University of Wollongong

Research Online

Faculty of Social Sciences - Papers (Archive)

Faculty of Arts, Social Sciences & Humanities

2014

Mastery, autonomy and transformational approaches to coaching: Common features and applications

Stewart Vella

University of Wollongong, stvella@uow.edu.au

Dana Perlman

University of Wollongong, dperlman@uow.edu.au

Follow this and additional works at: <https://ro.uow.edu.au/sspapers>

Part of the [Education Commons](#), and the [Social and Behavioral Sciences Commons](#)

Research Online is the open access institutional repository for the University of Wollongong. For further information contact the UOW Library: research-pubs@uow.edu.au

Mastery, autonomy and transformational approaches to coaching: Common features and applications

Abstract

The purpose of this paper is to provide a concise resource for coaches, coach educators, and coaching scientists by reviewing three common approaches to coaching: the mastery approach to coaching; autonomy-supportive coaching; and the transformational leadership approach to coaching. The theoretical foundations, purpose, evidence base, specified behaviours, and translation into coaching and coach education of each approach are reviewed. Despite diverse theoretical foundations and variations in purpose, there is some overlap in the coaching behaviours prescribed by each approach. However, there is limited empirical evidence to support the use of the three approaches in coach education and this is detrimental to effective and evidence-based coach education. Efforts to integrate theoretical foundations are promising, and a comprehensive prescription of coaching behaviours based on an integration of the three approaches is possible. This approach can potentially lead to cumulative effects on positive athlete outcomes. Future research should elucidate the common and unique contributions of these approaches to athletes' outcomes, and whether they differ by age, sex, type of sport, or competition level.

Keywords

applications, approaches, autonomy, coaching, mastery, common, features, transformational

Disciplines

Education | Social and Behavioral Sciences

Publication Details

Vella, S. A. & Perlman, D. J. (2014). Mastery, autonomy and transformational approaches to coaching: Common features and applications. *International Sport Coaching Journal*, 1 (3), 173-179.

1 **Mastery, Autonomy and Transformational Approaches to Coaching: Common Features**
2 **and Applications**

3

4

5 **Date of submission: 24 June 2014**

Abstract

The purpose of this paper is to provide a concise resource for coaches, coach educators, and coaching scientists by reviewing three common approaches to coaching: the mastery approach to coaching; autonomy-supportive coaching; and the transformational leadership approach to coaching. The theoretical foundations, purpose, evidence base, specified behaviours, and translation into coaching and coach education of each approach are reviewed. Despite diverse theoretical foundations and variations in purpose, there is some overlap in the coaching behaviours prescribed by each approach. However, there is limited empirical evidence to support the use of the three approaches in coach education and this is detrimental to effective and evidence-based coach education. Efforts to integrate theoretical foundations are promising, and a comprehensive prescription of coaching behaviours based on an integration of the three approaches is possible. This approach can potentially lead to cumulative effects on positive athlete outcomes. Future research should elucidate the common and unique contributions of these approaches to athletes' outcomes, and whether they differ by age, sex, type of sport, or competition level.

Keywords: self-determination, motivational climate, transformational leadership, coach education

Mastery, Autonomy and Transformational Approaches to Coaching: Common Features and Applications

Coaches have the potential to significantly impact the development of athletes. As such, the consistent development of positive psychological, social, and behavioural outcomes for athletes has been defined as a central component of effective coaching (Côté & Gilbert, 2009). This is reflected in coaches' preferences for coaching education, where topics such as communication, motivation, and character development are highly desired topics (Vargas-Tonsing, 2007). While all of these needs may not be met through formal coach education (Nelson, Cushion, & Potrac, 2006), there exists evidence-based approaches to coaching in the scientific literature upon which coaching practitioners and educators can inform their practice. However, given the diversity of theoretical foundations, a broad array of evidence-based outcomes for athletes, and poorly applied coach education initiatives (Langan, Blake, & Lonsdale, 2013), distinguishing the most applicable set of coaching behaviours for practice and education may be difficult. The purpose of this paper is to provide a resource for coaches, coach educators, and coaching scientists by reviewing three common approaches to coaching. To do this, the Mastery approach to coaching (MAC) (Smoll & Smith, 2009), autonomy-supportive coaching (Mageau & Vallerand, 2003), and the transformational leadership approach to coaching (TLAC) (Callow, Smith, Hardy, Arthur, & Hardy, 2009) will be reviewed in regards to their theoretical foundations, purpose, evidence base, specified behaviours, and translation into coaching practice and coach education.

Mastery Approach to Coaching

Theoretical Foundation

The MAC has its theoretical foundation in Achievement Goal Theory (AGT) (Dweck & Leggett, 1988). The focus of AGT has been to understand how goal directed actions within an achievement context impact one's behavioural and psychosocial outcomes. At an

individual level, AGT has focussed on *goal orientations*, which represent an athlete's aims or purposes within the sport context (Dweck & Leggett, 1988). There are two types of goal orientations. Individuals with a mastery goal orientation have a focus on learning, mastery, effort, and make self-referenced judgements regarding success (Dweck & Leggett, 1988). In contrast, individuals who hold an ego goal orientation focus on winning, or being better than others, in order to be successful (Dweck & Leggett, 1988). The way in which the coach structures the sporting landscape and defines success can create a *motivational climate* which will predispose an athlete toward one of the goal orientations. A mastery climate is constituted by a focus on effort and learning, and by a definition of success as mastery (Smoll & Smith, 2010). In contrast, an ego-involving climate is constituted by a focus on 'winning', where success is defined as favourable outcomes over others (Smoll & Smith, 2010).

Purpose

Given that a mastery climate and mastery goal orientation are consistently linked with greater behavioural and psychosocial outcomes for athletes, the MAC is fundamentally designed to help the coach facilitate a mastery climate. As such, its basic purpose is to facilitate and enhance the psychosocial wellbeing of athletes (Smoll & Smith, 2009).

Coaching Behaviours

Behavioural guidelines for coaches contained in the MAC focus on two distinct areas: facilitating positive athlete behaviour and promoting a mastery climate (Smoll & Smith, 2009). In order to promote positive control of athlete behaviour, four specific coaching behaviours are promoted – positive reinforcement of desired behaviours, mistake-contingent encouragement, corrective instruction that is delivered in a positive way, and sound technical instruction. The MAC also recommends that coaches avoid non-reinforcement of desired behaviours, punishment for mistakes, and punitive technical instruction following mistakes (Smoll & Smith, 2010). In order to promote a mastery climate, the prescribed behaviours are:

emphasise and reinforce effort as well as outcomes; give individualised attention to athletes and set personalised goals for improvement; define success as maximising potential; emphasise the importance of learning; have fun and de-emphasise the importance of winning (Smoll & Smith, 2009).

Major Research Findings

In line with the basic assumptions of AGT, Smith, Smoll, and Cumming (2009) have shown that a coach-created mastery climate is associated with athletes' adoption of mastery goals. Similarly, a coach-created ego-involving climate was associated with young athletes' adoption of ego goal orientation. Research has also shown the coach-created motivational climate to be associated with young athletes' enjoyment of sport, the extent to which they liked their coach, and their intentions to continue to play for their coach in the future (Cumming, Smoll, Smith, & Grossbard, 2007). In this study, a mastery climate predicted higher levels of these outcomes, while an ego-involving climate predicted lower levels. They also showed that the motivational climate was a far better predictor of positive athlete outcomes than the coach's won-lost record. In addition, Gould, Flett, and Lauer (2012) have shown that a mastery climate was also associated with greater life skill gains for young athletes. Notably, this study also showed that while it is important to create a mastery climate, it is also important to avoid creating an ego-involving climate as an ego-climate predicted fewest life skill gains. However, a mastery climate may be more predictive of positive motivational outcomes in a training context, while an ego-involving climate may result in more adaptive motivational outcomes when in a competition setting (van de Pol, Kavussanu, & Ring, 2012).

Application to Coach Education

Of all coach education programs reported in the scientific literature, the MAC intervention is the strongest. According to a recent systematic review, the MAC validation

studies have the most empirically validated research design, are well implemented, and accrued the most satisfactory overall rating of all coach interventions (Langan et al., 2013). Furthermore, studies reporting on the predecessor of the MAC and Coach Effectiveness Training are also relatively well designed and implemented (Langan et al., 2013). This makes the MAC the most evidence-based coaching intervention available to coach educators. The MAC intervention has been shown to result in a stronger mastery motivational climate for athletes of trained coaches, greater increases in mastery goal orientation, and decreases in anxiety (Smith, Smoll, & Cumming, 2007; Smoll, Smith, & Cumming, 2007).

Autonomy-Supportive Coaching

Theoretical Foundation

Autonomy-supportive coaching is derived from Self-Determination Theory (SDT) (Deci & Ryan, 1985). A basic tenet of SDT is that the social context in which one operates can be either autonomy-supportive or controlling. Autonomy-supportive environments place value on self-initiation and encourage choice, independent problem solving, and participation in decision making. Controlling environments place pressure on individuals to comply with desired thoughts or behaviours (Mageau & Vallerand, 2003). The level to which the social context is autonomy-supportive or controlling will in turn influence the satisfaction of three basic human needs that are essential for personal growth and adaptive motivation (Deci & Ryan, 1985; Ryan & Deci, 2000). These include a feeling of control over the environment (*autonomy*); a sense of being competent or successful at what you do (*competence*); and a sense of being positively connected to others (*relatedness*). The level of perceived support for all three needs subsequently translates into an overall level of motivation. Motivation has been classified into three overarching themes or categories - intrinsic, extrinsic, and amotivation. According to SDT, intrinsic motivation is the most adaptive form of motivation with the most positive cognitive, affective, and behavioural

outcomes for athletes (Mageau & Vallerand, 2003). Intrinsic motivation is when an athlete participates in sport for its own sake, rather than for any reward or reinforcement (Ryan & Deci, 2000). However, there are also forms of extrinsic motivation that are considered more autonomous than others. Autonomous forms of extrinsic motivation are also linked with more positive athlete outcomes, and occur when athletes consciously value an activity (such as fitness training) because it will help them to achieve a valued goal (such as winning a championship). To the extent that an athlete can internalise and accept the extrinsic reasons for undertaking an activity, that activity can be autonomous (Mageau & Vallerand, 2003).

Purpose

The motivational model presented by Mageau and Vallerand (2003) has its basic purpose to describe how coaches influence their athletes' intrinsic motivation and/or more autonomous forms of extrinsic motivation. Underlying this purpose is the assumption that athletes who are motivated by intrinsic and/or autonomous factors may experience more positive cognitive, affective, and behavioural outcomes (Mageau & Vallerand, 2003).

Coaching Behaviours

Mageau and Vallerand (2003) provide seven autonomy-supportive coaching behaviours. Firstly, coaches are urged to provide athletes with choice within specific rules and limits that are set by the coach. Such choices increase an athlete's sense of control over their environment. Secondly, coaches should provide a rationale for the tasks that are given to athletes and the limits/rules that are set by the coach so that they are more likely to be internalised and valued by the athlete. Thirdly, coaches should acknowledge athletes' feelings and perspectives, and thereby demonstrate that the coach understands them as an individual with specific needs. Coaches are also urged to provide athletes with opportunities for initiative taking and independent work because opportunities for self-initiated behaviour work against feelings of coercion. Next, coaches should provide non-controlling competence

feedback focussing on behaviours that are under athletes' control and should convey high but realistic expectations. Lastly, coaches should avoid controlling behaviours. This includes the provision of contingent rewards, and also includes the facilitation of an ego-involving climate where comparisons to others are used to judge one's success.

Major Research Findings

Research has served to validate the model proposed by Mageau and Vallerand (2003), and to confirm the basic theoretical assumptions of the autonomy-supportive coaching approach. In line with the basic tenets of SDT, cross sectional research in high school, college, and competitive athletes has shown that athlete's perceptions of coaches' autonomy-supportive behaviours predicts the satisfaction of their basic psychological needs, which in turn predicts intrinsic and autonomous forms of extrinsic motivation (Amorose & Anderson-Butcher, 2007; Gillet, Vallerand, Amoura, & Baldes, 2010). Amongst youth, coaches' autonomy supportive behaviours have also been shown to predict psychological need satisfaction, which in turn predict self-esteem, prosocial behaviours, and important developmental outcomes such as identity reflection and initiative (Coatsworth & Conroy, 2009; Hodge & Lonsdale, 2011). Longitudinal research provides some evidence for the causal influence of autonomy-supportive behaviours, with changes in coaches' autonomy-supportive behaviours associated with changes in psychological need satisfaction, which in turn were associated with changes in player well-being (positively) and burnout (negatively) (Balaguer et al., 2012). Interestingly, Mallett (2005) has presented a case study of autonomy supportive coaching within the context of the Olympic Games, and concluded that coaching behaviours based on the framework provided by Mageau and Vallerand (2003) are conducive to high performance, allow athletes to enjoy the experience, and are intrinsically rewarding for the coach. However, one limitation is that coaches may struggle to apply these principles

because the direct focus on performance seems incompatible with this approach until a more comprehensive understanding of the underlying theory is developed by coaches.

Application to Coach Education

There is currently an absence of autonomy support based coach education initiatives in the empirical literature. The implication of this lack of evidence is that, despite rigorous empirical testing of theoretical relationships, the effectiveness of the application of autonomy supportive behaviours to coach education is currently unknown. However, a recent meta-analysis shows that interventions to help people support the autonomy of others are effective, including interventions in teaching and education contexts (Su & Reeve, 2011).

Transformational Leadership Approach to Coaching

Theoretical Foundation

Transformational leadership has its origins in the distinction made between transactional and transformational leadership (Bass & Riggio, 2006). Transactional leaders are those who lead through social exchange – for example, by denying rewards for bad behaviour, or providing increased incentives for productivity. In contrast, transformational leaders stimulate and inspire others to follow them without the need for social exchanges (Bass & Riggio, 2006). They facilitate a shared vision and goal, and motivate others to achieve it. In essence, transformational leaders promote autonomous actions. According to transformational leadership theory, the key outcomes for followers are personal growth, task cohesion, need satisfaction, and intrinsic motivation.

Purpose

Transformational leadership has been used in a variety of coaching contexts – perhaps more than the other approaches. In youth sport contexts, the TLAC has been applied in order to facilitate positive developmental outcomes for athletes (Vella, Oades, & Crowe, 2012, 2013a). In adult settings, the TLAC has been applied with the purpose of examining its

relationship with athlete performance, cohesion, and motivation (Callow et al., 2009; Rowold, 2006). The TLAC has also been applied to coaching at the Olympic Games with the purpose of facilitating high performance for athletes (Din & Paskevich, 2013).

Coaching Behaviours

The TLAC has four major components (Bass & Riggio, 2006; Callow, et al., 2009; Vella, et al., 2012). *Idealised influence* is the extent to which coaches serve as positive behavioural role models for athletes and the extent to which coaches are attributed as having positive characteristics. *Inspirational motivation* is the extent to which coaches behave in ways that inspire and motivate athletes by providing meaning and challenge to what they do, and by communicating optimism and enthusiasm. *Intellectual stimulation* is the extent to which the coach can challenge athletes' cognitively by encouraging creativity and new ways of solving problems. Mistakes are not criticised, and new approaches are encouraged. Lastly, *Individualised consideration* is the extent to which the coach understands and meets the needs of individual athletes for growth, development, and achievement. In addition, some models of the TLAC based on the Differentiated Transformational Leadership Inventory (Callow, et al., 2009; Vella, et al., 2012) also include three more behaviours: *high performance expectations*; *fostering acceptance of group goals*; and *contingent reward*.

Major Research Findings

The TLAC has been associated with adult athletes' performance, effort, rating of coach effectiveness, satisfaction with the coach, task cohesion, and social cohesion (Callow et al., 2009; Rowold, 2006; Smith, Arthur, Hardy, Callow, & Williams, 2013). Amongst adolescent athletes, the TLAC has been associated with task cohesion, collective efficacy, perceived competence, enjoyment, and positive developmental experiences (Price & Weiss, 2013; Vella, Oades, & Crowe, 2013b), but not with intrinsic motivation (Price & Weiss, 2013). However, some nuances do exist in the relationship between various components of

the TLAC and athletes outcomes. For example, in one study Inspirational Motivation is related to athletes' extra effort, but not satisfaction with the coach (Rowold, 2006). In another study, it is related to task cohesion, but not performance (Callow, et al., 2009). It is therefore necessary for future research to fully understand these nuances, and to translate them into practical applications such as coach education.

Application to Coach Education

To date, only one TLAC program has been reported in the empirical literature. This program was undertaken with adolescent soccer players and was successful in increasing coaches' TLAC behaviours (Vella, et al., 2013a). It also showed that coaches who were trained in the TLAC were more likely to deliver consistent and positive developmental experiences for athletes than coaches who did not receive training (Vella, et al., 2013a). This included gains to cognitive skills and goal setting skills. While this study is a promising foundation for evidence-based coach education, more research is needed in regards to alternate contexts such as adult sport, and outcomes such as performance and motivation.

Conclusions

Diverse theoretical foundations between the three approaches to coaching has necessitated differences in their fundamental purpose and has dictated that empirical research examine varied outcomes. Despite some criticism that this is a disjointed and unhelpful way to move forward (Cushion, 2007), this diversity can be helpful to coaches and coach educators by allowing them to select an approach to coaching that is contextually appropriate and has been shown to be associated with desired athlete outcomes. Strong theoretical foundations and sufficient empirical evidence allow practitioners to select a coaching approach based on its fundamental purpose. For example, practitioners who work in participation sports for children where the emphasis is on playful engagement and mastery of fundamental movements (Côté & Gilbert, 2009) may choose the MAC as the basis for their

coaching practice or education initiatives. Those working in a performance context with young adolescents and who have the primary responsibility for overseeing an athlete's adjustment to focus on only one sport, to motivate during times when deliberate practice is increasing, and who are responsible for presenting opportunities for personal growth (Côté & Gilbert, 2009) may alternatively choose the TLAC due to its emphasis on role modelling, inspirational motivation, and intellectual stimulation. In contrast, coaches working in a performance context with adults where high amounts of deliberate practice are required (Côté & Gilbert, 2009), especially for tasks that may not be intrinsically motivating, and where a focus on personal growth and adjustment may be secondary to performance, may choose the autonomy-supportive approach as the basis of their practice. However, there is no evidence to suggest that these approaches are limited by context, including age, gender, type of sport, or competition level. Furthermore, effective coaching may not be limited to coaching behaviours that are stipulated by only one single approach. For example, it may be that sound technical instruction (MAC), providing explanations for the tasks that are set (autonomy-supportive coaching), and fostering the acceptance of group goals (TLAC) are all components of effective coaching in many and varied coaching contexts. Therefore, coaches and educators are urged to carefully consider the basic purposes of their coaching, the desired athlete outcomes, and the major research findings outlined above in order to select the coaching approach that will most effectively meet their needs.

There have been numerous attempts to integrate theoretical perspectives within a sport and exercise context. This work has largely proposed links between autonomy support, the motivational climate, and the satisfaction of basic psychological needs (Jõesaar, Hein, & Hagger, 2012; Moreno, Gonzalez-Cutre, Sicilia, & Spray, 2010). Furthermore, transformational leadership behaviours have also been linked to greater satisfaction of psychological needs, and in turn to higher rates of intrinsic motivation and engagement

(Wilson et al., 2012). This may be due to some conceptual overlap between transformational leadership and autonomy-supportive coaching whereby both approaches have as their aim the facilitation of autonomous motivation. Overall, this body of research is consistent with the observation that there is a high degree of consistency between the behaviours that are stipulated by each of the three approaches. Table 1 provides a brief summary of the overlap in stipulated behaviours, although does not represent a thorough theoretical examination. Alternatively, empirical links may be due to the co-occurrence of the behaviours, whereby coaches who are high in one set of behaviours are more likely to be high in another. However, as Table 1 shows, the integration of these behaviours into a coherent and comprehensive approach to coaching is distinctly possible. Future research should investigate whether such an approach is feasible because it is unclear whether the integration of a high number of coaching behaviours can reasonably be reduced to an approach to coaching that is understandable by coaches and applicable within coaching education contexts. Future research should also examine whether the integration of approaches leads to a cumulative effect in the facilitation of positive athlete outcomes. Lastly, future research should also elucidate the common and unique contributions of these approaches to athlete outcomes, and whether they differ by age, sex, type of sport, or competition level.

As reported by Langan et al. (2013), there is a relative paucity of empirical evidence on the effectiveness of coach education interventions. This leaves educators without an adequate evidence base upon which to base their education initiatives. The MAC has the greatest evidence base, but even this is not exhaustive (Langan, et al., 2013). Nonetheless, evidence to demonstrate cross-sectional associations between theoretically-derived coaching behaviours and positive athlete outcomes is sufficiently strong to justify moving from cross-sectional and longitudinal evidence to an increased focus on intervention research whereby causality can be examined. Such an increase in intervention research would provide a

1 foundation for improvements in the quality of coach education. Furthermore, greater
2 understanding of the effectiveness of coach education can be obtained if future research also
3 focuses on potential mediators and moderators of interventions such as context, coaching
4 experience, or athlete characteristics such as age and goals.

5 **Summary**

6 The three approaches to coaching have diverse theoretical foundations. Thus, the
7 fundamental purpose of each approach differs and can be used by practitioners to inform their
8 decision about the most appropriate approach for their needs. Despite diverse theoretical
9 foundations there is some overlap in the coaching behaviours prescribed by each. However,
10 the application of each approach to coach education suffers from a relative dearth of
11 empirical evidence. Efforts to integrate theoretical foundations are promising, and a
12 comprehensive prescription of coaching behaviours based on an integration of the three
13 approaches is possible.

References

- Amorose, A. J., & Anderson-Butcher, D. (2007). Autonomy-supportive coaching and self-determined motivation in high school and college athletes: A test of self-determination theory. *Psychology of Sport and Exercise*, 8, 654-670.
- Balaguer, I., Gonzalez, L., Fabra, P., Castillo, I., Merce, J., & Duda, J. L. (2012). Coaches' interpersonal style, basic psychological needs and the well- and ill-being of young soccer players: A longitudinal analysis. *Journal of Sports Sciences*, 30, 1619-1629.
- Bass, B. M., & Riggio, R. E. (2006). *Transformational Leadership*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Callow, N., Smith, M. J., Hardy, L., Arthur, C. A., & Hardy, J. (2009). Measurement of transformational leadership and its relationship with team cohesion and performance level. *Journal of Applied Sport Psychology*, 21, 395-412.
- Coatsworth, J. D., & Conroy, D. E. (2009). The effects of autonomy-supportive coaching, need satisfaction, and self-perceptions on initiative and identity on youth swimmers. *Developmental Psychology*, 45, 320-328.
- Côté, J., & Gilbert, W. (2009). An integrative definition of coaching effectiveness and expertise. *International Journal of Sports Science and Coaching*, 4, 307-323.
- Cumming, S. P., Smoll, F. L., Smith, R. E., & Grossbard, J. R. (2007). Is winning everything? The relative contributions of motivational climate and won-lost percentage in youth sports. *Journal of Applied Sport Psychology*, 19, 322-336.
- Cushion, C. (2007). Modelling the complexity of the coaching process. *International Journal of Sports Science and Coaching*, 2, 395-401.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behaviour*. New York: Plenum Press.

- 1 Din, C., & Paskevich, D. (2013). An integrated research model of Olympic podium
2 performance. *International Journal of Sports Science and Coaching*, 8, 431-444.
- 3 Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and
4 personality. *Psychological Review*, 95, 256-273.
- 5 Gillet, N., Vallerand, R. J., Amoura, S., & Baldes, B. (2010). Influence of coaches' autonomy
6 support on athletes' motivation and sport performance: A test of the hierarchical
7 model of intrinsic and extrinsic motivation. *Psychology of Sport and Exercise*, 11,
8 155-161.
- 9 Gould, D., Flett, R., & Lauer, L. (2012). The relationship between psychosocial development
10 and the sports climate experienced by underserved youth. *Psychology of Sport &*
11 *Exercise*, 13, 80-87.
- 12 Hodge, K., & Lonsdale, C. (2011). Prosocial and antisocial behavior in sport: The role of
13 coaching style, autonomous vs. controlled motivation, and moral disengagement.
14 *Journal of Sport & Exercise Psychology*, 33, 527-547.
- 15 Jõesaar, H., Hein, V., & Hagger, M. S. (2012). Youth athletes' perception of autonomy
16 support from the coach, peer motivational climate and intrinsic motivation in sport
17 setting: One-year effects. *Psychology of Sport and Exercise*, 13, 257-262.
- 18 Langan, E., Blake, C., & Lonsdale, C. (2013). Systematic review of the effectiveness of
19 interpersonal coach education interventions on athlete outcomes. *Psychology of Sport*
20 *and Exercise*, 14, 37-49.
- 21 Mageau, G. A., & Vallerand, R. J. (2003). The coach-athlete relationship: A motivational
22 model. *Journal of Sports Sciences*, 21, 883-904.
- 23 Mallett, C. J. (2005). Self-determination theory: A case study of evidence-based coaching.
24 *The Sport Psychologist*, 19, 417-429.

- 1 Moreno, J. A., Gonzalez-Cutre, D., Sicilia, A., & Spray, C. M. (2010). Motivation in the
2 exercise setting: Integrating constructs from the approach-avoidance achievement
3 goal framework and self-determination theory. *Psychology of Sport and Exercise, 11*,
4 542-550.
- 5 Nelson, L. J., Cushion, C. J., & Potrac, P. (2006). Formal, nonformal and informal coach
6 learning: A holistic conceptualisation. *International Journal of Sports Science and*
7 *Coaching, 1*, 247-259.
- 8 Price, M. S., & Weiss, M. R. (2013). Relationships among coach leadership, peer leadership,
9 and adolescent athletes' psychosocial and team outcomes: A test of transformational
10 leadership theory. *Journal of Applied Sport Psychology, 25*, 265-279.
- 11 Rowold, J. (2006). Transformational and transactional leadership in martial arts. *Journal of*
12 *Applied Sport Psychology, 18*, 312-325.
- 13 Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic
14 motivation, social development, and well-being. *American Psychologist, 55*, 68-78.
- 15 Smith, M. J., Arthur, C. A., Hardy, J., Callow, N., & Williams, D. (2013). Transformational
16 leadership and task cohesion in sport: The mediating role of intrateam
17 communication. *Psychology of Sport and Exercise, 14*, 249-257.
- 18 Smith, R. E., Smoll, F. L., & Cumming, S. P. (2007). Effects of a motivational climate
19 intervention for coaches on children's sport performance anxiety. *Journal of Sport &*
20 *Exercise Psychology, 29*, 39-59.
- 21 Smith, R. E., Smoll, F. L., & Cumming, S. P. (2009). Motivational climate and changes in
22 young athletes' achievement goal orientations. *Motivation and Emotion, 33*, 173-183.
- 23 Smoll, F. L., & Smith, R. E. (2009). *Mastery approach to coaching: A leadership guide for*
24 *youth sports*. Washington: Authors.

- 1 Smoll, F. L., & Smith, R. E. (2010). Conducting psychologically oriented coach training
2 programs: A social-cognitive approach. In J. M. Williams (Ed.), *Applied sport*
3 *psychology: Personal growth to peak performance*. (6th ed.). Boston, MA: McGraw-
4 Hill Publishers.
- 5 Smoll, F. L., Smith, R. E., & Cumming, S. P. (2007). Effects of a motivational climate
6 intervention for coaches on changes in young athletes' achievement goal orientations.
7 *Journal of Clinical Sport Psychology, 1*, 23-46.
- 8 Su, Y.-L., & Reeve, J. (2011). A meta-analysis of the effectiveness of intervention programs
9 designed to support autonomy. *Educational Psychology Review, 23*, 159-188.
- 10 van de Pol, P. K. C., Kavussanu, M., & Ring, C. (2012). Goal orientations, perceived
11 motivational climate, and motivational outcomes in football: A comparison between
12 training and competition contexts. *Psychology of Sport and Exercise, 13*, 491-499.
- 13 Vargas-Tonsing, T. M. (2007). Coaches' preference for continuing coaching education.
14 *International Journal of Sport Science and Coaching, 2*, 25-35.
- 15 Vella, S. A., Oades, L. G., & Crowe, T. P. (2012). Validation of the differentiated
16 transformational leadership inventory as a measure of coach leadership in youth
17 soccer. *The Sport Psychologist, 26*, 203-224.
- 18 Vella, S. A., Oades, L. G., & Crowe, T. P. (2013a). A pilot transformational leadership
19 training program for sports coaches: Impact on the developmental experiences of
20 adolescent athletes. *International Journal of Sports Science & Coaching, 8*, 513-530.
- 21 Vella, S. A., Oades, L. G., & Crowe, T. P. (2013b). The relationship between coach
22 leadership, the coach-athlete relationship, team success, and the developmental
23 experiences of young athletes. *Physical Education and Sport Pedagogy, 18*, 549-561.
- 24 Wilson, A. J., Liu, Y., Keith, S. E., Wilson, A. H., Kermer, L. E., Zumbo, B. D., &
25 Beauchamp, M. R. (2012). Transformational teaching and child psychological need

- 1 satisfaction, motivation, and engagement in elementary school physical education.
- 2 *Sport, Exercise, and Performance Psychology, 1*, 215-230.
- 3

1 Table 1.

2 *A Summary of Coaching Behaviours by Approach*

Coaching Behaviours	Coaching Approach		
	Transformational Coaching	Autonomy Supportive	Mastery Approach
Idealised influence (role modelling)	✓		
Intellectual stimulation	✓		
Foster acceptance of group goals	✓		
Provide choice within specific rules and limits		✓	
Provide rationale for tasks and limits set		✓	
Provide opportunities for initiative and independent work		✓	
Sound technical instruction			✓
De-emphasise the importance of winning and emphasise importance of learning			✓
Facilitate autonomous forms of motivation by providing meaning and challenge	✓	✓	
Communicate high but realistic expectations	✓	✓	
Provide non-controlling competence feedback		✓	✓
Define success in self-referenced ways and avoid other-referenced judgements of success		✓	✓
Positive reinforcement of desired behaviours that are under an athlete's control, with emphasis on the informational (verse controlling) component	✓	✓	✓
Individualised attention for each athlete, acknowledging their feelings and opinions, and meeting their needs for growth, development, and achievement	✓	✓	✓

3