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Athletes' Substance Abuse and Mental Health

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Athletes’ Substance Abuse and Mental Health

Brandon T. Carreathers

Dr. Jeffrey Schulz, Mentor

Abstract

The physical and emotional pressures experienced by competitive athletes are challenging. Research shows that 52% of professional football players have admitted to opioid use (Cottler et al., 2011), while up to 89% of college athletes have reported using alcohol as a response to injuries or feelings of pressure (Anderson et al., 1991). In addition, about 33.2% of National Collegiate Athletic Association (NCAA) athletes reported having experienced episodes of depression (Debonis, 2019). This paper will examine the reasons why so many athletes’ careers result in drug abuse and how the mental health of these athletes plays a role in substance abuse within the athletic community.

Literature Review

Why Do Athletes Turn to Performance-Enhancing Substances?

Statistics on performance-enhancing drugs. To better understand substance abuse and mental health issues experienced by athletes, one must examine how an athlete becomes addicted to performance-enhancing drugs (PEDs). The most common cause would be the quest to improve competitive performance through doping. Grohman (2017) reported that

The study, conducted by researchers from Germany’s University of Tuebingen and Harvard Medical School in 2011, found that more than 30 percent of world championship participants and over 45 percent of athletes at the 2011 Pan-Arab Games said they had taken banned drugs. (para. 2)

The use of PEDs has been an issue since at least the 1950s (National Institute on Drug Abuse [NIDA], n.d.).

The use of performance-enhancing substances remains a seri-
ous problem. At least 63 of the 205 countries participating in the 2016 Olympics sent athletes who had served previous suspensions for doping (Figure 1). Ukraine sent eight, the highest number of athletes who had a history of doping; the second-highest was the United States, which sent seven (Aisch & Rebecca Lai, 2016).

Figure 1. Countries with Athletes in Rio Who Served PED Suspensions (Aisch & Rebecca Lai, 2016)

There are many types of PEDs, making it extremely difficult to track their use. Over 192 banned PEDs are registered by the World Anti-Doping Authority (ProCon.org, 2010). Though there are many types, the most popular PEDs used by athletes are anabolic steroids, blood doping, Erythropoietin, and Human Growth Hormones (ProCon.org, 2010). In a 2011 survey of many world-class athletes, up to 57% admitted using PEDs in the past year (Specktor, 2018).

Pressures Faced by Athletes

Types of pressure athletes face. While it may seem that many athletes use PEDs because they want to cheat, many use them because of the high levels of pressure they face to succeed at all costs. In 2009, New York Yankees Alex Rodriguez admitted to the Entertainment and Sports Programming Network (ESPN) that he took steroids because of the amount of pressure he felt when he arrived in Texas in 2001 (ESPN, 2009). Rodriguez is one of many athletes who turned to PEDs due to the enormous amounts of pressure.

This pressure to succeed at such a high level comes from the athletes’ organizations and their families. NCAA research (Figure 2) re-
revealed that many Division I athletes believe their parents expected them to play at the professional level (NCAA, 2016).

Figure 2. Parental Pressure on Division One Male Athletes

In addition to family pressures, athletes set personal goals that are nearly impossible to achieve. One such goal is to become a professional athlete. Fewer than 2% of college athletes succeed in becoming “pros” (NCAA, 2018), yet despite these slim odds, Olympic participation is an important goal (Figure 3). Many athletes are driven by a fear of failure. They take PEDs to compete in high-level sports and for the chance to have their success recognized. Even if they fail, many still become substance abusers.

In 2017, the U.S. Anti-Doping Agency conducted a survey that asked 800 current and former athletes how they responded to personal pressure. Results indicated that 48% of the respondents worried about how they were perceived when they were not successful. In addition, 61% believed that public attention was only focused on winners (United States Anti-Doping Agency [USADA], 2019).

Substance Abuse as a Result of Injury

Effects of injuries on athletes. Substance abuse is a common result of receiving prescription medication for sport-related injuries (American Addiction Centers [AAC], 2020). Athletes may ask doctors
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Figure 3. Career Aspirations of Athletes (NCAA, 2016)

for pain medication so they can continue to play while recovering from an injury. Athletes may also underreport injuries, or ignore the negative effects of a prescription pain medication, in order to keep playing. Research conducted by Washington University on 644 former NFL players showed that more than half of the participants used opioids during their NFL careers, and 71% knowingly misused the drugs (Dryden, 2011).

The use of PEDs becomes problematic when, after healing, players continue to take the pills. An HBO segment, “Real Sports with Bryant Gumbel: Hooked,” highlighted the case of a former high school football star, known as “Allieri,” and his addiction to pain pills (O’Brien, 2015). Allieri tore a ligament in his thumb during a drill in practice and went straight to the hospital. Prior to his surgery, he started to take prescription pills:

And I remember, the first pain pill that they gave me, I felt really good. I actually felt very calm. I felt a sense of confidence that I never felt before. I knew it was going to be the start of something. (0:41)

Measures to focus awareness on opioid abuse should be taken seriously. A University of Michigan study found that 21% of male athletes and 14% of female athletes suffered sports-related injuries each year (Veliz et al., 2014). The male athletes were more likely to be prescribed opioid
painkillers and more likely to abuse the pills than non-athletes (Veliz et al., 2014).

**Substance Accessibility**

**Accessibility statistics in sports.** The accessibility of PEDs is a key component in substance abuse. These substances can be obtained in a number of ways. In an interview published in Sports Illustrated, Calvin Johnson, a former Detroit Lions player, said, “When I got to the league, there was opioid abuse. You really could go in the training room and get what you wanted. I can get Vicodin, I can get Oxycontin. It was too available” (Breech, 2019, para. 3).

The rate at which drugs are distributed to athletes by team doctors and coaches is also a contributing factor. A 2017 court case identified which National Football League (NFL) teams were under investigation for violating federal laws governing prescriptions, through their disregard of guidance from the Drug Enforcement Administration (DEA) on how to manage controlled substances. The investigation focused on the storage, transportation, distribution, and long-term practices of supplying players with painkillers and anti-inflammatories (Maese, 2017). In 2012, Lawrence Brown, the NFL medical adviser, found that team doctors typically “prescribed nearly 5,777 doses of nonsteroidal anti-inflammatory drugs and 2,213 doses of controlled medications to its players” (Maese, 2019, para. 12). Several athletes filed lawsuits against the NFL based on these findings.

Professional athletes are paid well and, due to celebrity status, often have little difficulty in obtaining PEDs. There is some discrepancy between the pro athletes’ and average person’s ability to receive substances. A University of Michigan researcher, Philip Veliz, conducted a study on the prevalence of opioid medication use in 743 male and 751 female adolescents in organized sports. He reported that “11% will have used a narcotic pain reliever such as OxyContin or Vicodin—for nonmedical purposes” (Rodriguez & Wertheim, 2015, para. 16). People can also obtain prescription drugs from non-medical sources. Figure 4 indicates that 50% of pain reliever users obtained them from a friend or family member for free (Lipari & Hughes, 2017).

The rate at which substances are being prescribed is a major source of the problem. In the United States, over 500,000 people died from the misuse of painkillers between 2000 and 2018 (Bump, 2018). Researchers at Washington University’s School of Medicine interviewed 644 former football players about their use of prescription painkillers while
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Figure 4. How People Obtain the Prescription Pain-Relievers They Misused. (Lipari & Hughes, 2017)

playing in the NFL. Results showed that 52% of respondents said they used prescription painkillers. Of that group, 71% admitted to the misuse of prescription painkillers (Barr, 2011).

What Substances Are Athletes Abusing?

Stimulants and their effects. Stimulants are one of the most popular forms of PEDs (Dandoy & Gereige, 2012). Stimulants directly affect the user’s central nervous system, heart rate, and body temperature. Athletes use stimulants to reduce fatigue and enhance their natural abilities (Page & Henry, n.d.). Some of the most common stimulants amongst athletes are amphetamines such as Adderall, methylphenidate (Ritalin), and cocaine. It is medically proven that injecting the drugs produces faster results than ingesting a pill orally. The health risks vary, depending on the specific drug and how it is taken (Mui, 2017).

Using amphetamines can cause low or high blood pressure, abdominal pain, blurred vision, an increased likelihood of seizures, anxiety, irritability, and mood swings (Newman, 2017). Amphetamine use may result in long-term addiction. A survey found that nearly 4.8 million people in the United States abused prescription amphetamine medications in 2015 (Hughes et al., 2016).

Athletes also turn to Erythropoietin (EPO), a hormone naturally produced by the kidney. EPO assists in the formation of red blood cells in bone marrow (Nabili, 2019). This is useful for athletes because red blood cells carry oxygen to other cells and help athletes work longer and hard-
The misuse of EPO can lead to serious health consequences, such as blood getting thicker, an increased risk of heart disease, stroke, and pulmonary embolisms (ProCon.org, 2010). EPO has a growing abuse rate in endurance sports because of the oxygenation advantages experienced by the athlete (John et al., 2012).

**Alcohol.** Despite being a commonly abused substance (Figure 5), alcohol use is often overlooked in the athletic community. The NCAA began tracking alcohol abuse amongst all division levels in 1985; in 2013, the sample included 20,000 participants. Data indicated that one of the most reported abused substances is alcohol. Student-athletes were found to have higher rates of binge drinking compared to non-student-athletes (Hainline, 2017). Athletes reported turning to alcohol when suffering from chronic pain, and 28% of users reported excessive alcohol use (Chapter 1: The Effects of Alcohol on Sport Performance, 2020).

Binge drinking may lead to liver damage, causing bleeding in many parts of the body, including the esophagus, small intestine, large intestine, rectum, or anus (Wint, 2019; Saljoughian, 2009). Binge drinking may also lead to damaged brain cells, liver disease, and cancer in the gastrointestinal tract (Burke, 2017). Life-altering intellectual challenges, including dementia and Wernicke-Korsakoff syndrome, may also be the result of alcohol abuse, leading to confusion, vision changes, or memory loss (Burke, 2017).

**Figure 5. Alcohol Use Rates in College Athletes (Reardon & Creado, 2014)**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Athlete population</th>
<th>Percentage of athletes using substance</th>
</tr>
</thead>
</table>
| Any substances banned by WADA | Elite athletes across sports (positive drug test) | 2% over past year 
75%–93% for male athletes; 71%–92% for female athletes over past year 
85% over past year |
| Alcohol | College athletes (self report) | 0.7%–4.6% over past year 
0.2%–5% for males depending on sport; 0.0%–1.6% for females depending on sport over past year 
95% used at some point in career |
| Anabolic steroids | High school students (self report) | 67% used at some point in career |
| | College athletes (self report) | 28% over past year |
| | Professional football players (self report) | 52% used at some point in career (71% of those missed at some point in career) |
| Cannabis | College athletes (self report) | 23% over past year |
| | Competitive power lifters (self report) | 40%–50% over past year |
| | Professional baseball players (self report) | 35%–40% over past year |
| | College baseball players (self report) | 20%–30% over past year |
| | Professional football players (self report) | 3% over past year |

Many successful athletes have suffered from alcoholism. Michael Phelps, the most decorated Olympian in history, revealed his struggle with alcohol abuse in 2014 (Dyer, 2020). Others, however, lost their lives
mental health and substance abuse. Athletes facing intense pressure to perform at the highest level may also face mental health challenges. Studies show that one out of every three first-year college athletes suffer from some type of mental health or stress problem (Ferguson, 2018). Performance anxiety can lead to symptoms of depression, yet a 2014 NCAA report found that student-athletes are less likely to report symptoms of depression and anxiety compared to their non-athlete peers (Davoren & Hwang, 2014). Of those college student-athletes surveyed, 25% experienced sleep problems. Individuals who abuse substances are often diagnosed with related mental health disorders (NIDA, 2020).

Comorbidity is common in mental health substance use disorders (Gordon, 2019). Substance abuse affects the areas of the brain impacted by depression, anxiety, schizophrenia, and bipolar disorder, and those affected with mental illness may lean on substances (marijuana, alcohol, etc.) as a means of coping (Gordon, 2019). Although nearly nine million people experience co-occurring disorders, according to the Substance...
Abuse and Mental Health Services Administration, only 7% receive treatment for both disorders, and nearly 60% receive no treatment at all (Gordon, 2019).

**Gender distinctions in the mental health of athletes.** A study measured symptoms of depression in 465 student-athletes at Division 1 schools from 2013 to 2015. The researchers used the Center for Epidemiological Studies Depression Scale as a means of identifying gender differences when it comes to prevalence of depressive symptoms by sport, as seen in Figure 6 (Wolanin et al., 2016).

Findings from the study indicated that track and field athletes experienced the highest prevalence of depressive symptoms among the sports investigated in the research. Female athletes in every sport were almost twice as likely to experience depressive symptoms. These results were supported by an American College Health Association study, which also found that female student-athletes showed a higher prevalence of mental health issues (28%), as opposed to males (18%) (Ingeno, 2016). While 33% of male athletes claimed to have experienced overwhelming symptoms of depression, 52% of women reported similar struggles. This study found that while 23% of both Black and White student-athletes experienced feelings of depression, the sense of being overwhelmed rose to 45% in Whites, as opposed to 34% in Blacks (Figure 7) (Gray & Blyholder, 2018).

Research suggests that women are about twice as likely to develop...
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Figure 8. Average Height and Weight of Male Athletes in Professional Sports (AAC, n.d.)

depression, anxiety, or an eating disorder as men (Ching, 2018). After interviewing over 25 female athletes, studies found that eating disorders were prevalent among the women. Body image was also of concern to the athletes; female athletes sought to build enough muscle to compete, but they felt pressured to remain thin enough to be seen as “beautiful” outside of sports (Ching, 2018). A former Division 1 female gymnast said, “I’ve never met a gymnast who was in love with their body” (Ching, 2018, para. 5). Pressure to meet cultural standards of beauty affects the athletes’ mental health and self-esteem, and it may conflict with the training they need to compete in top-shelf competitions.

Male athletes face challenges with body image, as well. One in four people who struggle with eating disorders are male (Stanford & Lemberg, 2012). Men may be more reticent to seek support due to masculine role socialization and the social norms surrounding male appearance (Winerman, 2005). Many athletes struggle to train their bodies to resemble those of professional athletes; some go to extreme measures in order to achieve that “perfect” body type. Athletes may experience “overtraining syndrome,” a condition in which they engage in intense physical training “without paying proper attention to nutrition, sleep and recovery” (Doyle, 2016, para. 3). Figure 8 shows the average height and weight of men in several professional sports, as compared to the average American man. These data illustrate the disparities between male athletes and other men. Developing and maintaining an ideal performance-physique may lead to both mental and substance abuse disorders.
Athletes are susceptible to struggles with mental health and substance abuse for numerous reasons. While performance enhancing is a clear factor in the use of PEDs, it is important to factor in the amount of pressure these athletes experience. The pressure to succeed at all costs may stem from the expectations of coaches, teammates, or the athletes’ families.

The intense drive to succeed can lead to injuries, which, in turn, may lead to substance abuse, particularly when athletes are prescribed enough painkillers to last them for long periods. Alcohol is an easily accessible substance, which requires no prescription. The prevalence of depression, anxiety, and eating disorders suggests that both female and male athletes face challenges with mental health and substance abuse. We must view athletes’ substance abuse and mental health problems as the problems of our society at large. We must better educate ourselves about these issues and ensure that every team or educational institution trains staff and physicians to offer appropriate assessments and support to athletes.

REFERENCES


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