

A Case Study Exploring If A Behaviour Change Intervention Can Increase Adherence to Athlete Monitoring

Introduction

Athlete monitoring is used to inform training programming, to optimise performance and to minimise the risk of athlete maladaptation. This is particularly important in elite sport where the high training loads and limited recovery periods increase the risk of negative performance and health outcomes. Poor athlete buy-in to monitoring has been recognised as a significant barrier to athlete monitoring system (AMS) implementation (1). However, the application of any systematic approach to combat poor buy-in to monitoring is notably absent from research. This study therefore aims to assess if a behavioural change intervention can remedy poor AMS adherence (2).

Methods

The participants included three coaches (43.6 ± 10.0 years) and eight age-group national team athletes (20.1 ± 2.0 years) that had been using an AMS for one year. Initially, coaching staff attended a facilitated workshop where a behaviour change intervention was collectively planned. The intervention was then implemented and adherence to the AMS measured over 6 months. Subsequently, the participants attended one-to-one semi-structured interviews where they discussed their views on the AMS.

Results

Seven target behaviours were identified in the workshop: 1) Increase athlete knowledge of monitoring value; 2) Increase coach's knowledge of monitoring value; 3) Conduct weekly case conferences which form part of athlete feedback; 4) Improve and increase feedback to athletes; 5) Upload and rate technical videos in AMS; 6) Put in place consequences for non-adherence; 7) Increase reminders to improve adherence. The main themes from the interviews were: Changes During the Intervention; AMS Attitudes; and Leadership. A decrease in adherence was observed during the intervention from a weekly average of 62% in the first week to 22% in the final week.

Discussion

Despite the interventions, a decrease in adherence over the intervention period was demonstrated. This was likely caused by organisational changes within the sport where two out of the three coaching staff announced their resignations, and subsequently not all behaviour change interventions were implemented. This led to a reduced emphasis on completing the AMS and palpable frustration from both the coaching team and athletes. Despite this, the coaches reported improved athlete awareness in the purpose of monitoring. Overall, the intervention allowed practical behavioural targets to be discerned, but the time-consuming nature of its approach prevented it from being easily modified in the fast-paced setting of elite sport. Practitioners may instead want to consider a more agile approach to implementing behaviour change interventions, for example supporting key interactions such as the coach-athlete dyad.

1. Neupert et al. (2019) INTJ SPORT PHYSIOL 14(1):99-104.
2. Michie et al. (2011) IMPLEMENT SCI 6(1):42.

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Problem

Stakeholder buy-in to athlete monitoring systems (AMS) is problematic to achieve and sustain, but is also central to AMS success.^{1,2} To date, there has been a lack of a theory driven and systematic approaches to address poor athlete buy-in to AMS.

Objective

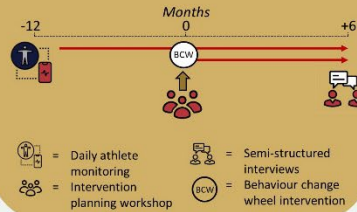
To implement an intervention to improve athlete monitoring adherence in a cohort of elite athletes using the behaviour change wheel (BCW).³

Methods

Participants:

8 x Tier 3&4 athletes⁴
20.1 ± 2.0 years

3 x national coaches
43.6 ± 10.0 years



Results

Six behaviour change targets were identified (Table 1), but their implementation did not improve athlete adherence (Figure 1). The feasibility of implementing all targets was lessened by two coaches announcing their resignations during the intervention.

Findings

- BCW framework produced practical and feasible behaviour change targets.
- BCW was time-intensive and lacked adaptability.
- The linear-deterministic nature of the BCW may oversimplify the complexity of the sporting environment.



A Behaviour Change Intervention Did Not Improve Adherence to Athlete Monitoring

Table 1. Target behaviours mapped: Capability, Opportunity, Motivation, Behaviour

Target behaviour	How?
Upload & rate technical videos in AMS*	MDT discussions & education
Increase athlete knowledge of monitoring value	MDT discussions & education
Increase coach's knowledge of monitoring value†	MDT discussions & education
Weekly case conferences, to improve athlete feedback	Above, plus in-app data summaries of key case conference points
Non-adherence consequences‡	No 1:1 coaching sessions. Adherence leader board
Reminders to improve adherence	Verbal reminders. Push notifications. Feedback reports

MDT = Multidisciplinary team.

*Behaviour change target partially implemented.
 †Behaviour change target not implemented.

"We've lost the head coach...all our solutions were valid, all reasonable and achievable, the climate and timing were just bad." (Coach 3)

"I am more aware of the impact of training... I can see some days I am more tired than others." (Athlete 4)

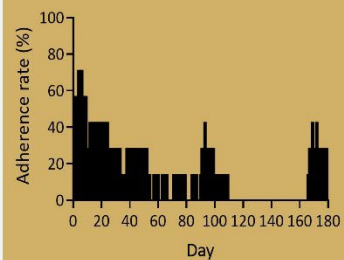
Table 2. Interview thematic analysis

Themes		Meaning units
Higher order	Lower order	
Changes During Intervention	Personnel	12
	Buy-in	23
AMS Perceptions	Unintended Consequences	3
	Athletes	34
Leadership	Coaches	21
	Management	19
	Monitoring Direction	6

"The daily monitoring? It is not as interesting as Snapchat." (Athlete 5)

"The problem was not all coaches were bought in equally. If the whole team aren't driving it you're going to have an issue." (Coach 2)

Figure 1. Athlete adherence to daily monitoring during the 6 month intervention.



References:

1. Neupert, EC et al. (2019). *Int J Sport Physiol.* 14(1):99-104.
2. Saw, AE et al. (2017). *Int J Sport Physiol.* 12(S2):127-135.
3. Michie, S et al. (2014). *The Behaviour Change Wheel - A Guide To Designing Interventions.*
4. McKay, AKA et al. *Int J Sport Physiol.* 2021;17(2):317-331.