



Mental Toughness of Martial Art Athletes Based on Age and Gender

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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 athletes (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.

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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 (MT) 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 (Muhamad, Memet; Hanif, Achmad Sofyan; Haqiyah, 2021).

Mental toughness instrument that we used for this study is the instrument that is modified

Table 1. Instrument of Mental Toughness

Dimension	Indicator	No. Item		Total
		Favorable	Unfavorable	
Control	Life control	1	-	1
	Emotional control	2,3,5	4	4
Commitment	Goal setting	6	7	2
	Achieving	8,9	-	2
Challenge	Risk taking	10,11	12,13,14,15	6
	Learning from experience	-	16,17,18	3
Confidence	In abilities	19,21	20	3
	Interpersonal confidence	22,25,26,27	23,24	6
Total		15	12	27

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

Mental Toughness Category	Gender	Ages (Numbers)					Total
		15 - 18 years old	19 - 22 years old	23 - 26 years old	27 - 30 years old	31 - 34 years old	
Low	Female	0 0%	3 1.7%	1 0.6%	0	0	4 2.3%
	Male	8 4.6%	10 5.7%	2 1.2%	0	0	20 11.5%
High	Female	25 14.4%	27 15.5%	11 6.3%	2 1.2%	0 0%	65 37.4%
	Male	30 17.2%	40 22.9%	13 7.5%	1 0.6%	1 0.6%	85 48.8%

Table 5. Crosstab dimensions * mental toughness category

Variable		Dimensions				Total
		Control	Commitment	Challenge	Confidence	
Mental Toughness	Low	3.1%	.9%	14.8%	2.8%	21.6%
	High	21.9%	24.1%	10.2%	22.2%	78.4%
	Total	25.0%	25.0%	25.0%	25.0%	100.0%

with mental toughness aspect ; control, commitment, challenge, and confidence (Birch, Cramp-ton, 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

31 - 34 years old	1	0.6
Total	174	100

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%

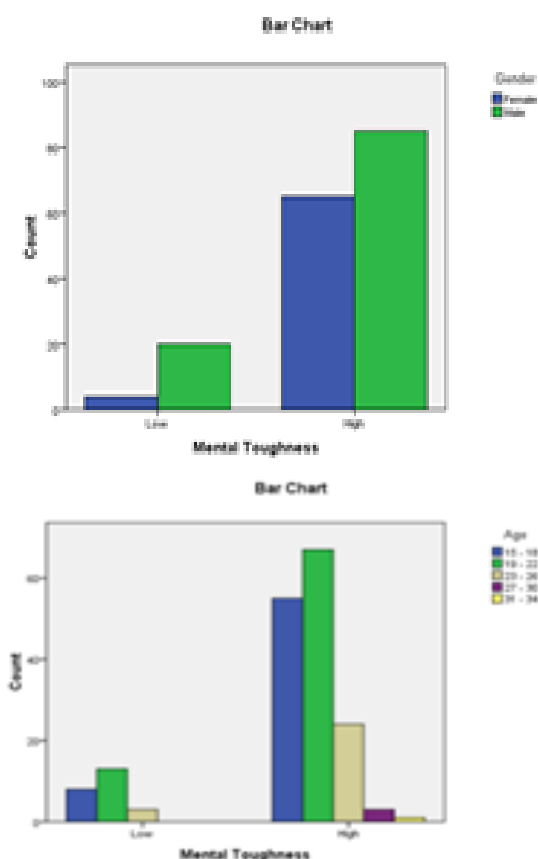


Figure 1. Mental toughness graphic taken from age and gender factor

The result of variable descriptive mental toughness statistics is stated **Table 6.**

Table 6. Descriptive Statistics of Mental Toughness

N	Min	Max	Mean	Std. Deviation
174	40	92	71.6	9.87

Based on **Table 6** we can see the mean value of mental toughness is 71.6, standard deviation is 9.87, the highest score is 92, and the lowest one is 40.

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.

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