

# fizjoterapia polska



POLISH JOURNAL OF PHYSIOTHERAPY

OFICJALNE PISMO POLSKIEGO TOWARZYSTWA FIZJOTERAPII

THE OFFICIAL JOURNAL OF THE POLISH SOCIETY OF PHYSIOTHERAPY

NR 1/2024 (24) KWARTALNIK ISSN 1642-0136

**Ocena czynników wpływających na skuteczność  
terapii integracji sensorycznej u dzieci  
w wieku przedszkolnym i wczesnoszkolnym**

**Assessment of factors influencing the  
effectiveness of sensory integration therapy  
in preschool and early school-aged children**



**Praca fizjoterapeuty z osobami niepełnosprawnymi intelektualnie**  
**Physiotherapist's work with intellectually disabled individuals**

**ZAMÓW PRENUMERATE!**

**SUBSCRIBE!**

[www.fizjoterapiapolska.pl](http://www.fizjoterapiapolska.pl)

[www.djstudio.shop.pl](http://www.djstudio.shop.pl)

[prenumerata@fizjoterapiapolska.pl](mailto:prenumerata@fizjoterapiapolska.pl)







# XV Jubileuszowe Sympozjum Fizykodiagnostyki i Fizjoterapii Stomatologicznej i Medycznej - "Stomatologia interdyscyplinarna"



VI Konferencja CRANIA „Konsensus w diagnostyce  
i fizjoterapii stawów skroniowo-żuchwowych”

VI Zachodniopomorskie Sympozjum  
Młodych Naukowców

Sesja Naukowa Polskiego Towarzystwa  
Studentów Stomatologii



**PTSS**

Polskie Towarzystwo  
Studentów Stomatologii  
Szczecin

**23-25.05.2024 R.**

"VIENNA HOUSE AMBER BALTIC"  
PROMENADA GWIAZD 1,  
MIĘDZYZDROJE

## TEMATYKA

- BIOMATERIAŁY WE WSPÓŁCZESNEJ MEDYCYNIE I STOMATOLOGII;
- ZABURZENIA CZYNNOŚCIOWE UKŁADU RUCHOWEGO NARZĄDU ŻUCIA;
- BIOMECHANIKA UKŁADU RUCHOWEGO I STOMATOGNATYCZNEGO; ORTOPODLOGIA;
- NOWOCZESNA DIAGNOSTYKA BIOCHEMICZNA;
- DIETETYKA;
- PSYCHOLOGICZNE I SOCJOEKONOMICZNE ASPEKTÓW NAUK O ZDROWIU

## ORGANIZATORZY

- Zakład Propedeutyki, Fizykodiagnostyki i Fizjoterapii Stomatologicznej Pomorskiego Uniwersytetu Medycznego w Szczecinie;
- Sekcja Fizykodiagnostyki i Fizjoterapii Stomatologicznej Polskiego Towarzystwa Fizjoterapii;
- Fizjoterapia i Klinika Stomatognatyczna w Krakowie;
- szczeciński oddział Polskiego Towarzystwa Studentów Stomatologii

## KONTAKT

91 466 16 73

<https://sympozjumfizyksto.m.wixsite.com/sympozjum>



**PATRONAT  
HONOROWY  
I MEDIALNY**



PATRONAT HONOROWY  
MARSZAŁKA WOJEWÓDZTWA  
ZACHODNIOPOMORSKIEGO  
OLGIERDA GEBLEWICZA





# 1<sup>st</sup> Occupational Therapy Europe Congress

*Future-Proofing Occupational Therapy*

15-19 October 2024, Kraków

Szanowni Państwo!

W dniach 15-19 października 2024 roku w Centrum Kongresowym ICE Kraków, odbędzie się 1 Kongres Occupational Therapy Europe.

Kongres zgromadzi około 1000 Uczestników z całego świata – praktyków oraz naukowców, co obrazuje zainteresowanie tematyką proponowaną podczas obrad, czyli terapią zajęciową. Terapia zajęciowa to prężnie rozwijająca się dyscyplina, stanowiąca jeden z elementów szeroko rozumianej rehabilitacji. Terapeuci zajęciowi pracują z osobami zmagającymi się z różnymi niepełnosprawnościami, chorobami, zaburzeniami psychicznymi, osobami wykluczonymi społecznie, a także osobami zdrowymi w zakresie poprawy ich funkcjonowania i jakości życia. Terapeuta zajęciowy jest partnerem fizjoterapeuty w procesie zmierzającym do pełnej rehabilitacji pacjenta.

Serdecznie zapraszamy Państwa do udziału w tym niezwykłym wydarzeniu w charakterze uczestników lub wystawców. Praca z pacjentami wymaga często stosowania narzędzi i technologii wspierających rehabilitację, co daje ogromne możliwości do zaprezentowania swojego produktu/usługi szerokiemu gronu odbiorców nie tylko z Europy, ale i całego świata.

Więcej szczegółów pod linkiem: <https://ot-europe2024.com>

Bądźcie z nami w tym szczególnym dla polskiej terapii zajęciowej i rehabilitacji czasie!



# **XVI Konferencja Naukowa Polskiego Towarzystwa Fizjoterapii**

**6-7 grudnia 2024 r.**

**Pabianice**



**<https://16konferencja.pl>**



# Emotional maturity and self control as predictors of boxing athlete aggressiveness: Is it proven?

*Dojrzałość emocjonalna i samokontrola jako predyktory agresywności sportowców bokserskich: Czy to udowodniono?*

**Trisnar Adi Prabowo<sup>(A,B,C,D)</sup>, Endang Rini Sukamti<sup>(B,C,E)</sup>, Fauzi<sup>(C,D,F)</sup>, Tomoliyus<sup>(A,B,E)</sup>, Amri Hartanto<sup>(A,C)</sup>**

Department of Sport Science, Yogyakarta State University, Yogyakarta Indonesia

## Abstract

Boxing athletes must control their emotions and themselves, and regulate their aggressiveness to prevent harming themselves during matches. The purpose of this study was to show whether emotional maturity and self control affect the aggressiveness of boxing athletes. This type of research is correlational. The sample used is boxing athletes from the Special Region of Yogyakarta (n = 65, age 14-22 years) and the subjects have participated in boxing competitions. Sampling was done by nonprobability consecutive sampling. The emotional maturity scale is based on Singh and Bhargava, self control refers to Averill, aggression refers to Buss and Perry (1992). Data analysis was aided by ANOVA (F-test) and t-test. Results. Boxing athletes who will conduct games should receive support to conduct matches in a sporting manner to help athletes regulate their emotions and avoid aggression. For future researchers, it is hoped that they will be able to discuss more about the psychological aspects of boxing athletes, because this research is only limited to the influence of emotional maturity and self control on aggressiveness in boxing athletes.

## Keywords

emotional maturity, self control, aggressiveness, boxing

## Streszczenie

Sportowcy uprawiający boks muszą kontrolować swoje emocje i samych siebie, regulując swoją agresywność, aby zapobiec wyrządzeniu sobie krzywdy podczas meczów. Celem tego badania było wykazanie, czy dojrzałość emocjonalna i samokontrola wpływają na agresywność sportowców bokserskich. Typ badania to badanie korelacyjne. Próbkę stanowili bokserzy ze Specjalnego Regionu Yogyakarta (n = 65, w wieku 14-22 lat), którzy uczestniczyli w zawodach bokserskich. Dobór próby odbył się metodą nieprawdopodobieństwa, przez kolejne próbkowanie. Skala dojrzałości emocjonalnej opiera się na Singh i Bhargava, samokontrola odnosi się do Averilla, agresja odnosi się do Bussa i Perry'ego (1992). Analiza danych została wspomagana przez ANOVA (test F) i test t. Wyniki. Sportowcy bokserscy, którzy mają przeprowadzać gry, powinni otrzymać wsparcie w przeprowadzaniu meczów w sposób sportowy, aby pomóc sportowcom regulować ich emocje i unikać agresji. Dla przyszłych badaczy istnieje nadzieja, że będą oni mogli dyskutować więcej o aspektach psychologicznych sportowców bokserskich, ponieważ to badanie ogranicza się tylko do wpływu dojrzałości emocjonalnej i samokontroli na agresywność u sportowców bokserskich.

## Słowa kluczowe

dojrzałość emocjonalna, samokontrola, agresywność, boks

## Introduction

Every sport which is competitive, of course, expects to achieve a peak performance, one of them is by the sport of boxing. Boxing is a body contact sport where there are two opposing participants [1]. Attacks against an opponent usually take the form of cornering or limiting the opponent's angle of movement, so as to attack with maximum strength [2]. Body contact sports, such as boxing can provoke emotional feelings between athletes. Often in boxing matches, athletes struggle to maintain psychological control, leading to losses. Fitzwater, et al. argued that the key to the difference between good performance and a poor performance lies in the athlete's better level of psychological skills compared to physical skills [3].

The psychological aspects should get the same portion of training as physical, technical and tactical skills to get the best performance of athletes. Nowadays, the difference between winners and losers in competitive sports is getting smaller and smaller. It is not a surprise that in recent years, psychological skills training has gained recognition and the number of athletes using psychological training strategies to improve their performance has become a necessity [4]. In this condition, psychological skills will be attached to the athlete, so that it becomes a character as a psychological profile that will determine the role in the success of athlete achievement [5]. Because of that, sports psychology is an important part of achieving high performance athletes [6–8].

Psychology plays an equally important role in achieving success, addressing various issues such as motivation, self-confidence, self-control, emotional maturity, aggression, and more. It is thought that one of the determinants of athlete aggression is whether an athlete performs a contact or non-contact sport. These differences between the aggressiveness of contact athletes and non-contact athletes have been examined by some of the previous researchers [9]. Aggressiveness is one form of behavior possessed by humans, especially in an athlete [10]. Aggression is a significant aspect in sports, especially boxing, but it should be managed so as not to harm oneself or others. In addition, the types of aggression are instrumental aggression and hostile aggression [11]. Aggressive actions accompanied by hostility or hostile aggression, the main goal is to injure others, the intention to hurt others is carried out with feelings of anger [12]. In instrumental aggression, the main purpose is to win the game, like disrupting the opponent's concentration, so it is not to hurt the opponent, not accompanied by anger. Aggression is behavior directed at hurting other living beings who wish to avoid such treatment [13].

Boxing athletes must be able to control their emotions, control themselves, and manage their aggressiveness so that the expression of aggressiveness issued during the match is not detrimental to themselves. Athlete aggressiveness often aims to injure or knock down opponents in self-defense when feeling threatened [14–15]. Aggressiveness in athletes is an effort made to maintain position or maintain points earned outside the provisions in the match. However, a certain level of aggressiveness is also necessary for athletes to conduct rule-compliant attacks during a match. This explains that boxing athletes must also have aggressiveness to attack but if the attack is excessive and injures the opponent outside of the provisions of the match then the aggressiveness will have a bad impact. Aggressiveness is needed by athletes to carry out attacks that are in accordance

with the provisions of the match and do not violate the rules in the match. This explains that boxing athletes must also have aggressiveness to carry out attacks but if the attack is excessive and injures the opponent outside of the provisions of the match then the aggressiveness will have a negative impact.

Factors that influence the emergence of aggressiveness not only come from individuals but can also be caused by the surrounding environment [16]. Aggressiveness in athletes can be caused by angry memories, thoughts of revenge, angry ruminations, and understanding the causes of anger. Buss and Perry classifies the forms of aggressiveness that appear in individuals divided into eight parts. The eight parts are: Direct active physical aggression, indirect active physical aggression, direct passive physical aggression, indirect passive physical aggression, direct active verbal aggression, indirect active verbal aggression, direct passive verbal aggression, indirect passive verbal aggression [17]. Further explains that aggressiveness consists of four aspects which include: verbal aggression, is aggressiveness with words such as arguing, spreading gossip and swearing, physical aggression, is a form of aggressive behavior carried out with the intention of making others hurt, hostility, is a feeling of hatred that causes someone to be easily suspicious and jealous of others, anger, a feeling of annoyance at something or someone else that causes that person to get angry easily.

Aggression in this study is a form of negative emotion, where when athletes are unable to control their emotions, what happens is negative emotions in the form of aggressive behavior. In a match an athlete who tends to be aggressive and tends to be passionate in attacking and defending, actions like this if the level of aggressiveness is not controlled can be detrimental to the athlete himself or to the opponent which can result in injury or hurt the opponent. Aggression can occur because of uncontrolled and explosive emotions, so that is eager to attack the other party without thinking. So, maturity in controlling and regulating emotions is needed to prevent aggression behavior, so that harmful aggressive actions do not happen. Aggressiveness in athletes can be overcome if an athlete has good emotional maturity skills. Emotional maturity is a person's capacity to react in various life situations in more useful ways. Surma and Kumar describe emotional maturity as a continuous personal effort to achieve a healthy emotional state, both intrapersonally and interpersonally [18]. Negative emotions, like anger during a match, can stem from an opponent's blow to the head, often leading to a desire for retaliation. Other common negative emotions arise when an athlete falls significantly behind in points, or feels that their successful attacks are not recognized by the referee, resulting in no additional points. Therefore, athletes must be able to regulate and manage the emotional reactions that will be displayed, so that they can make good decisions when competing.

Delivered from Behera and Rangaiah there are four aspects of emotional maturity, namely emotional stability, whose emotions are mature tend to give stable and unchanging emotional responses in order to achieve their goals. Emotional progression, individual characteristics that emphasize adequate feelings and have emotional vitality in controlling themselves by not being selfish or selfish. Social adjustment, this is the process of social interaction and how a person adapts to their environment. Personality integration, which is a process of uniting various diverse components in an individual that can have a positive effect on morality and work. Independence, a person's tendency to be independent



in their behavior and take responsibility for themselves and others. Aggressive behavior also depends on the ability to control oneself [19]. Self control is a person's ability to reduce bad habits by modifying their behavior in order to direct themselves or hold themselves in a positive direction when facing temptation by suppressing or inhibiting impulses [20]. The existence of self control, at least athletes can become more controlled in their behavior. Because, martial arts athletes with their self control will automatically be able to control all actions and can consider their benefits and goals, not just to prioritize their emotions. Tangney, et al. found that individuals high in self control had better grades, more secure and satisfying relationships, and less anger and aggression than individuals low in self control [21]. Gives an explanation that there are three viewpoints in self control, includes: cognitive control, is a person's ability to manage unwanted information through efforts to interpret an event or event in order to anticipate the event or event repeating itself, behavioral control, is a response readiness that can directly influence or control behavior and control the stimulus, and decisional control, this is an individual's ability to make decisions according to what he agrees and believes [22].

Low emotional maturity and self control can result in losses if the movements issued can injure yourself and your opponent. Athletes who are injured and injure their opponents can be sanctioned in the form of disqualification and cannot continue the match, this can be detrimental to the athlete himself. Based on this, the researcher is interested in conducting research that aims to find out whether emotional maturity and self control affect the aggressiveness of boxing athletes. The results of this study are expected to be a reference for coaches and athletes, that mental factors, such as emotional maturity and self control are very important for boxing athletes to reduce aggressiveness when competing.

## Materials and methods

### Participants

The sample used is boxing athletes from the Special Region of Yogyakarta, totaling 65 athletes with an age range of 14-22 years and the subject has participated in a boxing competition. Nonprobability consecutive sampling was applied in the analyses. After obtaining permissions and support from the club or organisation representatives, researcher approached athletes. Researcher invited potential participants and presented the study aims and conditions. Consents were obtained. Those who agreed to participate in the study got the questionnaire with a

request to fill it. All individuals submitted a written consent to voluntarily participate in the research. Over 100 questionnaires were distributed, 65 were collected back. However, some questionnaires were not filled in completely, and these were excluded from consideration. Owing to the above mentioned inclusion criteria and conditions, and lack of complete documentation, results obtained from 65 respondents underwent final analysis.

### Research design

This type of research is correlational. Correlational is research conducted to determine there is a relationship and the magnitude of the contribution between the two or more variables. Measurement of emotional maturity variables based on aspects of emotional maturity presented by Singh & Bhargava [23]. The Emotional Maturity Scale is a self-reported five-point scale. This tool consists of 48 items. The first ten items test emotional stability, the second ten items test emotional development, the third ten items assess social adjustment, the fourth ten items assess personality integration and the last eight items test independence [24]. Measurement of self control variables by referring to aspects of self control, namely: decisional control (6 items), behavioral control (6 items), and cognitive control (6 items) [25]. Aggression is assessed with Buss-Perry Aggression Questionnaire (BPAQ) [26]. The instrument contains 29 statements designed to evaluate four dispositional components of aggression: physical aggression. The results for these subscales total the general aggression index of an individual [26]. The task of the respondent was to rank the particular statements using a five-point Likert scale, where 1 meant "does not match my personality at all" and five stood for "fully matches my personality." The questionnaire is characterised by a clear theoretical model and satisfactory psychometric properties.

### Statistical analysis

The data analysis used is descriptive statistic with the arithmetic mean (1.00-1.800) "very less", 1.81-2.61 "less", 2.62-3.42 "enough", 3.43-4.23 "good", 4.24-5.00 "very good", normality test, multicollinearity test, hypothesis testing using ANOVA (F-test) and t-test. The analysis was assisted by Statistical Product and Service Solutions (SPSS) version 23.

### Results

The results of descriptive analysis of emotional maturity, self control, and aggressiveness of boxing athletes are presented in Table 1.

**Table 1. Descriptive statistic emotional maturity, self control, and aggressiveness**

Variable	N	Mean $\pm$ Standard Deviation	Category
Emotional Maturity (X1)	65	2.52 $\pm$ 0.25	Less
Self Control (X2)	65	2.47 $\pm$ 0.38	Less
Aggressiveness (Y)	65	2.37 $\pm$ 0.34	Less

Based on table 1, it shows that the average emotional maturity of boxing athletes is 2.52 in the less category, the average self

control is 2.47 in the less category, and the average aggression is 2.37 in the less category.

### Normality test

The normality of the data was tested using the One-Sample Kol-

mogorov-Smirnov Test, where a p-value greater than 0.05 indicates normal distribution. The results are presented in Table 2.

**Table 2. Normality test results of emotional maturity, self control, and aggressiveness**

Statistic		Unstandardized residual
N		65
Normal parameters	Mean	0.0000000
	Std. Deviation	0.24285093
Most extreme differences	Absolute	0.125
	Positive	0.125
	Negative	-0.101
Kolmogorov-Smirnov Z		1.007
Asymp. Sig. (2-tailed)		0.262

The normality test results in Table 2, obtained Asymp. Sig. (2-tailed) p-value  $0.262 > 0.05$ , which means that the data on the variables of emotional maturity, self control, and aggressiveness of boxing athletes are normally distributed.

### Multicollinearity test

The multicollinearity test assesses whether there is a correlation

between independent variables in the regression model. Multicollinearity can be seen with the Variance Inflation Factor (VIF), if the VIF value is  $< 10$  and the tolerance value is  $> 0.10$ , it can be said that there are no symptoms of multicollinearity.

The multicollinearity test results can be seen in Table 3.

**Table 3. Multicollinearity test results**

Variable	Tolerance	VIF
Emotional maturity (X1)	0.893	1.120
Self control (X2)	0.893	1.120

The multicollinearity test results shown in Table 3, with a VIF value less than 10 and a tolerance value greater than 0.10, indicate no multicollinearity between emotional maturity and self-control variables affecting the aggressiveness of boxing athletes.

### Hypothesis test results

A partial test was conducted to determine the impact of each independent variable, emotional maturity and self-control, on the dependent variable, aggressiveness of boxing athletes. The results of the t test analysis partial are presented in Table 4.

**Table 4. Partial test results (t-test)**

Model	Unstandardized coefficients		Standardized coefficients		t	Sig.
	B	Std. Error	Beta			
(Constant)	4.858	0.328			14.806	0.000
Emotional Maturity (X1)	-0.749	0.130	-0.555		-5.753	0.000
Self Control (X2)	-0.244	0.085	-0.277		-2.872	0.006

The emotional maturity variable (X1) obtained the t value (-5.753) and p-value ( $0.000 < 0.05$ ), meaning that emotional maturity has a significant effect on the aggressiveness of boxing athletes. Positive value, meaning that if emotional maturity gets better, the aggressiveness of boxing athletes will decrease.

The self-control variable (X2) yielded a t-value of -2.872 and a p-value of 0.006 (less than 0.05), indicating that self-control significantly affects the aggressiveness of boxing athletes. Negative value, meaning that if self control is getting better, the aggressiveness of boxing athletes will decrease.



The ANOVA test (F-test) is needed to determine the effect of the independent variable on the dependent variable simultaneously and to determine the accuracy of the regression model used. The model accuracy test aims to determine whether the

model formulation is appropriate or fit. The results of the analysis of the effect of emotional maturity and self control simultaneously on the aggressiveness of boxing athletes are presented in Table 5.

**Table 5. ANOVA test results**

Model	Sum of squares	df	ANOVA <sup>a</sup>		
			Mean square	F	Sig.
Regression	3.554	2	1.777	29.189	0.000 <sup>b</sup>
Residual	3.775	62	0.061		
Total	7.329	64			

*a: Dependent Variable: Aggressiveness (Y)*

*b: Predictors: (Constant), Self Control (X2), Emotional Maturity (X1)*

Based on Table 5, the calculated F-value (29.189) and p-value ( $0.000 < 0.05$ ) are obtained, meaning that emotional maturity and self control simultaneously and significantly affect the aggressiveness of boxing athletes. It can be concluded that the regression model chosen is suitable for testing data and the regression model can be used to predict that emotional maturity

and self control simultaneously and significantly affect the aggressiveness of boxing athletes.

The coefficient of determination is used to measure the extent to which the regression model explains variations in the dependent variable. "model.". The results of the analysis in Table 6.

**Table 6. Results coefficient of determination**

Model	R	Model Summary		
		R square	Adjusted R square	Std. error of the estimate
1	0.696 <sup>a</sup>	0.485	0.468	0.24674

*a: Predictors: (Constant), Self Control (X2), Emotional Maturity (X1)*

The coefficient of determination in Table 6 shows the R square value of 0.485. This means that 48.5% of the variation in aggressiveness of boxing athletes can be explained by variations in the independent variables, namely emotional maturity and self control. The remaining 51.5% of the variation is attributed to factors not included in the model.

## Discussion

Based on the results of the study, it is proven that emotional maturity and self control can predict the aggressiveness of boxing athletes, and the results are significant. Research Denson, et al. shows that maladaptive anger regulation decreases self control and consequently increases aggression. Aggressiveness behavior can be influenced by emotional maturity, where someone who has good emotional maturity can control their emotions and aggressiveness behavior. The analysis shows that there is a negative relationship between emotional maturity and aggressiveness. The existence of a negative relationship between emotional maturity and aggressiveness of boxing athletes, this means that the higher the level of emotional maturity of a person, the lower the final aggressiveness, and if emotional maturity is low, the final level of aggressiveness will be high. Study Stanger, et al. stated that aggression has been associated with empathy and emotions (e.g. guilt) in cross-sectional studies. The aim of this experiment was to examine the effects of empathy on emotional reactions to aggression and the role of guilt in

the empathy-aggression relationship. Participants in the high empathy group experienced stronger negative emotional reactions to pictures of aggressive acts and reported a lower likelihood of committing aggression than those in the low empathy group. Anticipated guilt partially mediated the effect of empathy on the likelihood of reported aggression. The findings suggest that empathy may help reduce aggressive behavior and highlight the potential mediating role of guilt [27].

The type of aggressiveness needed by athletes is instrumental aggression. Instrumental aggression is aggressive behavior that is used as a tool to win the match without intending to hurt other people or friends competing and not violating match rules aimed at obtaining victory, money, and prestige. Instrumental aggression hurts opponents physically and psychologically, but is still within reasonable limits and does not violate either the rules of the game or the match. Boxing athletes to compete aggressively must be purposeful, disciplined, responsible, sportsmanlike, and increase self-mastery in order to control themselves. Aggressiveness here is certainly not interpreted as a cruel or destructive form of attack, but is closely related to the characteristics of the sport itself, namely boxing, which does require an aggressive attitude.

Aggression and violence have become commonplace in modern-day sporting competitions, especially those with high levels of emotion such as boxing. Sporting activities are prone to aggressive acts, especially for sports that allow direct body con-

tact with opponents and team sports. Whatever the level of aggression, it can be minimized by adopting a systematic approach at the psychological and sociological level with proper training. Strong social stereotypes perceive martial arts as a way of developing aggression [28]. Individuals who have low self-control tend to be happy to do something risky (such as verbal aggression behavior). Assertive Behavior Therapy psychological intervention can reduce verbal aggression behavior, mature emotions, increase self-control [29], and a positive personality can be applied in training to reduce negative aggression behavior. The development of aggressiveness is necessary in winning games, but not for cheating or frustration.

Too much perceived emotion in athletes can disturb the beat of their lives. Not only negative emotions, positive emotions that are too high can also interfere with performance and productivity in athletes. It is important to regulate emotions in athletes to know how to manage the emotions they feel. Emotional maturity is important to control emotions, so that aggressiveness can also be controlled [30]. Athletes with good aggressiveness are able to control aggressiveness in order to keep attacking with the provisions of the match and reduce aggressiveness behavior that can injure opponents, referees, and judges during the match. Maxwell said that the aggressiveness shown by athletes involves cognitive processes. Aggressiveness in athletes arises if an athlete is under pressure from his environment, there are thoughts of revenge, has memories of anger at opponents, and can appear when an athlete reflects on problems or unpleasant events committed by his opponent or surrounding people when competing in the past. Aggressiveness in athletes can appear in verbal or physical form. Athletes, especially boxing athletes, usually express aggressiveness by hitting opponents excessively, cursing, making fun of, ignoring, and even protesting if the judge or referee assumes that they have an alignment with the athlete's opponent.

Gross and Jazaieri recommends that the ability to regulate emotions has decreased, it can trigger the emergence of negative emotions in a person. Negative emotions can be expressed and can lead someone to aggressiveness if an athlete does not have the ability to select situations and understand situations [31]. A boxing athlete is important to regulate emotions in order to suppress expressions of aggressiveness that harm themselves and others around the athlete. The process of controlling aggressiveness owned by athletes is needed in the form of emotion regulation skills, so that athletes are able to control the expression of emotions so that there is no increase in aggressiveness and are able to control the expression of aggressiveness in accordance with the provisions in boxing matches. Based on the explanation, it can be concluded that aggressiveness behavior can be influenced by self control where the higher a person's ability to hold himself towards a better direction, the lower the behavior. Athletes who can control themselves well, the lower the aggressiveness. Athletes who have good self control tend to be able to pay attention to the consequences of their actions and tend to be able to avoid aggressive actions.

Self control is one way that can minimize or reduce aggression. Study Chen et al. present study investigated the relationship between self-efficacy and aggressive behavior, as well as the effect of self control as a mediating factor. This study uses the Self-efficacy Scale for Athletes, the Self control Questionnaire for

Athletes, and the Buss-Perry Aggression Questionnaire. This relationship is explored through self-reported measures from N = 414 Chinese professional boxers. Results showed self control was also negatively correlated with aggressive behavior among boxers [32]. Study Sofia and Cruz results converged to the idea that athletes with higher levels of self control capacity seem to be better at controlling aggression, and male athletes tend to be more aggressive. These findings not only support previous laboratory findings, but also suggest the importance of the promotion of self control capacity as a strategy to control aggression in the domain of sport [33].

These studies demonstrate the important role that self control plays in the regulation of aggression. However some studies are conducted in an applied context. For example, self control is important for performance by showing that athletes perform worse after performing a cognitively difficult task [34]. Englert and Bertrams also observed that anxious athletes with poor self control are unable to control their attention and override their automatic tendency to focus on distracting stimuli such as anxiety-related concerns leading to poor performance. However when anxious people still have the power of self control they can ignore the negative effects of anxiety and control their attention. These findings suggest that self control may be important in controlling aggression in competitive sports [35].

Self control is a positive psychological quality, if athletes are unable to bring themselves under control, it means that they are unable to withstand the urges from within in the form of aggressive behavior. Self control as the ability to guide one's own behavior, the ability to suppress to inhibit impulses or impulsive behavior [36]. Each individual has a mechanism that can help regulate and direct behavior, namely self control. It is known that the strong influence of aggression traits can predict the emergence of angry behavior, while strong self control can lead to minimal angry behavior. When aggression behavior in the individual is strong, self control can help a person to ignore the impulse of his aggressiveness and can also encourage individuals to respond according to their own standards or social standards.

Self control is able to withstand the verbal aggression of athletes in order to socialize with the environment, meaning that self control is one way that can reduce aggression and is supported by increasing age where the older the age, the better the self control will be or also called part of the individual's internal factors. Keskin concluded that the experiences of athletes increases with age as they learn to minimize stress by experiences and evaluation skills they gained, thus decreasing the aggressive behaviour [37]. Having self control among athletes may help in controlling ruminative thinking patterns and athletes that possess a higher self control strength will be able to focus their attention on current tasks to make appropriate decisions, thus decreasing aggression [38]. The other probable factor that contributed to the findings is that perhaps the athletes have a high self control that enables them to focus their attention and block any negative thoughts that can affect them when outside sports competition.

## Conclusions

The results of the study proved that (1) emotional maturity has a significant effect on the aggressiveness of boxing athletes (p-



value  $0.000 < 0.05$ ), (2) self control has a significant effect on the aggressiveness of boxing athletes ( $p$ -value  $0.006 < 0.05$ ), (3) emotional maturity and self control can predict the aggressiveness of boxing athletes ( $p$ -value  $0.000 < 0.05$ ), and provide a contribution of 48.5%. Research on athlete aggressiveness is crucial because hostility that is permitted in athletics may not be permitted in other contexts. When under control and not utilized as a means to a goal, aggression can be seen as a natural, even beneficial, quality in athletes and can even be used to an athlete's advantage. But on the other hand, if aggressiveness is not restrained after the sporting event, it may result in more serious circumstances that affect the athletes' surrounds.

Athletes can engage in regular training to enhance performance and participate in group games to foster empathy and sympathy among peers, helping them regulate emotions in stressful situations

and reduce aggressiveness during competition. Boxing athletes who will conduct matches should be given support to conduct matches in a sporting manner to help athletes regulate emotions and avoid the aggression. For further researchers, it is hoped that they will be able to discuss more about the psychological aspects of boxing athletes, because this research is only limited to emotional maturity and self control influences on aggressiveness in boxing athletes.

Adres do korespondencji / Corresponding author

**Amri Hartanto**

E-mail: amry7766@yahoo.com

#### Acknowledgement

*Authors warmly thank to the participants in our research who have given a written consent, but also their deeply feelings gratitude were addressed to the staff who allowed them to do this research in their place as well as the information provided.*

#### Piśmiennictwo/ References

1. H. Carlsson, "Researching boxing bodies in Scotland: Using apprenticeship to study the embodied construction of gender in hyper masculine space," *Gender, Place Cult.*, vol. 24, no. 7, pp. 939–953, 2017. <https://doi.org/10.1080/0966369X.2017.1343282>.
2. M. Bisa, "Bio motoric analysis, degeneration process, and anxiety of professional boxer for maximum peak performance: A literature study," *Int. J. Med. Exerc. Sci.*, vol. 6, no. 2, pp. 720–731, 2020. <https://doi.org/10.36678/ijmaes.2020.v06i02.001>.
3. J. P. J. Fitzwater, C. A. Arthur, and L. Hardy, "'The tough get tougher': Mental skills training with elite military recruits.," *Sport. Exerc. Perform. Psychol.*, vol. 7, no. 1, p. 93, 2018. <https://doi.org/10.1037/spy0000101>.
4. P. Röthlin, S. Horvath, S. Trösch, M. grosse Holtforth, and D. Birrer, "Differential and shared effects of psychological skills training and mindfulness training on performance-relevant psychological factors in sport: a randomized controlled trial," *BMC Psychol.*, vol. 8, pp. 1–13, 2020. <https://doi.org/10.1186/s40359-020-00449-7>.
5. K. Kiens and C. H. Larsen, "Provision of a mental skills intervention program in an elite sport school for student-athletes," *J. Sport Psychol. Action*, vol. 12, no. 1, pp. 11–25, 2021. <https://doi.org/10.1080/21520704.2020.1765925>.
6. A.-M. Elbe and J. M. Wikman, "Psychological factors in developing high performance athletes," in *Routledge handbook of talent identification and development in sport*, Routledge, 2017, pp. 169–180. <https://doi.org/10.4324/9781315668017-12>.
7. D. F. Gucciardi, S. Hanton, and S. Fleming, "Are mental toughness and mental health contradictory concepts in elite sport? A narrative review of theory and evidence," *J. Sci. Med. Sport*, vol. 20, no. 3, pp. 307–311, 2017. <https://doi.org/10.1016/j.jsams.2016.08.006>.
8. S. T. Portenga, M. W. Aoyagi, and A. B. Cohen, "Helping to build a profession: A working definition of sport and performance psychology," *J. Sport Psychol. Action*, vol. 8, no. 1, pp. 47–59, 2017. <https://doi.org/10.1080/21520704.2016.1227413>.
9. N. Huđin, D. Glavaš, and M. Pandžić, "Contact sports as a sport of more aggressive athletes? Aggressiveness and other psychological characteristics of youth athletes involved in contact and non-contact sports," *Tims. Acta naučni časopis za Sport. Turiz. i velnes*, vol. 14, no. 1, pp. 5–16, 2020. <https://doi.org/10.5937/timsact14-27343>.
10. N. N. Bazli, M. S. M. Sukor, and M. Mahfar, "The aggressive behaviour in sports among athletes in a Public University," *Sains Humanika*, vol. 13, no. 2–2, 2021. <https://doi.org/10.11113/sh.v13n2-2.1888>.
11. D. L. Wann, S. Weaver, B. Belva, S. Ladd, and S. Armstrong, "Investigating the impact of team identification on the willingness to commit verbal and physical aggression by youth baseball spectators," *J. Amat. Sport*, vol. 1, no. 1, pp. 1–28, 2015. <https://doi.org/10.17161/jas.v1i1.4919>.
12. L. Berkowitz, "Towards a general theory of anger and emotional aggression: Implications of the cognitive—neoclassical perspective for the analysis of anger and other emotions," in *Perspectives on anger and emotion*, Psychology Press, 2014, pp. 1–46.
13. J. J. Allen and C. A. Anderson, "Aggression and violence: Definitions and distinctions," *Wiley Handb. violence Aggress.*, pp. 1–14, 2017. <https://doi.org/10.1002/9781119057574.whbva001>.
14. R. Spaaij, "Sports crowd violence: An interdisciplinary synthesis," *Aggress. Violent Behav.*, vol. 19, no. 2, pp. 146–155, 2014. <https://doi.org/10.1016/j.avb.2014.02.002>.

15. M. D. Cusimano et al., "Aggression, violence and injury in minor league ice hockey: avenues for prevention of injury," *PLoS One*, vol. 11, no. 6, p. e0156683, 2016. <https://doi.org/10.1371/journal.pone.0156683>.
16. J. Jung, R. Busching, and B. Krahé, "Catching aggression from one's peers: A longitudinal and multilevel analysis," *Soc. Personal. Psychol. Compass*, vol. 13, no. 2, p. e12433, 2019. <https://doi.org/10.1111/spc3.12433>.
17. H. E. Chang, M. Y. Park, H. Jang, S. Ahn, and H.-J. Yoon, "Relationships among demands at work, aggression, and verbal abuse among registered nurses in South Korea," *Nurs. Outlook*, vol. 67, no. 5, pp. 567–577, 2019. <https://doi.org/10.1016/j.outlook.2019.04.007>.
18. S. Surma and S. Kumar, "Impact of life skills counseling in enhancing emotional stability among High School Students," *Acad. An Int. Multidiscip. Res. J.*, vol. 6, no. 11, pp. 78–84, 2016. <https://doi.org/10.5958/2249-7137.2016.00087.2>.
19. S. Behera and B. Rangaiah, "Relationship between emotional maturity, self-esteem and life-satisfaction: A study on traditional dancers of Odisha region," *Cogent Psychol.*, vol. 4, no. 1, p. 1355504, 2017. <https://doi.org/10.1080/23311908.2017.1355504>.
20. K. M. Werner and M. Milyavskaya, "Motivation and self regulation: The role of want to motivation in the processes underlying self regulation and self control," *Soc. Personal. Psychol. Compass*, vol. 13, no. 1, p. e12425, 2019. <https://doi.org/10.1111/spc3.12425>.
21. J. P. Tangney, A. L. Boone, and R. F. Baumeister, "High self-control predicts good adjustment, less pathology, better grades, and interpersonal success," in *Self-regulation and self-control*, Routledge, 2018, pp. 173–212. <https://doi.org/10.4324/9781315175775-5>.
22. H. E. Puteri, N. Arinda, S. Dewi, and G. Sari, "Self-control and consumptive behavior control in purchasing internet services for social networking among Muslim millennials," *Eur. J. Humanit. Soc. Sci.*, vol. 2, no. 6, pp. 118–129, 2022. <https://doi.org/10.24018/ejsocial.2022.2.6.361>.
23. M. C. Jobson, "Emotional Maturity among adolescents and its importance," *Indian J. Ment. Heal.*, vol. 7, no. 1, pp. 35–41, 2020. <https://doi.org/10.30877/IJMH.7.1.2020.35-41>.
24. C. Rawat and R. Singh, "The paradox of gender difference on emotional maturity of adolescents," *J. Hum. Ecol.*, vol. 58, no. 3, pp. 126–131, 2017. <https://doi.org/10.1080/09709274.2017.1305610>.
25. I. Saskara Putra and D. H. Tobing, "the role of self-control and conformity towards adolescent aggressiveness in Denpasar City.," *J. Soc. Sci.*, vol. 2, no. 2, 2023. <https://doi.org/10.57185/joss.v2i2.57>.
26. K. Kistorz and K. Sas-Nowosielski, "Aggression dimensions among athletes practising martial arts and combat sports," *Front. Psychol.*, vol. 12, p. 696943, 2021. <https://doi.org/10.3389/fpsyg.2021.696943>.
27. N. Stanger, M. Kavussanu, D. McIntyre, and C. Ring, "Empathy inhibits aggression in competition: The role of provocation, emotion, and gender," *J. Sport Exerc. Psychol.*, vol. 38, no. 1, pp. 4–14, 2016. <https://doi.org/10.1123/jsep.2014-0332>.
28. C. Kuśnierz and P. Bartik, "The impact of practice of selected combat sports on signs of aggression in players in comparison with their non-training peers," *J. Combat Sport. Martial Arts*, vol. 5, no. 1, pp. 17–22, 2014. <https://doi.org/10.5604/20815735.1127448>.
29. A. H. Lee and R. DiGiuseppe, "Anger and aggression treatments: a review of meta-analyses," *Curr. Opin. Psychol.*, vol. 19, pp. 65–74, 2018. <https://doi.org/10.1016/j.copsyc.2017.04.004>.
30. J. B. Blossom, P. J. Fite, A. L. Frazer, J. L. Cooley, and S. C. Evans, "Parental psychological control and aggression in youth: Moderating effect of emotion dysregulation," *J. Appl. Dev. Psychol.*, vol. 44, pp. 12–20, 2016. <https://doi.org/10.1016/j.appdev.2016.02.006>.
31. J. J. Gross and H. Jazaieri, "Emotion, emotion regulation, and psychopathology: An affective science perspective," *Clin. Psychol. Sci.*, vol. 2, no. 4, pp. 387–401, 2014. <https://doi.org/10.1177/2167702614536164>.
32. X. Chen et al., "The relationship between self-efficacy and aggressive behavior in boxers: the mediating role of self-control," *Front. Psychol.*, vol. 10, p. 212, 2019. <https://doi.org/10.3389/fpsyg.2019.00212>.
33. R. M. Sofia and J. F. A. Cruz, "Self-control as a mechanism for controlling aggression: A study in the context of sport competition," *Pers. Individ. Dif.*, vol. 87, pp. 302–306, 2015. <https://doi.org/10.1016/j.paid.2015.08.025>.
34. C. Englert, "The strength model of self-control in sport and exercise psychology," *Front. Psychol.*, vol. 7, p. 314, 2016. <https://doi.org/10.3389/fpsyg.2016.00314>.
35. K. L. Payne, M. R. Wilson, and S. J. Vine, "A systematic review of the anxiety-attention relationship in far-aiming skills," *Int. Rev. Sport Exerc. Psychol.*, vol. 12, no. 1, pp. 325–355, 2019. <https://doi.org/10.1080/1750984X.2018.1499796>.
36. C. Mamayek, R. Paternoster, and T. A. Loughran, "Self-control as self-regulation: A return to control theory," *Deviant Behav.*, vol. 38, no. 8, pp. 895–916, 2017. <https://doi.org/10.1080/01639625.2016.1206730>.
37. Ö. Keskin, "Effect of sports satisfaction on aggression and stress in Judokas and Swimmers.," *J. Educ. Train. Stud.*, vol. 6, no. 6, pp. 31–40, 2018. <https://doi.org/10.11114/jets.v6i6.3142>.
38. R. D. Samuel, C. Englert, Q. Zhang, and I. Basevitch, "Hi ref, are you in control? Self-control, ego-depletion, and performance in soccer referees," *Psychol. Sport Exerc.*, vol. 38, pp. 167–175, 2018. <https://doi.org/10.1016/j.psychsport.2018.06.009>.