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Scheduled fight affect mood states of MMA athletes

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1. Introduction

Among the combat sports, mixed martial arts (MMA) has stood out over the past two decades. This sport has grown and expanded immensely, attracting media, spectators and sponsors, and increased participants in specialized martial arts academies (Sheridan, 2010). This MMA phenomenon has drawn the attention of researchers from different fields, such as medicine (Bernick, et al., 2013), sociology (Spencer, 2014), motor behavior (Baker & Schorer, 2013), and sports training (Del Vecchio & Ferreira, 2013).

Within sports psychology, Massey, Meyer and Naylor (2013) investigated the self-regulation of MMA athletes. Mood is a momentary emotional state that varies in intensity and duration (Lane & Terry 2000). Theoretically, the ideal mood (low negative factors and the high vigor) has been touted as key to a good sports performance (Terry, Lane, & Fogarty, 2003). However, in combat sports, this mood profile may be different. Brandt (2013) found that winning athletes in combat sports have a high level of vigor, higher levels of tension and anger, low depression, fatigue and confusion. Thus, it is important for sports science, in particular Sports Psychology, to understand the various factors that may be associated with changes in the mood states of MMA athletes.

In MMA it is common that athletes have scheduled fights in periodic events. This scheduling may impact their training and emotional state. In this sense, more studies are needed in this population of athletes. Thus, this study aimed to compare the mood of MMA athletes with scheduled fights (SF) to those without scheduled fights (WSF).

2. Methodology

Forty MMA male athletes of four academies from the Florianópolis region participated in the study. The participants average age was 26 years, ranging from ages 18 to 36 (± 4.85), with a mean height of 177 cm (±8.67), an average weight of 79.11 kg (±8.67), and an average of 3.5 years of MMA practice. Among these athletes, 13 (32.5%) compete at an amateur level, 5 (12.5%) at a regional level, 12 (30%) at a national level, and 10 (25%) at an international level.

A questionnaire was used for general characterization of the athletes, and the Brunel Mood Scale – BRUMS was used to verify the athletes' mood states. Athletes were also asked if they had a fight scheduled within the next two weeks. Data was treated using descriptive and inferential statistics trough SPSS software. Descriptive statistics were used, and data is presented in percentage and standard variation. For inferential statistics, Shapiro-Wilk test was used to verify data normality. In order to compare the mood states of MMA athletes with SF and WSF the non parametric Mann-Whitney *U* test was used. A level of significance of $p<0.05$ was settled. This study was approved by the Committee for Ethics in Human Research of the Santa Catarina State University under protocol 721,153/14.

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3. Results

There were 13 athletes with SF and 27 athletes WSF. Athletes with SF had the following mood profile: tension (M = 3.1 ± 3), depression (M = 1.4 ± 3.1), anger (M = 2.3 ±2.7), vigor (M = 10.9 ± 2.8), fatigue (M = 4.5 ± 2.7) and confusion (M = 2 ± 3.1). Athletes WSF presented the following mood profile: tension (M = 1.9 ± 1.7), depression (M = 1.5 ± 2.6), anger (M = 1.1 ±1.9), vigor (M = 11.1 ± 3.1), fatigue (M = 3.1 ± 3) and confusion (M = 0.9 ± 1.6). The comparison between the different mood states showed that tension and anger were significantly higher in athletes with SF.

4. Discussion and conclusion

Results showed that anger and stress were significantly associated with training when MMA athletes had a scheduled fight. The high amount of tension may be a dangerous aspect to athletes. Studies show that high amounts of tension can increase the likelihood of injury in athletes. The higher the levels of tension and anger, the greater may be the severity of the injury, due to the athlete's reduced physical and mental capacity in his sports' practice (Tenenbaun & Eklund, 2007). A high amount of anger may be a factor contributing to a less positive mood, however, anger at high levels can alter bodily perceptions, allowing the delay of fatigue and sustainment of agility. Thus, this would help the athlete to maintain focus in the activity during the competition (Massey, Meyer, & Naylor, 2013; Tenenbaun & Eklund, 2007). Consequently, we speculated that the fact of having a SF was an important factor in changing the mood in these athletes, especially tension and anger. The results of this study provide an initial analysis of MMA athletes' mood states. We suggest further studies to investigate mood longitudinally together with other psychological aspects such as motivation and stress. MMA is a new sport, which needs more research in order to understand the sport that has a promising market and is attracting more and more participants.

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