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COMPARISON OF THE AGGRESSION LEVELS BETWEEN NATIONAL LEVEL COMBAT SPORTS ATHLETES AND NATIONAL LEVEL NON-COMBAT SPORTS ATHLETES

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Abstract

In the society we live in today, sports could be the one thing in which, aggression is not only tolerated but is encouraged and considered to be acceptable behaviour. The society identifies combat sports to be violent and aggressive by its nature than its counterpart. Current study's main objective was to determine the difference in the levels of aggression between national level combat sports athletes and national level non-combat sports athletes in Sri Lanka. Further as the specific objectives, the differences in verbal aggression, physical aggression, anger, and hostility levels between national level combat sports athletes and national level non-combat sports athletes were also determined. A descriptive cross-sectional study was conducted using 133 athletes. Data were collected using an online questionnaire that included Buss-Perry Aggression scale. Data were analysed using SPSS version 25. Majority (72.9%) of the participants were males whereas 27.1% of the participants were females. Of the participants, 53.4% athletes were combat sports athletes and 46.4% were non-combat sports athletes. Hostility scores between combat sports athletes and non-combat sports athletes was not significantly different. The results of the study do not support the negative stereotypes concerning the perceived brutality of martial arts and combat sports, stating the combat sports makes the practitioner more hostile; whereas it suggests that the type of sports practice has no effect on hostility. These findings can be used in debunking negative stereotypes in order to educate and attract the sporting communities to practice combat sports.

Keywords: *Combat sports, Sports psychology, Aggression, Anger, Hostility*

Introduction

Aggression is a psychological construct which has been researched by numerous social scientists and psychologists on numerous occasions. In the society we live in today, sports could be the one thing in which aggression is not only tolerated but is encouraged and considered to be acceptable behaviour. According to (Russell, 1993), this occurs as we humans tend to perceive aggression very differently in different scenarios. Aggression consists of four main sub traits: verbal aggression, physical aggression, anger and hostility. Harming is considered a result of aggression where both verbal and physical aggression is combined. Aggression is not an independent construct; rather, it depends on anger, which is the psychological bridge and the psychological arousal that prepares an individual for aggression, and hostility, which is the sensation of ill will and injustice (Buss & Perry, 1992).

Szabo & Urbán (2014), mentions that the definition of combat sports according to 2008 Combat Sports act of New South Wales as "any of the following or a combination of any of the following: (a) boxing (or fist fighting) in any of its styles, (b) kickboxing in any of its styles, (c) any sport, martial art or activity in which each contestant in a contest, display or exhibition of that sport, art or activity is required to strike, kick, hit, grapple with, throw or punch one or more, other contestants and that is prescribed by the regulations, (d) sparring in any category covered in paragraph (a)–(c), except to the extent prescribed by the regulations."

The contemporary society identifies combat sports as violent and aggressive by nature (Bosson, et al., 2009). Despite the fact that combat sports have proved to be helpful in moral education and have a decreasing effect on social brutality, social perception of such sports are yet quite the contrary. The general opinion on combat sports is found to be negative in nature and the majority believes that these sports are associated with high levels of aggression in practitioners of combat sports. Further, combat sports athletes are perceived with the stereotype concerning the perceived brutality of martial arts and combat sports (Rogowska & Kuśnierz, 2013). According to Rogowska & Kuśnierz (2013) these negative attitudes cause individuals not to participate in these sports.

Although the majority of existing literature suggests a decrease in hostility upon increased involvement in the martial arts, these claims are contrary to Bandura's social learning model of hostility and aggression (Daniels & Thornton, 1992). Unlike instinct theories or the frustration-aggression hypothesis in sports psychology, social learning theory explains that, like any other social behaviour, all human aggression is learned by imitation and reinforcement (Jarvis, 1999). According to instinct theories, sport provides a legitimate way to express aggressive instincts, which results in the reduction of aggression in the community. The frustration-aggression hypothesis also suggests a similar idea: Sport is beneficial because it acts as a release for frustrations. Social learning theory fails to explain the existing literature supporting the idea that martial arts and combat sports training reduces rather than increases aggressive behaviour (Jarvis, 1999). Martial arts and combat sports offer a direct way of testing these contrasting views as, by nature, martial arts and combat sports make use of aggressiveness. If the social learning perspective is accurate, combat sports practitioners should have increased levels of aggression compared to their counterpart. Non-combat sports and martial arts training differ in the aggressive exposure to their respective practitioners. Apart from decreasing the effect on aggression, Szabo & Urbán (2014), suggest that there is an effect of combat sports in developing emotional regulation & emotional intelligence. The current study is focused on studying the claims of social learning theory to be true by comparing the aggression levels of combat sports athletes and non-combat sports athletes.

Modern martial arts/combat sports were introduced to Sri Lanka in the 1970. When considering the development and progression of martial arts & combat sports in Sri Lanka with their counterpart, it is evident that combat sports have failed in its development compared to non-combat sports. Even long before foreign martial arts were introduced, Sri Lanka owned its unique Martial art/combat sport named 'Angampora', which has eventually lost its popularity in the modern era as Sri Lankan communities are reluctant to participate in combat sports. Rogowska & Kuśnierz (2013) states that according to the theory of reasoned action, the stereotypes about combat sports that emphasize the brutality and aggressive nature of martial arts and combat sports have a significant influence on the attitude towards it. Even though it has not been proven in the Sri Lankan context to be the reason for decreased popularity of combat sports, the general belief is the negative attitude. This study takes the initiative to prove that aggression levels in athletes have no significant association with the type of sports practised, which will subsequently aid in challenging the negative stereotyping associated with combat sports.

Methodology

A descriptive cross-sectional study was conducted to determine the difference in the levels of aggression between national level combat sports athletes and national level non-combat sports athletes in Sri Lanka. Ethical approval (KIU/ERC/20/42) was obtained from the Ethics Review Committee of KIU. The data were collected from July 2020 to August 2020 from national-level combat sports and non-combact sports athletes of Sri Lanka. The convenience sampling method was used and the inclusion criterion for participants were as follows: age above 18 years, having more than 5 years of training experience and have won at least one national level medal within the last 3 years in their respective sports. The sample size was calculated using Cochran formula (estimate prevalence 50%). From 223 respondents, respondents who reported having a diagnosis of a mental disorder were excluded.

The participants were assessed using a self-administered questionnaire which consisted of demographic questions and The Buss-Perry Aggression Questionnaire (Buss & Perry, 1992). The face and content validity were ensured for the Buss-Perry Aggression Questionnaire. The demographic questionnaire gathered data relevant to age, gender, type of sport, years of experience in their sport, years of collegiate experience in their sport, and level of achievements in the last three years. Demographics were kept for record-keeping, checking inclusion & exclusion criteria and analysis. Whereas, The Buss-Perry Aggression Questionnaire consisted of four parts that were measuring physical aggression, verbal aggression, hostility, and anger.

Data were analyzed using SPSS version 25. The t-test and one-way independent measure multivariate analysis of variance (MANOVA) were used to analyse the data.

Results

Socio-demographic characteristics of the participants

In this study, a total of 223 participants completed the questionnaires. 90 participants who did not meet the inclusion criteria and those who met exclusion criteria were excluded from the final analysis. Among 133 participants, 27.1% (n=36) were females and 72.9% (n=97) were males. Of them, 53.4% (n=71) were combat sports athletes and 46.6% (n=62) were non-combat sports athletes. (Table 01).

Table 01: Sociodemographic information of the participants

Variable	Frequncy (n=133)	Percentage (%)
Age		
18-30	80	60.2
31-40	36	27.1
41 years and above	17	12.7
Gender		
Male	97	72.9
Female	36	27.1
Type of Sports		
Non Combat Sports	62	46.6
Combat Sports	71	53.4

The subscale analysis revealed that, on average, combat sports athletes scored 19.23 (SD = 7.04) on the anger subscale, whereas non-combat sports athletes scored 21.0 (SD = 7.14) (possible range of 7 to 35) and combat sports athletes scored 15.13 (SD = 3.96) on verbal aggression subscale where non-combat sports athletes scored 16.39 (SD = 4.51) (possible range of 5 to 25). On hostility subscale scores, combat sports athletes have a mean of 22.55 (SD = 7.16) where non-combat sports athletes have a mean of 22.89 (SD = 7.16) (possible range of 8 to 40). On physical aggression subscale scores, combat sports athletes have a mean of 24.68 (SD = 7.57) where non-combat sports athletes have a mean of 26.50 (SD = 9.01) (possible range of 9 to 45). Though these scores demonstrate that non-combat sports athletes have slightly higher means in all the subscales, according to the average scores from the original Buss & Perry (1992) paper, all the subscales gave scores within average range.

Differences in aggression levels between national level combat sports athletes and the counterpart

To test the hypothesis, national level combat sports athletes demonstrate higher levels of aggression than national level non-combat sports athletes in Sri Lanka, an independent samples t-test was conducted. The results of the t-test determined that there was no significant difference in total aggression, t(131)=-1.156, p = 0.518, between combat sports athletes and non-combat sports athletes.

Differences in physical aggression, verbal aggression, anger, and hostility levels between national level combat sports athletes and the counterpart

To determine if there is a significant difference in sub-traits of aggression between national level combat sports athletes and national level non-combat sports athletes in Sri Lanka, one-way independent measures multivariate analysis of variance (MANOVA) test was conducted. The one-way independent measures multivariate analysis of variance test determined that there was no statistically significant difference between combat sports athletes and non-combat sports athletes on the combined dependent variables, F (4)= 1.06, p = 0.38; Pillai's Trace = .03 partial Eta squared = .03. The MANOVA test also revealed that there is no significant difference in scores for anger scores between combat sports athletes and non-combat sports athletes, F (1)= 1.22, p = 0.27; and it also revealed that there is no significant difference in scores for verbal aggression scores between combat sports athletes and non-combat sports athletes, F (1)= 2.90, p = 0.09; and it also revealed that there is no significant difference in scores for hostility scores between combat sports athletes and non-combat sports athletes, F (1)= 0.07, p = 0.79; and also no significant difference in scores for physical aggression scores between combat sports athletes and non-combat sports athletes, F (1)= 1.61, p = 0.21.

Discussion

Existing literature supports both the idea that combat sports athletes are less aggressive than non-combat sports athletes (Keeler, 2007; Kuśnierz et al.,2014; Pasternak et al.,2020; Reynes & Lorant,2001) and with most recent findings, combat sports athletes being more aggressive than the non-combat sports athletes (Barczak et al., 2020), but there is a gap in the literature comparing the aggression levels of combat sports athletes and non-combat sports athletes when considering important facts such as balanced and unbiased samples, the performance level of athletes thus creating a need for continued studies in this area of sport behaviour.

Type of sports and total aggression

Based on the previous literature, combat sports athletes were expected to score higher on total aggression in the Buss-Perry Aggression Questionnaire (BPAQ). An independent samples t-test revealed that there is no strong, significant difference between national level combat sports athletes and national level non-combat sports

athletes in their total aggression scores. In fact, these scores are within the average range according to Buss & Perry (1992), suggesting that none of the sporting groups are aggressive than the general population. Previous research with French athletes revealed similar results, where combat sports athletes' scores on total aggression were not significantly different than non-combat sports athletes (Reynes & Lorant, 2001). Even though results were consistent with previous research, some existing literature indicates that combat sports athletes scores low on total aggression than its counterpart (Bosson et al., 2009; Daniels & Thornton, 1992; Pasternak et al., 2020). Even though much of the existing literature is from European region, results of the study conducted in Iran by Ziaee et al. (2012), indicates the findings are agreeable in that, combat sports athletes are not aggressive than their counterparts. Results of the current study support the same idea - combat sports athletes are not aggressive than their counterparts in the Sri Lankan context. Hence it can be suggested that there are no cultural differences in aggression in sports.

It is evident that combat sports, by nature, require a certain degree of aggressive behaviour and those behaviours are encouraged in the day to day practice and competitions (Rogowska & Kuśnierz, 2013). There are occasions when participants are to witness aggression in sports and there are numerous ways these aggressive behaviours are being reinforced (Jarvis, 1999). According to social learning theory, these aggressive behaviours must make combat sports athletes more aggressive when compared to the non-aggressive sport. As suggested in the frustration-aggression hypothesis, frustration leads to anger, which might result in aggressive behaviour (Jarvis, 1999). All sports, including combat sports, require athletes to perform under pressure. More the competitive game is, more the pressure builds up and more the athlete gets frustrated. For an athlete to be successful in his or her sports career, the method of responding to such frustrations is a critical skill. This skill could be learnt from the practice of respective sport. Further, it is also possible that more aggressive practitioners got selected over a period of time due to the fact they respond to frustration through aggressive behaviour rather than being assertive. In combat sports, mistakes made in competitions are often rewarded with the pain of getting hit. This negative reinforcement can help to learn the skill of how to respond to frustration in a productive manner. Either way, an individual has to learn how to control aggressive behaviours in order to survive in the sporting field. Instinct theories in sports also provide a legitimate platform to express aggressive instincts while it is beneficial as it allows a release of one's frustrations (Jarvis, 1999).

Type of sports and physical aggression

The results of the independent measure MANOVA indicate no strong, significant difference between national level combat sports athletes and national level non-combat sports athletes in their physical aggression scores. A longitudinal study with French athletes by Reynes & Lorant (2004), revealed similar results, where combat sports athletes' scores on physical aggression were not significantly different than non-combat sports athletes. However, these findings are not consistent with the findings of Barczak et al. (2020), where it suggests higher levels of physical aggression in combat sports athletes though it is not in line with the majority of the research findings. The current study findings indicate that in the given sample, which was selected from the Sri Lankan athletes, the physical aggression levels are not significantly different.

Type of sports and Verbal aggression

Levels of verbal aggression between national level combat sports athletes and national level non-combat sports athletes has no significant difference according to the results of the independent measure MANOVA test. These findings are consistent with the available literature. Findings of both Barczak et al. (2020), and Reynes & Lorant (2004), shows similar

results that there is no significant difference of verbal aggression on the type of sports. The current study suggests that in Sri Lankan athletes, the verbal aggression levels are not significantly different.

Type of sports and Anger

The results of the independent measure MANOVA test indicate no significant difference between national level combat sports athletes and national level non-combat sports athletes in their anger scores. These findings are consistent with the findings of Barczak et al. (2020), where it shows no significant difference between the groups. Contrastingly, the findings of Reynes & Lorant (2004), indicates that combat sports athletes demonstrate higher levels of anger compared to non-combat sports athletes. Although there is a significant difference in anger difference between the groups according to the findings of Reynes & Lorant (2004), the total aggression levels show no difference. The current study findings indicate that in the given sample from the Sri Lankan athletes there exists no significant difference in levels of anger.

Type of sports and Hostility

Levels of hostility between national level combat sports athletes and national level non-combat sports athletes have no significant difference according to the results of the independent measure MANOVA test. These results are consistent with previous research findings where the findings of both Barczak et al. (2020), and Reynes & Lorant (2004), indicate that there is no significant difference of hostility in the type of sports.

Limitations and Recommendations for Future Research

The current study contains few limitations and one being not achieving the sample size as the method of data collection had to be changed to the online platform due to social limitations of COVID-19, the global pandemic. This can impact on the generalizability of the study. Another limitation is the unbalanced sex ratio; however, it is a better representation compared to the previous studies which has only male participants or extremely low female representatives. This is most likely because the sports preferences differ between women and men. Since the current study used a self-reported survey, social desirability bias might have occurred. The research used an anonymous self-completion format in order to discourage respondents from answering the questions in a manner that will be viewed favourably by others. A major value of the present study while laying the foundation of sports literature, is this study addresses the difference and of general combat sports and general non-combat sports without limiting the participants to several selected sports. On the other hand, it is a drawback that the study fails to collect important demographic data such as the sport practiced rather than collecting data on which group the participants are included in. These demographic data would have supported the further explanation of the findings.

As this was a cross-sectional study, reaching a definite conclusion is impossible; hence, future studies must be designed to consider the effect of motivation in the involvement in combat sports and martial arts as well as the motives for dropping out. A larger sample with a longitudinal study design can clarify the question of whether combat sports make practitioners more aggressive or less aggressive. To be specific, as the existing literature indicates differences among various combat sports and aggression levels, a study must be conducted using various combat sports in order to examine if there are any differences in various combat sports on aggression levels within the Sri Lankan context.

Conclusion

Though there are negative stereotypes concerning the perceived brutality of martial arts and combat sports, stating that combat sports make the practitioner more aggressive findings of the current study contradict with this popular opinion while it suggests that the type of sports practice has no effect on aggression. These findings can be used in debunking these negative stereotypes in order to educate and attract the sporting communities to practice combat sports.

Reference

Barczak, A., Guszkowska, M., Adamczyk, J. G., Sołtyszewski, I., Safranow, K., Boguszewski, D., Sozański, H., Pepłońska, B., & Żekanowski, C. (2020). Aggression in the Polish elitecombat sports' athletes. *Studies in Sport Humanities*, *26*, 7–15. https://doi.org/10.5604/01.3001.0014.1247

Baron, R. A. (1977). *Human aggression*. New York, US: Springer.

Bosson, J. K., Vandello, J. A., Burnaford, R. M., Weaver, J. R., & Arzu Wasti, S. (2009). Precarious Manhood and Displays of Physical Aggression. *Personality and Social Psychology Bulletin*, *35*(5), 623–634. https://doi.org/10.1177/0146167208331161

Buss, A. H., & Perry, M. (1992). Aggression Questionnaire. *PsycTESTS Dataset*, 452–459. https://doi.org/10.1037/t00691-000

Daniels, K., & Thornton, E. (1992). Length of training, hostility and the martial arts: a comparison with other sporting groups. *British Journal of Sports Medicine*, *26*(3), 118–120. https://doi.org/10.1136/bjsm.26.3.118

Harwood, A., Lavidor, M., & Rassovsky, Y. (2017). Reducing aggression with martial arts: A meta-analysis of child and youth studies. *Aggression and Violent Behavior*, 34, 96–101. https://doi.org/10.1016/j.avb.2017.03.001

Jarvis, M. (1999). *Sport Psychology (Routledge Modular Psychology)*. Routledge.

Keeler, L. A. (2007). The Differences in Sport Aggression, Life Aggression, and Life Assertion Among Adult Male and Female Collision, Contact, and Non-Contact Sport Athletes. *Journal of Sport Behavior*, *20*(1), 57–76.

Kuśnierz, C., & Bartik, P. (2014). The impact of practice of selected combat sports on signs of aggression in players in comparison with their non-training peers. *Journal of Combat Sports and Martial Arts,* 5(1), 17–22. https://doi.org/10.5604/20815735.1127448

Kuśnierz, C., Cynarski, W. J., & Litwiniuk, A. (2014). Comparison of aggressiveness levels in combat sports and martial arts male athletes to non-practicing peers. *Arch Budo*, 10, 253–260. https://www.researchgate.net/publication/274389199_Comparison_of_aggressiveness_levels_in_combat_sports_and_martial_arts_male_athletes_to_non-practising_peers48

Pasternak, J. B., Szafraniec, L., Jaworski, J., & Ambrozy, T. (2020). Aggression in competitive and non-competitive combat sports athletes. *Journal of Martial Arts Anthropology*, *20*, 17–23. https://doi.org/10.14589/ido.20.2.3

Powell, J. W., & Barber-Foss, K. D. (1999). Injury Patterns in Selected High School Sports: A Review of the 1995-1997 Seasons. *Journal of Athletic Training*, *34*, 277–284. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1322923/

Reyna, C., Sanchez, A., Lello Ivacevich, M. G., & Brussino, S. (2011). The Buss-Perry Aggression Questionnaire: construct validity and gender invarianceamong Argentinean adolescents. *International Journal of Psychological Research*, *4*(2), 30–37. https://doi.org/10.21500/20112084.775

Reynes, E., & Lorant, J. (2001). Do Competitive Martial Arts Attract Aggressive Children? *Perceptual and Motor Skills*, *93*(2), 382–386. https://doi.org/10.2466/pms.2001.93.2.382

Reynes, E., & Lorant, J. (2004). Competitive Martial Arts and Aggressiveness: A 2-yr. Longitudinal Study among Young Boys. *Perceptual and Motor Skills*, *98*(1), 103–115. https://doi.org/10.2466/pms.98.1.103-115

Rogowska, A., & Kuśnierz, C. (2013). Determinants of the attitude towards combat sports and martial arts. Journal of Combat Sports and Martial Arts, 4(2), 185–190. https://doi.org/10.5604/20815735.1090740

Szabo, A., & Urbán, F. (2014). Do combat sports develop emotional intelligence? *Kinesiology*, *46*, 53–60.

Ziaee, V., Lotfian, S., Amini, H., Mansournia, M. A., & Memari, A. H. (2012). Anger in Adolescent Boy Athletes: A Comparison among Judo, Karate, Swimming and Non Athletes. *Iranian journal of pediatrics*, *22*(1), 9–14.