Mental Toughness of Martial Art Athletes Based on Age and Gender

Albert Wolter Aridan Tangkudung1, Aridhotul Haqiyah2, James Tangkudung3, Dindin Abidin4

Universitas Negeri Jakarta, Jl. Pemuda No.18, RT.11/RW.14, Rawamangun, Pulo Gadung, Jakarta 13220, Indonesia13
Universitas Islam 45 Bekasi, Jl. Cut Meutia No. 83 Bekasi 17113, Indonesia24

Abstract
Mental toughness is one of psychological factors when athlete doing training or match. The function of mental toughness is to keep the athletes fit when they have some difficulties in a match, feel the pressure during the match, and take behavior control so that they will not get stressed easily. This research aims to know mental toughness condition of the athletes through the age and gender. Data analysis techniques that we used for this research are descriptive statistic and cross tab. The sample was taken from 174 martial art atheletes (Age = 19.69 ± 2.89 ). Instrument of mental toughness refers to mental toughness dimension made by Clogh et al. (2001) which is; control, commitment, challenge, and confidence. Based on the result of this study, we can conclude that mental toughness of 174 martial art athletes in Bekasi are on the high category and the majority is the men at the age of 19 to 22 and the highest and dominant category of mental toughness is commitment, and the lowest and dominant category of mental toughness is challenge. It means, athletes have a high commitment to be a winner and carry out everything that has been planned, but not good at coming out with every obstacle and challenge that exists.

How to Cite
Tangkudung, A., W., A., Et al. (2021). Mental Toughness of Martial Art Athletes Based on Age and Gender. Journal of Physical Education, Sport, Health and Recreation, 10 (2), 66-70

© 2021 Universitas Negeri Semarang
INTRODUCTION

In every match, athletes are expected to give the best performance. There are several factors need to prepare in every sport training program such as physical preparation, technical preparation, tricks preparation and mental preparation (Bompa, T.O. & Harf, 2009; Tangkudung, 2012; Tangkudung, Haqiyah, Puspitorini, Tangkudung, & Riyadi, 2020). In the match phase, 80% is affected by mental factor from the athletes while the tricks and strategies only 20%. Hereby, mental preparation before the match begins must be prioritized so that their performance will be better and stronger (Mylsidayu, 2013).

Mental toughness (MT) is defined as a set of attributes that allow an individual to persevere through difficult circumstances that ultimately can lead to successful outcomes (Quinn & Cavanaugh, 2017). Mental toughness provides additional psychological resources important for achievement and health outcomes in sport (Vaughan, Carter, Cockroft, & Maggiorini, 2018). Mental toughness has been explained as the ability of an athlete to cope with the requests of practice and competition, improved determination, focus, self-confidence and keeping control under pressure (Bulent, Ugur, & Ozkan, 2017). Mental toughness has the potential to foster mental health either directly or through the promotion of resilient adaptation (Gerber et al., 2012). Mental toughness can be developed through appropriate training programs (Marchant et al., 2009).

Mental toughness is one of psychological factors that can be seen from athletes performance in a training or a match. The higher mental toughness athletes have, the lower anxiety they have in a match (Raynadi, Rachmah, & Akbar, 2017). Mental toughness can be affected from their experience in doing a match or their intensity in a match (Connaughton, Hanton, & Jones, 2010) and increase athletes’ spirit when doing a match and predict their success in education field, workplace, or sport field (A. Kumar, 2017) and also value, behavior, and emotion that can help someone in facing and handling problems or when they get depressed. To reach the goals, we need to focus and maintain our consistency (Gucciardi, Gordon, Dimmock, & Mallett, 2009). According to Loehr, a tough mentally athlete is the one that can overcome the pressure consistently and it makes them feel relaxed, calm, and full of energy as they can increase positive energy in crisis and difficulty (Golby & Sheard, 2004).

Mental toughness makes athletes reach their success in sport. Athletes that have higher mental toughness will always feel relaxed, calm, and self-motivated because they can develop their two skills such as transferring positive energy so that they can lose the negative thoughts on their mind and ignoring the problem, pressure, mistake, and competition happens in the match (Jones, 2002). As a result, mental toughness is very beneficial because it can keep the athletes’ performance stable when they face the trouble, feel the pressure, and control emotion so that they will not be stressed out (Richard G. Cowden, 2017).

Mental toughness consists of several components and we label it as 4C; (1) Control, athletes ability to control and direct them in achieving goals, (2) Commitment, athletes tendency in completing the tasks and reaching the goals using their own potential, (3) Challenge, athletes tendency in looking at challenges and difficulties as something they have to reach, (4) Confidence, athletes belief in facing challenges that can cause physical decline, mental, and verbal (Clough, Earle, & Sewell, 2002).

There are several factors that affect mental toughness such as age and gender. (Akbar, 2019; Mahoney, Gabriel, & Perkins, 2016; Nicholls, Polman, Levy, & Backhouse, 2009) while there is also some research that results age and gender do not affect mental toughness (Priyambodo, 2018).

Martial art athletes in Bekasi prepared for PORPROV West Java Competition in 2022. Therefore, it is necessary to know one of the mental factors of athletes, namely mental toughness.

This research aims to know mental toughness condition of the martial art athletes through the age and gender in Bekasi prepared for PORPROV West Java Competition in 2022.

METHODS

The method that we use for this study is a survey for the martial art athletes prepared for provincial championship PORPROV West Java 2022 with the total 221 athletes. The techniques to take the samples and find sources are based on consideration and certain criteria (Sugiyono, 2015). The sample criteria of this study is: (1) Martial art athletes in Bekasi prepared for PORPROV West Java Competition in 2022, (2) age range is from 15 to 35 years old, so the sample of this study consists of 174 athletes. Data analysis technique that we used is descriptive statistics and cross tab (Muhammad, Memet, Hanif, Achmad Sofyan; Haqiyyah, 2021).

Mental toughness instrument that we used for this study is the instrument that is modified...
with mental toughness aspect; control, commitment, challenge, and confidence (Birch, Crampton, Greenlees, Lowry, & Coffee, 2017; Clough et al., 2002).

**RESULTS AND DISCUSSION**

Here is the result from the respondent seen from ages, **Table 2**.

**Table 2. Age distribution table**

| Ages            | Total | Percentage |
|-----------------|-------|------------|
| 15 - 18 years old | 63    | 36.2       |
| 19 - 22 years old | 80    | 46.0       |
| 23 - 26 years old | 27    | 15.5       |
| 27 - 30 years old | 3     | 1.7        |

Based on the **Table 2** above, we can see that the total of the respondent is 174 athletes. For the ages category, it is mostly at the age of 19 to 22 years old with the total 80 athletes (46%). So, it is the highest one while lowest one is the athletes at the age of 31 to 34 and it is just 1 athlete (0.6%). Next, the respondent seen from the gender is on **Table 3**.

**Table 3. Gender distribution**

| Gender     | Total | Percentage |
|------------|-------|------------|
| Female     | 105   | 60.3       |
| Male       | 69    | 39.7       |
| Total      | 174   | 100%       |

**Table 4. Crosstab gender * age (number) * mental toughness category**

| Mental Toughness Category | Gender | Ages (Numbers) | Total |
|---------------------------|--------|----------------|-------|
| Low                       | Female | 0 - 3 - 1 - 0 - 4 | 2.3%  |
|                           | Male   | 8 - 10 - 2 - 0 - 20 | 11.5% |
| High                      | Female | 25 - 27 - 11 - 2 - 65 | 37.4% |
|                           | Male   | 30 - 40 - 13 - 1 - 85 | 48.8% |

**Table 5. Crosstab dimensions * mental toughness category**

| Dimensions                  | Total |
|-----------------------------|-------|
| Mental Toughness Low        | 21.6% |
| High                        | 78.4% |
| Total                       | 100.0%|

| Variable | Control | Commitment | Challenge | Confidence |
|----------|---------|------------|-----------|------------|
| Low      | 3.1%    | .9%        | 14.8%     | 2.8%       |
| High     | 21.9%   | 24.1%      | 10.2%     | 22.2%      |

Based on the **Table 2** above, we can see that the total of the respondent is 174 athletes. For the ages category, it is mostly at the age of 19 to 22 years old with the total 80 athletes (46%). So, it is the highest one while lowest one is the athletes at the age of 31 to 34 and it is just 1 athlete (0.6%). Next, the respondent seen from the gender is on **Table 3**.
Mental toughness that martial art athletes in Bekasi have mostly in a high category. There are several factors that affect this study. If we take a look at the age factor, mental toughness of martial art athletes in Bekasi prepared for PORPROV West Java 2022 is at the age of 19 to 22, and that is seen as the highest category (see table 4) and dominant category of mental toughness is commitment, and the lowest and dominant category of mental toughness is challenge (see table 5). It means, athletes have a high commitment to be a winner and carry out everything that has been planned, but not good at coming out with every obstacle and challenge that exists.

The result of this study is as same as the study that (Akbar, 2019) did. He stated that 19 year-old athletes has higher mental toughness than under 19 year-old athletes. However, it is different from the study that (Richard Gregory Cowden, 2015) did. He stated athletes that are at the age of 30 to 48, they have higher mental toughness than athletes that are at the age of 18 to 29, and age plays a role in an individual’s mental toughness profile (Marchant et al., 2009). Meanwhile, in this study, we can see that athletes at the age of 19 to 22 have the highest mental toughness.

Male athletes have higher mental toughness than female athletes (Priyambodo, 2018), especially in controlling emotion, life, and their confidence (Nicholls et al., 2009). In a match, male athletes have more power to take over the difficulties than female athletes (M. L. Kumar & Ahmed, 2013). However, this study is different from the study that (Richard Gregory Cowden, 2015) did. He stated that both female and male athletes have equal mental toughness.

**CONCLUSION**

Based on the result of this study, we can conclude that mental toughness of 174 martial art athletes in Bekasi are on the high category and the majority is the men at the age of 19 to 22 and the highest and dominant category of mental toughness is commitment, and the lowest and dominant category of mental toughness is challenge. It means, athletes have a high commitment to be a winner and carry out everything that has been planned, but not good at coming out with every obstacle and challenge that exists.

**REFERENCES**

Akbar, I. (2019). Ketangguhan Mental Pada Atlet Sepakbola Di Surakarta. Skripsi. Psikologi, Universitas Muhammadiyah Surakarta.

Birch, P. D. J., Crampton, S., Greenlees, I., Lowry, R., & Coffee, P. (2017). The mental toughness questionnaire-48: A re-examination of factorial validity. International Journal of Sport Psychology. https://doi.org/10.7352/IJS.2017.48.331

Bompa, T.O. & Harf, G. G. (2009). Periodization Training for Sports: Theory and. Methodology of Training. (Fifth). America: United State of America.

Bulent, O. M., Ugur, O., & Ozkan, B. (2017). Evaluation of sport mental toughness and psychological wellbeing in undergraduate student athletes.
Educational Research and Reviews. https://doi.org/10.5897/err2017.3216

Clough, P., Earle, K., & Sewell, D. (2002). Mental toughness: The concept and its measurement. In Solutions in sport psychology.

Connaughton, D., Wadey, R., Hanton, S., & Jones, G. (2008). The Development and Maintenance of Mental Toughness: Perceptions of Elite Performers. Journal of Sports Sciences, 26(1), 83–95.

Connaughton, D., Hanton, S., & Jones, G. (2010). The development and maintenance of mental toughness in the world’s best performers. Sport Psychologist. https://doi.org/10.1123/tsp.24.2.168

Cowden, Richard G. (2017). On the mental toughness of self-aware athletes: Evidence from competitive tennis players. South African Journal of Science. https://doi.org/10.17159/sajs.2017/20160112

Cowden, Richard Gregory. (2015). Mental Toughness Among Competitive South African Tennis, 158.

Gerber, M., Kalak, N., Lemola, S., Clough, P. J., Pühse, U., Elliot, C., … Brand, S. (2012). Adolescents’ exercise and physical activity are associated with mental toughness. Mental Health and Physical Activity. https://doi.org/10.1016/j.mhpa.2012.02.004

Golby, J., & Sheard, M. (2004). Mental toughness and hardness at different levels of rugby league. Personality and Individual Differences. https://doi.org/10.1016/j.paid.2003.10.015

Gucciardi, D. F., Gordon, S., Dimmock, J. A., & Mallett, C. J. (2009). Understanding the coach’s role in the development of mental toughness: Perspectives of elite Australian football coaches. Journal of Sports Sciences. https://doi.org/10.1080/02640410903150475

Kumar, A. (2017). A comparative study of mental toughness between team sports and individual sports. International Journal of Physical Education, Sports and Health.

Kumar, M. L., & Ahmed, S. (2013). Comparative Study on Mental Toughness Among Male and Female Tennis Players. International Journal of Sports Sciences & Fitness.

Mahoney, M. J., Gabriel, T. J., & Perkins, T. S. (2016). Psychological Skills and Exceptional Athletic Performance. The Sport Psychologist. https://doi.org/10.1123/tsp.1.3.181

Marchant, D. C., Polman, R. C. J., Clough, P. J., Nicholls, A. R., Jackson, J. G., & Levy, A. R. (2009). Mental toughness: Managerial and age differences. Journal of Managerial Psychology. https://doi.org/10.1108/02683940910959753

Muhammad, Memet; Hanif, Achmad Sofyan; Haqiyah, A. (2021). Statistika dalam pendidikan dan olahraga. Jakarta: PT. Rajagrafindo Persada.

Myrsidau, A. (2013). Diktat psikologi olahraga. Beka: UNISMA.

Nicholls, A. R., Polman, R. C. J., Levy, A. R., & Backhouse, S. H. (2009). Mental toughness in sport: Achievement level, gender, age, experience, and sport type differences. Personality and Individual Differences, 47(1), 73–75. https://doi.org/10.1016/j.paid.2009.02.006

Priyambodo, B. (2018). Ketangguhan Mental Pada Atlet Dinjau Dari Usia, Jenis Kelamin, dan Pengalaman Bertanding. Skripsi. Psikologi, Universitas Muhammadiyah Surakarta.

Quinn, T., & Cavanaugh, L. (2017). Mental Toughness. Strategies. https://doi.org/10.1080/08924562.2017.1344172

Raynadi, F. B., Rachmah, D. N., & Akbar, S. N. (2017). Hubungan ketangguhan mental dengan kecemasan bertanding pada atlet pencak silat di Banjarbaru. Jurnal Ecopsy. https://doi.org/10.20527/ecopsy.v3i3.2665

Sugiyono. (2015). Metode Penelitian & Pengembangan Research and Development. (S. Y. Suryandari, Ed.). Bandung: Alfabeta.

Tangkudung, J. (2012). Kepelatihan Olahraga. Jakarta: Cerdas Jaya.

Tangkudung, J., Haqiyah, A., Puspitorini, W., Tangkudung, A. W. A., & Riyadi, D. N. (2020). The effect of body mass index and haemoglobin on cardiorespiratory endurance. International Journal of Innovation, Creativity and Change, 11(8), 346–355.

Vaughan, R., Carter, G. L., Cockroft, D., & Maggiorini, L. (2018). Harder, better, faster, stronger? Mental toughness, the dark triad and physical activity. Personality and Individual Differences. https://doi.org/10.1016/j.paid.2018.05.002.