Collegiate eSport: Where Do We Fit In?

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Imagine a parent telling their child to come inside to practice their video games in hopes of getting a scholarship to college. This is the new and quickly evolving reality of eSport. There are currently 22 colleges that recognize eSport as a collegiate varsity team. Five of these 22 offered eSport scholarships for the 2015 to 2016 academic year. Robert Morris University was the first school to sanction eSport as a varsity sport and 17 of their eSport athletes are on 70% scholarship (1). The popularity of eSports is growing at a rapid pace. However, like many individuals in the health profession, you might lack familiarity of this new phenomena. eSports is an electronic gaming or also referred to as programing or competitive video gaming. Competitive video gaming has a global audience of more than 320 million, and it is being included in the 2022 Asian Games. It is being considered by the International Olympic Committee to be included in the Paris 2024 Olympic Games. eSports broadcasts games via the internet on a social platform through Twitch.tv. More people watched the League of Legends World Championship (32 million) than the Major League World Series (14.9 million) and the NCAA Basketball Final Four (15.7 million) (2,3). In 2017, it generated more than 400 million dollars in revenue (4). Goldman Sachs valued eSports at US $500 million in 2016, and by 2020 predicts it to generate more than US $1 billion (4). The grand prize for winning the championship can go as high as US $20 million. Smaller schools are starting to take notice and jump on board as a way to increase enrollment numbers. It brings new attention to colleges and a new type of student to enhance college recognition. The New York Institute of Technology created an eSport team in January 2017 with 8 players. Within one competitive season, it has grown to 37 players. "This will be the first full year that the team competes. I expect them to compete at the highest level possible, just the same as I expect from the traditional sports teams. They are a part of our department and my expectation of them is the same as the rest of our programs," says Daniel Vélez, director of Intercollegiate Athletics at the New York Institute of Technology.

However, when most people think of the word "sport," computer games is the last thing that comes to mind. When we hear the word "student-athlete" on campus, we do not envision someone sitting in front of a computer playing a video game. In fact, the exact activity of sitting in front of a computer game for hours is the opposite of what we perceive as an athlete.

The National Association of Intercollegiate Athletics (NAIA) recognizes eSport as a sport, but it is not yet sanctioned by the National Collegiate Athletic Association (NCAA). However, in December 2017, the NCAA reached out to Chicago-based Intersport, a sports and marketing firm to help explore its options, and is now investigating them as a "sport." Because both men and women can play together, it can fall under the category of emerging sports for women. You will find many articles on the Web supporting eSport. The Oxford dictionary definition of a sport is "An activity involving physical exertion and skill in which an individual or team competes against another or others for entertainment" (5). In an article by Kane et al. (2), the authors make the argument that eSport has been studied and that it fits the criteria for the physical exertion category. The one study they referenced is from 2010 that compared oxygen consumption ($\dot{V}O_2$) to three different gaming conditions. One game was played sitting, one was played standing and bowling, the third was what is considered a high-intensity game with abrupt arm movements while standing. The high-intensity game produced the greatest change in $\dot{V}O_2$ reserve. However, when we examine the $\dot{V}O_2$ level, the highest $\dot{V}O_2$ attained was comparative to the activity of raking leaves. The American College of Sports Medicine (ACSM) recommends moderate exercise to be between 40% and 60% of heart rate reserve (HRR) (6). The highest-intensity game studied while standing which produced the highest $\dot{V}O_2$ was still lower than 40% of HRR. At best, it can be argued that only while standing does gaming produce low level cardiovascular conditions similar to activities of daily living. ACSM recommends that individuals should exercise at greater than 40% of HRR to induce health benefits. The U.S. Centers for Disease Control and Prevention guidelines state that for substantial health benefits, adults should do at least 150 min (2 h and 30 min) a week of moderate-intensity, or 75 min (1 h and 15 min) a week of vigorous-intensity aerobic activity, or an equivalence combination of moderate- and vigorous-intensity

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aerobic activity. The intensity levels attained at the highest level game playing was below the minimum requirements to be classified as moderate intensity.

Recently, we surveyed more than 40 eSport team players from five different universities (data collection on-going). The average eSport player logs approximately 3 to 4 $h \cdot d^{-1}$ of practice. The serious competitors can go as high as more than 10 $h \cdot d^{-1}$ to prepare for competition. The most frequently reported complaint from the players we surveyed was eye fatigue (45%). Thirty-four percent of the players surveyed complained of back and neck pain. Another 27% reported having wrist and hand injuries. Additionally, 24% said they do not do any form of exercise, 30% said they try to do 30 to 60 min of exercise a few times per week. As we try to promote fitness and health on college campuses and in children, we need to find ways to support these players. Like most college sports, overuse injuries are inevitable. Also, like many sports, using stimulants is not uncommon. Staying focused for competition is key, and it has been reported that these players use excessive caffeine and Ritalin to stay focused.

The debate whether eSport players fit the criteria of an athlete goes beyond the scope of this article. Much in the way of exercise specialists trying to incorporate exercise onto college campuses, how do health professionals integrate themselves with such an activity as eSport? Although we may not all agree on the eSport concept of being a sport, it is important for ACSM to start making college campuses and health professionals aware of this rapidly growing competition and potential ways to keep players healthy and fit. In addition, we need to be prepared to deal with the medical consequences of this new activity.

How Do We Integrate the Health Professions Into the eSport Community?

Perhaps we should see how we, as health professionals, can accommodate these athletes. Should college eSport athletes have their physical activity levels assessed? Teams use cardiovascular and strength training to improve performance of their athletes to keep them fit and to reduce overuse injuries. If eSport is to be included as a college sport, perhaps eSport coaches should be required to physically train their players away from the computer for the same purpose as other teams. Should athletic trainers and exercise specialists dedicate time to incorporate more activity into the daily lives of these students? The University of California, Irvine, has incorporated individual exercise prescriptions for their eSport athletes. Should all schools start to incorporate physical training and rehabilitation services into the eSport programs? The average eSport athlete can conduct more than 400 movements per minute using a mouse or a keyboard (1). Perhaps physical therapists and occupational therapists can understand the common overuse injuries and offer ergonomically efficient ways to train. Physicians can be more sympathetic to the demands of this sport while assessing physical activity, diet, and the danger of excessive ergogenic aids.

Like many individuals in health professions, it is difficult to understand an activity that promotes being sedentary. We as health care professionals need to get actively involved. Where is our role in this new phenomena? Where should ACSM stand on eSport? That is a question that will likely be debated in the near future. However, the growth of eSports on college campuses cannot be understated, and it is not just a passing fad. We as health professionals have a wide open platform to research and to try to integrate our expertise into this new expanding frontier.

References

1. Schaeperkoetter CC, Mays J, Hyland ST, *et al*. The "new" student-athlete: an exploratory examination of scholarship eSports players. *Journal of Intercollegiate Sport*. 2017;10:1–10.
2. Kane D, Spradley BD. Recognizing ESports as a sport: United States Sports Academy. 2017;19. [cited 2018 Feb 8]. Available from: http://thesportjournal.org/article/recognizing-esports-as-a-sport/.
3. Melcher K. TEDx Talks. Gamers: the rising stars of collegiate athletics. 2016. [cited 2018 Feb 8]. Available from: https://www.youtube.com/watch?v=kcX11m1g3hs.
4. Elder R; BI Intelligence. The eSport competitive video gaming market continues to grow revenues & attract investors. March 15, 2017. [cited 2018 Feb 8]. Available from: http://www.businessinsider.com/esports-market-growth-ready-for-mainstream-2017–3.
5. English Oxford Living Dictionaries (n.d.) Sport. [cited 2018 Feb 8]. Available from: https://en.oxforddictionaries.com/definition/sport.
6. American College of Sports Medicine. *ACSM's Guidelines for Exercise Testing and Prescription*. 8th ed. Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins Health; 2010, pp. 456.