



Higher Education Politics & Economics

ISSN: 2577-7270 (Print) 2577-7289 (Online) Journal homepage: <http://jhepe.org>

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To cite this article: Adela S. Roxas and Lynn L. Ridinger (2016): Relationships of Coaching Behaviors to Student-Athlete Well-Being, *Higher Education Politics & Economics*, 2(1)

Published online: 05 April 2016.

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Relationships of coaching behaviors to student-athlete well-being

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Research on the association between coaching behaviors and student-athlete well-being has revealed significant relationships among coaching behaviors and a range of outcomes including anxiety, burnout, self-confidence, college choice satisfaction, and willingness to cheat to win. Findings from multiple studies suggested the need for improvements in coaching education. Overall, this review of extant literature suggested the need for additional research and empirically supported practices for coach and athlete development that support well-being.

Keywords: student athletes, coaching education, athlete well-being

The title of a September 2015 article in *Sports Illustrated (SI)* posed the question, “Is the Era of Abusive College Coaches Finally Coming to an End?” (Wolff, 2015). The article describes how Simon Cvijanovic, a former student-athlete at the University of Illinois, reported via social media that he had been verbally and emotionally abused by his coach, who Cvijanovic said pressured him to play while injured and then insulted and humiliated him for resisting. After Cvijanovic’s disclosure, other former student-athletes reported abusive behaviors by the same coach, who was ultimately dismissed by Illinois. The *SI* article goes on to detail the prevalence of abusive coaching and the negative effects it has on performance and well-being. It explains that abuse, especially verbal and emotional abuse, has to some extent been a part of the culture of collegiate coaching—a culture where coaches hold tremendous power over students, making it difficult for such behavior to come to the attention of others. College coaches have power over student-athletes’ playing time, scholarship money, and transfer opportunities, as well as the quality of much of the time of their day-to-day lives. This power exists despite a lack of educational, ethical, licensure, or certification requirements for coaches working in higher education. However, tolerance for abusive coaching appears to be diminishing as awareness is growing regarding ill effects on performance and well-being.

In recent years, there has been increasing attention by the National Collegiate Athletic Association (NCAA) to the importance of supporting the psychological well-

being of student-athletes. In 2014, the NCAA Innovations in Research and Practice Grant Program began. It “supports research and data-driven pilot programs designed to enhance student-athlete psychosocial well-being and mental health” (NCAA, 2015, p.1).

Also in 2014, the NCAA published the comprehensive guide *Mind, Body and Sport: Understanding and Supporting Student-Athlete Mental Wellness* (Brown, Hainline, Kroshus, & Wilfert, 2014). However, in these efforts, there has been a lack of specific emphasis on the relationships of coaching behaviors to student-athlete well-being despite that research has related coaching behaviors to a wide range of outcome measures, including intrinsic motivation (e.g., Amorose & Horn, 2001; Reinboth, Duda, & Ntoumanis, 2004) and psychological well-being (e.g., Reinboth et al., 2004; Vealey, Armstrong, & Comar, 1998).

The Call for Proposals for the NCAA Innovations in Research and Practice Grant Program (NCAA, 2015) did not mention coaching behavior among the list of potential topics for grants. While the Call for Proposals did clarify that grants were not limited to the potential topics that were explicitly mentioned, it would seem that coaching behavior *should* be explicitly mentioned to encourage research and programming, considering the extent to which existing research has supported relationships of coaching behaviors to athlete well-being. In the aforementioned *SI* article on the prevalence and effects of abusive college coaching, NCAA Chief Medical Officer Dr. Brian Hainline himself called for coaching education:

Hainline says his outreach efforts will address abusive coaching—to a point. “The NCAA isn’t in a place to be a coaching certification body,” he says. “But we are in a place to supply education. The reality is that not every coach is sensitive to the mental health issue. We want mental health to be as treatable as an ankle sprain.” (Wolff, 2015, para. 18)

This suggests that coaching education should be added to the list of potential topics for the NCAA Innovations in Research and Practice Grant Program. Funding for research on this topic would provide an opportunity to develop evidence-based coaching education that could increase coaching effectiveness and protect and enhance student-athlete well-being.

In addition, the NCAA’s *Mind, Body and Sport: Understanding and Supporting Student-Athlete Mental Wellness* (Brown et al., 2014) does not explicitly address relationships between coaching behaviors and athlete well-being. While this comprehensive guide covers research and expert opinions on many important aspects of student-athlete mental health and how to support it, it should similarly cover data on how coaching behaviors relate to student-athlete well-being and on best practices for promoting coaching behaviors that support well-being and for eliminating those that do not. The purpose of the present paper is to review the literature on the relationships of coaching behaviors to athlete well-being and to propose suggestions for future research and practice. As the extant research in this area is still in early stages, the literature

reviewed herein spans a variety of sport contexts, covering a range of sports, levels of competition, and age groups of athletes.

Self-Determination Theory

One productive area of research related to coaching behavior and its impact on athlete well-being is based on self-determination theory (Deci & Ryan, 2000) and its relationship to intrinsic and extrinsic motivation (Vallerand, 2000). Self-determination theory holds that the extent to which individuals feel both self-determining (having personal control and choice) and competent is related to their intrinsic motivation (i.e., participation in an activity for intrinsic reasons such as fun or the personal satisfaction of mastery, versus extrinsic reasons such as material rewards or social approval). Using a correlational design, Amorose and Horn (2001) investigated the relationships of collegiate athletes' perceptions of coaching behaviors to changes in intrinsic motivation from pre- to post-season in athletes' first year of eligibility. The participants were 72 male and female Division I athletes from a variety of sports. They completed the sport-oriented version of the Intrinsic Motivation Inventory (McAuley, Duncan, & Tammen, 1989) as pre- and post-measures and the Leadership Scale for Sports (Chelladurai & Saleh, 1978, 1980) as a post-measure. There was a positive relationship between the coaches' provision of training and instruction and increases in athletes' intrinsic motivation. Amorose and Horn (2001) discussed that a coaching leadership style emphasizing training and instruction may convey beliefs of control and competence regarding athletes' performance, thus leading to increased intrinsic motivation. In the same study, the researchers also found that increases in athletes' intrinsic motivation were negatively associated with coaches' autocratic behaviors. Such behaviors reflect a leadership style stressing the coaches' personal authority for decisions regarding the team, whereas a democratic leadership style encourages the input of athletes in decision-making for the team. Amorose and Horn (2001) explained results as consistent with self-determination theory. The lower the frequency of autocratic coaching behaviors, the more self-determination and increasing intrinsic motivation we might expect among athletes.

In another study rooted in self-determination theory, Reinboth et al. (2004) investigated coaching behaviors and their relationships to intrinsic need satisfaction and psychological and physical well-being among 265 British, male, adolescent soccer and cricket players. On one occasion before or after a practice, the participants completed a questionnaire including a variety of measures comprising the variables of interest. Using structural equation modeling, Reinboth et al. (2004) found that athletes' perceptions of coaches' behaviors of autonomy support, mastery focus, and social support were associated with athletes' satisfaction of the intrinsic needs for autonomy, competence, and relatedness, respectively. The needs for autonomy and competence were, in turn, related to two measures of psychological well-being: subjective vitality and intrinsic satisfaction/interest in sport. Based on these findings, Reinboth et al. (2004) suggested that coaches can act to foster a culture that promotes intrinsic need satisfaction and thereby well-being. Coaches can promote autonomy by offering athletes choices and

providing rationales for expectations. They can promote competence by emphasizing effort and self-referenced improvement in evaluating athletes.

Amorose and Anderson-Butcher (2007) used self-determination theory as the basis for a study to test whether perceived autonomy, competence, and relatedness mediated the relationship between coaches' autonomy-supportive behaviors and high school and college athletes' motivational orientation. The participants were 581 male and female athletes, aged 13 to 25, who played a variety of sports in the Midwestern United States. Participants completed a questionnaire comprising the variables of interest. Some measures were adapted specifically for use in the sport context while athletes' motivation was assessed using the Sport Motivation Scale (Pelletier et al., 1995). Structural equation modeling indicated that coaches' autonomy-supportive behaviors were related to perceived autonomy, competence, and relatedness, and each of these needs was positively related to a self-determined motivational orientation. These findings were similar across both high school and college athletes. The authors suggested that results supported the adoption of an autonomy-supportive style for effectiveness in coaching. However, they acknowledged the need for additional research to identify specific coaching behaviors leading to athletes' perceptions of need satisfaction. They also acknowledged that many coaches have a more controlling leadership style and may find it difficult to adopt a more autonomy-supportive style.

Conroy and Coatsworth (2007) investigated whether specific autonomy-supportive coaching strategies could be identified empirically in a study of 165 boys and girls, aged 7 to 18, who were participating in a summer swimming league. The researchers developed the Autonomy-Supportive Coaching Questionnaire to examine two forms of support: interest in athletes' input and praise for autonomous behavior. Participants also completed a variety of other measures to assess other aspects of coaching behavior and athletes' basic need satisfaction. Data were collected on three occasions over the course of a six-week season. Confirmatory factor analyses supported interest in athletes' input and praise for autonomous behavior as two correlated factors that positively predicted satisfaction of the three basic needs of autonomy, competence, and relatedness. Hierarchical regression analyses indicated that while both forms of coaching support similarly predicted autonomy need satisfaction, praise for autonomous behavior more strongly predicted competence and relatedness than did interest in athletes' input. Conroy and Coatsworth (2007) suggested that this kind of work on identifying the effects of specific autonomy-supportive strategies may lead to defining which coaching behaviors best foster autonomy-supportive motivational climates and to developing training programs for coaches.

Amorose and Anderson-Butcher (2015) extended the research on autonomy-supportive coaching behaviors by examining them together with controlling coaching behaviors and testing both the independent effects and interactions among 301 male and female adolescent athletes who played a variety of school-based sports in the Midwestern United States. Participants completed questionnaires designed to assess coaching

behaviors, need satisfaction, sport motivation, and burnout. Hierarchical regression analyses indicated that autonomy-supportive and controlling coaching behaviors significantly predicted athletes' motivation for sport. Positive motivational effects increased with perceptions of autonomy support, especially when combined with lower controlling behaviors. The best motivational outcomes occurred when autonomy support was relatively high and controlling behaviors were relatively low. Amorose and Anderson-Butcher advocated for coaching education that teaches how to increase autonomy-supportive behaviors and decrease controlling behaviors with the goal of increasing positive and decreasing negative outcomes. They indicated that such programs have been developed in physical education while coaching education interventions are rare.

Outcomes of Psychological Well-Being

Other research on coaching behaviors has focused more specifically on their relationships to measures of psychological well-being, such as anxiety and burnout. Vealey et al. (1998) investigated the relationships of perceived coaching behaviors to competitive anxiety and burnout among 149 female college athletes who played basketball or softball at Division I, II, or III colleges in the Midwestern United States. The questionnaire included measures of coaching behaviors, sport anxiety, and athlete burnout. Regression and correlation analyses indicated that athletes' perceptions of coaching behaviors were related to burnout but not to competitive anxiety. Perceptions of coaches as less empathetic, more autocratic, and more emphasizing of dispraise over praise and winning over athlete development were related to athlete burnout measures of emotional/physical exhaustion, negative self-concept, feelings of devaluation, and psychological withdrawal. Perceptions of coaches as more empathetic, less autocratic, and more emphasizing of praise over dispraise were related to athlete perceptions of accomplishment and congruent coach-athlete expectations. Vealey et al. explained the finding of coaching behaviors being unrelated to competitive anxiety as possibly due to the measure of competitive anxiety in this study representing a more enduring quality (i.e., trait versus situational anxiety, whereas burnout was more representative of interactions between individual characteristics and aspects of the sport context).

Baker, Côté, and Hawes (2000) studied the relationships of seven coaching behaviors to four forms of sport anxiety among 228 athletes who were competing in varsity or regional competition in a total of 15 sports. Athletes completed measures of coaching behaviors and sport anxiety. The coaching behaviors assessed were physical training, mental preparation, goal setting, technical skills, competition strategies, personal rapport, and negative personal rapport. The forms of sport anxiety assessed were total anxiety, somatic anxiety, concentration disruption, and worry. Multiple regression analyses indicated that negative personal rapport behaviors, including yelling when angry and using fear and intimidation, that foster a negative relationship between coach and athlete, were positively related to all four forms of sport anxiety, such that athletes who endorsed more negative personal rapport behaviors had higher levels of sport anxiety. Competition strategies (coaching behavior to prepare athletes for competition) were

negatively related to total anxiety, concentration disruption, and worry, such that athletes reporting higher levels of competition strategies had lower levels of these three forms of anxiety. Baker et al. suggested that recognition of the influence of coaching behaviors on athlete anxiety could lead to coaching strategies and interventions geared at reducing anxiety and other negative outcomes and increasing positive outcomes.

Williams et al. (2003) examined the relationships of coaching behaviors to athlete variables including various forms of anxiety, self-confidence, and compatibility among 484 high school and college athletes who played basketball, softball, baseball, or volleyball. Participants completed a survey with questions about coaching behaviors and sport anxiety. Correlational analyses indicated that athletes with more competitive trait anxiety, cognitive, and somatic state anxiety, as well as less self-confidence, were more likely to endorse coaching behaviors that caused them to feel tense and uptight and that negatively affected their cognitions, attention, and performance. Athletes who had less self-confidence endorsed less supportiveness and emotional composure from coaches. Williams et al. encouraged additional investigation into factors influencing coaches' abilities to estimate their own behaviors and athletes' psychological states. They also suggested future work on creating and evaluating interventions to foster coaches' accurate perceptions of their behaviors and to adjust their behaviors to promote effective coaching with athletes across individual differences in anxiety, confidence, and other variables.

Abusive Coaching

Yukhymenko-Lescroart, Brown, and Paskus (2015) examined the relationships of ethical and abusive coaching behaviors to well-being among 19,920 NCAA student-athletes from all 24 sports and three divisions of the NCAA and from 609 NCAA member institutions. Data for this study were collected from a subset of items included on a large-scale national study conducted by the NCAA on the academic, athletic, and social experiences of NCAA student-athletes. Variables of interest in the Yukhymenko-Lescroart et al. study were athletes' college choice satisfaction, perceptions of the team's inclusion climate, willingness to cheat to win, ethical leadership, and abusive coaching behavior. Correlational and regression analyses indicated that ethical coaching leadership was positively related to perceptions of a team inclusion climate and college choice satisfaction. Abusive coaching behavior was positively related to willingness to cheat to win. The researchers noted that the pattern of results was such that the positive (ethical) coaching behavior predicted the positive outcome variables while the negative (abusive) coaching behavior predicted the negative outcome variables. They suggested that future research expand to include exploration of other outcome variables to better understand the differential effects of positive and negative coaching behaviors. Yukhymenko-Lescroart et al. also encouraged the development of educational interventions for coaches to promote positive behaviors and avoid negative ones. They pointed out that this might not only benefit student-athlete well-being but increase retention and graduation rates.

Some researchers have used a qualitative approach to explore coaching behaviors and their effects on athletes, as well as coaches' reasons for behavior change. Stirling and Kerr (2013) utilized open-ended interviews and grounded theory to study retired, elite athletes' experiences of emotionally abusive coaching behaviors. They chose this methodology based on the lack of available research on the effects of emotionally abusive coaching, as this form of study allows for the emergence of themes of data and can thus be beneficial in both generating understanding in a relatively new research area and in pointing to directions for future research. Stirling and Kerr defined emotional abuse as "a pattern of deliberate non-contact behaviors within a critical relationship between an individual and caregiver that has the potential to be harmful" (p. 87), and they clarified a critical relationship as one that "has significant influence over an individual's sense of safety, trust, and fulfillment of needs" (p. 87). Emotionally abusive coaching behaviors may include physical actions such as throwing objects, verbal actions such as insulting and humiliating athletes, and denial of support such as ignoring athletes. Stirling and Kerr found that all 14 athletes in their study reported experiencing emotionally abusive coaching behavior. Many of the athletes reported negative psychological effects. Twelve athletes reported low mood resulting from coaching behaviors such as criticism and yelling. One of those was quoted as saying, "He [coach] started criticizing me personally about things that he knew nothing about, about my schoolwork, about my friends, that's when I started to feel like s—t all the time" (Stirling & Kerr, 2013, p. 93). Seven athletes reported low self-efficacy related to insulting and ignoring behaviors from coaches. Others reported negative psychological effects included anger, low self-esteem, poor body image, and anxiety.

Stirling and Kerr (2013) further found that many athletes also reported negative effects on training stemming from emotionally abusive coaching behaviors. Seven athletes reported decreased motivation from coaches' yelling behaviors. One was quoted as saying, "You lose your own personal boost to train when you have someone constantly yelling at you" (Stirling & Kerr, 2013, p. 94). Other athletes reported negative training effects including reduced enjoyment, impaired focus, and difficulties with skill acquisition that they attributed to emotionally abusive coaching behaviors such as insulting comments and emotional outbursts. Seven athletes also reported negative effects on performance that they related to emotionally abusive coaching behaviors. One was quoted as saying, "I always felt that I could have done even better without this [abuse]" (Stirling & Kerr, 2013, p. 95). While these negative effects on psychological well-being, training, and performance reported by so many of the athletes are striking, it must be noted that some athletes attributed some positive effects to emotionally abusive coaching practices. For example, three indicated that successful performances were more rewarding after enduring abusive coaching. It must also be noted that some reported positive side effects relating to abusive coaching behavior does not make abuse acceptable. Some athletes may be able to cope with abusive coaching and still have some positive outcomes. With this study, Stirling and Kerr provided an excellent foundation in beginning to understand athletes' perceptions of emotionally abusive coaching behaviors; however, they acknowledged it as exploratory and suggested future research that will

help to investigate more specifically and comprehensively which coaching behaviors are associated with which outcomes. Notwithstanding the need for more research, based on their findings of athletes' perceived negative effects of emotionally abusive coaching, they also called for measures to protect athletes from abuse.

Stirling (2013) also utilized a qualitative approach to study coaches' perceptions of their own prior use of abusive coaching behaviors. The participants were seven male and two female coaches at the national or international level of competition in Canada. Data from in-depth interviews revealed origins of emotional abuse and reasons coaches stopped these behaviors. Five of the nine coaches interviewed indicated that they had used emotionally abusive coaching behaviors, which included making verbally demeaning comments and physical aggression such as kicking equipment and dragging an athlete across and out of a training area. Coaches' reflections on the reasons for these behaviors identified two origins that were categorized as *expressive* or *instrumental*. The expressive origin of emotional abuse describes behaviors that arise from a coach's personal lack of emotional control, and the abusive behaviors serve as a means to express anger, frustration, stress, or other affect with which the coach is not coping effectively.

One of the coaches described this by saying that his frustration and stress over poor performances led him to verbally abusive behaviors even though he recognized that his behavior was inappropriate. The instrumental origin of emotional abuse refers to emotionally abusive behaviors that are intentionally used to achieve a goal. The coaches who described this type of abuse indicated that they believed their abusive behaviors were consequences that would lead to development of the athlete.

Stirling (2013) found that all of the coaches who reported using abusive coaching behaviors indicated their beliefs were due to normalization of these behaviors within the sport context, for reasons including their own experiences of abusive behaviors by parents or coaches, other exposure to this behavior, lack of education regarding other coaching strategies, and athletes' acceptance of abusive coaching behaviors. Despite their use of abusive coaching, coaches expressed care for athletes and feelings of closeness in the coach-athlete relationship. All of the coaches who admitted to prior abusive coaching behaviors indicated that they no longer used them at the time of the study. Reasons given for changing included self-reflection, harmful effects brought to their attention, coaching experience, and education. Four coaches mentioned realization that their abusive behaviors were contributing to ineffective athletic performances. One coach described changing his behavior after being told by an athlete's parent that the athlete no longer wanted to play the sport because of the coach's behavior. Some coaches attributed changing their behavior as they gained coaching experience and learned other motivational strategies. Others attributed change to structured coaching education such as seminars and certification. Based on these findings, Stirling recommended interventions that would address both the expressive and instrumental forms of emotionally abusive coaching. To address both forms, educational efforts should be made to convey to the coaching and larger sport community that emotionally abusive coaching is unacceptable.

This might involve athlete protection policies and coaching codes of conduct. To address the expressive form of abusive coaching, interventions could include coaching education to teach healthy emotional coping and regulation. To address the instrumental form, coaching education could address positive and holistic strategies for athlete development.

Differentiating Effective and Ineffective Coaches

Flett, Gould, Griffes, and Lauer (2013) used a qualitative approach to compare and contrast six effective and six ineffective volunteer coaches (one effective and ineffective coach from each of six sports) in an underserved youth sport program designed to teach good values through sport. League directors identified coaches as more or less effective based on definitions of effectiveness at promoting these values, which included responsibility, integrity, compassion, sportsmanship, and a positive family environment. In-depth interviews with the coaches revealed differences in the two groups of coaches. More effective coaches tended to use positive, autonomy-building strategies to foster supportive relationships with athletes and among the team, to teach specific strategies for the transfer of skills from sport to life, and to foster athlete development using a challenging but supportive approach. Less effective coaches tended to use negative, harsh, and demeaning strategies to promote a militaristic team climate, and they lacked specific strategies for the transfer of skills from sport to life. More effective coaches also tended to be more open to coaching education and the ideas of others. Despite these differences, more and less effective coaches were found to be similar in their expressed care for athletes. Less effective coaches justified negative and harsh coaching behaviors with beliefs that these methods would teach important life skills. Flett et al. discussed these behaviors as being developmentally inappropriate and interfering with creating a healthy coach-athlete relationship and with instilling confidence and optimism in the athlete. They encouraged positive coaching education that teaches empowerment of the athlete and also addresses some personal limitations revealed by less effective coaches such as lacking in flexibility and in openness to training.

Coaching Education and Evaluation

While research on the relationships of coaching behaviors to various measures of athlete well-being has suggested some directions for coaching education, Stirling, Kerr, and Cruz (2012) evaluated the effectiveness of a specific coaching education intervention: the Make Ethical Decisions module of Canada's National Coaching Certification Program (NCCP). This module was designed to educate coaches, across sports and levels of coaching, on the NCCP's coaching code of ethics and a six-step model for ethical decision-making in sport. The study was requested by the Coaching Association of Canada to gain feedback on the module that would identify areas for improvement. Thirty coaches completed the module and were then interviewed regarding their perceptions of satisfaction and usefulness of the module and its impact on their knowledge and skill acquisition, as well as their recommendations for improvement. Findings indicated that 97% of coaches were satisfied with the module, and 93% found it to be useful. The module had a strong impact on coaches, with 100% of coaches

reporting feeling capable of ethical decision-making after completing it, 73% reporting they had changed their thinking on ethical decision-making because of the module, and 60% indicating they had changed or intended to change their coaching behavior because of the module. One coach was quoted as saying, “I am much more fair because of what I have seen and learned. I look at the children’s future and how they are going to grow under my direction” (p. 50).

Based on their initial findings, Stirling et al. (2012) added another phase of the study to explore recommendations that coaches had made for improvement in the module, specifically, the desire for more content information regarding common ethical dilemmas in sport, beyond the original focus of the module on the process for ethical decision-making. In this second phase of the study, 3,742 coaches responded to an on-line questionnaire to assess the types of ethical dilemmas coaches had experienced and their interest in receiving education on these situations. The most common ethical dilemmas experienced by coaches were related to fair play (92%), athlete maltreatment (78%), and equity (77%). The issue on which coaches most commonly desired further education was athlete maltreatment (86%). Coaches expressed a full range of needs for education and support, including codes of conduct that differentiate ethical and unethical coaching behaviors, strategies for identifying and responding to ethical dilemmas, and more support from sport administrators to promote ethical sport conduct and accountability for it.

Other researchers (Mallett & Côté, 2006) have developed guidelines for evaluating high performance coaches that may be helpful for overall coach development and for promoting coaching behaviors that are associated with positive well-being for athletes. Mallet and Côté (2006) outlined a three-step method for evaluating high performance coaches:

1. Feedback is collected from athletes using a comprehensive measure of coaching behaviors (e.g., the Coaching Behavior Scale for Sport, CBS-S: Côté, Yardley, Hay, Sedgwick, & Baker, 1999).
2. An independent assessor analyzes and summarizes the feedback data, preparing a report that indicates levels of behaviors that can be measured against targets and/or prior levels.
3. An appropriate administrator, for example, an athletic director or sport supervisor in a collegiate athletics department, conducts review of the data and feedback for the coach.

Mallett and Côté pointed out that a comprehensive evaluation of high performance coaching should include not only competition results but other measures to adequately reflect the complexity of the work and the many factors that affect competition results and other outcomes, such as coach and athlete development, retention, and well-being.

Mallett and Côté (2006) offered the CBS-S as a psychometrically sound measure that examines a variety of coaching behaviors with seven key dimensions: physical training and planning, goal setting, mental preparation, technical skills, personal rapport,

negative personal rapport, and competition strategies. It was designed for use similar to the ways that teaching is evaluated in the college setting, but it has been used by coaches and athletes across ages and levels of sport. With the CBS-S, athletes rate coaches on multiple items representing each of the seven dimensions and also provide qualitative feedback on each dimension. Quantitative and qualitative feedback are summarized and discussed with coaches for professional development. The CBS-S has been used in collegiate and Olympic sports in the United States, Canada, and Australia. Mallett and Côté reported that athletes, coaches, and administrators who have used the CBS-S have reacted positively, but empirical research is needed to explore its utility and effectiveness. Mallett and Côté also recommended that coaching evaluation should include many considerations beyond data from a single instrument such as the CBS-S. These include longitudinal performance data, behavioral observations, number of respondents to behavioral measures, situational factors (e.g., available resources), coach and athlete characteristics, and win-loss records.

Summary and Future Directions

Research on the relationships between coaching behaviors and athlete well-being is still in early stages, but the existing body of work represents a strong foundation in beginning to understand these relationships, and it has suggested many directions for future research and ideas for coaching education and evaluation that could benefit both coaches and athletes. Studies based on self-determination theory (Amorose & Anderson-Butcher, 2007, 2015; Amorose & Horn, 2001; Conroy & Coatsworth, 2007) have been fruitful, and results have consistently found autonomy-supportive coaching behaviors to be positively related to positive outcomes while controlling coaching behaviors have been negatively associated to positive outcomes. Future investigations should build upon this body of work by including both autonomy-supportive and controlling coaching behaviors together, as Amorose and Anderson-Butcher (2015) did, to be able to identify relative and interaction effects. Also, a wider range of outcome variables could be explored, such as measures of psychological well-being that have been examined in other studies of coaching behaviors. Additional research could then more specifically identify the extent to which coaching behaviors are associated with a wide range of positive and negative outcomes. This, in turn, could lead to the development of comprehensive coaching education programs geared at promoting positive outcomes.

Other researchers (Baker et al., 2000; Vealey et al., 1998; Williams et al., 2003) have related coaching behaviors to various measures of psychological well-being, including different types of anxiety, as well as burnout and self-confidence. Vealey et al. (1998) found that athletes' perceptions of coaching behaviors were related to burnout but not to competitive anxiety. However, Baker et al. (2000) found that coaches' negative personal rapport behaviors were positively related to all four forms of sport anxiety measured while competition strategies were negatively related to three of the four forms of anxiety. Future work in this area of research might involve seeking to clarify the effects of coaching behaviors on different types of anxiety and other measures of psychological well-being by including a broad range of positive and negative coaching

behaviors and positive and negative measures of psychological well-being within studies to more comprehensively explore the interrelationships of these variables.

Yukhymenko-Lescroart et al. (2015) examined both ethical and abusive coaching behaviors and their relationships to three measures of well-being: athletes' college choice satisfaction, perceptions of the team's inclusion climate, and willingness to cheat to win. Ethical coaching leadership was positively related to perceptions of a team inclusion climate and college choice satisfaction while abusive coaching behavior was positively related to willingness to cheat to win. Thus, like other studies, the pattern of results was such that the positive (ethical) coaching behavior predicted the positive outcome variables while the negative (abusive) coaching behavior predicted the negative outcome variables. However, this study was significant for the inclusion of outcome measures beyond psychological well-being that have implications for collegiate retention and graduation rates, team functioning, and integrity of behavior in the sport context. It might be helpful to extend this line of research to include additional outcome variables, for example, integrity of behavior in the academic context (e.g., would abusive coaching behavior also be related to willingness to cheat academically?).

Qualitative investigations have added to our understanding of emotionally abusive coaching and factors differentiating more and less effective coaches. Stirling and Kerr (2013) studied retired athletes' perceptions of emotionally abusive coaching and found that it had negative effects on athletes' psychological well-being, training, and performance. Stirling (2013) studied coaches' perspectives on their prior use of abusive coaching and reasons for change. The study revealed both an expressive origin of emotional abuse that is due to a coach's personal lack of emotional control and an instrumental origin of emotional abuse that serves a goal, typically serving a coach's belief that abusive coaching behavior leads to athlete development. Flett et al. (2013) used qualitative methods to find that more effective coaches tended to use positive, supportive, and specific strategies while less effective coaches tended to use negative, harsh, and demeaning strategies. These qualitative studies provide a foundation on which to build additional research to better understand abusive and effective versus ineffective coaching. They can direct future studies using quantitative and mixed methodology and can also shape interventions for coaching education.

Stirling et al. (2012) offered an example of how a coaching education program might be evaluated based on feedback from coaches themselves. This was helpful in highlighting coaches' expressed desires for education and guidelines for conduct and outlining how their feedback could be used to make adjustments to educational programming. However, there is a need for empirical approaches to evaluating the effectiveness of coaching education based upon a wide range of desired outcomes related to the functioning of both coaches and athletes.

Mallett and Côté (2006) provided guidelines for evaluating and developing coaches using a process involving administration of a psychometrically sound measure of coaching behaviors to obtain athletes' perceptions of these behaviors, then summarizing

this data and providing feedback to coaches for developmental purposes. This process could be very helpful in providing systematic evaluation of coaching behaviors that might have significant benefits for coaches, athletes, and sport programs. However, empirical investigations of this evaluation process are also needed.

On the whole, the extant body of work relating coaching behaviors to athlete well-being has identified some patterns relating coaching behaviors to positive and negative outcomes that are in need of further exploration. Positive and negative coaching behaviors and positive and negative outcomes may coexist within a coach-athlete relationship, and a comprehensive, systematic approach to research is needed to identify the differential effects of a wide range of coaching behaviors on a wide range of outcomes. Existing research has helped to suggest directions for coaching education and means of evaluating such educational programming and coaching performance itself.

The sampling of research reviewed herein employed the use of participants across a range of ages of athletes and levels of competition, as well as the use of a variety of research methods. It is important to expand research in a way that continues to study coaching behavior across multiple sport settings. However, there may be a timely opportunity to begin to expand research and practice efforts related to coaching behaviors in collegiate sports, given recent initiatives by the NCAA to support the psychological well-being of student-athletes. Additional research and programming efforts in this area would likely also benefit coaches, athletic programs, and colleges' retention and graduation rates.

Disclosure Statement

No potential conflict of interest was reported by the authors.

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