Is Tennis the Most Healthful Sport Physically, Psychologically, and Socially?

Abstract

Tennis could be the most healthful sport for a person to participate in. This article examined the research that has been done on the many health benefits of tennis in the context of the biopsychosocial (BPS) model of health. The BPS perspective integrates physical, psychological, and social factors when understanding an individual’s health. A 20-year study using over 10,000 subjects revealed that playing tennis three hours per week reduced the risk of death from any cause by 50% (Groppel & Nubile, 2009). Physically, playing tennis improves general health as well as lowers risk factors for numerous diseases. Psychologically, studies indicate that tennis players have scored higher than athletes from other sports and non-athletes on emotional exams. Socially, because tennis can be played by both genders, all ages, varying skill levels and in numerous formats the sport provides a social opportunity for large segments of society. Many people already know tennis as the “sport for a lifetime” but tennis should also be known as the “best biopsychosocial sport”.

Is Tennis the Most Healthful Sport Physically, Psychologically, and Socially?

Coined the “Sport for a lifetime”, tennis is played by over 75 million people worldwide and is considered by some scientists, physicians, and other experts as the most healthful activity in the world (Groppel & DiNubile, 2009; Pluim, Miller, Dines, Renstrom, Windler, Norris, Stroia, Donaldson & Martin, 2007). The basis for this powerful claim comes from the many health benefits that abundant research has revealed about the sport of tennis. The scope of health benefits that tennis can provide is beyond solely the physical realm, but also includes psychological and social benefits. The varying benefits that the sport of tennis embody closely mirror the biopsychosocial (BPS) perspective, which is the idea that health and behaviors are influenced by the collaboration of biological systems, psychological procedures, and social impacts (Straub, 2012). Examining the wealth of health benefits that the sport of tennis offers reveals the argument that tennis may be the best BPS sport on the planet.

The biological, psychological, and sociocultural components that make up the BPS perspective can undoubtedly be found in the sport of tennis. First, the basic fact that tennis is a physical activity clearly points to biological health values that the sport can offer to a participant. Second, the psychological benefits of tennis are clearly documented, for example Dr. Joan Finn and associates from the Southern Connecticut University conducted research unveiling that tennis players scored superior in optimism and self-esteem, while lower in depression, anxiety, anger, and tension than athletes from other sports and non-athletes (Groppel & DiNubile, 2009). Finally, the social context of the BPS perspective exists in tennis in a very positive sense as it is a fun sport that can be enjoyed by an entire family and is a sport that allows for frequent socialization (Cleveland Clinic, 2013).

**Physical Benefits of Tennis**

The physical or biological value of playing tennis cannot be denied. After performing a landmark study using over 10,000 people for over 20 years, Dr. Paffenbarger from the Harvard University School of Public Health declared that playing tennis three hours per week reduces an individual’s risk of death by half from any reason (Groppel & DiNubile, 2009). Specific physical health benefits acquired from playing tennis on a regular basis include improved aerobic fitness, anaerobic fitness, strength, coordination, agility, flexibility, immune function, bone density, and bone health (Groppel & DiNubile, 2009). Not only will general physical health be enhanced by participating in this sport, but many of the mentioned benefits can lower and remove risk factors for several diseases. Especially significant is that a major biological health benefit associated with playing tennis is the reduction in risk of cardiovascular disease.

Cardiovascular disease is the number one leading cause of death on the planet and causes 30% of all deaths worldwide (World Health Organization, 2013; as cited in Walker, 2013). The scientific and correlational studies regarding tennis convey the controllable risk factors for cardiovascular disease that can be diminished or removed from playing this sport. Among the controllable risk factors that can be reduced by an individual’s behavior are hypertension, obesity, cholesterol level, and tobacco use (Straub, 2012). These risk factors fall into the biological category of the BPS model of health, but are also linked to the psychological and social categories. One of the many studies pointing to the decrease in risk factors for cardiovascular disease from participation in tennis was a longitudinal investigation consisting of 1000 people who were tested once during and once after a 40 year period, revealing that the people who continued to play tennis through their middle ages showed superior health profiles with lower risk factors for this disease (Houston, Meoni, Ford, Brancati, Cooper, Levine & Klag, 2002).

One of the key factors relating to hypertension is blood pressure, which can distinctly be reduced through tennis play. This has been demonstrated by Jette, Landry, Tiemaan, and Blumchen (1991, as cited in Pluim, Staal, Marks, Miller & Miley, 2007) in a study of 21 male tennis players in their middle-ages. The Cleveland Clinic (2013) too backs the declarations that tennis play reduces blood pressure. Stress is also connected to hypertension and has been widely claimed to be diminished from tennis participation. A behavioral analysis in Japan found that only a single session of tennis relieved stress and tension (Kerr, Fauiyama, and Campano, 2002; as cited in Marks, 2006). Dr. John Murray (2000) similarly stated that the social interaction combined with the physical activity of tennis is a main reason why the sport reduces stress, anxiety, and muscle tension.

Obesity is high on the list of risk factors related to cardiovascular disease that can be prevented and reduced from playing tennis. This is particularly important as there over one billion overweight adults around the world with more than 300 million clinically obese (Pluim, et al., 2007). There have been four cross sectional investigations as well as other studies providing strong support that playing tennis contributes to the prevention of obesity (Pluim, et al., 2007). Studies of tennis and obesity have been done on various age groups, both genders, various levels of players, and have also been compared to other sports. Vodak and his colleagues (1980) conducted one such study uncovering that the body fat in 25 male and 25 female tennis players were all below average. It was also shown that people who participated in tennis compared to team sports were less likely to be obese (Schneider & Greenberg, 1992; as cited in Pluim, et al., 2007). Additionally, LaForest, St-Pierre, Cyr, and Gayton (1990; as cited in Pluim, et al., 2007) revealed that participation in tennis need only be leisure in their study of recreational players who were significantly lower in body fat than the control group they were matched up against for age.

 Related to obesity as a controllable risk factor of cardiovascular disease and also found to be improved by tennis play are cholesterol levels. Tennis has been shown to both, reduce unhealthy cholesterol levels and increase cholesterol that is associated with a lower risk of cardiovascular disease. Participants whose exclusive form of regular exercise was tennis displayed much lower levels of unhealthy cholesterol when compared to an inactive control group that was matched for education, age, and sex (Walker, 2013). Swank, Condra, and Yates (1998) showed that high density lipoprotein cholesterol (HDL) was higher in tennis players of a general population, while Howley, Gayle, Montoye, Painter, and Fleshhood (1982) showed the same positive HDL cholesterol results in tennis players over 55 years of age. Ferrauti, Weber, and Strüder’s (1997) study exhibited that positive effects on cholesterol numbers were already apparent after six weeks of play among recreational tennis players.

 Another controllable factor associated with higher risks of cardiovascular disease is the use of tobacco. Smoking is associated with 20 percent of all cardiovascular disease deaths and it can raise the risk of heart attack by more than double (Straub, 2012). Tennis players have been cited as being less likely to smoke and less likely to take part in other types of threatening activities when compared to participants of other sports (Schneider & Greenburg, 1992; as cited in Groppel & DiNubile, 2009). Dr. Murray (2000) claims that those who participate in tennis are more likely to have healthy behavior habits, such as increased self-control and a decreased use of substance.

 Tennis not only exercises the body, but it is also known to exercise the brain (Marks, 2006). Preventing and/or lowering the risks of cardiovascular disease are an enormous value, but another significant biological health benefit of playing tennis is the cognitive gains that people receive from the sport. It has been found that playing tennis can increase the production of beneficial proteins in the brain as well as increase the production of cells in the hippocampus, which is the area of memory and learning in the brain (Groppel & DiNubile, 2009). The tactical thinking that tennis involves is believed to create new connections among nerves in the brain, which could lead to brain development for one’s entire life of playing tennis (Wetzel & Harmeyer, 1999; Snider, 1996; as cited in Groppel & DiNubile, 2009; Murray, 2000). Marks (2006) as well as Groppel and DiNubile (2009) state that tennis has been shown to help seniors maintain cognitive abilities and alertness later in life. Numerous other forms of physical activity could offer similar physical health benefits, but the health values gained from tennis transcend beyond the physical aspects.

**Psychological Benefits of Tennis**

 In addition to the ample physical benefits that research has shown supporting tennis, the psychological realm of the BPS perspective is also enhanced from participation in this sport. As mentioned previously, Dr. Joan Finn along with collaborators from the Southern Connecticut State University conducted research uncovering that tennis players scored greater in optimism and self-esteem, while lower in depression, anxiety, anger, and tension than athletes from other sports and non-athletes (Groppel & DiNubile, 2009). All of these psychological traits are very valuable to the health of an individual. Optimism, in particular, has been said to help people live longer and healthier lives than those who are pessimistic (Segerstrom, 2006; as cited in Straub, 2012). The health benefit of stress reduction being able to reduce cardiovascular disease risk, as already presented, is also an invaluable psychological tool promoting well-rounded health.

Further support for the psychological advantages of playing tennis are revealed in collaborating research and studies from Brown (1983; as cited in Groppel & DiNubile, 2009) and Daino (1985; as cited in Groppel & DiNubile, 2009) reaffirming that tennis players scored higher than control groups in self-esteem, but lower in neuroticism, apprehension, anxiety, obsession, anger, and depression. It is important to maintain low levels of anger and other negative emotions since these variables can be as hazardous to the heart as smoking is. People scoring higher on an anger scale are more prone to have a heart attack than people scoring low (Williams, Paton, Siegler, Eigenbrot, Nieto & Tyroler, 2000; as cited in Straub, 2012). A similar comparison can be made between depression and smoking as this negative emotion can be the same as ingesting secondhand smoke and, therefore, is also a risk factor for cardiovascular disease (Wulsin & Singal, 2003; as cited in Straub, 2012). The claims that tennis can reduce negative emotions such as anger and depression are important to consider, as these are significant mental health risk factors that when moderated and eliminated lead to better physical health.

**Social Benefits of Tennis**

 The third element of the BPS perspective, social context, is as equally prevalent and enhanced from participation in the sport of tennis as the physical and psychological contexts are. Murray (2000) stated that countless psychologists and physicians prescribe physical activity as either a primary or secondary treatment for numerous emotional problems. The many emotional benefits of tennis can put tennis at the top of the list as a prescription to certain emotional difficulties. There are a plethora of ways to socialize through the sport of tennis by way of group lessons, leagues, tournaments, doubles play, mixed doubles play, family events, and more. The United States Tennis Association and the International Tennis Federation have websites that make it very easy to join the local tennis communities worldwide. Further, certified professionals around the world are able to help people of all ages, genders, and skill levels to begin tennis with the best start to enjoy a lifetime of fun and health (Groppel & DiNubile, 2009).

Gender and age perspectives, which are part of the social context in the BPS model, are highly evident in the sport of tennis. Tennis sisters and super stars, Venus and Serena Williams, like to remind people that tennis is as much a sport for women as it is for men (Cleveland Clinic, 2013). Brown (1983; as cited in Groppel & DiNubile, 2009) determined in an analysis strictly on females that tennis was an opportunity where females could gain achievement and improve self-esteem. Regarding age, tennis offers competition in age-groups ranging from the under eight division to the over 90 division, which is very rare in other sports. The many studies that have revealed physical, psychological, and social health benefits of tennis have shown the same well-rounded benefits for all ages, including old and elderly players. For example, on the social front, the interaction that is encouraged through tennis helps ward off loneliness in individuals, especially as they age and may have lost loved ones (Marks, 1998, Bailey & McLaren, 2005, Kolt, Driver & Giles, 2004; as cited in Marks, 2006). Most importantly, the large majority of people who take up the sport of tennis continue to play for their entire life making this activity an attractive sport to grow old with (Pluim, et al., 2006).

**Conclusion**

Experts in numerous fields have recognized the benefits of physical activity for many years, but what tennis has to offer its participants goes above and beyond ordinary exercise. Tennis is invigorating, it is satisfying, it is a great departure from the stress of life, and it is almost never too late to begin (Cleveland Clinic, 2013). Other sports may also provide fun and health benefits, but no other sport has garnered such acclaim for its superb physical, mental, and emotional health benefits (Groppel & DiNubile, 2009). This trio of benefits embodies the mind-body model of health that the BPS perspective exemplifies. Tennis is thought by many, and rightly so, as the “sport for a lifetime”, but it should also be known as the “best biopsychosocial sport”.

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