

Can Mental Skills Intervention Improve Resilience of Adolescent Badminton Athletes?

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Abstract—resilience is described as a positive adaptation despite the presence of, or to bounce back from, risk or adversity. The objective of this study is to evaluate the effectiveness of mental skills intervention in improving resilience of adolescent athletes in a badminton club. Ten athletes were sampled in a field one-group pre-test post-test quasi experiment case study. Treatment implemented was mental skills intervention - comprising of individual counselling and group capacity building on goal setting, mental imagery and self-talk. Data analysis was done with Wilcoxon signed rank test ($P < .05$). This study shows a significant increase on resilience. This case study shows that mental skills intervention can improve resilience. Thus, it is useful to build the capacity of athletes' mental skills. It is recommended to implement this intervention in routine trainings.

Keywords—athletes, goal setting, mental training

I. INTRODUCTION

Compared to those who are not engaged in sport, athletes faces immense physical and psychological loads in a daily basis [1]. Because their routines comprises of constant and consistent pressure of training, competition, rivalry, loss and even recovery from injuries – hence resilience becomes important.

Resilience is defined as an individual's positive adaptation in the context of development tasks as well as daily stress [2]. Resilience is connected with the ability to break up with negative experiences and more effective adaptation to the environment that constantly provides athletes with new life requirements and challenges – as examined by [3], [4] [5] summarized in [1] who concludes that athletes characterized with a high level of resilience are able to positively appraise difficult situations and examine stressful situation more positively. This applies as well to athletes who are in their adolescence periode – ranging from 10 to 19 years of age and characterized by changes in developmental, physical, emotional and social ones [2].

Zooming in on this period is key in improving sport achievement, which is an urgent issue in badminton – as reflected by the fact that Minister of Youth and Sport Imam Nahrawi voiced his concerns to Indonesia Badminton Federation (Persatuan Bulutangkis Seluruh Indonesia/PBSI) on the failure to reach SEA Games and Asia Badminton Championship 2017 targets [3]. This is an irony since badminton in the past has become the source of national

pride and a confirmation of Indonesia's significance in the international arena, by becoming “part of life and identity and also a ‘religion’... “it eliminates sadness, suffering, poverty, powerlessness and injustice” [4].

One way to do so is by focusing on psychological factors, including resilience, as proposed by [5] as well as [6]. In their evaluation, [7] argues that mental skills can be used by athletes to regulate their athletic performances.

The question is: how resilience can be improved? In their research on adolescent badminton athletes in Surabaya, [8] suggest social support is pivotal, which resonates in [9] in its individual counselling intervention. [10] argues that psychological intervention comprising of goal setting, self-talk and mental imagery work on adolescent badminton athletes in Bandung.

Despite of those findings, a badminton club that has trained adolescent badminton athletes for more than 40 years is in need for any of such service, as captured in [11] [9] This confirms with [15] and [17]; all in [1]; who observed that even though mental skills are effective in improving the functioning under strong emotions, athletes rarely made use of them – mostly by the inability to use them or lack of knowledge about them.

The objective of this study is to evaluate the effectiveness of mental skills intervention in improving resilience of adolescent athletes in a badminton club with the hypothesis that mental skills intervention improves resilience.

II. METHODS

A. Research Design

A quasi experiment was employed because of its capacity to examine causal interferences despite lack of full control over environmental events [15]. One-group pre-test post-test design was chosen due to the pilot nature of this research as well as the non-probability to randomly assigned treatment and control groups for practical and ethical reasons [13]. Since this research is implemented in the facility, it qualifies as field experiment [16]. Also, the sole focus on one club qualifies this research as a case study [17].

B. Instruments

Instruments used for this research are described as follow:

- **Resilience Questionnaire.** Developed from Connor-Davidson Resilience Scale (CD-RISC), this questionnaire comprises of 25 Likert-scale items, each rated on a 5-point scale, with higher scores reflecting greater resilience. It has demonstrated satisfactory psychometric properties with adequate reliability (Cronbach's $\alpha = .887$). This questionnaire is used for pre-and post-test purposes, each in alternate format. Item examples from this *Resilience Questionnaire* are as follow:
 1. Able to adapt to change
 2. Tend to bounce back after illness or hardship
 3. When things look hopeless, I don't give up
- **Badminton Athlete Counselling Module.** Developed from Lesyk (2007)'s Nine Mental Skills of Successful Athletes as referred in Andangsari & Rumondor (2013), this tailor-made module comprises of attitude, motivation, goals and commitment, people skills, self-talk, mental imagery, dealing effectively with anxiety, dealing effectively with emotions and concentration. It equips each skills with interview questions and 3-point rating scales used to categorize answers according to descriptions provided. This module is used for individual counselling.
- **Badminton Athlete Mental Skills Poster.** Developed from Hidayat (2016)'s Intervensi Psikologi Strategi Multi-Teknik, this tailor-made poster provides illustrated information in popular language on how to carry out goal setting, mental imagery and self-talk. This A3-size poster is used for group capacity building to convey the materials delivered in small groups of maximum 10 athletes. In rota basis, each skills are delivered by the research team in which each group discussed the skills and practiced in brief simulation – in a total of 30 minute.

C. Participants

Ten athletes were conveniently selected in non-probability sampling based on their availability for the study (Daniel, 2012), as summarized in the table below.

TABLE I. SUBJECT

Subject	Gender	Age
1	Female	13
2	Female	14
3	Male	15
4	Female	15
5	Female	16
6	Female	16
7	Male	17
8	Male	17
9	Female	17
10	Female	17

It can be examined from Table I that there were 3 male and 7 female athletes participated in this research. Table 1 also showed that there were one athlete for each 13-years and 14-years-old, two 15-years-old, 16-years-old and four 17-years-old athletes.

D. Procedure

In early January 2017, research team conducted a 60-minute Focus Group Discussion with 27 PB personnel of a badminton club - comprising of physical and technical trainers, teachers, school director and dormitory manager. This activity was conducted to introduce the research team, to discuss technical preparation as well as to clarify and verify information.

In the end of January 2017, a 60-minute introductory workshop on mental skills for badminton athlete was delivered to 80 athletes and 15 teachers and trainers. This activity also served as opportunities to obtain their informed consents. In February 2017, *Resilience Questionnaire* was distributed to 59 athletes as pretests.

In March-May 2017, 60 athletes were provided with individual counselling using *Badminton Athlete Counselling Module*. There were 24 athletes counselled by the research team, and the rest 36 athletes were conducted by students as co-counselors who received prior briefing from the research team.

Lastly, in December 2017, 29 athletes participated in group capacity building delivered using *Badminton Athlete Mental Skills Poster* and filled out *Resilience Questionnaire* as posttest.

Post intervention, research team selected subjects based on pre-and posttests, resulting in 10 athletes as subjects.

III. RESULTS

Results of this research are summarized in Table 2 below.

TABLE II. RESILIENCE

Measurement	M
Pretest	2.00
Posttest	5.89

Based on Table II, there is an increase of mean score of resilience after receiving the intervention of 3.89 points. Furthermore, to determine whether the increase in scores is statistically significant or not, Wilcoxon Signed Rank test is assigned in Table III below.

TABLE III. WILCOXON SIGNED RANK TEST

	Resilience
Z	-2.608
Asymp. Sig. (2-tailed)	0.009

Table III shows mental skills intervention creates significant effect towards resilience on ten athletes ($p 0.009 < 0.005$). Therefore, it can be concluded that mental skills intervention improve resilience.

IV. CONCLUSIONS

This case study shows that mental skills intervention can improve resilience. Thus, this intervention is useful to build the capacity of athletes' mental skills. It is recommended to implement this intervention in routine trainings. For future research, this research suggests replication to a larger pool of sample.

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REFERENCES

- [1] K. Litwic-Kaminska and P. Izdebski, "Resiliency against stress among athletes" *Health Psychology Report*, 4(1), 79–90. doi: 10.5114/hpr.2016.54393, 2016.
- [2] S.M. Varela, "Resilience in sport: The development of a resilience program for young athletes." Thesis. University of Queensland School of Education, 2016.
- [3] W. Setyawati, (2017). "End of year note to Indonesian badminton (Catatan akhir tahun bulutangkis Indonesia)." *Pikiran Rakyat*, 26 December, 2017.
- [4] C. Brown, "Playing the game: Ethnicity and politics in Indonesian badminton" *Indonesia* Vol. 81, pp. 71-94, 2006.
- [5] A. Pitaloka, and A. Andiyasari "Psychological factors determinant to the victory of badminton athletes (Faktor-faktor psikologis penentu kemenangan atlet bulutangkis)." *Jurnal Elektronik Universitas Gunadarma*. Vol. 5. No. 1, 2011.
- [6] E.W. Andangsari and P.C.B. Rumondor, "Hope analysis on Indonesia's world badminton champion in the 1970s and 1990s (Analisis *hope* pada atlet bulutangkis Indonesia juara dunia era '70 dan '90)," *Humaniora* Vol. 4. No. 1. pp. 500-507, April 2013.
- [7] C. Mahoney, A. Anderson, A. Miles and P. Robinson, P. (2002). "Evaluating the effectiveness of applied sport psychology practice: making the case for a case study approach." *Sport Psychologist*, 16 (4). pp. 433-454. ISSN 0888-4781, 2002.
- [8] R. Lesmana and J.L. Setiawan, "The correlation between social support and resilience efficacy to Surabaya adolescent badminton athletes (Hubungan antara *social support* dan *resilience efficacy* pada remaja atlet bulutangkis di Surabaya)." *Psychopreneur Journal* Vol. 1 No. 1. Surabaya: Universitas Ciputra, 2017.
- [9] G.W.L. Soerjoatmodjo, C. Moningga & Y.F. Angkawijaya, "Athlete counselling service: community service for Jaya Raya badminton club (Layanan konseling atlet: Pengabdian kepada masyarakat untuk Persatuan Bulutangkis Jaya Raya)" *Prosiding Seminar Nasional Aplikasi Sains dan Teknologi (Senastek) Pekan Baru: Universitas Abdurrah*, 16 December 2017a.
- [10] Y. Hidayat, "The effect of multi-technique psychological intervention to outputs of badminton basic skills, sport motivation and self confidence (Pengaruh intervensi psikologi strategi multi-teknik terhadap hasil belajar keterampilan dasar bermain bulutangkis, motivasi olahraga dan kepercayaan diri)" Doctoral thesis, Faculty of Psychology, Universitas Gadjah Mada, 2016. <http://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199604456.001.0001/oxfordhb-9780199604456-e-050>
- [11] C. Moningga, "Life skills for Indonesian athletes (*Life skills* untuk atlet di Indonesia)" *Buletin Konsorsium Psikologi Ilmiah Nusantara* Vol. 3 No. 10, October 2017.
- [12] G.W.L. Soerjoatmodjo, V.A.M. Kaihatu, C. Moningga and Y.F. Angkawijaya, "Need prospect of psychological services for Jaya Raya athletes (Prospek kebutuhan layanan psikologis untuk atlet Jaya Raya)" *Widyakala* Vol. 4. No. 1, pp. 11-20, March 2017b.
- [13] G.W.L. Soerjoatmodjo, C. Moningga, & Y.F. Angkawijaya, "Building the champion mentality (Membangun mental juara)" *Info Bintaro* 29 August 2017b.
- [14] G.W.L. Soerjoatmodjo, C. Moningga & Y.F. Angkawijaya. "Champions are human (Juara juga manusia)" *Buletin Konsorsium Psikologi Ilmiah Nusantara* Vol. 4 No. 2, January 2018.
- [15] W.R. Shadish, T.D. Cook & D.T. Campbell, "Experimental and quasi-experimental designs for generalized causal inference." Boston: Houghton Mifflin Company, 2002.
- [16] A.S. Gerber and D.P. Green, D.P. "Field experiments and natural experiments" in R.E. Gooding, R.E. (editor) "The Oxford Handbook of Political Science," 2011.
- [17] J. Gerring and R. McDermott, "An experimental template for case study research" *American Journal of Political Science*. Vol. 51 No 3, pp. 688-701. 2007 Accessed from <http://sws.bu.edu/jgerring/documents/Experimental.pdf> on April 15, 2018.