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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

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Introduction

Imagine being an athlete who has just given your all in a basketball game, only to face intentional punishing workouts and reduced playing time because a biometric tracking device showed your heart rate didn't maintain the demanded 90% capacity. This was the reality for players at Texas Tech University, where a heart monitoring technology, meant to enhance performance, was misused to punish and control athletes. This led to over half of the team's players leaving the program in 2 years, likely out of fear for their careers (Associated Press, 2020). In the higher level sports industry, while monitoring technologies are advertised as tools to enhance player performance and development, these tools can be used to create a system that prioritizes winning and physical output metrics over the well-being of the participating athletes.

This intrusive surveillance high level athletes face not only jeopardizes their careers as athletes, but also significantly impacts their autonomy, mental health, and free will. The case at Texas Tech University illustrates a broader issue within the sports industry where the data intended to support athletes is instead used as a mechanism of control that affects them negatively. To analyze the dynamics influencing athlete monitoring in the sports industry, I will use Actor-Network Theory (ANT), a framework that explores the relationships between human and non-human actors by treating them as equally influential in shaping outcomes (Moore et al., 2009, p. 647). In this case, however, that balance is disrupted. Athletes are consistently positioned with less power than other actors in the network. These actors include athletes, coaches, and fans on the human side, and biometric technologies, the media, and privacy regulations on the non-human side. By investigating how monitoring practices can integrate with athlete privacy and establish a balanced power dynamic within the network, this paper aims to identify the boundary between beneficial data collection and use for athlete success and the point

at which it becomes exploitative, prioritizing fame, fortune, and team branding. It will highlight areas where there is an imbalance of power between actors, clearly demonstrating instances where the line has been crossed, compromising the athletes' autonomy, mental health, and free will. In this paper, autonomy refers to the athletes' ability to make independent, informed decisions without external pressures, while free will refers to their ability to act freely without control over their choices or opportunities.

Illusion of Consent - Autonomy

Athletes often appear to agree to being monitored, as they actively participate in creating or negotiating contracts before willingly signing agreements that subject them to monitoring. However, this apparent consent is undermined by the pressures from other existing actors in the sports industry's network, creating a feeling of obligation rather than a choice. These dynamics strip athletes of their autonomy, taking away the space to make an informed decision. The illusion of consent to athlete monitoring is shaped by the pressure of actors within the network, including coaches, team brand, contracts, and regulatory policies, all reinforcing the normalization of intrusive monitoring. This section focuses on how consent is manipulated within the system, costing athletes their autonomy.

From a deontological perspective, autonomy is a fundamental right and vouching for other's autonomy is an obligation. Athletes have the right to control their own body and professional choices without being coerced by external pressures. Agent-centered deontology emphasizes that morality is personal and each individual must maintain moral agency over their own actions (Alexander & Moore, 2024). When athletes are pressured into surveillance under the illusion of consent, their ability to make an independent moral decision is gone, violating their fundamental right to autonomy.

While it is true that athletes have the ability to negotiate the terms of their contracts in terms of monitoring and collecting biometric data, the true power they have in the negotiation is far more complex. The fall of athlete autonomy begins with no universal privacy laws for athletes, already putting them at a disadvantage. There is currently no universal federal data privacy law in the United States, with only a few data privacy related laws in specific areas such as child data collection without parental consent or regulations for specific use of health information. The United States heavily relies on industry standards and guidelines for most privacy policies (Martin & Murphy, 2017). Because of this reliance on industry standards, athletes are already in a position where they count on the industry to protect them. Some have tried to establish some sort of standard, but at the end of the day, it is not protecting athletes as a whole. In 2022, the Major League Baseball Association successfully negotiated a provision prohibiting the league from selling or licensing players biometric data (Park, 2024). At first glance, this seems like a win for athlete privacy, but when looking across other sports leagues, there is a clear gap. A deontology perspective would argue that leaving privacy protections to industry discretion is ethically irresponsible. Athletes shouldn't have to depend on the league to protect their rights, that should be a given that can't change if there is a shift in priorities of the sports organization. If major professional sports organizations fail to establish industry standards, biometric surveillance can be easily forced onto players without full consent in their contractual agreements.

You might be thinking, why can't an athlete just agree to play their sport and say no to biometric data collection altogether? Even when contracts allow for individual athletes to opt out of data collection, doing so places them at a competitive disadvantage. As Karkazis and Fishman (2017) argue in a double-anonymized peer-reviewed publication in the American Journal of

Bioethics, players who refuse to wear biometric tracking devices can be seen as uncooperative, leading to decreased playing time or even fines. This example shows how refusing monitoring can lead to career damaging consequences, making true consent impossible. While the technology may offer benefits, the reality is that athletes are not given freedom to make decisions on monitoring without harming or fearing for their careers.

Coaches and team management also play a critical role in shaping the illusion of consent. For example, college level athletes are particularly susceptible to pressures from their coaches because they are aggressively recruited before the age of 18 and rely on scholarships. A study done by Jessop and Baker (2019) found a high correlation between players agreeing to biometric monitoring and their coaches' desire to access and use the data. While this study was not published in a peer-reviewed journal, Jessop is a credible source with extensive expertise as a sport industry leader, attorney, and professor at Pepperdine University. Her work focuses on athlete well-being and has been featured in major outlets like *The Athletic* and *The Washington Post*. This study raises questions about whether athletes truly are making informed, independent choices, or if they are following the expectations set by their coaches. Unlike professional athletes, many college level athletes are navigating a system where saying no to monitoring could mean losing a scholarship.

The illusion of consent to monitoring highlights how power imbalances shape athlete participation in the sports industry. Regulatory gaps, contracts and coaches' pressures, and team expectations all contribute to an environment where athletes are stripped of their autonomy. The comparison between professional leagues like the MLB, which have tried to add privacy protections for athletes, and the NCAA, with athletes in an even more vulnerable position, show the need for uniform regulations. From a deontology perspective, failing to recognize and protect

athlete autonomy is a moral failure, as autonomy is a right to uphold and can't be made at the discretion of any kind of organization (Alexander & Moore, 2024). The ability to make independent decisions is a key part of humanity, and this current balance of the network is unacceptable. Without federal regulation, athletes will continue to be stripped of their autonomy and be overpowered by their team and league policies that serve to maximize revenue over their players' welfare.

Dehumanization of Athletes - Mental Health

Monitoring athletes in the sports industry primarily focuses on physical performance metrics such as heart rate, hours slept, and all sorts of numeric data points that fail to account for a holistic picture of their lives. Reducing an athlete to numbers solely based on physical performance leads to burnout and mental health issues, as they become a physical asset instead of a human being (Sanderson, 2009). This reinforces a network where biometric tracking technologies, coaching staff and the organization they support, and fans interconnect to dehumanize athletes, detrimentally impacting their mental health. This section focuses on how the reliance of biometric surveillance and external surveillance dehumanizes athletes, negatively impacting their mental health.

Within the network, data-driven decisions are made based on athletes' biometric data and shape the athletes' career. As these athletes are constantly evaluated based on their physical output, they experience extreme stress that is valued less than their performance. A striking example, documented in a peer-reviewed journal focused on optimizing human performance and health, is the use of wearable GPS devices in professional rugby to track metrics like speed. Although these technologies are intended to improve performance and safety, they are often used as disciplinary tools that impose intense demands on players. One performance analyst recounted

how a coach would call players into his office solely based on GPS data, warning that "if you haven't done enough and the data shows that, there is a good chance they won't pick you"(Jones et al., 2016, p. 42). This misuse of athlete data contributes to mental and physical strain as players are pushed to their limits to provide optimal results (Jones et al., 2016).

Sanderson (2009) highlights in a peer reviewed journal how sports organizations find athletes valuable based on performance and estimated future performance, treating them as commodities. This mindset goes hand in hand with biometric tracking, as the goal of constant surveillance is to optimize an athlete's performance for a team. The point of these technologies is to monitor every aspect of an athlete's body, reducing them to data points that will reflect their "value". In this context, the athletes' value is not based on their humanity, but on current and projected physical output metrics. This simplifying view of looking solely at the data, as pointed out in the peer reviewed source by Jones and others in 2016, shows a significant disregard for the athlete's holistic health in favor of maintaining or enhancing performance metrics.

While Sanderson points out biometric tracking itself causes athletes to be seen as commodities, I believe fans do as well, compounding to strain their mental health. Any time a new injury is shared or athlete data goes public, fans create and reinforce expectations of those athletes whether it's because they are rooting for or betting on them. This creates external expectations that force athletes to go and meet them, likely at the expense of their mental well-being.

Just like coaches in charge of finding value for an athlete in data points, fans engage in similar dehumanization. A study was done and published to a peer-reviewed journal to track unconscious bias to see if participants were more likely to associate professional athletes with animals in comparison to a non athlete. The results showed people did in fact subconsciously

associate professional athletes with animals in comparison to the non athlete, making the athlete seem far from human (Larkin et al., 2023). This suggests that athletes are not perceived as human, but rather as physical assets whose function is to perform well. This perspective creates an environment where mental health is consistently disregarded. Sanderson (2009) also notes that sports organizations frame athlete well-being in terms of preserving their value instead of legitimate concerns for their well-being, both physically and mentally. Athletes are shown over and over again that their worth comes from their physical performance statistics and their public perception. There is no way this dynamic creates a mentally stable environment for any human.

The rugby case study also highlights a critical disconnect between intention and impact. While biometric technologies aim to assist athletes, their use often results in practices that compromise well-being. Coaches often dismissed GPS data meant to protect athlete health in the rugby case, using it instead to enforce rigorous training schedules. Instances were noted where coaches totally ignored significant increases in training load metrics that should have been warning signs for overuse, ultimately leading to player injuries. This kind of athlete data misuse not only risks the physical health of players but creates a cycle where their value is seen purely in terms of output, not their overall well-being (Jones et al., 2016). This normalized monitoring environment fueled by both internal pressures from coaching staff and external expectations from fans, show prominent implications for mental health issues among athletes.

No Privacy, No Power - Free will

When athletes are constantly tracked and evaluated based on their training, performance, and even personal habits, their actions become data points in a system that controls them. Any data collected from tracking devices or outside sources become tools for decision-making that athletes themselves are excluded from. Whether it is a coach using biometric data to determine

playing time or contract terms, or even fans releasing personal athlete information on social media, the athlete is no longer the primary agent of their own athletic career. Instead, they become a pawn in a network where their data dictates their opportunities, and coaches, teams, technology companies, and even fans deliver and shape their careers and choices from that data. This section focuses on how athlete monitoring creates a system where data replaces individual choice, leading to a loss of free will as external actors take control over athletes' decisions.

In the network of the athletic industry, biometric tracking devices are a prominent non-human actor that creates relationships between athletes, coaches, and sports teams. Instead of relying on first hand interactions and communications with athletes, coaches rely on tracking devices. Devices like Whoop wristbands, sensors that can track things like heart rate, sleep, movement, and allow options to input your daily activities from alcohol to sexual activity, informs coaches' decisions regarding training intensity, playing time, and recovery need (Jessop & Baker, 2019). This technological intervention results in athletes not being actively involved in discussions about their own health, taking away their choices as coaches make decisions for them based on the numbers.

As biometric data begins replacing athletes' voices in terms of training intensity, rest schedules, and their own performance status, the power given to the biometric data takes away the athletes' free will. Jessop and Baker (2019) showed how this became evident in Alabama's NCAA football team that utilizes Catapult, another popular biometric tracking device. The coaches wanted to confirm which athletes were pushing themselves the most during workouts, so they decided to use the biometric data collected from the Catapult device. The data showed that a large offensive lineman, who the staff visibly saw not working as hard as the other athletes, displayed that he was the top performer on the team. In this case, the athlete's own effort and

observed effort was irrelevant. This particular case was for coaches to confirm their own observations, but what if this was the only thing coaches relied on as biometric data collection becomes more popular? Because coaches now prioritize biometric data over an athlete's self-assessment, errors in data can lead to unfair decisions and misjudgements, stripping athletes of opportunity to make choices about their careers.

Beyond decisions on a team level, athlete monitoring on an organizational level can also strip athletes of free will by transferring authority over their biometric data to corporations and universities without their input. Jessop and Baker (2019), experts in athlete well-being research mentioned in previous sections, state how NCAA athletes were entirely absent from the negotiation process when the University of Michigan signed a \$173.8 million contract with Nike, granting the corporation access to the athletes' biometric data for commercial use. The contract explicitly allowed Nike to collect and utilize information from Michigan athletes to promote "any and all media" that could be used by Nike to promote their products (Jessop & Baker, 2019, p. 82). This agreement did not require athlete consent or give them any control over how their data would be used, showing how larger organizations prioritize corporate interests over their athletes. From an ANT perspective, this contract shows how wearable tracking devices, corporate partnerships, and institutional agreements function together to dictate how athletes' data is collected and used, taking away their ability to make independent choices about their own bodies and how others view them.

While teams and institutions officially control athlete tracking, another significant actor in the network is the fan base, an unofficial extension of athlete monitoring. Social media and digital tracking has enabled fans to act as monitors of athletes, providing free, live data points that sports organizations can use to evaluate and even discipline athletes. Imagine if you wanted

to play a fun game of pick up basketball with your friends, wouldn't you think everyone should be allowed to do that? In an emerging basketball player's NBA career, he was stripped of his ability to do just that. Greg Oden was a first draft NBA pick following his graduation from Ohio State University. A fan posted to a blog details of Oden playing a pick-up basketball game at a local gym while recovering from an injury that took him out the entirety of a season. Fans quickly spread the information, and it was picked up by the media and team officials, leading to criticism of Oden's commitment to the team and work ethic (Sanderson, 2009). The head coach even blatantly made a comment to the public showcasing Oden as a commodity that shouldn't be doing something as small as a fun pick up basketball game by saying "these young guys don't know their value..." (Sanderson, p. 246, 2009). The team organization Oden was a part of treated the fans' blog post details as a valid data point, even without context from Oden himself. He was likely playing to stay in shape and have a little fun, not to disregard his recovery or diminish his "value" as the head coach stated. However, because the information was made public and circulated by the media, his casual choice to play a small game of basketball was interpreted as misconduct. It ultimately became a tool of control, discouraging him from making similar choices in the future all because a fan handed over a free data point to the organization without Oden's permission.

Athletes do not get to choose what moments are recorded, what fans write about them, or how their actions are interpreted. However, despite this lack of choice, their actions recorded by fans become raw data available that teams can use against them. Sanderson (2019) argues that this type of surveillance, where fans act as unpaid informants, creates an environment where athletes can never truly escape monitoring of those in control of their careers. While I agree with this perspective, there should also be clear regulations on how coaches and organizations are

allowed to use fan-recorded or media-sourced data in decisions that directly impact an athletes' career.

Monitoring practices in the sports industry is often framed for optimizing performance and ensuring athletes are healthy, but the reality is it creates a system where athletes lose control over their own decisions. From automated coaching decisions to large sports organizational contracts and fan surveillance, every actor in the network reinforces the idea that data dictates an athletes' career. Without meaningful consent or the ability to control how their information is used, athletes are a part of a system that operates beyond their control, taking away the free will they should have in their careers.

Conclusion

This paper has highlighted the unclear boundary between the use of athlete monitoring technologies for performance enhancement and their infringement upon athlete autonomy, mental health, and free will. Through the lens of the ANT framework, this analysis has mapped the network of relationships between athletes, coaches, fans, biometric technologies, the media, and privacy regulations. While ANT is useful for mapping how human and non-human actors interact to influence outcomes, its assumption that all actors hold equal power obscures the real power imbalances at play. In the context of athlete surveillance, athletes are often not equal participants, but instead are subject to control by more dominant actors within the network.

This calls for a shift between actors in the network to ensure athlete monitoring serves as tools for support rather than control. Without explicit data protection laws and enforceable standards, athletes will continue to be vulnerable to monitoring practices that prioritize fame, fortune, and team branding over their well being. It's vital to establish these standards quickly to

protect athletes across all levels. Creating clear regulations now can prevent the negative impacts on well-being that were discussed in this paper. As personal monitoring devices like Fitbits and Whoop bands become increasingly common, even potentially among high school athletes, defining these boundaries ensures these technologies support rather than compromise the sports experience. This approach will protect both current and future athletes' privacy and autonomy, allowing them to use these devices to their benefit.

Future research should focus on building systems of accountability that protect athletes from the misuse of their data. This includes investigating how athletes can be meaningfully included in decisions about how their data is collected, shared, and used. As monitoring technologies continue to advance and spread into youth and amateur sports, it is essential to develop clear standards that ensure data serves the athlete, not the other way around. Without such efforts, athletes will remain in a system where they are the actor with the least amount of power, reinforcing an unequal structure that limits their autonomy and well-being.

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