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

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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.

Disciplines

Education | Social and Behavioral Sciences

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

2   **and Applications**

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3   coaching scientists by reviewing three common approaches to coaching: the mastery

4   approach to coaching; autonomy-supportive coaching; and the transformational leadership

5   approach to coaching. The theoretical foundations, purpose, evidence base, specified

6   behaviours, and translation into coaching and coach education of each approach are reviewed.

7   Despite diverse theoretical foundations and variations in purpose, there is some overlap in the

8   coaching behaviours prescribed by each approach. However, there is limited empirical

9   evidence to support the use of the three approaches in coach education and this is detrimental

10   to effective and evidence-based coach education. Efforts to integrate theoretical foundations

11   are promising, and a comprehensive prescription of coaching behaviours based on an

12   integration of the three approaches is possible. This approach can potentially lead to

13   cumulative effects on positive athlete outcomes. Future research should elucidate the

14   common and unique contributions of these approaches to athletes' outcomes, and whether

15   they differ by age, sex, type of sport, or competition level.

16   *Keywords*: self-determination, motivational climate, transformational leadership, coach

17   education

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

2 **and Applications**

3 Coaches have the potential to significantly impact the development of athletes. As

4 such, the consistent development of positive psychological, social, and behavioural outcomes

5 for athletes has been defined as a central component of effective coaching (Côté & Gilbert,

6 2009). This is reflected in coaches' preferences for coaching education, where topics such as

7 communication, motivation, and character development are highly desired topics (Vargas-

8 Tonsing, 2007). While all of these needs may not be met through formal coach education

9 (Nelson, Cushion, & Potrac, 2006), there exists evidence-based approaches to coaching in the

10 scientific literature upon which coaching practitioners and educators can inform their

11 practice. However, given the diversity of theoretical foundations, a broad array of evidence-

12 based outcomes for athletes, and poorly applied coach education initiatives (Langan, Blake,

13 & Lonsdale, 2013), distinguishing the most applicable set of coaching behaviours for practice

14 and education may be difficult. The purpose of this paper is to provide a resource for coaches,

15 coach educators, and coaching scientists by reviewing three common approaches to coaching.

16 To do this, the Mastery approach to coaching (MAC) (Smoll & Smith, 2009), autonomy-

17 supportive coaching (Mageau & Vallerand, 2003), and the transformational leadership

18 approach to coaching (TLAC) (Callow, Smith, Hardy, Arthur, & Hardy, 2009) will be

19 reviewed in regards to their theoretical foundations, purpose, evidence base, specified

20 behaviours, and translation into coaching practice and coach education.

21 **Mastery Approach to Coaching**

22 **Theoretical Foundation**

23 The MAC has its theoretical foundation in Achievement Goal Theory (AGT) (Dweck

24 & Leggett, 1988). The focus of AGT has been to understand how goal directed actions within

25 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

1 studies have the most empirically validated research design, are well implemented, and

2 accrued the most satisfactory overall rating of all coach interventions (Langan et al., 2013).

3 Furthermore, studies reporting on the predecessor of the MAC and Coach Effectiveness

4 Training are also relatively well designed and implemented (Langan et al., 2013). This makes

5 the MAC the most evidence-based coaching intervention available to coach educators. The

6 MAC intervention has been shown to result in a stronger mastery motivational climate for

7 athletes of trained coaches, greater increases in mastery goal orientation, and decreases in

8 anxiety (Smith, Smoll, & Cumming, 2007; Smoll, Smith, & Cumming, 2007).

9 **Autonomy-Supportive Coaching**

10 **Theoretical Foundation**

11 Autonomy-supportive coaching is derived from Self-Determination Theory

12 (SDT)(Deci & Ryan, 1985). A basic tenet of SDT is that the social context in which one

13 operates can be either autonomy-supportive or controlling. Autonomy-supportive

14 environments place value on self-initiation and encourage choice, independent problem

15 solving, and participation in decision making. Controlling environments place pressure on

16 individuals to comply with desired thoughts or behaviours (Mageau & Vallerand, 2003). The

17 level to which the social context is autonomy-supportive or controlling will in turn influence

18 the satisfaction of three basic human needs that are essential for personal growth and adaptive

19 motivation (Deci & Ryan, 1985; Ryan & Deci, 2000). These include a feeling of control over

20 the environment (*autonomy*); a sense of being competent or successful at what you do

21 (*competence*); and a sense of being positively connected to others (*relatedness*). The level of

22 perceived support for all three needs subsequently translates into an overall level of

23 motivation. Motivation has been classified into three overarching themes or categories -

24 intrinsic, extrinsic, and amotivation. According to SDT, intrinsic motivation is the most

25 adaptive form of motivation with the most positive cognitive, affective, and behavioural

1   outcomes for athletes (Mageau & Vallerand, 2003). Intrinsic motivation is when an athlete

2   participates in sport for its own sake, rather than for any reward or reinforcement (Ryan &

3   Deci, 2000). However, there are also forms of extrinsic motivation that are considered more

4   autonomous than others. Autonomous forms of extrinsic motivation are also linked with more

5   positive athlete outcomes, and occur when athletes consciously value an activity (such as

6   fitness training) because it will help them to achieve a valued goal (such as winning a

7   championship). To the extent that an athlete can internalise and accept the extrinsic reasons

8   for undertaking an activity, that activity can be autonomous (Mageau & Vallerand, 2003).

9   **Purpose**

10   The motivational model presented by Mageau and Vallerand (2003) has its basic

11   purpose to describe how coaches influence their athletes' intrinsic motivation and/or more

12   autonomous forms of extrinsic motivation. Underlying this purpose is the assumption that

13   athletes who are motivated by intrinsic and/or autonomous factors may experience more

14   positive cognitive, affective, and behavioural outcomes (Mageau & Vallerand, 2003).

15   **Coaching Behaviours**

16   Mageau and Vallerand (2003) provide seven autonomy-supportive coaching

17   behaviours. Firstly, coaches are urged to provide athletes with choice within specific rules

18   and limits that are set by the coach. Such choices increase an athlete's sense of control over

19   their environment. Secondly, coaches should provide a rationale for the tasks that are given to

20   athletes and the limits/rules that are set by the coach so that they are more likely to be

21   internalised and valued by the athlete. Thirdly, coaches should acknowledge athletes' feelings

22   and perspectives, and thereby demonstrate that the coach understands them as an individual

23   with specific needs. Coaches are also urged to provide athletes with opportunities for

24   initiative taking and independent work because opportunities for self-initiated behaviour

25   work against feelings of coercion. Next, coaches should provide non-controlling competence

1   feedback focussing on behaviours that are under athletes' control and should convey high but

2   realistic expectations. Lastly, coaches should avoid controlling behaviours. This includes the

3   provision of contingent rewards, and also includes the facilitation of an ego-involving climate

4   where comparisons to others are used to judge one's success.

5   **Major Research Findings**

6   Research has served to validate the model proposed by Mageau and Vallerand (2003),

7   and to confirm the basic theoretical assumptions of the autonomy-supportive coaching

8   approach. In line with the basic tenets of SDT, cross sectional research in high school,

9   college, and competitive athletes has shown that athlete's perceptions of coaches' autonomy-

10   supportive behaviours predicts the satisfaction of their basic psychological needs, which in

11   turn predicts intrinsic and autonomous forms of extrinsic motivation (Amorose & Anderson-

12   Butcher, 2007; Gillet, Vallerand, Amoura, & Baldes, 2010). Amongst youth, coaches'

13   autonomy supportive behaviours have also been shown to predict psychological need

14   satisfaction, which in turn predict self-esteem, prosocial behaviours, and important

15   developmental outcomes such as identity reflection and initiative (Coatsworth & Conroy,

16   2009; Hodge & Lonsdale, 2011). Longitudinal research provides some evidence for the

17   causal influence of autonomy-supportive behaviours, with changes in coaches' autonomy-

18   supportive behaviours associated with changes in psychological need satisfaction, which in

19   turn were associated with changes in player well-being (positively) and burnout (negatively)

20   (Balaguer et al., 2012). Interestingly, Mallett (2005) has presented a case study of autonomy

21   supportive coaching within the context of the Olympic Games, and concluded that coaching

22   behaviours based on the framework provided by Mageau and Vallerand (2003) are conducive

23   to high performance, allow athletes to enjoy the experience, and are intrinsically rewarding

24   for the coach. However, one limitation is that coaches may struggle to apply these principles

1   because the direct focus on performance seems incompatible with this approach until a more

2   comprehensive understanding of the underlying theory is developed by coaches.

3   **Application to Coach Education**

4   There is currently an absence of autonomy support based coach education initiatives

5   in the empirical literature. The implication of this lack of evidence is that, despite rigorous

6   empirical testing of theoretical relationships, the effectiveness of the application of autonomy

7   supportive behaviours to coach education is currently unknown. However, a recent meta-

8   analysis shows that interventions to help people support the autonomy of others are effective,

9   including interventions in teaching and education contexts (Su & Reeve, 2011).

10   **Transformational Leadership Approach to Coaching**

11   **Theoretical Foundation**

12   Transformational leadership has its origins in the distinction made between

13   transactional and transformational leadership (Bass & Riggio, 2006). Transactional leaders

14   are those who lead through social exchange – for example, by denying rewards for bad

15   behaviour, or providing increased incentives for productivity. In contrast, transformational

16   leaders stimulate and inspire others to follow them without the need for social exchanges

17   (Bass & Riggio, 2006). They facilitate a shared vision and goal, and motivate others to

18   achieve it. In essence, transformational leaders promote autonomous actions. According to

19   transformational leadership theory, the key outcomes for followers are personal growth, task

20   cohesion, need satisfaction, and intrinsic motivation.

21   **Purpose**

22   Transformational leadership has been used in a variety of coaching contexts – perhaps

23   more than the other approaches. In youth sport contexts, the TLAC has been applied in order

24   to facilitate positive developmental outcomes for athletes (Vella, Oades, & Crowe, 2012,

25   2013a). In adult settings, the TLAC has been applied with the purpose of examining its

1 relationship with athlete performance, cohesion, and motivation (Callow et al., 2009;

2 Rowold, 2006). The TLAC has also been applied to coaching at the Olympic Games with the

3 purpose of facilitating high performance for athletes (Din & Paskevich, 2013).

Coaching Behaviours

5 The TLAC has four major components (Bass & Riggio, 2006; Callow, et al., 2009;

6 Vella, et al., 2012). *Idealised influence* is the extent to which coaches serve as positive

7 behavioural role models for athletes and the extent to which coaches are attributed as having

8 positive characteristics. *Inspirational motivation* is the extent to which coaches behave in

9 ways that inspire and motivate athletes by providing meaning and challenge to what they do,

10 and by communicating optimism and enthusiasm. *Intellectual stimulation* is the extent to

11 which the coach can challenge athletes' cognitively by encouraging creativity and new ways

12 of solving problems. Mistakes are not criticised, and new approaches are encouraged. Lastly,

13 *Individualised consideration* is the extent to which the coach understands and meets the

14 needs of individual athletes for growth, development, and achievement. In addition, some

15 models of the TLAC based on the Differentiated Transformational Leadership Inventory

16 (Callow, et al., 2009; Vella, et al., 2012) also include three more behaviours: *high*

17 *performance expectations*; *fostering acceptance of group goals*; and *contingent reward*.

Major Research Findings

19 The TLAC has been associated with adult athletes' performance, effort, rating of

20 coach effectiveness, satisfaction with the coach, task cohesion, and social cohesion (Callow

21 et al., 2009; Rowold, 2006; Smith, Arthur, Hardy, Callow, & Williams, 2013). Amongst

22 adolescent athletes, the TLAC has been associated with task cohesion, collective efficacy,

23 perceived competence, enjoyment, and positive developmental experiences (Price & Weiss,

24 2013; Vella, Oades, & Crowe, 2013b), but not with intrinsic motivation (Price & Weiss,

25 2013). However, some nuances do exist in the relationship between various components of

1 the TLAC and athletes outcomes. For example, in one study Inspirational Motivation is

2 related to athletes' extra effort, but not satisfaction with the coach (Rowold, 2006). In another

3 study, it is related to task cohesion, but not performance (Callow, et al., 2009). It is therefore

4 necessary for future research to fully understand these nuances, and to translate them into

5 practical applications such as coach education.

6 **Application to Coach Education**

7   To date, only one TLAC program has been reported in the empirical literature. This

8 program was undertaken with adolescent soccer players and was successful in increasing

9 coaches' TLAC behaviours (Vella, et al., 2013a). It also showed that coaches who were

10 trained in the TLAC were more likely to deliver consistent and positive developmental

11 experiences for athletes than coaches who did not receive training (Vella, et al., 2013a). This

12 included gains to cognitive skills and goal setting skills. While this study is a promising

13 foundation for evidence-based coach education, more research is needed in regards to

14 alternate contexts such as adult sport, and outcomes such as performance and motivation.

15 **Conclusions**

16   Diverse theoretical foundations between the three approaches to coaching has

17 necessitated differences in their fundamental purpose and has dictated that empirical research

18 examine varied outcomes. Despite some criticism that this is a disjointed and unhelpful way

19 to move forward (Cushion, 2007), this diversity can be helpful to coaches and coach

20 educators by allowing them to select an approach to coaching that is contextually appropriate

21 and has been shown to be associated with desired athlete outcomes. Strong theoretical

22 foundations and sufficient empirical evidence allow practitioners to select a coaching

23 approach based on its fundamental purpose. For example, practitioners who work in

24 participation sports for children where the emphasis is on playful engagement and mastery of

25 fundamental movements (Côté & Gilbert, 2009) may choose the MAC as the basis for their

1   coaching practice or education initiatives. Those working in a performance context with

2   young adolescents and who have the primary responsibility for overseeing an athlete's

3   adjustment to focus on only one sport, to motivate during times when deliberate practice is

4   increasing, and who are responsible for presenting opportunities for personal growth (Côté &

5   Gilbert, 2009) may alternatively choose the TLAC due to its emphasis on role modelling,

6   inspirational motivation, and intellectual stimulation. In contrast, coaches working in a

7   performance context with adults where high amounts of deliberate practice are required (Côté

8   & Gilbert, 2009), especially for tasks that may not be intrinsically motivating, and where a

9   focus on personal growth and adjustment may be secondary to performance, may choose the

10   autonomy-supportive approach as the basis of their practice. However, there is no evidence to

11   suggest that these approaches are limited by context, including age, gender, type of sport, or

12   competition level. Furthermore, effective coaching may not be limited to coaching

13   behaviours that are stipulated by only one single approach. For example, it may be that sound

14   technical instruction (MAC), providing explanations for the tasks that are set (autonomy-

15   supportive coaching), and fostering the acceptance of group goals (TLAC) are all

16   components of effective coaching in many and varied coaching contexts. Therefore, coaches

17   and educators are urged to carefully consider the basic purposes of their coaching, the desired

18   athlete outcomes, and the major research findings outlined above in order to select the

19   coaching approach that will most effectively meet their needs.

20   There have been numerous attempts to integrate theoretical perspectives within a

21   sport and exercise context. This work has largely proposed links between autonomy support,

22   the motivational climate, and the satisfaction of basic psychological needs (Jõesaar, Hein, &

23   Hagger, 2012; Moreno, Gonzalez-Cutre, Sicilia, & Spray, 2010). Furthermore,

24   transformational leadership behaviours have also been linked to greater satisfaction of

25   psychological needs, and in turn to higher rates of intrinsic motivation and engagement

1 (Wilson et al., 2012). This may be due to some conceptual overlap between transformational

2 leadership and autonomy-supportive coaching whereby both approaches have as their aim the

3 facilitation of autonomous motivation. Overall, this body of research is consistent with the

4 observation that there is a high degree of consistency between the behaviours that are

5 stipulated by each of the three approaches. Table 1 provides a brief summary of the overlap

6 in stipulated behaviours, although does not represent a thorough theoretical examination.

7 Alternatively, empirical links may be due to the co-occurance of the behaviours, whereby

8 coaches who are high in one set of behaviours are more likely to be high in another.

9 However, as Table 1 shows, the integration of these behaviours into a coherent and

10 comprehensive approach to coaching is distinctly possible. Future research should investigate

11 whether such an approach is feasible because it is unclear whether the integration of a high

12 number of coaching behaviours can reasonably to be reduced to an approach to coaching that

13 is understandable by coaches and applicable within coaching education contexts. Future

14 research should also examine whether the integration of approaches leads to a cumulative

15 effect in the facilitation of positive athlete outcomes. Lastly, future research should also

16 elucidate the common and unique contributions of these approaches to athlete outcomes, and

17 whether they differ by age, sex, type of sport, or competition level.

18 As reported by Langan et al. (2013), there is a relative paucity of empirical evidence

19 on the effectiveness of coach education interventions. This leaves educators without an

20 adequate evidence base upon which to base their education initiatives. The MAC has the

21 greatest evidence base, but even this is not exhaustive (Langan, et al., 2013). Nonetheless,

22 evidence to demonstrate cross-sectional associations between theoretically-derived coaching

23 behaviours and positive athlete outcomes is sufficiently strong to justify moving from cross-

24 sectional and longitudinal evidence to an increased focus on intervention research whereby

25 causality can be examined. Such an increase in intervention research would provide a

foundation for improvements in the quality of coach education. Furthermore, greater

understanding of the effectiveness of coach education can be obtained if future research also

focuses on potential mediators and moderators of interventions such as context, coaching

experience, or athlete characteristics such as age and goals.

Summary

The three approaches to coaching have diverse theoretical foundations. Thus, the

fundamental purpose of each approach differs and can be used by practitioners to inform their

decision about the most appropriate approach for their needs. Despite diverse theoretical

foundations there is some overlap in the coaching behaviours prescribed by each. However,

the application of each approach to coach education suffers from a relative dearth of

empirical evidence. Efforts to integrate theoretical foundations are promising, and a

comprehensive prescription of coaching behaviours based on an integration of the three

approaches is possible.

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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	✓	✓	✓

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