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Addressing the Adoption Gap: Exploring Resistance to Evidence-Based Practices among NCAA Coaches

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Athletic coaches strive to achieve optimal performance from their athletes and teams, yet many coaches fail to utilize new evidence-based practices (EBPs) with potential to improve performance. Many sport leaders and administrators seeking to assist and support positive change face resistance from coaches. This paper explores the lack of usage of EBPs among NCAA coaches and the subsequent effects on athlete performance and development. This problem is conceptualized through the theoretical underpinnings of diffusion of innovation theory and social cognitive theory. Application of resistance to change theories identifies action steps to help overcome barriers in the implementation of EBPs including limited resources, time constraints, and limited stakeholder support. To improve athlete development and promote sustainable sport participation, NCAA programs must overcome these barriers. This can be achieved by increasing coaches' access to information and resources, investing in their professional development, and supporting their adoption of sport-specific evidence-based practices.

Keywords: evidence-based practices, innovation, resistance, change

The contemporary landscape of collegiate sports coaching is marked by a dual imperative: a relentless drive for victory, coupled with the ever-present concern for job security. In this dynamic milieu, the advent of the National Collegiate Athletic Association (NCAA) transfer portal has introduced a new layer of complexity to talent acquisition, compelling coaches to navigate its implications deftly. The portal's facilitation of athlete transfers between schools underscores the pressing need for coaches to employ effective talent identification and retention strategies. In the fast-paced world of modern sport, where the pursuit of triumph often involves substantial risks to job stability, this article delves into the confluence of evidence-based coaching and talent acquisition strategies.

Evidence-based practices (EBPs) stand as a cornerstone in this domain, offering coaches a compass to navigate the complexities of athlete development and training. Coaches increasingly recognize the imperative to remain current with the latest research and EBPs to optimize athlete performance and mitigate the risks of injuries, as articulated by Smith et al. (2023). EBPs coaching represents a holistic approach that synthesizes the most robust scientific evidence with coaching expertise and athlete preferences to inform decisions, thus holding promise not only in enhancing athlete performance and minimizing injury risks but also in nurturing holistic athlete growth.

Within this framework, coaches can leverage athlete development models and evidence-based season planning to delineate pivotal stages in athlete progression (Bruner et al., 2010). Despite the growing availability of evidence-based information and resources, it is evident that many NCAA coaches continue to adhere to traditional, often outdated training and preparation methods, as highlighted by Smith et al. (2023). This underscores the persistent challenge facing a significant segment of coaches, who are yet to fully embrace EBPs. To address this, there is an urgent need for amplified educational initiatives, comprehensive training opportunities, and robust support from sports leadership to foster the widespread adoption of EBPs (Kahanov et al., 2012; Lyle & Cushion, 2016). The paramount objective for coaches remains the pursuit of victory, and the integration of EBPs is indispensable for achieving short-term successes, long-term excellence, and athlete well-being, notwithstanding the job security concerns that linger in this dynamic landscape.

This paper aims to offer insights into confronting the obstacles to EBPs utilization, while empowering NCAA coaches and sport administrators to enhance athlete development and performance while prioritizing athlete health and sustainability. Despite the increasing availability of evidence-based information and resources, research shows that many NCAA coaches fail to implement EBPs, and this issue is particularly exemplified in pre-activity warm-up and stretching. Multiple studies across various NCAA sports, including football (Judge et al., 2009), volleyball (Judge, Bodey, et al., 2011), tennis (Judge et al., 2012), basketball (Judge, Beller, et al., 2011), track and field (Judge, Beller, et al., 2013), and cross-country (Judge, Petersen, et al., 2013), found coaches frequently utilized static stretching, proprioceptive neuromuscular facilitation, and ballistic stretching in pre-activity warm-ups, despite evidence against their use. Collegiate soccer coaches were the only group of NCAA coaches found to frequently use evidence-based pre-activity warm-up and stretching practices (Judge et al., 2020). These findings suggest a widespread lack of adherence to pre-activity guidelines for dynamic stretching among coaches in NCAA sports. Whereas this example of pre-activity stretching demonstrates a lack of EBP usage amongst NCAA coaches, it also illustrates the gap in potential positive outcomes. In such an instance the lack of EBP

implementation impacts the athlete's preparation for competition and training most effectively and efficiently, leading to improved performance and reduced risk of injuries. EBP implementation is not limited only to the area of pre-activity stretching, but expands into numerous area such as hydration, concussion prevention and treatment, and heat-related illness as well as sport-specific training techniques. Therefore, it is important for sport managers to understand why coaches might resist the usage of EBP.

Theoretical Underpinnings

One theoretical explanation for the lack of usage of EBPs by NCAA coaches is Rogers's diffusion of innovation theory (Rogers, 2003; Trudeau et al., 2021). This theory proposes that the usage of new practices follows a predictable pattern, with innovators and younger coaches being more likely to embrace new ideas, followed by the early majority, late majority, and laggards (Nilsen, 2015). Although EBPs may be widely available and supported by scientific research, the diffusion of innovation theory suggests that it may take time for coaches to fully integrate these practices into their training methods (Owen et al., 2006). Owen and colleagues (2006) proposed that for evidence-based coaching practices to become widely used, they must be systematically disseminated and widely used in practice. However, diffusion typically results from direct or indirect methods of dissemination. As outlined by Rogers (2003), knowledge, persuasion, decision, implementation, and confirmation are the five factors that enable innovations or changes in practice methodology to diffuse into sport culture. Within the factor of persuasion, five attributes impact coaches' decision to use new practices, including comparative advantage, compatibility, complexity, trial-ability, and observability (Rogers, 2003; Trudeau et al., 2021).

For example, Griffiths and colleagues (2018) interviewed United Kingdom coaches' (n = 8) perceptions of continuing education using EBPs. Themes emerged regarding the influence and adoption of EBPs including legitimizing the message, constructing a personal experience, and edutainment. The researchers posit a disconnect between continuing education, culture, and the transmission of coach learning. Moreover, resistance to innovation within athletic departments may be due to a lack of knowledge about the link between the input, process, and outcomes of innovation (Comeaux, 2013b). Smith and colleagues (2023) suggested that athletic departments support the sharing of new evidenced-based content through continuing education for coaches; however, there may be a lack of focus on how to implement new practices.

The Long-Term Athlete Development Model (LTAD), implemented by coaches in Canadian National Sport Organizations, provides an example of diffusion of evidence-based coaching (Trudeau et al., 2021). Using Rogers's diffusion of innovation theory as a framework, Trudeau and colleagues (2021) investigated coaches' attitudes towards LTAD, intention to adopt LTAD, and LTAD adoption status. Results showed that male coaches with more years of experience were more likely to know LTAD compared to younger male coaches; however, this difference was not found in female coaches. Additionally, multisport coaches were more likely to be knowledgeable about the LTAD and were informed of the model at National Coaching Certification course programs and continuing education courses, which is thought to be an effective dissemination method (Banack et al., 2012).

It should be noted that simply possessing knowledge of athlete development models and EBPs

does not always lead to successful implementation (Beaudoin et al., 2015). Researchers suggest that partial or non-usage of EBPs can occur due to issues with compatibility with coaches' values and season planning or difficulty with implementation (Norcross et al., 2016). However, partial implementation of a specific practice may not always be ideal (Beaudoin et al., 2015; Trudeau et al., 2021). Additionally, Trudeau et al. (2021) proposed that the Diffusion of Innovation Theory fails to consider social factors, such as media and sport culture.

To address the gaps in the diffusion of innovation theory, Bandura's (1989) social cognitive theory can be applied to explain the lack of use of EBPs in NCAA coaching (Ng & Lucianetti, 2016). This theory highlights that people learn through observation, modeling, and reinforcement from others in their social environment. NCAA coaches may be influenced by their peers and their sport's culture (Comeaux, 2013b), leading them to continue using traditional methods even when EBPs are available. Coaches may also be influenced by their previous experiences as athletes or coaches, leading them to rely on methods that have worked in the past, regardless of scientific evidence to the contrary (Ng & Lucianetti, 2016).

Ng and Lucianetti (2016) proposed social cognitive theory as an approach to understanding social innovation and change in organizations. Of note, agency, trust, respect, domain-specific self-efficacy, and collective efficacy are important components that allow for the "(a) generating of new ideas, (b) disseminating of one's ideas and those of others throughout the organization, and (c) working to implement one's own ideas and those of others" (Ng & Lucianetti, 2016, p. 15, as cited in Janssen, 2000). Janssen (2004) suggested that innovation requires an individual to put their ideas into action (agency) and believe they have the ability (self-efficacy) to implement the innovation successfully.

To test their proposal, Ng and Lucianetti (2016) used Likert-type scales to measure organizational trust, perceived respect, creative self-efficacy, persuasion self-efficacy, change self-efficacy, psychological collectivism, and innovative behavior using reputable, adapted measures. They concluded that individuals must feel safe and supported in their environment to implement changes, which can be facilitated by an increase in organizational trust and peer-to-peer respect. Additionally, they recommend promoting individual agency and the development of creative, persuasive, and change self-efficacy. To enhance collective self-efficacy, sport leadership can encourage coaches' growth and base performance assessment on creativity and the implementation of innovation.

More broadly, coaches' reluctance to adopt EBPs can be viewed as resistance to change. Several frameworks can help understand the resistance response to change. For instance, cognitive dissonance theory (Festinger, 1957; Miller et al., 2015), proposes that individuals experience dissonance and discomfort when they hold opposing views or when their behavior is not consistent with their views. As a result, when people face change, they may resist it to avoid the discomfort caused by the inconsistency between their long-held views and the new circumstances. Therefore, it is plausible that despite understanding and agreeing upon the relevance and benefits of EBPs, coaches may be resisting its implementation to avoid the discomfort of abandoning their prior practices.

Next, social identity theory (Islam, 2014; Tajfel & Turner, 1979) argues that people acquire part of their identity from their social groups. According to the theory, facing change can challenge individuals' sense of identity and affiliation. Consequently, people may resist change to protect their identity and

group belonging. It is plausible that coaches who are now faced with the implementation of EBP may resist it to protect their professional identity at a social level and maintain a sense of acceptance within their coaching community. Further, consistent with the notion of resistance to change, researchers of reactance theory (Brehm, 1966; Brehm & Brehm, 2013) posited that people are naturally coercion averse. As a result, people may perceive any change as a limitation to their freedom and autonomy, hence resisting it. Coaches may be interpreting this new way of practice (i.e., EBP) as an imposed upon novelty leading to feelings of perceived coercion and hence resisting it.

Additionally, habit theory (Wood & Rünger, 2016) highlights how constant behaviors are somewhat mechanical and need little cognitive effort. Drawing upon this theory, change throws fixed practices out of order and may require effort to learn new ways which may in turn lead to resistance. Consistent with this view, coaches may be resisting EBPs knowing that this is a new way of doing things and carrying it out may require additional effort and energy.

Lastly, uncertainty reduction theory (Berger & Calabrese, 1975; Knobloch, 2015) suggests that individuals are naturally inclined to look for predictability and certainty. On the other hand, embracing change introduces novel and unknown factors. The latter can lead to uncertainty hence resistance to change. Here, too, it is conceivable that the novelty and unfamiliarity of EBPs can disrupt predictability and increase a sense of uncertainty in coaches thereby increasing a resistance response.

EBP Barriers

Despite the increasing availability of evidence-based information and resources, there are several barriers that might prevent NCAA coaches from utilizing these practices. One barrier is the lack of access to information and resources (NCAA, 2022). Coaches may not be aware of the latest research or may not have access to resources such as training programs or equipment that incorporate EBPs. Another barrier is the lack of time and resources for professional development (Comeaux, 2013a). Coaches may have limited time to attend workshops or conferences where they can learn about EBPs, or they may not have the financial resources to invest in training programs or equipment. Another barrier is the lack of support from stakeholders, including administrators, athletic trainers, and athletes (Bulger & Paterno, 2017; Comeaux, 2013a).

NCAA coaches may also face pressure from athletes and fans to prioritize winning over the usage of EBPs, leading them to continue using methods that are proven to be effective in the short term, but may not promote sustainable athlete development (Bulger & Paterno, 2017). The variability of NCAA sports can also make it difficult to develop standardized protocols and training (Baum, 2015; NCAA, 2022). NCAA athletics encompass a wide range of sports, each with its unique set of physical demands and training needs.

Coaches may find it challenging to keep up with their sport's latest research and trends and adapt EBPs to their program. This variability can also make it challenging to develop standardized protocols and training programs that incorporate EBPs for NCAA athletics. Limited resources and support available to NCAA universities are another reason for the lack of EBPs (Bulger & Paterno, 2017; Comeaux, 2013b). Many athletic programs operate on limited budgets and may not have the financial resources to

invest in training programs, professional development, or equipment that incorporate EBPs. Without the necessary support and resources, it can be challenging for NCAA universities to adopt EBPs effectively.

Several strategies can be employed to facilitate the usage of EBPs by NCAA coaches (Griffiths et al., 2018). Coaches can prioritize professional development by attending conferences and workshops to remain aware of the latest research and trends. They can also collaborate with athletic trainers, administrators, and other professionals to incorporate EBPs into their programs. Universities can prioritize the allocation of resources for athletic programs to ensure coaches have access to information, resources, and professional development opportunities. NCAA coaches can also utilize athlete development models and evidence-based season planning to create individualized training programs that optimize athlete development and performance.

Conceptual Framework

To summarize this research, a conceptual framework (see Figure 1) is proposed to illustrate the factors that influence the adoption of EBPs in NCAA coaching. The framework draws upon Rogers' (2003) Diffusion of Innovation Theory and Bandura's (1989) Social Cognitive Theory to provide a comprehensive understanding of the barriers and facilitators to the adoption of EBPs by coaches.

Figure 1

Framework for Adoption of EBP's in NCAA Coaching



Summary

Amidst the continually changing collegiate coaching profession, it is important for NCAA coaches

to evaluate EBPs to determine if they can enhance athlete development and performance for their sport. Sport administrators need to encourage and support EBP inclusion. The identified barriers, including limited access to information and resources, lack of support from stakeholders, and the complexity of athletic programs, should be overcome through collaboration, professional development, and prioritization of resources. By doing so, coaches can promote healthy and sustainable athlete development while reducing injury risk. This model provides guidance to coaches and sport leaders in supporting the usage of EBPs and provides a framework that can be further tested with future research.

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