Title

‘Zooming in’ on the antecedents of youth sport coaches’ autonomy-supportive and controlling interpersonal behaviours: A multimethod study.

Abstract

Grounded in self-determination theory and the motivational model of the coach-athlete relationship, the purpose of this study was to explore the antecedents of youth sport coaches’ autonomy-supportive and controlling behaviours using a multimethod approach. Recreational level youth swimming and football coaches (N = 12) participated in semi-structured interviews and were observed leading a coaching session. Interviews were thematically analysed and coaching sessions were analysed using the multidimensional motivational climate observation system. Analysis of the triangulated data revealed that the coaches were both autonomy-supportive and controlling in their interactions with athletes, but predominantly autonomy-supportive. Coaches reported that they coached in this way due to factors associated with their personal orientation (significant others’ influence, learning experiences, and beliefs about the role of the coach), the coaching context (time pressure), and perceptions of athletes’ characteristics (readiness for autonomy, gender, and quality of motivation). The findings are discussed in relation to personal and social processes that may determine coaching behaviours, and suggestions for coach development and future research are noted.

Key words: autonomy support and control, antecedents, youth sport, coach behaviours, self-determination theory.


Introduction

Coaching behaviours can have a significant impact on athletes’ sport experiences (1). A theoretical framework that has been useful for examining the effects of coaches’ behaviours on athletes’ outcomes is self-determination theory (SDT) (2). According to SDT, coaches can enhance or diminish athletes’ sport experiences depending on the degree to which their coaching behaviours are autonomy-supportive or controlling (3). A plethora of SDT research recognises and forewarns coaches of the negative consequences associated with coaching athletes using controlling strategies, and instead promotes autonomy-supportive coaching as a healthier alternative. Many coaches, however, continue to engage in behaviours that are perceived as controlling rather than autonomy-supportive (4). This is particularly evident within the context of grassroots youth sport (e.g., 5, 6). Very little attention, however, has been given to investigating the antecedents of coaches’ autonomy-supportive and controlling behaviours (7). Therefore, the purpose of the study was to examine the underlying reasons for autonomy-supportive and controlling coaching behaviours.

Autonomy support is evident when coaches offer choices, explain their instructions, acknowledge athletes’ feelings and perspectives, and create opportunities for initiative taking (3). Controlling behaviours include issuing demands, distributing task-contingent rewards, punishments, and guilt-inducing criticisms, using intimidation techniques, and encouraging athletes’ ego-involve (8). Autonomy-supportive coaching behaviours are considered optimal as they are associated with desirable outcomes for athletes such as psychological need-satisfaction (9), autonomous motivation (10), sustained engagement (11), and enhanced performance (12). Meanwhile, controlling coaching behaviours are regarded as damaging because they are linked with undesirable outcomes for athletes such as psychological need-
frustration (13), controlled motivation (14), increased burnout propensity (15), and other negative consequences (e.g., negative affect, disordered eating, depression) (16). Research findings indicate that coaches may exhibit both autonomy-supportive and controlling behaviours to differing extents (e.g., 17). However, coaches who provide their athletes with little autonomy support are not necessarily highly controlling and vice versa (18). Therefore, there is a need for research that investigates these two dimensions of coach behaviour and their antecedents at the same time, which could aid the design of interventions aimed at improving the coach-created motivational environment in youth sport (1).

A useful theoretically-based framework for investigating the antecedents of coaches’ autonomy-supportive and controlling behaviours is Mageau and Vallerand’s (3) motivational model of the coach-athlete relationship (MMCAR). Their model proposed that three underlying factors directly determine coaches’ autonomy-supportive behaviours: the coach’s personal orientation, perceptions of athletes’ behaviour and motivation, and the coaching context. The MMCAR has been used effectively to develop understanding of the antecedents of teachers’ behaviours (e.g., 19). Furthermore, research has demonstrated that the proposed antecedents also provide explanations for coaches’ use of controlling behaviours (e.g., 20,21).

Coaches’ personal orientation concerns the internalised behaviours that they are likely to exhibit based on their background and attitude towards coaching (22). To date, researchers have not directly examined the proposed relationship between coaches’ personal orientation and autonomy-supportive and controlling coaching behaviours. Using an action research process, Ahlberg, Mallett, and Tinning (23) attempted to help a rugby coach create a training environment that offered athletes more choice and provided rationales for requested tasks (i.e., autonomy support). They found that the coach’s self-awareness increased during the intervention, but the autonomy-supportive behaviours conflicted with his controlling personal
orientation and beliefs regarding effective practice. This study demonstrates some support for
the relationship, however, further research is needed to better understand it.

The second feature of Mageau and Vallerand’s (3) MMCAR, the coaching context, is also
connected with coaches’ interpersonal behaviours. A small number of studies have identified
contextual challenges associated with operationalising autonomy-supportive coaching
behaviours (e.g., unsupportive colleagues, time constraints, work-life conflict) (21,24), but this
remains an underexplored area. Lastly, Mageau and Vallerand (3) proposed that coaches’
perceptions of athletes’ behaviour and motivation influences their behaviours. Specifically, that
coaches are more inclined to engage in autonomy-supportive behaviours when they believe
athletes have a high level of self-determined motivation. This proposition has gained some
empirical support in sport (e.g., 21,25), however, researchers have yet to investigate the
relationship between coaches’ perceptions of athletes’ behaviour and motivation and
controlling coaching behaviours.

At present, research examining the antecedents of coaches’ autonomy-supportive and
controlling behaviours has relied almost solely on quantitative self-report instruments such as
questionnaires (e.g., 21,26). This work has demonstrated empirical support for the theoretical
propositions of SDT in relation to outcomes of coaches’ behaviours. However, such approaches
limit the depth of insight gained into the complexity of why coaches behave as they do.
Qualitative research methods offer opportunities to explore the intricacies and subtleties of
factors already shown to influence coaches’ interpersonal behaviours (27). Therefore,
qualitative modes of inquiry will be useful to explore the antecedents presented in the MMCAR
(3) and enrich our understanding of the motivational basis of coaches’ behaviours (7).
Furthermore, there has been an absence of studies utilising naturalistic observation to help
explain coaches’ interpersonal behaviours, despite the fact that its use is regarded as a
worthwhile method for obtaining first-hand evidence to help comprehend and encapsulate the
context in which coaches operate (28). Such insight is relevant to researchers seeking to better understand the in-situ behaviours of coaches in various sport settings (7). The aim of the present study was, thus, to begin addressing current knowledge gaps by exploring the antecedents of youth sport coaches’ autonomy-supportive and controlling behaviours using a multimethod approach.

Methods

Participants

The participants were 12 (nine male and three female) youth sport coaches working within Scotland. The coaches specialised in football (N = 6) and swimming (N = 6), and worked with recreational level athletes aged between 4 and 18 years old. The coaches’ age ranged from 21 to 61 years ($M = 36.9, SD = 15.9$). Their total years of coaching experience ranged from three to 30 years ($M = 12.7, SD = 8.5$). All the coaches held a national coaching qualification (i.e., three had a level 1 qualification, five had a level 2 qualification, and four had a level 3 qualification), three of the coaches held an academic coaching qualification, and one of the coaches held a secondary school teaching qualification. The coaches reported their job status as either paid (N = 7) or voluntary (N = 5) in a part-time role.

Research Design and Data Collection Methods

The present study utilised a concurrent triangulation mixed methods approach. Therefore, both quantitative and qualitative data were collected from the coaches during the same time period then compared to see what they revealed about their behaviours and the antecedents of those behaviours. This side by side integration of results is recommended for its capacity to combine the strengths of different methods and produce well supported findings (29).

Antecedents of Coaching Behaviours. Semi-structured interviews were used to acquire rich, dense accounts of the coaches’ experiences (30). An interview guide (available from the
(authors on request) was produced based on synthesized findings from SDT research in sport coaching as well as other domains (parenting, education, health, workplace) (1), SDT concepts, and the MMCAR (3). Resulting questions focused on the three antecedents of autonomy-supportive and controlling coaching proposed in the MMCAR: personal orientation (e.g., “What would you constitute as representing effective coaching, and what impact, if any, does this have on your coaching behaviours?”); coaching context (e.g., “What impact, if any, does your working environment have on your coaching behaviours?”); and perceptions of athletes’ behaviour and motivation (e.g., “What impact, if any, do your beliefs about athletes have on your coaching behaviours?”).

Coaching Behaviours. The multidimensional motivational climate observation system (MMCOS) (31) was used to explore the coaches’ behaviours during practice. The MMCOS assesses different aspects of the coaching environment relating to both SDT and achievement goal theory (32). However, as the current study was situated in SDT and focused on autonomy-supportive and controlling coaching behaviours, the coaching environment was only coded according to autonomy-supportive and controlling environmental dimensions and related coaching behaviours (e.g., “Acknowledges feelings and perspective”, “Provides rationale for tasks/requests/constraints”, “Demonstrates negative conditional regard”). The potency rating (i.e., the universality, strength, and look) for each coded dimension was recorded on the following scale: 0 (not at all), 1 (weak potency), 2 (moderate potency), 3 (strong potency). The validity and reliability of the MMCOS has been demonstrated in youth sport research (e.g., 5).

Procedures

Following ethical approval by the authors’ institutional ethics committee, coaches were recruited through the authors’ existing networks within sport via email and telephone. Coaches of swimming and football were included because recent evidence suggests that these
are, respectively, two of the most popular individual and team sports performed by children and adolescents globally (33). Involvement in this study was voluntary and the coaches provided informed consent prior to data collection. All data was collected by the first author who had a firm understanding of SDT and experience of coaching youth sports. Each coach was observed for 60 minutes during a normal training session. Event recording was used, therefore every time a predefined behaviour was witnessed, that behaviour was noted on the MMCOS coding sheet. Each coach then took part in a recorded one-to-one interview lasting an average of 40 minutes. All data belonging to each coach was assigned a pseudonym providing anonymity in the presentation of the findings.

**Data Analysis**

Following the coach observations, the mean and standard deviation of each coded coaching behaviour as well as the percentage of total behaviours were calculated. This enabled examination of shared and individual patterns of behaviour. Then the mean potency ratings and standard deviations were calculated providing the overall strength of the coaches’ observed autonomy-supportive and controlling behaviours (31). Following the interviews, verbatim transcripts were generated and read several times by the authors to develop a sense of familiarity with the depth and breadth of the data (34). Thereafter, an inductive/deductive thematic analysis approach was adopted by the first author to detect factors coaches perceived resulted in autonomy-supportive and controlling coaching, in line with as well as extending beyond the antecedent dimensions presented in MMCAR (3). Sparks, Dimmock, Whipp, and Lonsdale (35) successfully used the same type of thematic analysis to generate deep and novel insights into PE teachers’ behaviours that students perceived as relatedness-supportive. Preliminary themes were then discussed by the authors, at which point a consensus was reached on the final themes and their meaning (36). Coaches were also scored on the potency of their self-reported autonomy-supportive and controlling behaviours using the same rating scale as
Then the authors calculated the overall group mean potency ratings and standard deviations for the self-reported autonomy-supportive and controlling behaviours. Lastly, the interview data was triangulated with the observation data to assess how well coaches’ self- and observer-reports matched, identify potential reasons why, and strengthen the trustworthiness of the findings (37,38). Cross-concordance ratings were generated by calculating the numerical difference between the potency ratings given for each coach, and assigning a consistency rating using the following scale: 0 (high consistency), 1 (medium consistency), and 2 (low consistency). For example, if a coach’s self-reported autonomy-supportive behaviours had a potency rating of 3 and their observed autonomy-supportive behaviours had a potency rating of 2, the difference is 1 point, so their scores were judged as having a medium level of consistency. Whereas, if a coach’s self-reported and observed controlling behaviours both had a potency rating of 2, their scores were classed as having a high level of consistency because there is a difference of 0 points. Mean cross-concordance ratings and standard deviations were also calculated to establish a group measure of the overall consistency across results.

Results and Discussion

The Observed and Self-Reported Motivational Climate

Analysis of the observation data show that the autonomy-supportive environmental dimension of each coach-created motivational climate received a higher potency rating (M = 2.08, SD = 0.67) than the controlling environmental dimension (M = 0.83, SD = 0.72), suggesting that, on average, coaches created a moderately autonomy-supportive and minimally controlling motivational climate (Table 1). Furthermore, the coaches displayed far more autonomy-supportive behaviours (M = 9.58 (77.7%), SD = 3.99) than controlling behaviours (M = 2.75 (22.3%), SD = 2.80). This behavioural pattern is consistent with findings from a study of observed training sessions of 57 recreational level
youth football coaches from England, Greece, and France, where coaches were 69.9% need-supportive and 30.1% need-thwarting (6). Moreover, the average potency rating assigned to each coach’s self-report suggested that they believed their behaviours were moderately autonomy-supportive (M = 2.25, SD = 0.75) and weakly controlling (M = 1.58, SD = 0.67), and cross-concordance analysis revealed that their interview scores had medium levels of consistency with their observation scores (Table 1). While these results are encouraging, there was still room to improve the motivational environment being created, which emphasised the need for greater understanding of these two types of behaviours, particularly how and why they are both employed. The current study is the first to examine which autonomy-supportive and controlling behaviours recreational level coaches were employing and why at the same time.

Table 1. Potency of and consistency between observed and self-reported autonomy-supportive and controlling coaching behaviours.

<table>
<thead>
<tr>
<th>Coach (sport)*</th>
<th>Autonomy-supportive</th>
<th>Controlling</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Observation</td>
<td>Interview</td>
</tr>
<tr>
<td></td>
<td>Total number of recorded behaviours</td>
<td>Potency score* **</td>
</tr>
<tr>
<td>David (F)</td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td>Charlie (F)</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Martin (F)</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Name</td>
<td>F</td>
<td>3</td>
</tr>
<tr>
<td>--------</td>
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</tr>
<tr>
<td>Derek</td>
<td>15</td>
<td>3</td>
</tr>
<tr>
<td>James</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Steven</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Allan</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Lucy</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Francesca</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Kevin</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Blair</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Rachel</td>
<td>7</td>
<td>2</td>
</tr>
</tbody>
</table>

| M (SD) | 9.58 (3.99) | 2.08 (0.67) | 2.25 (0.75) | 1.00 (0.43) | 2.75 (2.80) | 0.83 (0.72) | 1.58 (0.67) | 1.08 (0.51) |

*F = Football; S = Swimming

**Potency scores: 0 = Not at all; 1 = Weak; 2 = Moderate; 3 = Strong.

***Cross-concordance ratings: 0 = High level of consistency; 1 = Medium level of consistency; 2 = Low level of consistency.

**Antecedents of the Coaches’ Autonomy-Supportive and Controlling Behaviours**

Further analysis of the coaches’ interview and observation data resulted in 10 raw data themes that were organised into seven lower- and three high-order themes based on the antecedent dimensions in Mageau and Vallerand’s (3) MMCAR (Figure 1).
Figure 1. Reported antecedents of autonomy-supportive and controlling behaviours.

<table>
<thead>
<tr>
<th>Raw data theme</th>
<th>Lower-order theme</th>
<th>Higher-order theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coaching experiences as an athlete</td>
<td>Significant others’ influence</td>
<td>Coach’s personal orientation</td>
</tr>
<tr>
<td>Parent advice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formal coach education</td>
<td>Learning experiences</td>
<td></td>
</tr>
<tr>
<td>Coaching priorities</td>
<td>Role of the coach</td>
<td></td>
</tr>
<tr>
<td>Practice objectives</td>
<td>Perceived time pressure</td>
<td>The coaching context</td>
</tr>
<tr>
<td>Age and stage of athletes</td>
<td>Readiness for autonomy</td>
<td>Perceptions of athletes’ characteristics</td>
</tr>
<tr>
<td>Athlete preferences</td>
<td>Athlete gender</td>
<td></td>
</tr>
<tr>
<td>Cultural beliefs</td>
<td>Athletes’ behaviour and motivation</td>
<td></td>
</tr>
<tr>
<td>Athlete enthusiasm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coaches’ understanding of motivation</td>
<td></td>
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</tr>
</tbody>
</table>

Coach’s Personal Orientation

This higher-order theme reflected behaviours and factors associated with the coaches’ personal orientation towards coaching captured through three lower-order themes: significant others’ influence, learning experiences, and role of the coach.

Significant Others’ Influence. The coaches’ indicated that significant others during their development influenced their coaching behaviours. Charlie commented that he behaves similarly to a coach he enjoyed working with as an athlete:

My [former] coach, one that stands out…when I started off [coaching] I feel like I took a lot of his demanding attitude onto the field cause he was always like, 'this is
what I want, that’s how it should be’…I thought he was a good coach... I thought that was the way to coach.

Charlie’s observation scores indicated that he displayed some of the coaching strategies learnt from his experience of being coached. “Uses controlling language” accounted for 50% of his total number of recorded controlling behaviours, while the autonomy-supportive behaviour “Provides opportunity for player input” was never recorded. Conversely, Steven reported that he tries to coach the way he wished he was coached as an athlete:

[I used to have] disagreements with coaches on the way our team was playing or the way we had set up etc. and [throughout] the arguing…I never got a reason behind it…so from that I wanted to understand why we do things, so whenever I'm doing a drill…I'll usually try explain to them why we are doing it and what the purpose of it is.

Evidence of Steven’s effort to explain his thinking to athletes was provided through his observation scores; “Provides rationale for tasks/requests/constraints” made up 55.6% of his total number of recorded autonomy-supportive behaviours. The findings reported here demonstrate the different ways that coaches’ behaviours can be influenced by how they, themselves, were coached (39,40). Interestingly, although Charlie and Steven both experienced controlling coaching as athletes, only Steven felt more inclined to offer autonomy support as a result. Charlie, on the other hand, was prepared to emulate the controlling behaviours of his past coach. An explanation for this came from his remark about the values instilled in him by his father and coach:

My dad played football as well and he was always like, 'be professional', so he put that into my [head] when I was playing, and my coach was on the same level as my dad, so I took bits from that.
Charlie’s upbringing and past experiences as an athlete appear to have collectively shaped his view of effective coaching practice. This finding supports views that coaches learn about coaching as athletes through an ‘apprenticeship of observation’ (41,42) and highlights a social constructivist perspective of coach learning (43,44). Coach developers should therefore seek to help coaches recognise the external influences on their views about coaching by encouraging them to critically reflect on why they coach as they do, and when needed raise awareness of alternative perspectives to prevent patterns of controlling coach behaviour being adopted unconsciously (45–47).

Learning Experiences. Despite early influences on Charlie, he reported that completing a university degree in sports studies encouraged him to be less controlling and more autonomy-supportive:

I'm always asking them how they feel about it rather than just saying, 'do what I say, this is it, and I’m right'…through doing my dissertation, I found [out about this approach] through that…so I changed my coaching from what I actually studied.

There appears to be a lack of symmetry between this comment and Charlie’s observation scores, as he did not exhibit the autonomy-supportive behaviour “Acknowledges feelings and perspective” and, as discussed earlier, controlling language was one of the controlling behaviours he used. Nevertheless, taking part in a formal coach education programme that considered SDT principles had, at the very least, opened Charlie up to the idea of coaching ‘with’ athletes rather than ‘at’ them, and he subsequently developed a more autonomy-supportive personal orientation. Hence, the findings highlight the potential usefulness of theoretically grounded formal learning in promoting motivationally adaptive coaching behaviours (48, 49). However, our findings also provide evidence that increasing coaches’ knowledge about autonomy-supportive and controlling coaching behaviours, alone, does not guarantee positive changes in practice. To achieve this, not only must coaches be able to
understand the importance of using autonomy-supportive coaching strategies, they must also be able to recognise the autonomy-supportive and controlling elements of their own practice and the associated outcomes for their athletes (23). A similar focus in teachers’ training helped teachers support the autonomy of students (50). Building in situ or contextualised opportunities into formal coach learning such as coach education may provide the opportunity to increase awareness of personal coaching practices (41) and athletes’ reactions to them similar to those achieved in Ahlberg et al. (23) and Byrne (20).

Role of The Coach. The coaches’ behaviours were influenced by what they judged as the role of the coach. Blair reported engaging in controlling behaviours because he deems them effective at increasing the level of effort athletes exert in practice:

> It tends to get results, like they do train hard when I'm more firm and angry…It can be challenging because you feel like they're not gonna enjoy it the same and this could be the session that makes them drop out of the sport, so it’s not a nice feeling…it doesn’t stop me, it just makes me feel a bit more uncomfortable.

By prioritising effort over enjoyment, persistence, and even the emotional bond with the athlete, Blair seems to believe that coaching is about spurring athletes to try harder at athletic tasks. Rachel, meanwhile, stated that she adopts autonomy-supportive behaviours because she considers them important for the development of athletes who can train and perform well independent of others:

> I don’t write [the session content] on a whiteboard…I have it printed out and put it in a poly-pocket and they get on with their work…and that’s the way I want them to be…I don’t want them to be totally dependent on me. I want them to be able to go to a competition and feel confident, to be able to go and do their own warm up, to work hard [even] if they weren’t with me.
Rachel appears to take a more empowering view of coaching than Blair since she targets independent thinking. In terms of how these reported coaching priorities translate into practice, “Using controlling language” – a behaviour related to Blair’s comment about being ‘firm and angry’ with athletes – accounted for 50% of his total number of recorded controlling behaviours. And in Rachel’s observation, “Encourages initiative taking” made up 42.9% of her total number of recorded autonomy-supportive behaviours. This suggests a translation of how Blair and Rachel interpreted their role as coaches into how they behaved towards their athletes. There are reports in more general coaching research which suggest that coaches’ behaviours are influenced by the coach’s perceptions of the required behaviours of a coach (e.g., 51–53). Future research might investigate factors that influence coaches’ role-related beliefs to better understand how they are developed and the implications for autonomy-supportive and controlling coaching behaviours. Gilbert and Trudel’s (53) study of role frames of model youth team sport coaches may offer a useful starting point for mapping the network of such influences.

**The Coaching Context**

The second higher-order theme described the impact a contextual factor, perceived time pressure, had on the coaches’ behaviours. Steven reported that he offers athletes less of a rationale for tasks during shorter training sessions compared to longer ones:

> Across two hours you've got a lot of time to work with them and a lot of time to reason and explain, whereas in 20 minutes you've got a clear aim to get this done in a short space of time, so you have no time to waste [by reasoning and explaining].

David, meanwhile, said that he is quicker to punish athlete misbehaviour during shorter sessions:

> You're spending a lot of time rushing them to get the practice done or get changed, so you're a bit tense, and because of being a bit tense you might coach differently… if
there's a kid maybe not doing exactly what he's been told…you'd probably just pull him out of the session…because if there is only a little bit of time you need to spend it properly.

In the hour-long period that the coaches were observed, as detailed earlier “Provides rationale for tasks/requests/constraints” accounted for over half of Steven’s total number of recorded autonomy-supportive behaviours. Steven’s reported reaction to time pressure is consistent with recent results by Cooper and Allen (54) who found perceived time pressure to have a negative impact on the level of autonomy support adventure sport coaches offered their participants, thus underscoring the need to support coaches to develop strategies to ease external pressure such as time, so that motivationally maladaptive behavioural responses become less likely (21,26).

Interestingly, David and Steven seem to have a specific view of ‘good’ coaching and a ‘good’ training session. David speaks about wanting to use his coaching time ‘properly’ and Steven about having ‘no time to waste’. Both appear to mean using time productively by completing practice drills, which in David’s case focused on improving athletes’ tactical/technical skills. Having a one-dimensional, competence-focused perspective of ‘productive’ coaching may explain why David did not use autonomy-supportive behaviours to help him achieve his session objective. Autonomy-supportive behaviours target psycho-social (i.e., autonomy and relatedness) as well as performance outcomes (i.e., competence) (3) and are thus, by their nature, more aligned with a holistic perception of effective coaching (55–57). The present findings add weight to the argument that coaches should consider a range of outcomes when determining what effective coaching involves and what a productive session looks like (55). As a result coaches may be more likely to adopt autonomy-supportive approaches (7) and explore how autonomy-supportive coaching can still yield ‘productive’ sessions (58,59).
The final higher-order theme captured the impact of coaches’ perceptions of athlete characteristics on their autonomy-supportive and controlling behaviours. Three lower-order themes were identified: readiness for autonomy, athlete gender, and athletes’ behaviour and motivation.

*Readiness for Autonomy.* Lucy stated that she tends to provide younger athletes with less autonomy support than older athletes, “because obviously they are little and they're still learning”. She goes on to explain that:

I pick the drills for them, but when I get up to the next group, I'll say, 'right we're gonna do a 25m butterfly drill, pick your drill as long as it’s done well’…it’s their ability, their understanding, their knowledge of the strokes and the sport…plus also maturity. If I said to the little ones, 'right you've got ten minutes to do what you want', they’d just splash about and play and be typical kids.

Lucy was observed coaching younger athletes (aged approximately 6-9 years) and never displayed the autonomy-supportive behaviour “Provides meaningful choice” which is consistent with her self-report about coaching young athletes. This result indicates that some coaches have doubts about the maturity and ‘readiness’ (e.g., self-regulation skills, sport knowledge) of younger athletes to take on autonomy and still develop competency, which results in offering these athletes fewer opportunities for autonomous learning. There is evidence, albeit within education (60), that autonomy support and competence support “can, and should exist side-by-side in a naturally supportive way” (61, p. 193). And research has also shown that athletes can be taught how to deal with increased autonomy (14), therefore limiting athletes’ autonomy support on the basis of age and a perception that they are not ready or able to benefit from autonomy-supportive behaviours may be inappropriate. Future research in the youth sport context that examines the effect of autonomy-supportive
behaviours employed with or without competence support, similar to Vansteenkiste et al. (60), is needed to better understand if, and how, autonomy support can be used effectively when coaching young athletes and lead to a less problematic translation of theory to practice (7).

**Athlete Gender.** In this lower-order theme, Martin, Charlie, and James discussed the impact athlete gender had on their behaviour. The sentiment was that when it comes to coaching female athletes, “it’s totally different…you need to coach them differently” (Martin). More specifically, Charlie and Martin explained that they often provide female athletes with more of a rationale for tasks than male athletes:

> I felt I had to be more autocratic with the men than the females. The men were just like, ‘tell us what we need to do’, and that’s what they always kept saying…but they were happy being told what to do. But coaching women…they’re always asking questions, they always want to know why they’re doing [something]…They want to know more information instead of [the coach just] saying, ‘do that’ (Charlie).

> Girls ask a lot of questions so you need to be prepared with answers, whereas guys will just go along with it (Martin).

Charlie and Martin were observed coaching a group of female athletes together, with Charlie assisting Martin who led the training session. “Provides rationale for tasks/requests/constraints” accounted for 33.3% of Martin’s total number of recorded autonomy-supportive behaviours, suggesting, in this instance, a degree of consistency between his self-reported and observed behaviours. The same cannot be said of Charlie as he was not seen providing a rationale while coaching.

Previous studies have recognised that male and female youth athletes tend to have different coaching preferences (e.g., 62,63). Consequently, as Charlie and Martin claimed, some
athletes may not wish to ‘be in control’ and prefer to be directed by their coach (7). However, research has demonstrated that very little variance exists between how male and female athletes interpret autonomy-supportive/controlling climates, psychological needs, and indicators of well- and ill-being (64). Some research has suggested that male athletes prefer more coach control compared with female athletes (e.g., 65–67), however, other research suggests there may be no differences (e.g., 68). Whether coach control is preferred or not, athletes still need to feel they have a voice in who has control (69). Thus, if coaches underestimate male athletes’ need for autonomy and make less of an effort to provide them with autonomy support, they risk thwarting their psychological need-satisfaction and autonomous motivation.

Interestingly, and serving as an example of interactions between different antecedents of autonomy-supportive and controlling coaching behaviours (7), James alluded to the influence of his personal orientation on the different way he treats male and female athletes:

I would probably be on top of the boys more…I probably gave more lee-way to the girls than I did with the boys in terms of when they turned up for training and match days and stuff like that…through[out] my life it's been like that, the females, I tend to give them that wee bit more respect than [the males] and be more pleasant to them, be more polite, be more helpful. (James)

To ‘be on top of the boys’ is a colloquialism that can be interpreted as meaning to be in control of them, and when James was observed coaching a group of male athletes, “Uses controlling language” made up 71.4% of his total number of recorded controlling behaviours. Therefore, it could be argued that James’ words and actions match in this instance. Speaking more broadly, it could also be argued that James’ self-reported and observed behaviours are to some extent consistent with traditional gender schemas (70). Gender schemas are the beliefs individuals hold about what it means to be male or female in their culture. These
beliefs develop from a young age, are relatively stable (e.g., James was 58 years old at the time of data collection and expressed that he has always felt this way), and have a strong effect on how individuals perceive and treat men and women (71). Given that the traditional gender characteristics (72) of a female (nurturing, expressive, understanding, and sensitive) are more aligned with autonomy-supportive values, and those of a male (self-assured, aggressive, and influential) are more akin to controlling ones, it is plausible that some coaches may act more autonomy-supportive towards female athletes and less so with males because they believe that these are ‘gender-appropriate’ coaching approaches. Future, more targeted research should explore this possibility in greater detail. Future research should also continue to examine the interactions and combined effects of antecedent factors to strengthen our understanding of them and their impact on coaches’ behaviours (7).

**Athletes’ Behaviour and Motivation.** The coaches spoke about how they act differently towards seemingly disinterested athletes than they do towards those who show enthusiasm for the sport or session. Francesca reported that she offers unenthusiastic athletes less opportunities for initiative taking and independent work than those who are eager to take part:

> I have kids who come in who don’t want to swim and you find that quite challenging cause you are reiterating constantly what to do and you're having to keep telling them to get off the wall, keep swimming, put stuff on the board…I am in control of how much rest they get and how much they get to move so you kinda control them…[whereas with those who do want to take part] you can put a set up and manage them on their time management, so you get to give them a wee bit of responsibility to control their own time and [make] their own judgment.

However, Derek claimed that he tries harder to understand and acknowledge the feelings and perspectives of unenthusiastic athletes:
If during the session athletes aren’t motivated or that bothered I’ll maybe have a word with them…I’d take them aside and have a chat with them, you know say, ‘what’s the problem here? What you thinking?’.

There are clear parallels between the coaches’ descriptions of an ‘unmotivated’ athlete (e.g., ‘don’t want to swim’ [Francesca], ‘aren’t…that bothered’ [Derek]) and an athlete lacking in self-determined motivation. Therefore, it can be inferred that the coaches considered a ‘motivated’ athlete to have a more self-determined motivational orientation. Based on this interpretation, these findings support the view that coaches are likely to use autonomy-supportive behaviours when they perceive athletes’ motivation as self-determined (21, 25). However, the findings also challenge the assumption that coaches are likely to resort to controlling behaviours when they believe athletes lack such motivation (3). Indeed, athletes deemed ‘unmotivated’ prompted an act of autonomy-supportive coaching by Derek to reengage them. Therefore, the relationship between coaches’ perceptions of athletes’ behaviour and motivation and autonomy-supportive and controlling coaching behaviours may not be as straightforward as previously believed and requires further exploration.

The coaches’ comments also suggest that they take a rather simplistic view of motivation, one where athletes are either motivated or unmotivated, which conflicts with the continuum of motivation types proposed by SDT (2). Since only self-determined types of motivation are judged to be advantageous for athletes (73), the coaches’ current understanding of motivation is likely to be unhelpful or even damaging. Therefore, further investigation of coaches’ perspectives on motivation may provide insight about how coaches’ understanding of ‘everyday’ concepts like motivation affect their behaviours and serve as a means to engage coaches in critical reflection about why they coach as they do and the affect it has on athletes’ level of self-determination.
Practical Implications

Our findings suggest that coaches’ behaviours are influenced by their biographies as well their current context and athletes. Therefore, when seeking to assist coaches to improve their interpersonal coaching behaviours and subsequent motivational climate, it may be useful to start with learning more about the coaches as individuals as well as their coaching context and athletes (e.g., through discussion) and where possible in situ (e.g., observation) (7,43). This approach may assist coaches and coach developers to gain an understanding of where autonomy-supportive coaching behaviours reinforce or are consistent with how the coaches think and behave, but also where it may present challenges to their thinking and implementation (20,23,74). Critical reflection will be vital to this process (41), encouraging coaches to “stand back and reflect upon their construction and application of professional knowledge” (p. 224). Placing emphasis on raising coaches’ self-awareness of how and why they coach will assist coaches to connect their practice with theory(ies) and the theory (SDT) with their practice. Thus facilitating choices about behaviours that are intentional and conscious rather than based on uncritical adoption of ‘tradition’ (41,47). Such an approach fosters situated learning and sense making which research suggests have been lacking in formal learning opportunities such as coach education and limiting its impact (75).

Limitations and Future Directions

As with any research, there were some limitations. First, due to accessibility restrictions each coach was observed on only one occasion. Future research should observe coaches over multiple sessions or through a longitudinal design to lessen the impact of the researcher and strengthen the reliability of the picture generated of their ‘normal’ coaching behaviours. Second, the first author collected the observed data live, therefore, researcher bias might have interfered with accurate reading of what was observed (76). In addition, no
statistical tests were carried out on the observed data due to the limited statistical power of the small sample size. Furthermore, qualitative assessments are inherently subjective, therefore, our findings should be interpreted with care and not extrapolated to the overall population. However, the methods selected were justified given the exploratory rather than confirmatory design of the study. Moreover, coaches were observed first then interviewed immediately after. This procedure was useful in allowing for interview questions to be directed towards behaviours witnessed during each observation but not vice versa. For example, although coaches mentioned employing different behaviour with athletes who varied in motivation, none of the coaches were observed coaching athletes with known varying levels of self-determined motivation (i.e., one of the found antecedents), which prevented a comparison of their self-reported and observed behaviours with regards to variations in athletes’ motivation. Therefore, future research using the same methods might separate the interviews and observations in time, change the order, and/or conduct multiple observations and interviews so that in addition to our approach where interview questions were shaped by the observation, subsequent observations can examine specific behaviours mentioned during each interview. Employing different multimethod procedures may help to develop this relatively new approach to studying SDT based coach behaviour and as a result deepen our understanding of the nuances of coaching recreational youth sport participants. Future research may also wish to engage coaches working in different contexts to assess whether the antecedents we found are prevalent in different contexts (e.g., elite level sport) and in different coaching roles (e.g., full-time coaches). Lastly, the present study focused solely on the antecedents of autonomy-supportive and controlling coaching behaviours. However, there are other dimensions of coach behaviour recognised by SDT (3), so
future research should also investigate the influences on structure and interpersonal involvement, as even less is known about these factors.

**Concluding Remarks**

The purpose of this study was to investigate, through the lens of SDT, the antecedents of coaches’ autonomy-supportive and controlling behaviours. Our findings demonstrated that although the coaches employed autonomy-supportive coaching techniques they also used controlling ones. Examination of the reported explanations for why the coaches worked this way revealed that the coaches believed their personal orientation, perceptions of athletes’ characteristics, and the coaching context influenced their interpersonal coaching behaviours.

In particular, education and significant others were reported to influence coaches’ appreciation of an autonomy-supportive coaching approach. However, the extent to which appreciation translated into actual behaviours was reported to be influenced further by coaches’ perceptions of: the role of the coach; what is ‘good’ training; time pressure; and athletes’ readiness for independence, gender, and quality of motivation. The present study increases our understanding of psycho-social environmental conditions that facilitate or inhibit autonomy-supportive coaching behaviours, and enhances our awareness of the complexity of the coach-focused elements of Mageau and Vallerand’s (3) coach-athlete-motivational sequence. First, by revealing a range of antecedents of coaches’ behaviours, the findings advance previous SDT research which, apart from a few exceptions, has neglected the barriers and enablers of autonomy-supportive and controlling coaching. Second, using interviews allowed for a detailed exploration of the coaches’ perspectives, which has been largely absent in the large scale quantitative SDT research (7). Third, including coach observations allowed for an objective assessment of the coaches’ autonomy-supportive and controlling behaviours during practice and offered information on the consistency between
their observed and self-reported behaviours (77). This strategy helped reveal potential
antecedents of coaches’ behaviours which could have otherwise been missed, thereby
demonstrating the usefulness of a multimethod approach. Lastly, this study offers insight into
interactions between different antecedents, which begins to express the complexity of why
coaches act the way they do.

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Declaration of Conflicting Interest

The authors declare that there is no conflict of interest.

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