

## 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.

22

## 23 **Introduction**

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

37 Autonomy support is evident when coaches offer choices, explain their instructions,  
38 acknowledge athletes' feelings and perspectives, and create opportunities for initiative taking  
39 (3). Controlling behaviours include issuing demands, distributing task-contingent rewards,  
40 punishments, and guilt-inducing criticisms, using intimidation techniques, and encouraging  
41 athletes' ego-involvement (8). Autonomy-supportive coaching behaviours are considered  
42 optimal as they [are associated with](#) desirable outcomes for athletes such as psychological  
43 need-satisfaction (9), autonomous motivation (10), sustained engagement (11), and enhanced  
44 performance (12). Meanwhile, controlling coaching behaviours are regarded as damaging  
45 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

the MMCOS. 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.

	Autonomy-supportive				Controlling			
	Observation		Interview	Cross-Concordance rating***	Observation		Interview	Cross-Concordance rating***
Coach (sport)*	Total number of recorded behaviours	Potency score*	Potency score**		Total number of recorded behaviours	Potency score*	Potency score**	
David (F)	18	3	2	1	1	1	3	2
Charlie (F)	4	1	3	2	4	1	2	1
Martin (F)	6	2	3	1	7	2	1	1

Derek (F)	15	3	2	1	0	0	2	2
James (F)	10	2	1	1	7	2	1	1
Steven (F)	9	2	2	0	4	1	1	0
Allan (S)	11	2	3	1	0	0	1	1
Lucy (S)	6	1	2	1	1	1	2	1
Francesca (S)	8	2	3	1	3	1	2	1
Kevin (S)	9	2	1	1	0	0	1	1
Blair (S)	12	3	2	1	6	1	2	1
Rachel (S)	7	2	3	1	0	0	1	1
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)

206 \*F = Football; S = Swimming

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

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

## 210 *Antecedents of the Coaches' Autonomy-Supportive and Controlling Behaviours*

211 Further analysis of the coaches' interview and observation data resulted in 10 raw data  
212 themes that were organised into seven lower- and three high-order themes based on the  
213 antecedent dimensions in Mageau and Vallerand's (3) MMCAR (Figure 1).

214

215 Figure 1. Reported antecedents of autonomy-supportive and controlling behaviours.

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

216

217 ***Coach's Personal Orientation***

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

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

224 My [former] coach, one that stands out...when I started off [coaching] I feel like I  
 225 took a lot of his demanding attitude onto the field cause he was always like, 'this is

226           what I want, that's how it should be'...I thought he was a good coach... I thought that  
227           was the way to coach.

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

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

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

247           My dad played football as well and he was always like, 'be professional', so he put  
248           that into my [head] when I was playing, and my coach was on the same level as my  
249           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

324           there's a kid maybe not doing exactly what he's been told...you'd probably just pull  
325           him out of the session...because if there is only a little bit of time you need to spend it  
326           properly.

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

335   Interestingly, David and Steven seem to have a specific view of ‘good’ coaching and a ‘good’  
336   training session. David speaks about wanting to use his coaching time ‘properly’ and Steven  
337   about having ‘no time to waste’. Both appear to mean using time productively by completing  
338   practice drills, which in David’s case focused on improving athletes’ tactical/technical skills.  
339   Having a one-dimensional, competence-focused perspective of ‘productive’ coaching may  
340   explain why David did not use autonomy-supportive behaviours to help him achieve his  
341   session objective. Autonomy-supportive behaviours target psycho-social (i.e., autonomy and  
342   relatedness) as well as performance outcomes (i.e., competence) (3) and are thus, by their  
343   nature, more aligned with a holistic perception of effective coaching (55–57). The present  
344   findings add weight to the argument that coaches should consider a range of outcomes when  
345   determining what effective coaching involves and what a productive session looks like (55).  
346   As a result coaches may be more likely to adopt autonomy-supportive approaches (7) and  
347   explore how autonomy-supportive coaching can still yield ‘productive’ sessions (58,59).



348 *Perceptions of Athletes' Characteristics*

349 The final higher-order theme captured the impact of coaches' perceptions of athlete  
350 characteristics on their autonomy-supportive and controlling behaviours. Three lower-order  
351 themes were identified: readiness for autonomy, athlete gender, and athletes' behaviour and  
352 motivation.

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

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

361 Lucy was observed coaching younger athletes (aged approximately 6-9 years) and never  
362 displayed the autonomy-supportive behaviour "Provides meaningful choice" which is  
363 consistent with her self-report about coaching young athletes. This result indicates that some  
364 coaches have doubts about the maturity and 'readiness' (e.g., self-regulation skills, sport  
365 knowledge) of younger athletes to take on autonomy and still develop competency, which  
366 results in offering these athletes fewer opportunities for autonomous learning. There is  
367 evidence, albeit within education (60), that autonomy support and competence support "can,  
368 and should exist side-by-side in a naturally supportive way" (61, p. 193). And research has  
369 also shown that athletes can be taught how to deal with increased autonomy (14), therefore  
370 limiting athletes' autonomy support on the basis of age and a perception that they are not  
371 ready or able to benefit from autonomy-supportive behaviours may be inappropriate. Future  
372 research in the youth sport context that examines the effect of autonomy-supportive

373 behaviours employed *with* or *without* competence support, similar to Vansteenkiste et al.  
374 (60), is needed to better understand if, and how, autonomy support can be used effectively  
375 when coaching young athletes and lead to a less problematic translation of theory to practice  
376 (7).

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

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

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

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

395 Previous studies have recognised that male and female youth athletes tend to have different  
396 coaching preferences (e.g., 62,63). Consequently, as Charlie and Martin claimed, some

397 athletes may not wish to ‘be in control’ and prefer to be directed by their coach (7). However,  
398 research has demonstrated that very little variance exists between how male and female  
399 athletes interpret autonomy-supportive/controlling climates, psychological needs, and  
400 indicators of well- and ill-being (64). Some research has suggested that male athletes prefer  
401 more coach control compared with female athletes (e.g., 65–67), however, other research  
402 suggests there may be no differences (e.g., 68). Whether coach control is preferred or not,  
403 athletes still need to feel they have a voice in who has control (69). Thus, if coaches  
404 underestimate male athletes’ need for autonomy and make less of an effort to provide them  
405 with autonomy support, they risk thwarting their psychological need-satisfaction and  
406 autonomous motivation.

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

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

415 To ‘be on top of the boys’ is a colloquialism that can be interpreted as meaning to be in  
416 control of them, and when James was observed coaching a group of male athletes, “Uses  
417 controlling language” made up 71.4% of his total number of recorded controlling behaviours.  
418 Therefore, it could be argued that James’ words and actions match in this instance. Speaking  
419 more broadly, it could also be argued that James’ self-reported and observed behaviours are  
420 to some extent consistent with traditional gender schemas (70). Gender schemas are the  
421 beliefs individuals hold about what it means to be male or female in their culture. These

422 beliefs develop from a young age, are relatively stable (e.g., James was 58 years old at the  
423 time of data collection and expressed that he has always felt this way), and have a strong  
424 effect on how individuals perceive and treat men and women (71). Given that the traditional  
425 gender characteristics (72) of a female (nurturing, expressive, understanding, and sensitive)  
426 are more aligned with autonomy-supportive values, and those of a male (self-assured,  
427 aggressive, and influential) are more akin to controlling ones, it is plausible that some  
428 coaches may act more autonomy-supportive towards female athletes and less so with males  
429 because they believe that these are ‘gender-appropriate’ coaching approaches. Future, more  
430 targeted research should explore this possibility in greater detail. Future research should also  
431 continue to examine the interactions and combined effects of antecedent factors to strengthen  
432 our understanding of them and their impact on coaches’ behaviours (7).

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

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

444 However, Derek claimed that he tries harder to understand and acknowledge the feelings and  
445 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?'.  
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 (3). 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

495 statistical tests were carried out on the observed data due to the limited statistical power of  
496 the small sample size. Furthermore, qualitative assessments are inherently subjective,  
497 therefore, our findings should be interpreted with care and not extrapolated to the overall  
498 population. However, the methods selected were justified given the exploratory rather  
499 than confirmatory design of the study. Moreover, coaches were observed first then  
500 interviewed immediately after. This procedure was useful in allowing for interview  
501 questions to be directed towards behaviours witnessed during each observation but not  
502 vice versa. For example, although coaches mentioned employing different behaviour  
503 with athletes who varied in motivation, none of the coaches were observed coaching  
504 athletes with known varying levels of self-determined motivation (i.e., one of the found  
505 antecedents), which prevented a comparison of their self-reported and observed  
506 behaviours with regards to variations in athletes' motivation. Therefore, future research  
507 using the same methods might separate the interviews and observations in time, change  
508 the order, and/or conduct multiple observations and interviews so that in addition to our  
509 approach where interview questions were shaped by the observation, subsequent  
510 observations can examine specific behaviours mentioned during each interview.  
511 Employing different multimethod procedures may help to develop this relatively new  
512 approach to studying SDT based coach behaviour and as a result deepen our  
513 understanding of the nuances of coaching recreational youth sport participants.  
514 Future research may also wish to engage coaches working in different contexts to assess  
515 whether the antecedents we found are prevalent in different contexts (e.g., elite level sport)  
516 and in different coaching roles (e.g., full-time coaches). Lastly, the present study focused  
517 solely on the antecedents of autonomy-supportive and controlling coaching behaviours.  
518 However, there are other dimensions of coach behaviour recognised by SDT (3), so

519 future research should also investigate the influences on structure and interpersonal  
520 involvement, as even less is known about these factors.

## 521 **Concluding Remarks**

522 The purpose of this study was to investigate, through the lens of SDT, the antecedents of  
523 coaches' autonomy-supportive and controlling behaviours. Our findings demonstrated that  
524 although the coaches employed autonomy-supportive coaching techniques they also used  
525 controlling ones. Examination of the [reported](#) explanations for why the coaches worked this  
526 way revealed that the [coaches believed their](#) personal orientation, perceptions of athletes'  
527 characteristics, and the coaching context influenced their interpersonal coaching behaviours.  
528 In particular, education and significant others were [reported to influence](#) coaches'  
529 appreciation of an autonomy-supportive coaching approach. However, the extent to which  
530 appreciation translated into actual behaviours was [reported to be](#) influenced further by  
531 coaches' perceptions of: the role of the coach; what is 'good' training; time pressure; and  
532 athletes' readiness for independence, gender, and quality of motivation. [The present study](#)  
533 [increases our understanding of psycho-social environmental conditions that facilitate or](#)  
534 [inhibit autonomy-supportive coaching behaviours, and enhances our awareness of the](#)  
535 [complexity of the coach-focused elements of Mageau and Vallerand's \(3\) coach-athlete-](#)  
536 [motivational sequence](#). First, by revealing a range of antecedents of coaches' behaviours, the  
537 findings advance previous SDT research which, apart from a few exceptions, has neglected  
538 the barriers and enablers of autonomy-supportive and controlling coaching. Second, using  
539 interviews allowed for a detailed exploration of the coaches' perspectives, which has been  
540 largely absent in the large scale quantitative SDT research (7). Third, including coach  
541 observations allowed for an objective assessment of the coaches' autonomy-supportive and  
542 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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