p = .000$ ($p < .05$) which means that the level of mental toughness is significantly influenced by the provision of Resilient Student Training. The influence provided by Siswa Tangguh Training on students' mental toughness is also significant based on the results of the Mann Whitney test which shows the value of $U = 29$ and $d = 1.03$ (55.4%). This conclusion can also be seen from the increase in the average score of students' mental toughness after the training and the score after 2 weeks of training (follow-up). Before the treatment, the average score was 152.38 and then increased to 157.06. This means that the condition of students' mental toughness is better after the treatment of Siswa Tangguh Training.

There are several reasons why the Siswa Tangguh Training is thought to be effective for SMP X students. First, the Siswa Tangguh Training has been subjected to a number of research procedures and has been rated as valid. The training is composed of several delivery methods, namely task force exercises, case discussions, games, group discussions, individual exercises, watching videos, and presentations. The variety of delivery methods will provide different experiences in each session. This is done as an effort by researchers to maintain the attention of participants because the activities are carried out directly. In providing training, seminars, and psychoeducation materials, a variety of methods are needed so that participants can reflect and capture the information conveyed more fully [15].

Secondly, the Siswa Tangguh Training had a great effect on students' mental toughness due to the good relationship and warmth between participants and facilitators as well as students' awareness that mental toughness is something that is important to improve. This is related to one of the factors that influence the effectiveness of a training, namely the facilitator and the relationship with the facilitator. During the training process, the facilitator was able to building rapport with the participants

through introductions, ice breaking, games, discussions, and reflections at the end of each material. According to [14], good presenters and modules should be able to attract trainees.

Third, the observation results showed that some students were more open to express their opinions during the training. Students seemed more enthusiastic in understanding various materials related to mental toughness. Most students expressed opinions based on things experienced in their daily lives both at school and in their home environment. Subjects who have opened themselves and shown engagement in an intervention will include their experiences to reflect on themselves [7]. In this way, students can ensure that what they do and what they think is correct.

Fourth, in this study the participants had the opportunity to experience some new skills using the assignment method. In addition to increasing participants' knowledge and skills, the training provided is also a preventive effort for participants to be tougher in facing their challenges.

This research predicts that Siswa Tangguh Training becomes a new knowledge for participants. Based on the changes in students' mental toughness before and after attending the training, it can be concluded that the Siswa Tangguh Training is effective to improve the mental toughness of junior high school students in Medan.

REFERENCES

- [1] Amna, Z., Safira, S., Sari, K., & Faradina, S. (2020). Korelasi mental toughness dengan prestasi akademik pada pelajar pesantren modern di Aceh Indonesia. *Psikoislamika Jurnal Psikologi Dan Psikologi Islam*, 100-111. <https://doi:10.18860/psikoislamika.v17i2.10105>
- [2] Bahmani, D. S., Hatzinger, M., Gerber, M., Lemola, S., Clough, P., Perren, S., & Brand, S. (2016). The origins of mental toughness - prosocial behavior and low internalizing and externalizing problems at age 5 predict higher mental toughness scores at age 14. *Frontiers in psychology*, 7(1221), 1-10. <https://doi.org/10.3389/fpsyg.2016.01221>
- [3] Becker, L. A., (2000). Effect size measures for two independent group. *Journal Effect Size*. 1-14.
- [4] Clough, P. J., Earle, K., & Sewell, D. (2002). *Mental toughness: the concept and its measurement*. In I. Cockerill (Ed.), *solutions in sport psychology*. London: Thomson.
- [5] Coulter, T. J., Mallett, C. J., & Singer, J. A. (2018). A three-domain personality analysis of a mentally tough athlete. *European Journal of Personality*, 32(1), 6-29. <https://doi.org/10.1002/per.2129>
- [6] Gerber, M., Kalak, N., Lemola, S., Clough, P. J., Perry, J. L., Pühse, U., & Elliot, C. (2012, Juli 30). Are adolescents with high mental toughness levels more resilient against stress? *Wiley Online Library*, pp. 1-8. <https://doi.org/10.1002/smi.2447>
- [7] Hoefft, R. (2019). Preference for in-person psychotherapy versus digital psychotherapy options for depression: Survey of adults in the U.S. *Journal of Digital Medicine*, 3(1), 61-68. <https://doi.org/10.29317/psy.v3i.5617>
- [8] Mukhtar, D. Y., Tarmidi, Supriyantini, S., & Pasaribu, D. U. (2022). *Pelatihan santri tangguh untuk meningkatkan ketangguhan mental santri di pondok pesantren*. Medan: Universitas Sumatera Utara. Unpublished.
- [9] Ponnusamy, V., Lines, R. L. J, Zhang, C. Q., Gucciardi, D. F. (2018). Latent profiles of elite Malaysian athletes' use of psychological skills and techniques and relations with mental toughness. *PeerJ*. 1-16. <https://doi:10.7717/peerj.4778>
- [10] Rintaugu, E., Mwangi, F., Andanje, N., Tian, X., Fuku, N., & Kidokoro, T. (2022). Mental toughness characteristics of male university athletes in relation to contextual factors. *Journal of Human Kinetics*, 81, 243-250. <https://doi:10.2478/hukin-2022-0019>
- [11] Stamp, E., Crust, L., & Swann, C. (2015). *The relationship between mental toughness and lifestyle choices in university students*. *School of sport and exercise science (p. 1)*. United Kingdom: MTough Research Group.
- [12] Strycharczyk, D., Clough, P., & Perry, J. (2021). *Developing mental toughness: Strategies to improve performance, resilience and wellbeing in individuals and organizations*. United Kingdom: Kogan Page Limited.
- [13] Sugiyono. (2017). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Bandung: Alfabeta, CV.
- [14] Supratiknya, A. (2011). *Merancang program dan modul psikoedukasi*. Yogyakarta: Universitas Sanata Dharma.
- [15] Walsh, J. (2010). *Psycheducation in mental health*. Chicago: Lyceum Books, Inc.