

## The Relationship Between Perceived Stress, Athletic Burnout and Leisure Participation Amongst Badminton Players

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### ABSTRACT

**Objective** – This study examines the relationship between perceived stress, athletic burnout and leisure amongst badminton players.

**Methodology/Technique** – The research subjects were all first national ranking tournament badminton players in 2012. The study uses convenience sampling to conduct a questionnaire survey. 350 questionnaires were distributed, with 288 valid questionnaires being returned (male 195, female 93). The rate of effectiveness was 82%. All of the data collected was analyzed using descriptive statistic and hierarchical regression analysis.

**Findings** – The results show that badminton players between the ages of 19 and 21 experience higher cognitive stress. Further, badminton players who are involved in competitions at a higher level and whom have been training for a longer period of time, experience a higher athletic burnout. This means that badminton players who have higher perceived pressure will experience higher levels of burnout.

**Novelty** – The study highlights that badminton players who participate in leisure-based activities are able to effectively adjust their perception of pressure to a “reduced sense of accomplishment” which has an effect on athletic burnout. Additionally, the study results give rise to variety of proposed solutions or suggestions for dealing with burnout or stress.

**Type of Paper:** Empirical.

**Keywords:** Hierarchical Regression Analysis; Sources of Stress; Leisure; Badminton Players.

**JEL Classification:** M10, Z20.

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## 1. Introduction

In recent years, athletic sports such as badminton, tennis, baseball, golf, and table tennis have developed rapidly in Taiwan. Successful coaches and athletes are now paid phenomenal remunerations, and have exceptional social reputation and status through their participation in sports. This is much of the reason why many parents enroll their children in sports and similar activities very early on in their lives (Lu, Chu, Tsai and Jan, 2009). Being involved in sports at a high level requires a lot of hard work, to be able to stand out among other competitors. With hard work, comes long hours and often stressful environments. This can contribute to high rates of exhaustion, depression and stress among professional athletes. Sports injuries and burnouts are also common. Since 1992, badminton has become one of the formal events in Barcelona Olympic Games. Viewing the recent in the international game, the athlete of Taiwan has great awards, and hope one day could get the gold.

Raedeke and Smith (2001) refer to athletic burnout as a type of athlete moods. Burnout can lower efficacy, and cause a decrease in athletes' mental ability. Many athletes will experience burnout at some stage in their career (Raglin and Morgan, 1980). Smith (1986) found that the athletic burnout is actually caused by the athletes themselves as a result of long-term pressure they place on themselves. Smith (1986) points out that athletic burnout is divided into four statements. First, training earlier in the day may be a leading cause of athletic burnout (Weinberg and Gould, 1999). Second, qualitative research conducted in Taiwan shows that athletes experience heightened levels of pressure during competitions, when they are injured, and when they are considering things such as their future goals, their income gained from sport and other lifestyle factors (Pan, 2008). However, the reason that athletes are placed under such immense pressure to perform, even from the early stages of their career, is because the harder they work in the early stages, the more likely they are to succeed in their chosen sport (Hsia and Lu, 2002).

When badminton players begin notice the imbalance between their physical strength and their ability to succeed, this will result in the feeling of pressure. However, Lowe and Bennett (2003) point out that there are certain adjustments that athletes can make to reduce the negative impact this pressure can have on their mood and their performance. Leisure has been shown to assist in decreasing pressure, reduce disease, and aid in maintaining both physical and mental health. Some people believe that engaging in leisure activities can help will adjusting to different types of pressure they may experience at one time or another. Leisure activities may also contribute to an improved mental state, which enables people to better handle stress and other mental factors (Coleman, 1993; Iwasaki and Mannell, 2000).

Through the information detailed above, it is clear that badminton players are one of the most common athletes to experience heightened levels of pressure during their career. While it is readily accepted that long-term pressure is a contributor to athletic burnout, there has been scarce research in this area in recent years. Moreover, leisure activities are becoming one of the most common methods of reducing stress and athletic burnout. This study therefore seeks to explore how the perceived stress experienced by badminton players influences their rate of athletic burnout, and those players may adjust this stress and burnout through engaging in leisure activities.

## 2. Research Methodology

The subjects of this study are the first players of the YONEX rank game. Convenience sampling was used and the subjects were surveyed between 15 May 2012 to 20 May 2012. The badminton field at the National Chung Hsing University of Taiwan was the research area used. A total of 350 questionnaires were distributed, with 288 valid questionnaires being returned, giving a recovery rate of 82.2%.

### 2.1 Research Instrument

The scale of stress perceived in this study is the scale of Pan (2008), and proposed by Ress, Hardy, and Freeman (2007). The scale of stress perceived only extracts a single factor. From the factor analysis, the spherical test was significant and the value of the KMO was 0.88. All questions items factor loadings  $>.5$ , the cumulative explained variance was 44.82%, and the Cronbach's alpha coefficient was .82. Further, the scale of athletic burnout used is the scale of Lu, Chen, and Cho (2006), as proposed by Raedeke and Smith (2001) from the scale of Athletic Burnout Questionnaire (ABQ). The athletic burnout scale extracts three dimensions, including "Physical Burnout", "Sports Devaluation" and "Reduce the Sense of Achievement". All questions items factor loadings  $>.7$ , the cumulative explained variance was 71.0%, and the Cronbach's alpha coefficient was .88, .86 and .80. The study also uses the leisure activity attend scale developed by Kuo (2008). The leisure activity scale only extracts a single factor. The factor analysis shows that the spherical test was significant and the value of the KMO was .79. All questions items factor loadings  $>.4$ , the cumulative explained variance was 42.22%, and the Cronbach's alpha coefficient was .72. All scales used have good construct validity.

## 2.2 Statistical Analysis

This study uses the SPSS 18.0 to analyze the collected data, as well as descriptive statistics, and hierarchical regression. All statistics in this paper were tested and had a significance level of  $\alpha = 0.05$ .

## 3. Results

### 3.1 Sample and Data Collection

The study subject features are as follows: Male 195 (67.7%); high school students 141 (49%); participants in Group B 209 (72.6%); national comprehensive games 174 (60.4%); participants training over six days 195 (67.7%); participants training between five to eight years 155 (53.8%). participants aged 16 to 18 years old 144 (50%).

### 3.2 The Simple Regression Analysis of Stress Consciousness to Athletic Burnout

The regression analysis results of stress perceived to the overall perspective of athletic burnout (physical burnout, sports devaluation, and reducing the sense of achievement) was significant ( $F=108.521, 67.245, 67.245, 14.718, p<.05$ ). The result therefore have significant explanatory power ( $R^2=.275, .220, .190, .049, p<.05$ ) and the standardized regression coefficients are positive, indicating that stress perceived has a positive effect on physical burnout, sports devaluation and reducing the sense of achievement. Hence, the more stressed the badminton players are, the more likely they are to experience athletic burnout.

### 3.3 The Hierarchical Regression Analysis of Stress Perceived and Leisure Activity to Athletic Burnout

The first step in this study was to explore the impact of the stress perceived (independent variable) on physical burnout (dependent variable). The results produced a significant result ( $F=81.807, t=9.045, R^2=.222, p<.05$ ), which means that stress perceived has a positive effect on physical burnout. Leisure participation was then added to the test, however this produced a negative result ( $F=40.781, t=0.181, R^2=.223, p<.05$ ). Then, stress perceived and leisure participation were added together, to consider whether these two variables have an impact. There was no significant difference between the two groups ( $F=22.661, t=0.723, R^2=.193, p<.05$ ), indicating that leisure participation does not produce any adjustment on the effect of stress perceived on physical burnout.

The second step was to explore the impact of stress perceived (independent variable) on sports devaluation (dependent variable). The result produced a significant result ( $F=67.245, t=8.2, R^2=.19, p<.05$ ), which means that stress perceived has a positive effect on sports devaluation. Then, leisure participation was added to the test and this produced a negative result ( $F=33.786, t=-.675, R^2=.192, p<.05$ ). Following this, stress

perceived and leisure participation were added together, to consider whether the either variable has an impact on the results. There was no significant difference between the two groups ( $F=22.661$ ,  $t=0.723$ ,  $R^2=.193$ ,  $p<.05$ ), indicating that leisure participation does not have any effect on the relationship between stress perceived and sports devaluation.

The third step was to explore the impact of stress perceived (independent variable) on a reduced sense of achievement (dependent variable). The result produced a significant result ( $F=14.718$ ,  $t=3.836$ ,  $R^2=.049$ ,  $p<.05$ ) which means that stress perceived has a positive effect on reduced sense of achievement. Following this, leisure participation was added to the test, and the results produced a negative result ( $F=8.228$ ,  $t=-1.304$ ,  $R^2=.055$ ,  $p<.05$ ). Then, stress perceived and leisure participation were added together, to consider whether either variable has an effect. The result produced were significant ( $F=7.929$ ,  $t=-2.643$ ,  $R^2=.077$ ,  $p<.05$ ), indicating that leisure participation does have an effect on the relationship between stress perceived and reduced sense of achievement.

As shown in Figure 1, when the participants who had a low level of engagement with leisure had a lesser sense of stress perceived, the were less likely to experience a reduced sense of achievement or athletic burnout. However, as shown by the slope in the figure, when those participants felt increased stress, they also had an increased sense of achievement. This indicates that stress has a positive effect on the participants' sense of achievement. Therefore, participants are able to reduce their stress levels and chance of burnout, as well as increase their sense of achievement, by engaging in leisure activities.

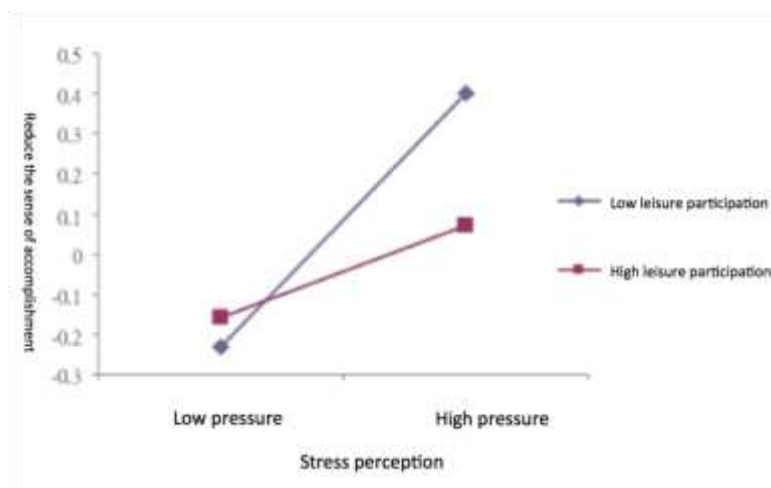


Figure 1. The Relationship of Stress Perceived, Competition Burnout, and Leisure Participation

## 4. Discussion

### 4.1 The Influence of Stress on Athlete Burnout Among Badminton Players

Stress has a positive influence on the likelihood of physical burnout, sports devaluation, and a reduced the sense of achievement. This means that badminton players will high levels of stress are more likely to experience athletic burnout. Previous literature has also found that most badminton players who play at an international level experience higher levels of stress and are often unable to reduce their stress effectively, which may lead to higher rates of depression or athletic burnout.

### 4.3 The Effect of Leisure Participation to the Relationship Between Stress and Athletic Burnout

Participation in leisure activities has the ability to reduce the effect of stress on the likelihood of players experiencing a reduced sense of achievement. According to the Leisure Adjust Theory, leisure activity can

expend self-feeling, in order to raise a person's ability to exercise self-control and thus to reduce their personal stress levels (Coleman and Iso-Ahola, 1993). Leisure can also help people maintain their physical and mental health. The research of Denovan and Macaskill (2017) also shows that engaging in leisure activity can effectively regulate the effects of environmental pressure and negative emotions. Further, Iwasaki and Mannell (2000) have developed the leisure adaptation strategy; its function is to reduce stress by instead provoking a positive emotion.

## 5. Conclusion

In this study, the badminton players surveyed used entertainment as their first choice for leisure activity. Therefore, in order for badminton players to avoid long-term pressure which may lead to burnout, they may choose to change the venue at which they train, to avoid repetitive and mundane training routines. Suggestions may include mountain running, which will not only enhance their strength and endurance, but may also increase their enjoyment of training.

The results of this study show that badminton players have the highest levels of athletic burnout; this may be due to the long-term pressure of training and competitions, which contributes significantly to muscle fatigue and other exhaustion. According to Chen and Chin (2016), the longer an athlete has been training, the more susceptible they are to burnout. Therefore, it is advisable for coaches to plan their training programs in a way that reduces pressure and promotes leisure. By engaging in leisure activities, it is possible to alleviate the fatigue caused by long-term training, which may in turn reduce stress levels and the likelihood of burnout.

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