

**An investigatory study of the effects of sport participation
on aggression, self-esteem and life satisfaction.**

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Abstract

The current study aimed to test the relationship between sport participation and psychological factors such as aggression, life satisfaction and self-esteem. The current study also aimed to test a relationship between life satisfaction and self-esteem. Gender and variations in sport type and sport structure were also tested. A sample of 140 participants were used. They were selected from various sporting groups. A control group of people who do not play a sport was also used. The questionnaire consisted of the life satisfaction scale, the clinical anger scale, the Framingham anger scale, the Rosenberg self-esteem scale and a demographic questionnaire. Results: no significant difference was found between sport participation and aggression, life satisfaction or self-esteem. A significant result was found between self-esteem and life satisfaction.

Introduction:

It is often assumed that exercise and participation in sport is good for us. It is believed to be beneficial in psychological ways making us happier, less anxious and leaving us with an overall sense of accomplishment and self-worth. But does participation in sport actually have that much of an effect on us? Do people who play sport really show signs of increased well-being? This study is carried out in an attempt of answering these questions. It aims at determining the differences in levels of aggression, satisfaction with life and self-esteem among participants who do and do not play sport.

Self-esteem and sport:

A person's self-esteem can be described as "the degree to which one values oneself" (Reber, Allen & Reber, 2009). A high self-esteem is desirable as it seems to promote successful life adjustment and improve mental health "even if it is a positive illusion that does not conform to reality" (Taylor & Brown, 1988 in Hewstone, Stroebe & Jones, 2008). A positive self-esteem is essential for psychological well-being. Self-esteem can influence an individual's social life and well-being. It is traditionally seen as a mediator of behavior (Hatter, 1989, as cited in Hayes, Crocker & Kowalski, 1999).

Confidence and contentment with life are common outcomes of high self-esteem whereas people with low self-esteem lack confidence and have a poor self-image. Sport can be a practical way of improving self-esteem. It is a popular belief that sport has both psychological and physical benefits. Tiggemann & Williamson (2012) found a positive

relationship between psychological well-being and exercise. Sport participation could be very beneficial as an individual might develop a positive image of their physical skills and abilities. An individual's self-concept is a significant factor in their level of self-esteem. A self-concept is "a cognitive representation of oneself that gives coherence and meaning to one's experience" (Hewstone, Stroebe & Jonas, 2008, p90). With obesity being a major problem among adults, exercising and playing sports may prove very beneficial in improving self-esteem. Women have reported exercising for weight control whereas men typically want to become heavier (Silberstein, Striegel-Moore, Timko & Rhodin, 1988).

Social relationships developed as a result of sporting activities may produce a feeling of self-worth. Kumar, Pathak & Thakur (1985) found that athletes have a higher levels of self-esteem in comparison with non-athletes (as cited in Bailey, Moulton & Moulton, 1999). Mark Leary and colleagues first introduced the Sociometer Theory which implies that self-esteem is a "psychological gauge" which monitors the extent to which an individual is accepted or rejected by other people. Self-esteem is somewhat an "internal representation of social acceptance and rejection" (Leary, 2006). If a person excels at a sport their self-esteem may improve as they receive encouragement and motivation from coaches and team mates. Winning the game or receiving awards may also increase the individual's self-concept.

Some people may develop a lower self-esteem if they perceive their bodies as inadequate. Satisfaction with one's body image can be a common concern among athletes which can ultimately affect their self-esteem. A study by Silberstein et al (1988) found that body esteem was associated with self-esteem for both men and women. They may associate

their self-esteem with level of performance. A study by Gotwals & Wayment (2002) found that higher self-esteem was correlated with better athletic performance. Another study found athletes with low self-esteem were dissatisfied with their performance believing their parents to be critical of them (Gotwals, Dunn & Wayment, 2003).

Many athletes have a high concern for the impression they make on others. They strive for perfection and try to come across as positively as they can. Athletes with this tendency for perfection are vulnerable to negative outcomes. Coaches may enhance the pressure on athletes to deliver a flawless performance. The athletes' self-concept is then contingent on meeting these standards. Negative levels of self-esteem can have many harmful effects on a person including depression and eating disorders (Button, Loan, Davies, and Sonuga-Barke, 1998). A study by Berry & Howe (2000) found a significant relationship between restrained eating and social pressure, self-esteem, body image and competition anxiety. They concluded that if these risk factors are present, athletes are at risk of developing an eating disorder regardless of the sport.

Tesser (1988; as cited in Hewston, Stroebe & Jonas, 2008) developed the Self-evaluation maintenance model. This model identifies 3 key variables in the process of self-evaluation. 1. The performance of self and others 2. Closeness of relationship between one's self and other person. 3. The degree to which the other's performance is significant to one's self-definition. Some combinations in this model can result in an increase in self-esteem while others may pose a threat. For example, being outperformed in a sport may threaten one's

self-esteem. It may lead the individual to try harder to better their performance. Or it could cause a feeling of incompetence.

As high levels of self-esteem are associated with increased confidence and self-respect it can be assumed that self-esteem may be related to life satisfaction. A study by Fox (1992) reported an association between self-esteem and positive achievements, satisfaction and decreased anxiety (as cited in Hayes, Crocker & Kowalski, 1999). Another study found a correlation between self-esteem and life satisfaction (Diener & Diener, 2009).

A commonly asked question in research on self-esteem is “are there gender differences?”. It is often presumed that a significant difference will be found between the two variables as men and women experience different expectations and struggles in day to day life. A study by Seifert and Miller (1988) found that females are judged more harshly than males (as cited in Kolb, 2006). Self-perceptions are commonly influenced by what is portrayed as ideal in the media. Physical fitness and attractiveness are becoming increasingly important in our culture with people being judged by their appearance more often. This can have a big impact on the levels of self-esteem as people are continuously comparing themselves to what they think is ideal. Women wish to be thin and toned while males want to be big and strong. A low self-esteem is developed when these expectations of themselves are not met. Research has shown a strong correlation between gender and self-esteem, revealing that males scored higher in global self-esteem than females (Kling, Hyde, Showers & Buswell, 1999).

Many studies have been carried out to test the relationship between self-esteem and aggression. It was originally thought that aggression was due to low self-esteem with some

researchers debating that individuals with low self-esteem are more prone to anti-social behavior and delinquency (Fergusson & Horwood, 2002, as cited in Donellan et al, 2005). However, it is also possible that high self-esteem is a mediator of aggression. A study by Papps and O'Carroll (1998) found that participants who scored high on the self-esteem scale had a higher level of anger expression. Some theories suggest that this could be due to a threat to the ego. To avoid a decrease in the individual's self-concept anger is directed outwards (Baumeister, Smart, & Boden, 1996).

To date there has been very little research surrounding the area of sport structure (team sport vs individual sport) and self-esteem. As previous studies have shown, self-esteem is related to sport participation (Kumar et al, 1999). However, no study specifies any difference between team and individual sport. A high level of self-esteem would be expected of participants who play a team sport. Team sports, such as dancing and Gaelic, promote social interaction which creates a form of social support. Social support has been found to correlate with high self-esteem (Brown, Andrews, Harris, Adler & Bridge, 1986). Identification with fellow players might also add to a feeling of self-worth. Individual sports, such as boxing and tennis, focus primarily on personal growth. Individual sport encourages self-confidence as the individual learns to rely on themselves, whereas in team sports players are encouraged to work together and rely on each other. However, this can have negative consequences. In individual sports, losing has a bigger effect on the player. They are expected to perform at top levels as they have no teammates to assist them. In team sports, after a loss the disappointment is shared and strategies are changed for the next game.

Sport and Life Satisfaction:

It is a well known fact that exercise can help reduce stress and increase feelings of happiness. Life satisfaction can be defined as a person's fulfillment or contentment with life. Life satisfaction is an important component of psychological well-being (Sells, 1969, as cited in Palmore & Luikart, 1972). It has been thought that participation in a sport can make an individual feel accomplished and less anxious. One study found that participants who played a non-contact sport had lower anxiety levels. (Barca Filho, Ribeiro & Garcia, 2005). Topics that will be discussed in relation to life satisfaction include gender differences, sport participation, aggression and self-esteem.

A main query in the research of life satisfaction is "what determines life satisfaction?" One theory is that the environment has a major impact on our life satisfaction. One study found the proportion of negative to positive events experienced by a participant during the previous year predicted the individual's life satisfaction the following year (Sousa & Lyubomirsky, 2001). The multiple discrepancy theory devised by Alex Michalo (1985, as cited in Sousa & Lyubomirsky, 2001) suggests that self-reported life satisfaction is determined by looking at "how things are" vs. "how things should be". If there is a large amount of discrepancies in this area it results in a low level of satisfaction with life. This theory was tested with 700 undergraduate students. The results revealed that both males and females derive global satisfaction with life in similar ways. Joseph Sirgy's theory similarly suggests that

expectations of what one is capable of achieving, one's ideals and what one feels one deserves all help determine life satisfaction. (Sousa & Lyubomirsky, 2001).

Gender is a common variable that is tested with life satisfaction. There are many conflicting findings in the area. Some studies show high correlations while others show none. Women tend to experience deeper sadness and greater joy than men. Women report higher rates of depression however they also show higher levels of well-being (Sousa & Lyubomirsky, 2001). A study by Diener and Fujita (1995) found that life satisfaction was predicted by social relations for both males and females. However athleticism was found to be related to life satisfaction only for males.

An experiment testing the association between life satisfaction and leisure found a positive relationship. People who scored high on the leisure activity scale had a higher life satisfaction (Joseph & Singh, 1996). However some studies have suggested that sport participation benefits males more than females. A number of studies have examined the effects of sport participation on life satisfaction and gender. A longitudinal study by Varca, Shaffer & Saunders (1984) found a significant correlation in life satisfaction and high sport participation in males but not in females. Their study also indicated that participation in sport in adolescence significantly affected satisfaction with life in adult males. However, a study by Zullig and White (2010) found a significant relationship between physical activity and life satisfaction in adolescent girls but not in adolescent boys. The researchers also found that playing on a team increased life satisfaction in both girls and boys. Adolescents who did not

play a sport were more likely to rate their health as fair or poor compared to teens who did play a sport (as cited in Condon, 2010).

The social aspects of participating in a sport may also improve life satisfaction levels in individuals. Being part of a team or club could lead to a sense of belonging or a feeling of purpose in one's life. Club or team membership might lead to social interactions outside the sport. As previously discussed in self-esteem, individual sports differ from team sports as personal development is focused on in individual sport. This could lead to a high level of life satisfaction as the individual may feel competent and confident in their own abilities.

Interest in the sporting activity may also encourage ambition for future careers. Achievements, for example trophies or belts in martial arts, could also increase satisfaction with life giving the individual confirmation of their abilities. Taking part in a sport has been shown to improve self-esteem. This increase in self-esteem can in turn increase the level of life satisfaction. A study by Chen & Zhang (2004) found that students with a high self-esteem had a higher satisfaction with life compared to students with low self-esteem. Osgood, Meyers & Orchowsky (1990) tested the impact of movement training and dance on adults aged 65 and over. Their research showed a statistically significant change in levels of life satisfaction. As the dance classes encouraged friendship and group participation it could be interpreted that the social aspects of physical activity led to increased life satisfaction, self-confidence and body awareness.

Aggression and sport:

"Aggression involves the intention to hurt or emerge superior to others, does not necessarily involve physical injury (violence) and may or may not be regarded as being underpinned by different kinds of motives" (Siann, 1985; as cited by Coulomb, 1998).

Aggression can be seen in sport as a result of factors including frustration, personality and the influence of role models. Some sports are more associated with violence and anger than others. The media tends to focus on violent incidents in sports giving the impression that sport promotes aggression. Researchers in the area of sport and aggression assumed the data would suggest that people who play sports would be less aggressive than people who do not play sport.

Contact sports refer to sports that have player to player contact and can be team sports such as Gaelic or combat sports such as Martial arts. Higher levels of physical aggression can be seen in this sport category. A study conducted to test the aggression levels in dating relationships in male college athletes found that college athletes, involved in contact sports, reported higher levels of trait anger compared to athletes involved in non-contact sports (Burns, 2010). A recent study showed that aggressive sport behavior was positively associated with contact sports and males (Conroy, Silva, Newcomer, Walker & Johnson, 2001). Aggression may be provoked more through contact sports, especially team sports, as there is additional pressure to win for your teammates.

However studies on martial arts suggested that sport participation does not necessarily encourage aggression. In one study the practice of tae kwon do in children aged 6-11 showed

lower levels of aggression in participants (Skelton, Glynn & Berta, 1991). Daniels & Thornton (1990) studied the levels of hostility in martial arts students and found that the longer they had been in training the less hostile they were. This suggests that participation in martial arts promotes discipline, which results in reduced hostility. A study to test the relationship between sport and delinquency showed that there was no significant association between sporting activity and aggressive behaviour (Begg, Langley, Moffitt, Marshall, 1996).

It is often disputed that there is a gender difference in aggression. Men seem more likely to express physical aggression. "male sex drive is at the root of most conflict in the world from football violence to world wars, scientists have claimed" (Von Radowitz, 2012). Previous studies indicate that males have a higher aggression level when it comes to contact sports. "Women tend to hold an expressive social representation of aggression (as a loss of self-control) while men tend to hold an instrumental representation (as a means of imposing control over others)" (Astin, Redston & Campbell, 2003). A study carried out by Burton, Hafetz & Henninger (2007) found that males reported higher physical aggression than females. A study by Burns, 2010, found that male participants differed significantly in their experiences of trait anger. Team cohesion can also influence aggression as participants unite together against the opposing team; violence towards one team member can result in multiple members becoming involved. The social aspects of team contact sports may explain why males seem more aggressive in contact sports compared to non-contact sports.

Non-contact sports such as dance have been seen as a form of reducing violence. In 2007 Byron Garcia, a security consultant for the CEBU Provincial Detention and Rehabilitation Center in the Philippines, introduced dance classes for the inmates. Dance was used as a form of rehabilitation for the prisoners. Garcia stated that since the introduction of dance classes “outbreaks of violence have subsided, inmates’ health has improved and recidivism rates are down dramatically”. The inmates showed a great interest in dance and collaborate together to rehearse the dances. 70% of the inmates were convicted for murder, rape and drug trafficking. Perhaps the reason for this dramatic decrease in violence was due to their new found talent giving them focus and motivation.

Aggression is an action which intends to harm someone. “Aggression also seems to be a way of maintaining social order among many species.” (McCawley). Some studies in behavior suggest that aggression may be learned. This can be done by direct reinforcement, ie. being rewarded for aggression, or through modeling “ learning by imitation, observing a model being rewarded or punished for his/her behavior” (Hewstone, Stroebe & Jones, 2008). Aggression can be seen a lot in sports. If a team wins, aggression shown throughout the game is somewhat reinforced by excitement and celebration. Coaches may also add to this positive reinforcement of aggression. They may also act as a model for members of the team. A study by Hartmann (1969) showed participants in competitive games showed increased aggressive behaviours. Also, this study showed boys and girls display equal aggressive tendencies when exposed to modeled aggression. Bandura, Ross & Ross (1963; as cited in Hewstone et al, 2008) performed the “bobo doll” experiment which tested modeled aggression. In this experiment children were exposed to an adult model behaving either aggressively or non-aggressively

towards a bobo doll. The results indicated that children who witnessed the aggressive model showed more aggressive behaviours. This experiment can be related to aggression seen in sports. Aggression in sports is shown frequently through the media, people are accustomed to this behavior and it is seen as a precondition of sport. This may make it seem more acceptable in amateur sports as it is portrayed on TV and often rewarded. Therefore sport participants who act out aggressively may be modeling the behavior of others. Nucci and Young-Shim (2005) found sport participation encourages sportsmanship and moral reasoning when there is positive leadership.

“The Frustration-Aggression Hypothesis model states simply that: "Aggression is always a consequence of frustration." (McCawley). This model suggests that when a person is prevented from achieving a goal, their frustration can transform into aggression. In competitive sports this is a likely outcome. The closer one comes to “scoring” the greater the frustration if they are prevented from doing so. One study showed that Individual sport athletes experienced more frustration upon losing than team athletes (Nucci & Young-shim, 2005). This could be due to additional pressure put on the individual to win whereas in team sports it is a combined effort, the expectations are never on one person alone. Although this theory suggests sport participants display a higher level of aggression it is predicted that they will have an overall lower level of aggression. This is due to the view that in a sporting environment frustration and aggression is a controlled issue. Therefore it is assumed any frustrations are taken out through the sport leaving the participant less irritated outside the game. A study by Donaldson & Ronan (2006) found lower levels of aggression and delinquency in youth who had a higher participation in sports.

Current study and Hypothesis:

Previous studies have shown that sport participation can lead to an increase in self-esteem (Kumar et al, 1985). This can be due to many things including a feeling of self-worth, increased physical fitness or increased body self-esteem (Silberstein et al, 1988; Gotwals & Wayment, 2002). Gender differences can be seen in many studies, some of which show males to have a higher self-esteem than females (Kling et al, 1999). At present there is a lack of research surrounding the area of self-esteem in people who play contact or non-contact sports. Many studies have been carried out using adolescents however there are few examining the self-esteem of adult athletes and non-athletes. This study aims to investigate the levels of self-esteem in individuals who play contact sport, non-contact sport and no sport. This study will also explore any gender differences in self-esteem and sport structure (team/individual). The current study will also investigate the relationship between self-esteem and satisfaction with life.

The research obtained regarding aggression was conflicting. Many studies indicated that sport participation increases levels of anger in participants (Hartmann, 1969; Conroy et al, 2001), whereas other studies propose that aggression levels decrease with higher levels of sport participation (Begg et al, 1996). There have been differences in aggression levels in contact and non-contact sports documented. In one study team contact sport participants were found to be more aggressive than non-contact sport participants (Kirker, Tenenbaum & Mattson, 2000). Individual sport athletes such as golf, tennis and taekwondo participants were shown to have lower levels of aggression (Kirker et al, 2000; Skelton et al, 1991). Due to

conflicting findings in previous research the current study is carried out in the attempt at examining the effects of sport participation on aggression levels. It is predicted that participants who play a sport will be less aggressive than those who do not play a sport. It is assumed that participants who play a sport take their aggression out “on the field” and are therefore more disciplined outside of sport. Differences in aggression levels between contact and non-contact sport participants will also be examined. There is little research regarding any significant differentiations between sport structure (team/ individual). This study will therefore investigate any relationship between aggression and sport structure as well as gender.

Studies regarding gender differences in life satisfaction have proven to be very conflicting. While some studies found a significant correlation with life satisfaction and sport in males (Varca et al, 1984) others found a significant result with females (Zullig & White, 2010). There are many aspects of sport participation which may contribute to higher life satisfaction including social interaction and positive reinforcement. There is little evidence to show any correlation between aggression levels and satisfaction with life. It is due to this that the current study will examine the relationship between aggression and satisfaction with life. It is expected that there will be a correlation between the two variables. This investigation is also carried out in the hopes of exploring the differences in levels of satisfaction with life in participants who play a contact sport or a non-contact sport. Individuals who do not play sport will also be considered. Differentiations in satisfaction with life among males and females will be investigated. There are many studies that investigate the relationship between team sport participation and life satisfaction; however, not many studies look at individual sport

participants. This study will examine levels of life satisfaction among team sport participants and individual sport participants. The following are the main hypothesis of this study:

- H1. It is hypothesized that there will be a significant relationship between participants who play sport and aggression levels.
- H2. It is hypothesized that people who play a sport will have higher life satisfaction.
- H3. It is predicted that there will be a significant association between self-esteem and participation in sport.
- H4. It is hypothesized that there will be a significant relationship between self-esteem and satisfaction with life.

Method:

Materials:

Each participant received a questionnaire pack consisting of the Framingham anger scale (FAS), Rosenberg self-esteem scale (RSES; Rosenberg, 1965), clinical anger scale (CAS; Snell et al., 1995) and the satisfaction with life scale (Diener et al., 1985). The first page of the questionnaire comprised of a cover letter to the participant explaining the nature of the study, the anonymity of the participant and their right to withdraw at any time. Participants were asked to answer five demographic and background questions at the beginning of the questionnaire.

The demographic and background questionnaire consisted of five questions including age and gender. Participants were also asked if they play a sport, what sport they play and how long they have played the particular sport.

The *Rosenberg Self-Esteem Scale* (RSES; Rosenberg, 1965) is one of the most widely used self-esteem scale in the social sciences. It is a ten item measure answered on a four point Likert scale ranging from “strongly agree” to “strongly disagree”. The Rosenberg self-esteem scale has a high reliability with a test-retest correlation ranging from .82 to .88. For questions 1, 3, 4, 7 and 10 answering “strongly agree” receives a score of 3, “agree” is assigned a score of 2, “disagree” is scored 1 point and “strongly disagree” is scored 0. For questions 2, 5, 6, 8 and 9 reverse scoring is used. Possible self-esteem scores range from 0-30. Individuals who score 22 or over are considered to have a high self-esteem. Those who score 21 or less are

considered to have a low self-esteem. Sample questions include “I feel that I have a number of good qualities” and “I feel I do not have much to be proud of”.

The *Satisfaction With Life Scale* (SWLS; Diener, Emmons, Larsen & Griffin, 1985) is a 5 item questionnaire which assesses general subjective well-being. It is a global measure of life satisfaction. The questions are answered on a seven point scale ranging from “strongly disagree” to “strongly agree”. The answers are scored ranging from strongly disagree=1 to strongly agree=7. Participants scoring in the range of 30-35 are classed as highly satisfied with life. The average score on the satisfaction with life scale is 21-25; people who score in this range are generally satisfied with their lives. Scores below 14 indicate the participant is dissatisfied with life. Pivot and Diener (1993) reported a test-retest reliability ranging from 0.83 to 0.50. Sample questions include “If I could live my life over, I would change almost nothing”.

Both the Framingham anger scale and the clinical anger scale were used in this study to test the participants’ level of anger and how they express it. This will give an indication of the participants’ level of anger and whether they are aggressive or not.

The *Framingham Anger Scale* (FAS) was developed in Massachusetts in a study of coronary heart disease risk. The scale assesses how anger is expressed when it is felt. The questionnaire measures the internalization of anger (anger-in) with questions such as “when really angry and annoyed I keep it to myself” and the externalization of anger (anger-out) with sample questions including “when really angry and annoyed I take it out on others”. The questionnaire also measures the discussion of anger (anger-discuss) asking questions like

“when really angry and annoyed I talk to a friend or relative (Grover & Thomas, 1993).

Participants answering “likely” scored 1 point, “somewhat likely” scored 2 points and “not likely” scored 3 points on each question.

The *Clinical Anger Scale* (CAS; Snell, 1995) was developed to measure clinical anger. The questionnaire consists of 21 groups of statements. Each group has 4 statements in which the participant is required to indicate which statement suits them best. The questions are answered on a four point Likert scale. The answers are scored ranging from A=0 to D=3. Participants who score from 0-13 are considered to have minimal clinical anger. Participants who score above 29 are classed as having severe clinical anger. A test-retest analysis was carried out and revealed a reliability of 0.78 (for both males and females).

Participants:

A sample group of 120 participants was used in this study. Each participant in this study was over 18. Participants were chosen from various sporting groups including non-contact and contact sports. Within the non-contact sport group, participants either played tennis or golf (individual non-contact sport) or were part of a dance team (team non-contact sport). There were 20 dancers, 10 tennis players and 10 golfers in total. Within the contact sport group participants either played Gaelic (team contact sport) or took part in martial arts (individual contact sport). There were 20 Gaelic players and 20 martial arts participants used in this study. A control group of 40 participants who reported not playing any sport was used. As gender was identified as a key variable for analysis, half of the respondents were male and half were female.

Design:

This study is a quantitative study with a cross-sectional design. Questionnaires were used for data collection purposes. The independent variable in this study is the sport played. The dependent variables are self-esteem, life satisfaction, aggression and gender. A control group of 40 participants was used. These participants do not play any sport. Participants were classified as belonging to either contact or non-contact sport groups. Within these groups they were assigned to individual or group depending on their sport. This study is a between-subjects design.

Procedure:

The manager or instructor of each sport was contacted by phone. Permission was granted to distribute questionnaires to participants of the class or team over the age of 18. The nature of the study was described to participants. Each participant received a questionnaire pack and a pen. Participants who played a sport were asked to fill the questionnaire out after they had practiced/trained. The cover letter on the front of the questionnaire informed the participant their right to withdraw at any time. It also notified the respondent that all questionnaires would be kept anonymous. The questionnaires took between 5-10 minutes to complete. The researcher remained present to answer any possible questions. Upon completion participants were thanked for their time and cooperation.

The questionnaires were collected and scored appropriately. The scores were entered into SPSS for analysis. Descriptive statistics were carried out on the data. Bivariate correlations

were performed to determine the relationship between the variables. A series of ANOVAs were used to test differences between the groups on the relevant variables.

The current study abided by all ethical principles. A cover letter accompanied the questionnaire informing the participant of the intentions of the study. It also informed them of the right to withdraw at any time. Confidentiality of each questionnaire was also guaranteed. The questionnaire was formulated with the intention of avoiding any harm that may be caused to participants. The study was conducted to obtain results honestly and accurately.

Results:

Age and Gender:

In the sample of 120 participants 75 respondents were between the ages of 18 and 25 (62.5%), 29 participants were aged 25-40 (24.2%) and 16 were above 40 years of age (13.3%).

The sample in this study was evenly distributed among males and females. The sample consisted of 60 males (50%) and 60 females (50%).

Main sport:

Surveys were given to various sporting groups for the purpose of data collection. 20 questionnaires were given to Gaelic players (16.7%), 20 were given to a martial arts class (16.7%), 10 were received from tennis players (8.3%), 10 were given to golfers (8.3%) and 20 questionnaires were distributed to dancers (16.7%). A total of 40 questionnaires were retrieved from participants who do not play a sport (33.3%).

Length of sport:

Among the 80 participants who play sport 3.3% claimed to have played for under 1 year, 18.3% said they had been playing for 1-5 years and 43.3% said they had played for over 5 years.

Correlational analysis was conducted to assess associations between scores on the SWLS, CAS, FAS and RSES. As can be seen in table1 (see appendix), a strong, positive correlation between satisfaction with life and self-esteem ($r(120) = .68, p < .01$) was observed supporting the fourth hypothesis. This indicates that a person's satisfaction with life increases with their level of self-esteem.

The correlations table also revealed a negative correlation between self-esteem and level of anger $r(120) = -.40, p < .01$ suggesting that aggression decreased as self-esteem increased. It was also found that self-esteem was positively correlated with anger-symptom $r(120) = .31, p < .01$ and anger-out $r(120) = .23, p < .05$, subscales of the FAS. These results indicate that the higher a person's self-esteem the lower their level of symptoms of anger and outwards aggression.

Satisfaction with life was shown to be negatively correlated with anger $r(120) = -.62, p < .01$. This suggests that anger levels decrease with a higher satisfaction with life. Satisfaction was also correlated with anger-symptom $r(120) = .35, p < .01$ and anger-out $r(120) = .19, p < .05$ suggesting that higher levels of satisfaction with life are associated with fewer symptoms of anger and outwards aggression.

The correlations table showed a negative correlation between anger and anger-symptom $r(120) = -.54, p < .01$ and anger-out $r(120) = -.37, p < .01$. It also showed a negative correlation with anger and anger-in $r(120) = -.18, p < .05$. These results show when anger levels increase so do anger symptoms, outwards aggression and inwards aggression.

This test revealed no significant correlation between the participants' age and any other variable including self-esteem, life satisfaction and anger. The length of time in which the sport had been played was also not significantly associated with any of the other variables. The Anger-discuss subscale of FAS, showed no significant correlation with any other variable. Both self-esteem and satisfaction with life showed no significant correlation with anger-in.

A series of ANOVAs were conducted to test the four main hypotheses.

In order to investigate the first hypothesis which predicted a relationship between sport and aggression a three-way independent analysis of variance was carried out. No significant result was found for anger and sport/ no sport ($F(1, 116) = .237, p > .05$). In addition, no significant relationship was found between anger and gender. A statistically significant difference was found, however, between gender and sport/ no-sport on anger ($F(1, 116) = 4.235, P < .05$). The results suggest that males who play a sport are less aggressive than males who do not play a sport. Males who play sport had a mean score of 7.75 whereas males who didn't had a mean score of 10.05. Females were found to be more aggressive when they do play a sport. Females who play sport had a mean score of 9.93 whereas females who didn't had a mean score of 6.20.

A three way independent ANOVA was carried out to test the effects of gender, sport type (contact/ non-contact sports) and sport structure (individual/team sports) on anger. A Bonferroni test showed the mean score for sport structure and anger was statistically significant ($F(1, 115) = 10.95, p < .01$). Team players reported higher levels of anger ($M = 11.55, SD = 7.45$) than individuals ($M = 6.13, SD = 7.68$). Participants who played no sport had a mean

score of 8.13. The ANOVA revealed no statistically significant difference in gender. Males had a mean score of 8.52 while females showed a similar mean of 8.68. It also showed no significant difference in contact and non-contact sports.

An ANOVA was performed to test the effects of gender, contact/ non-contact sports and individual/ team sports on anger-out. A Bonferroni test revealed no statistically significant differences were found between any of the variables on anger-out. These results suggest gender and sport type do not have an effect on outwards aggression.

The second hypothesis was tested using a two-way analysis of variance was performed to test the effects of gender, sport/ no-sport on satisfaction with life. No significant difference was found between sport/ no sport and life satisfaction ($F(1, 116) = .04, p > .05$). Gender also showed no significant effect on satisfaction with life. A significant difference in life satisfaction was found among sport structure ($F(1,115) = 12.36, p < .01$).

Another analysis of variance carried out to test the effects of gender, contact/ non-contact sports and individual/ team sports on satisfaction with life. A Bonferroni test found a significant difference between individual and team sports with life satisfaction ($F(1, 115) = 12.37, p < .01$). Individual sport players showed a mean satisfaction with life score of 26.55, team sport players had a mean score of 22.43. Participants who did not play any sport had a mean life satisfaction of 24.28. This test proposes that people who play an individual sport have a higher satisfaction with life than team sport players and participants who do not play sport. The ANOVA test found no significant difference with gender or contact/ non-contact sports on satisfaction with life.

In regards to the third hypothesis, an analysis of variance was conducted to examine the differences of sport/ no-sport and self-esteem, gender was also tested. No significant effect was found of sport/ no sport on self-esteem ($F(1,116) = 1.07, p > .05$). Similar to previous tests gender was found to be significant with self-esteem ($F(1,116) = 7.5, p < .01$).

The three way independent analysis of variance was conducted to examine the effects of gender, contact/ non-contact sports and individual/team sports on self-esteem. A Bonferroni test revealed a significant difference was found between gender and self-esteem $F(1, 115) = 10.79, p < .01$. The results indicated that males have a higher self-esteem than females. Males were found to have a mean self-esteem of 20.68. Females had a mean self-esteem of 18.4. No significant difference was found between contact/ non-contact sports and self-esteem $F(1, 115) = 2.9, p > .05$. There was also no significant difference found between individual/ team sports and self-esteem.

Discussion:

The purpose of the current study was to investigate the effects of sport participation on psychological factors such as aggression, self-esteem and life satisfaction. Another aim of the study was to examine any possible gender differences within the investigations. Sport participation was tested using participants from various sport types (contact/ non-contact) and sport structures (individual/ team). The Clinical Anger Scale (CAS; Snell, 1995), Rosenberg Self-Esteem Scale (RSES, Rosenberg, 1965), Framingham Anger Scale (FAS; Thomas & Atakan, 1990) and Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen & Griffin, 1985) were used in the questionnaire. These scales along with a demographic and background questionnaire were used for the purpose of data collection. Previous research examined in preparation for this study presented conflicting findings in many areas. The current study was conducted in an aim to investigate these differences. The first hypothesis predicted a significant difference in aggression levels would be seen among sport participants and participants who did not play sport. It was expected that high levels of life satisfaction would be observed among sport participants in comparison with non-sport participants. The third hypothesis proposed a significant association between self-esteem and sport participation. The final hypothesis predicted a significant relationship between self-esteem and satisfaction with life. In regards to these hypotheses, sport participation was tested in three ways: an overall group (sport/ no sport), sport type (contact/ non-contact/ no sport) and sport structure (individual/ team/ no sport).

An analysis of variance was conducted to test the relationship between sport participation and aggression. When aggression was tested along with sport/ no sport no statistical significance was found. The ANOVA also showed no significant difference between gender and aggression. However, when aggression was tested with both gender and sport/ no sport a significant difference was found ($F(1, 116) = 4.235, P < .05$). The results showed male sport participants were less aggressive in comparison with females. However, males who reported no participation in sports were found to be more aggressive than females. The results from this study coincide with certain previous studies. Lemieux, McKelvie and Stout (2002) conducted a study which found no significant difference in aggression levels among athletes and non-athletes. Other studies, however, have had contradictory conclusions with some claiming that sport participation reduces aggression (Begg et al, 1996). The catharsis hypothesis offers an explanation to the reduced aggression outside of sport by proposing that sport provides a socially acceptable environment for expressing 'built-up' anger. The theory suggests that acting aggressively or even watching aggression can help reduce anger (Bushman, B., Baumeister, R., & Stack, A. (1999). Some studies provide evidence that sport participation increased levels of aggression in athletes (Conroy et al, 2001).

As relevant research indicated a difference in aggression levels in contact and no-contact sports, an analysis of variance was also conducted to test these variables. The current study found no significant effect of sport type on aggression. This differs from existing research which suggested that contact sport participants show higher levels of aggression compared with non-contact participants (Kirker et al, 2000). Sport structure, individual and team participants, was also tested with aggression in this study. A significant difference was

found ($F(1, 115) = 10.95, p < .01$) suggesting that team sport participants scored higher on the anger scale than individual sport participants. These results are in line with previous research which proposes that involvement in individual sports results in lower levels of aggression (Bushman & Anderson, 2001 as cited in Sohrabi et al, 2011).

There were no statistically significant differences found among gender and aggression both in sport type and sport structure. A gender difference was expected to be found in relation with aggression due to prior studies (Burton et al, 2007). In addition, analysis of variance showed no significant difference in Anger-Out (a subset of the Framingham Anger Scale) and sport type, sport structure or gender. This indicates that outwards aggression is not influenced by sport or gender contrary to previous studies.

In relation to the second hypothesis, it was believed that high levels of life satisfaction would be observed among sport participants. Past studies indicated a significant correlation between high leisure activity and satisfaction with life (Joseph & Singh, 1996). This research offered support for this hypothesis. An analysis of variance was conducted to test the effect of sport participation on life satisfaction. The results revealed no significant difference in life satisfaction among sport/ no sport participants. This outcome differs from prior findings. The analysis also showed no difference in life satisfaction between contact and non-contact sports. However when sport structure was tested with satisfaction with life a strong significant difference was found ($F(1, 115) = 12.37, p < .01$). The analysis showed that individual sport participants reported higher levels of life satisfaction in comparison with team sports. Studies by Varca et al (1984) and Zullig and White (2010) observed gender differences, although

conflicting, in satisfaction with life. Due to this, gender differences were also tested showing no difference in life satisfaction between males and females which contradicts previous findings.

With previous findings suggesting a significant correlation between self-esteem and sport participation (Kumar et al, 1985) it was believed that similar findings would be observed in this study. However, no statistical difference was found when tested with sport/ no sport. Similarly when tested with sport type and sport structure no significant effect was found. In line with research by Kling et al (1999) a significant gender difference was found in this study. Males reported a higher self-esteem than females. In the process of investigating this hypothesis a significant relationship was found between self-esteem and anger, anger-out and also anger-symptom (subsets of the Framingham Anger Scale). The results indicated individuals with higher self-esteem had lower levels of aggression.

A Pearson's correlation was used to examine the fourth and final hypothesis between life satisfaction and self-esteem. The results were found to be in accordance with previous research (Fox, 1992) revealing a positive correlation between satisfaction with life and self-esteem. Satisfaction with life levels increased with higher levels of self-esteem. Upon examining this hypothesis it was also found that satisfaction with life correlates with anger, anger-out and anger-symptom. The data suggested anger, outwards expression of anger and symptoms of anger decrease as life satisfaction rises. An analysis of variance discovered a significant difference in sport structure and satisfaction with life. Individual sport participants

showed a higher level of satisfaction with life in comparison with team sports ($F(1, 115) = 12.37, p < .01$).

Weaknesses of the current study:

An important factor which may have had an effect on the results of this study is the size of the sample. The sample used in this study was generally small with only 120 participants altogether. The sample had equal numbers of males and females. The sample was further broken down into groups depending on the sport played, resulting in small numbers of participants per sport. This could have affected the results obtained regarding sport type and sport structure.

The current study was a cross-sectional design. Therefore, the participants were only assessed on one occasion. A repeated measures design may have been useful in this study. Participants could then have been tested before and after engaging in a sporting activity. The participants who did not play sport could also be assessed at two separate times to account for any changes which may occur over time.

Another weakness of this study involves the sport groups used. To examine sport structure and sport type a number of different sport groups were chosen. In total five sports were chosen for this study. It may have benefited the study to involve a wider range of sports.

Although age and length of time the sport was played showed no significant effect on the variables this could be due to the sample being disproportionate. The majority of the sample

ranged from 18-25 (62.5%) and have played for over five years (43,3%). It may have benefited the study to have a larger amount in each category.

As the scales used in the questionnaire and also the demographic and background questionnaire is all self-reported, a final weakness to this study is that the results may have been distorted.

Strengths of the current study:

The questionnaire distributed to the participants only took between 5-10 minutes to complete. This may be what contributed to the 100% return rate. It was easy to understand and quick to fill out.

The sport groups used for the purpose of this study varied in type (contact/ non-contact) and structure (individual/ team) providing the study with a range of different sport participants. This enabled the researcher to examine the effect of the variables on various categories of sport participation.

One strength of this study was that there was an equal amount of participants used from each sport type. There was also an equal number of males and females in the sample.

Another strength of the current study is that it is unique. In previous research there is yet to be a study which examines both sport type and sport structure with aggression, self-esteem and satisfaction with life. The current study adds to the previous research with unique findings.

In researching for this study there was a lack of research regarding adults and self-esteem, self-esteem and sport type (contact/ non-contact). This study accounted for this lack using over 18s in the sample and testing sport type also. In addition there was also a lack of research surrounding aggression with satisfaction with life and aggression with sport structure.

Future research:

As many of the results within this study were not in line with previous findings, further research in this area would be appropriate. With aggression, self-esteem and life satisfaction being the main dependent variables it is important to note that numerous situations can have an effect on these variables including employment status, financial situation, personality, level of education and culture. Future studies might incorporate some of these variables to account for any correlations with aggression, life satisfaction and self-esteem. Future studies might also consider using a larger sample of participants with a greater variety in sport type. A repeated measures design could also be used to test for variations in results before and after participation in sports. Non-athletes could then be tested to account for any differentiations over time. In future studies equal numbers in age and length of time in sport categories might be used to prevent distortion in results. Also, the amount of exercise per week might be considered for the purpose of determining the level of sport participation.

As all the sport types used within this study were of a competitive nature some future studies regarding the effect of exercise alone on self-esteem, aggression and life satisfaction might incorporate non-competitive physical training such as pilates, yoga and aerobics.

Little research was found in relation to aggression with sport structure and life satisfaction. There was also little evidence regarding any relationship between self-esteem and sport type. Future investigations would therefore be beneficial in determining any discrepancies in the findings of this study. As self-esteem, aggression and life satisfaction were all self-reported in this study, alternative methodology might be useful in future research such as experimental investigations.

In conclusion, the current study found no significant effect of sport participation on aggression levels. It was found that males sport participants showed lower aggression levels than females. Also individual sport participants showed lower anger levels than team sport participants. The current study found that sport participants did not have a statistically significant higher satisfaction with life in comparison with those who did not play sport. These findings opposed the second hypothesis. It was found that within sport structure, individual sport participants showed a higher level of life satisfaction than team sport participants. No significant relation was found between self-esteem and sport, contradicting the third hypothesis. The study did reveal a significant gender difference in self-esteem, however, showing higher self-esteem levels in males. The final hypothesis predicting a correlation between satisfaction with life and self-esteem was found to be valid. This finding is in line with previous research (Fox, 1992).

Although the current study had many strengths, it also had certain weaknesses. Further research is required in this area. This study might benefit future research by suggesting different approaches and methods of improving the study.

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Appendix:



Dear Participant,

I am conducting research on sport and its relationship with aggression, life satisfaction and self-esteem.

It would be very much appreciated if you could take the time to answer all questions. There are no right or wrong answers and answers will be kept anonymous and confidential. Your questionnaire answers will be turned onto scores and merged with those from other people so that no individual can be identified. Your answers will not be traced back to you, and you will not be asked to give your name or identification details.

You have the right to withdraw at any stage during the completion of this survey.

All you have to do is complete the questionnaire, which will take about 5-10mins.

If you have any questions regarding this research please do not hesitate to ask . My email is [email address].

7. I feel that I'm a person of worth, at least on an equal plane with others.				
8. I wish I could have more respect for myself.				
9. All in all, I am inclined to feel that I am a failure.				
10. I take a positive attitude toward myself.				

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
In most ways my life is close to my ideal.							
The conditions of my life are excellent.							
I am satisfied with my life.							
So far I have gotten the important things I want in life.							
If I could live my life over, I would change almost nothing.							

When really angry or annoyed I...

	likely	Somewhat likely	Not likely
Get tense or worried.			
Get a headache.			
Feel weak.			
Feel depressed.			
Get nervous or shaky.			
Try to act as though nothing much happened.			
Keep it to myself.			
Apologise even though I am right.			
Take it out on others.			
Blame someone else.			
Get it off my chest.			
Talk to a friend or relative.			

The group of items below inquire about the types of feelings you have, please read and circle the statement(or letter next to the statement) that best reflects how you feel.

PLEASE BE HONEST IN RESPONDING TO THE STATEMENTS.

1. A. I do not feel angry.
B. I feel angry.
C. I am angry most of the time now.
D. I am so angry and hostile all the time that I can't stand it.

2. A. I am not particularly angry about my future.
B. When I think about my future, I feel angry.
C. I feel angry about what I have to look forward to.
D. I feel intensely angry about my future, since it cannot be improved.

3. A. It makes me angry that I feel like such a failure.
B. It makes me angry that I have failed more than the average person.
C. As I look back on my life, I feel angry about my failures.
D. It makes me angry to feel like a complete failure as a person.

4. A. I am not all that angry about things.
B. I am becoming more hostile about things than I used to be.
C. I am pretty angry about things these days.
D. I am angry and hostile about everything.

5. A. I don't feel particularly hostile at others.
B. I feel hostile a good deal of the time.

- C. I feel quite hostile most of the time.
- D. I feel hostile all of the time.
6. A. I don't feel that others are trying to annoy me.
- B. At times I think people are trying to annoy me.
- C. More people than usual are beginning to make me feel angry.
- D. I feel that others are constantly and intentionally making me angry.
7. A. I don't feel angry when I think about myself.
- B. I feel more angry about myself these days than I used to.
- C. I feel angry about myself a good deal of the time.
- D. When I think about myself, I feel intense anger.
8. A. I don't have angry feelings about others having screwed up my life.
- B. It's beginning to make me angry that others are screwing up my life.
- C. I feel angry that others prevent me from having a good life.
- D. I am constantly angry because others have made my life totally miserable.
9. A. I don't feel angry enough to hurt someone.
- B. Sometimes I am so angry that I feel like hurting others, but I would not really do it.
- C. My anger is so intense that I sometimes feel like hurting others.
- D. I'm so angry that I would like to hurt someone.
10. A. I don't shout at people any more than usual.
- B. I shout at others more now than I used to.
- C. I shout at people all the time now.
- D. I shout at others so often that sometimes I just can't stop.
11. A. Things are not more irritating to me now than usual.
- B. I feel slightly more irritated now than usual.

- C. I feel irritated a good deal of the time.
- D. I'm irritated all the time now.
12. A. My anger does not interfere with my interest in other people.
- B. My anger sometimes interferes with my interest in others.
- C. I am becoming so angry that I don't want to be around others.
- D. I'm so angry that I can't stand being around people.
13. A. I don't have any persistent angry feelings that influence my ability to make decisions.
- B. My feelings of anger occasionally undermine my ability to make decisions.
- C. I am angry to the extent that it interferes with my making good decisions.
- D. I'm so angry that I can't make good decisions anymore.
14. A. I'm not so angry and hostile that others dislike me.
- B. People sometimes dislike being around me since I become angry.
- C. More often than not, people stay away from me because I'm so hostile and angry.
- D. People don't like me anymore because I'm constantly angry all the time.
15. A. My feelings of anger do not interfere with my work.
- B. From time to time my feelings of anger interfere with my work.
- C. I feel so angry that it interferes with my capacity to work.
- D. My feelings of anger prevent me from doing any work at all.
16. A. My anger does not interfere with my sleep.
- B. Sometimes I don't sleep very well because I'm feeling angry.
- C. My anger is so great that I stay awake 1—2 hours later than usual.
- D. I am so intensely angry that I can't get much sleep during the night.
17. A. My anger does not make me feel any more tired than usual.

- B. My feelings of anger are beginning to tire me out.
- C. My anger is intense enough that it makes me feel very tired.
- D. My feelings of anger leave me too tired to do anything.
18. A. My appetite does not suffer because of my feelings of anger.
- B. My feelings of anger are beginning to affect my appetite.
- C. My feelings of anger leave me without much of an appetite.
- D. My anger is so intense that it has taken away my appetite.
19. A. My feelings of anger don't interfere with my health.
- B. My feelings of anger are beginning to interfere with my health.
- C. My anger prevents me from devoting much time and attention to my health.
- D. I'm so angry at everything these days that I pay no attention to my health and well-being.
20. A. My ability to think clearly is unaffected by my feelings of anger.
- B. Sometimes my feelings of anger prevent me from thinking in a clear-headed way.
- C. My anger makes it hard for me to think of anything else.
- D. I'm so intensely angry and hostile that it completely interferes with my thinking.
21. A. I don't feel so angry that it interferes with my interest in sex.
- B. My feelings of anger leave me less interested in sex than I used to be.
- C. My current feelings of anger undermine my interest in sex.
- D. I'm so angry about my life that I've completely lost interest in sex.

Thank you for your interest and involvement in this research.

Table 2. Testing sport type, sport structure and gender on anger.

Dependent Variable: ANGER

Source	Type IV Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	701.996 ^a	4	175.499	3.264	.014	.102
Intercept	8875.200	1	8875.200	165.078	.000	.589
gender	.833	1	.833	.015	.901	.000
contact_noncon	99.012	1	99.012	1.842	.177	.016
indiv_team	588.612	1	588.612	10.948	.001	.087
Error	6182.804	115	53.764			
Total	15760.000	120				
Corrected Total	6884.800	119				

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Total	15760.000	120				
Corrected Total	6884.800	119				

a. R Squared = .102 (Adjusted R Squared = .071)

Table.3 Tests of Between-Subjects Effects

Dependent Variable: self_esteem

Source	Type IV Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	250.925 ^a	4	62.731	4.328	.003	.131
Intercept	45825.208	1	45825.208	3161.560	.000	.965
gender	156.408	1	156.408	10.791	.001	.086
contact_noncon	42.050	1	42.050	2.901	.091	.025
indiv_team	36.450	1	36.450	2.515	.116	.021
Error	1666.867	115	14.494			
Total	47743.000	120				
Corrected Total	1917.792	119				

a. R Squared = .131 (Adjusted R Squared = .101)

Table. 4 Testing the effect of gender and sport participation on anger.

Dependent Variable: ANGER

Source	Type IV Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	256.375 ^a	3	85.458	1.496	.219	.037
Intercept	7672.704	1	7672.704	134.275	.000	.537
gender	18.704	1	18.704	.327	.568	.003
sport_nosport	13.538	1	13.538	.237	.627	.002
gender * sport_nosport	242.004	1	242.004	4.235	.042	.035
Error	6628.425	116	57.142			
Total	15760.000	120				
Corrected Total	6884.800	119				

a. R Squared = .037 (Adjusted R Squared = .012)

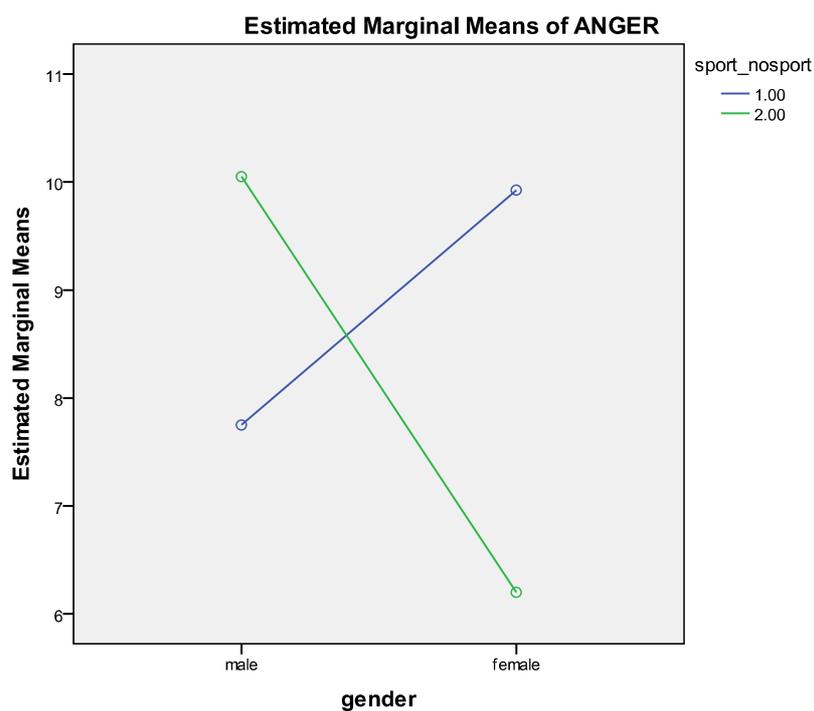
Fig. 1 Testing differences in anger among sport structure.

Table. 5 Testing the effect of sport participation on self-esteem.

Dependent Variable:self_esteem

Source	Type IV Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	185.492 ^a	3	61.831	4.140	.008	.097
Intercept	40196.817	1	40196.817	2691.699	.000	.959
gender	112.067	1	112.067	7.504	.007	.061
sport_nosport	16.017	1	16.017	1.073	.303	.009
gender * sport_nosport	13.067	1	13.067	.875	.352	.007
Error	1732.300	116	14.934			
Total	47743.000	120				
Corrected Total	1917.792	119				

a. R Squared = .097 (Adjusted R Squared = .073)

Table. 6 Testing the effect of sport participation on satisfaction with life.

Dependent Variable:SWL

Source	Type IV Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	84.342 ^a	3	28.114	.932	.428	.024
Intercept	63407.504	1	63407.504	2102.212	.000	.948
gender	55.104	1	55.104	1.827	.179	.016
sport_nosport	1.204	1	1.204	.040	.842	.000
gender * sport_nosport	6.337	1	6.337	.210	.648	.002
Error	3498.825	116	30.162			
Total	75124.000	120				
Corrected Total	3583.167	119				

a. R Squared = .024 (Adjusted R Squared = -.002)

