

Literature Review

Alyssa Stroup

Introduction to Applied Sport and Performance Psychology

Anxiety in Professional Basketball

Anxiety and Performance

In a general sense, anxiety is an emotional reaction that occurs after experiencing any situation that could be perceived as threatening (Lazarus, 1999). This feeling of anxiety can be further split into cognitive and somatic anxiety. Cognitive anxiety pertains to thoughts and feelings whereas somatic anxiety pertains to physiological functioning (Ruiz et al., 2016). Many factors influence anxiety in basketball performance. For example, Thout et al. (1998) conducted a study showing that for basketball teams, cognitive anxiety was highly dependent on the perceived ability of the opposing team. That perception of their opposition's ability notably impacted pre-competitive state anxiety (Thout et al., 1998). In basketball, anxiety can also significantly harm players' general well-being. UCLA's promising forward Jalen Hill decided to retire from the sport before even graduating due to mental health difficulties, including anxiety (Schuster, 2021). This reveals just how impactful high levels of anxiety can be when unregulated.

While anxiety can be debilitating when the perceived threat is too much compared to perceived ability, anxiety can also be beneficial to athletic performance (Neil et al., 2012). Gillham & Gillham (2014) administered a study investigating the potential of anxiety to enhance performance and become facilitative. Their results indicate that a moderate amount of state anxiety can have a positive impact on performance and the key to how anxiety will be perceived is self-confidence (Gillham & Gillham, 2014). Students included in the study disclosed that pressure can actually be motivating when individuals believe they possess the ability and necessary skills to take on the challenge. In focus groups as part of the Gillham & Gillham (2014) study, the basketball players stated they would be more concerned going into a game with no feelings of anxiety whatsoever. To them, this would indicate they have no expectations for

themselves and having some pressure is motivation to play their best. Although focus groups were the only source of their data, meaning the results could be skewed due to individuals not being self-aware or transparent in their responses, the findings have been replicated in the statements of athletes outside the study. In 2019, NBA player Jaylen Brown confirmed that his most anxiety-ridden season was when he lacked belief in himself, exemplifying how confidence and anxiety are connected (King, 2019). Anxiety primarily hinders performance when players do not have the confidence that they are capable of success despite a situation being difficult. (Gillham & Gillham, 2014).

Another study by Neil et al. (2012) examined anxiety in basketball players when shooting free throws. This study also found that there was a correlation between athletes being successful in free throw shooting and athletes having anxiety, but perceiving it as being advantageous. The main difference found between facilitative vs. debilitating interpretations of anxiety was self-confidence levels (Neil et al., 2012). While this study does possess the limitation of a small sample size with only 30 participants, it does illustrate a noteworthy pattern in these athletes. Higher self-confidence allowed players to go into the competition more focused, thus performing more successfully (Neil et al., 2012).

Anxiety Theories

Several theories can be used to examine anxiety, one of them being the inverted U-Hypothesis (Sonstroem & Bernardo, 1982). This theory states that performance improves as arousal increases up until a certain point of arousal at which the performance then declines (Sonstroem & Bernardo, 1982). Sonstroem & Bernardo (1982) created a study spanning three intercollegiate women's basketball games in order to test this theory. Young women from eight schools took the Sport Competition Anxiety Test (SCAT) before games and these results were

then compared to their game performance (Sonstroem & Bernardo, 1982). The results suggested that athletes with moderate arousal performed best, although results varied slightly based on the individual (Sonstroem & Bernardo, 1982). A limitation of this research is that SCAT results are self-reported, so the accuracy is questionable. Additionally, the study is older so new findings have not been taken into consideration with this study. However, it still provides constructive information about the significance of anxiety. These findings indicate that anxiety does not need to be eliminated, but rather needs to be managed in order to keep it at a level that can be conducive to performance.

Another anxiety theory that can be employed to understand anxiety is the catastrophe model. The catastrophe model explains that arousal and performance have a linear relationship up until a certain optimal point at which performance sharply declines if arousal continues to grow (Hardy et al., 1996). Hardy et al. (1996) claimed that cognitive arousal is what causes athletes to positively or negatively decipher their physiological anxiety symptoms as opposed to physiological arousal. Performance will continue to increase along with cognitive anxiety as long as physiological arousal is low. However, once physiological arousal is too high, cognitive anxiety and performance have a negative relationship and performance will drop off (Hardy et al., 1996). Every athlete varies at which point their performance will decline and it is crucial to identify this in order to prevent the catastrophe point from occurring (Hardy et al., 1996).

Treatment of Anxiety

As debilitating as anxiety can be for basketball players, there are research-based methods to prevent and relieve this negative emotional reaction, such as self-talk and imagery (Neil et al., 2012). These allow athletes to process and sort emotions before games (Neil et al., 2012). They raise confidence as well by guiding athletes through their ideal scenarios and help them feel self-

assured (Neil et al., 2012). Being able to reflect on previous experiences while pinpointing strengths and room for improvement boosts confidence (Neil et al. 2012). As mentioned earlier, self-confidence is strongly linked to anxiety and performance (Gillham & Gillham, 2014). Therefore, the implication of this research is that basketball coaches and athletes should be heavily emphasizing building confidence through techniques like self-talk and imagery in order to alleviate feelings of anxiety.

Along with these techniques, mindfulness can be incorporated through both mental and physical approaches. Scott-Hamilton & Schutte (2016) researched how mindfulness training would affect athletes and found there is a considerable association between mindfulness and a decrease in performance anxiety. This study demonstrated how a mindfulness routine can help athletes cope with anxiety, so basketball teams could incorporate daily mindfulness into their practice schedules in order to manage anxiety. Maddux et al. (2018) examined how consistent yoga classes over the span of 16 weeks could also mitigate stress and anxiety. Despite reporting moderate to high stress levels at the beginning of the study, participants reported a significant reduction of anxiety after the trial period (Maddux et al., 2018). 82% of participants in this research were women, so future research should have a more representative group of participants. However, regardless of gender, yoga can be an effective tool for anxiety management because it permits the body to shift to parasympathetic nervous system (PNS) dominance, which allows the body to be in a state of rest (Maddux et al., 2018). NBA coach Brad Stevens has also advocated for his players taking mindfulness walks and using this physical tool to manage arousal (Medina, 2020). Along with this, NBA player Kevin Love has encouraged physical exercise as an effective tool for stress and anxiety relief (Medina, 2020). Therefore, it would be beneficial for basketball

players to incorporate mindfulness training into their routines in both emotional and physical form.

Modern technology can also be utilized in athletics to help basketball athletes manage anxiety. REST flotation devices are dark, soundproofed tanks filled with salt water created to deprive individuals of stimuli (Boerjesson et al., 2018). These devices have been shown to decrease heart rate and systolic blood pressure, thus dropping anxiety levels (Boerjesson et al., 2018). Boerjesson et al. (2018) recorded that participants reported lower anxiety scores after REST flotation sessions. One shortcoming of this study is that the sample size is small and specific, only including 30 golf players in Sweden, so it would be false to extrapolate these results to all populations. Nonetheless, contemporary technological innovations like this can be further studied and built into basketball players' training schedule. Several apps are also available to manage anxiety, such as MindShift (Paul & Fleming, 2019). This app provides mental health assistance like teaching cognitive behavioral therapy (CBT) skills and relaxation coaching (Paul & Fleming, 2019). Paul & Fleming (2019) found that after only 3 weeks using the app, 18 individuals with self-reported severe anxiety had lower levels of anxiety. Despite the flaw of the outcomes being self-reported rather than verifiable data, these results suggest that mental health apps can actually make a difference in athlete's anxiety. NBA player Kevin Love has also recently invested in a tech device meant to combat anxiety that features tactile stimuli recreating human touch (Sullivan, 2022). Future research should continue to investigate the ways that current technology can enhance anxiety management. The digital revolution has made therapeutic care more accessible than ever, so the sport psychology field should capitalize on this as much as possible. Mindfulness techniques and technological practices can be easily incorporated into daily or weekly schedules for basketball teams to take advantage of.

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