THE INFORMATICS NEEDS OF AMATEUR ENDURANCE ATHLETIC COACHES

#personalinformatics #athletes #sports #amateur

Introduction

Recent advancements in technology have led to an increase in the adoption of personal informatics systems. One area this has occurred in is the endurance athletic community by amateur athletes—athletes that train and compete at the amateur level (primarily without pay) who are coached by an experienced person or are self-coached (e.g., high school athletes, college or varsity athletes). Endurance athletics refers to sports that require an athlete to perform over an extended distance or time period.

The goal of our research was to learn what types of athlete-related information endurance athletic coaches kept a record of, what record-keeping systems they used (if any), how athletes informed them of training-relevant information, and how these records were used to improve an athlete's training.

Study Methods & Goals

Eight participants (two female) who had experience coaching amateur endurance athletes were interviewed for 60 mins. Interview questions were organized into four different sections:

1) Background information (e.g., "What sport(s) are you currently coaching or have coached in the past?")
2) Coach-athlete interactions (e.g., "How do you monitor athletes improvements or declines in performance?")
3) Coaching methodology (e.g., "Do you use any athlete data to structure training programs?")
4) Technology and personal informatics systems (e.g., "Have you used any personal informatics athletic applications?")

Identified Key Metrics

Rate of Perceived Exertion
RPE was a contextual factor which was used in comparison with workout data, such as distance and time, to track an athlete's performance over time.

Injuries & Illnesses
Participants explained how it was important to understand what the injury or illness was to determine how long the athlete would need to rest.

Sleep & Stress
Our participants told us that sleep and stress were factors that had a tendency to affect an athlete's performance on a specific day of training, rather than a longer period of time.

Mood
An athlete's mood can also have a direct affect on his or her performance. Similarly to sleep and stress, mood was a factor that our participants tried to gauge through communication with their athletes.

Goals & Timelines
Participants told us that goals and key races, such as a national championship, were also important to track as part of training.

Date	Description	Pre-activity comments	Post-activity comments	Planned duration	Completed duration	Planned distance
Fri, 12/14/2012	5:20 on deck 5:30 in water			1:30:00		
Fri, 12/14/2012	pre or post swim	very easy F.A.S.T.		0:15:00		
Fri, 12/14/2012	FUNmov activation warm up 10 reps each movement or 20-30 sec each pose	@Creekside		0:45:00		0.00 mi
Fri, 12/14/2012	Tready Workout >Economy of Motion + Aerobic Power	@CREEKSIDE think F.A.S.T.		0:30:00		
Thu, 12/13/2012		5:40 am on deck 6:00 am in water		1:30:00		
Thu, 12/13/2012	pre or post swim	very easy F.A.S.T.		0:10:00		
Thu, 12/13/2012	FUNmov activation warm up 10 reps each movement or 20-30 sec each pose	before leaving home or pre-training		0:10:00		0.00 mi
Thu, 12/13/2012	easy aerobic ride- small chainring and flat terrain OR trainer only please	on your own NOTE sunset time if riding outside		0:40:00		
Wed, 12/12/20...	timed 800	5:20 on deck 5:30 in water		1:30:00		
Wed, 12/12/20...	pre or post swim	very easy F.A.S.T.		0:15:00		
Wed, 12/12/20...	FUNmov activation warm up 10 reps each movement or 20-30 sec each pose	before leaving home or pre-training		0:15:00		0.00 mi
Wed, 12/12/20...	easy aerobic run on trails or softer terrain	on your own think F.A.S.T.		0:40:00		
Tue, 12/11/2012		5:40 am on deck 6:00 am in water		1:30:00		0 yds
Tue, 12/11/20...	pre or post swim	very easy F.A.S.T.		0:10:00		

Key Design Opportunities

1) First, we see the need to strongly focus designs around the coupling of athlete-specific contextual information with performance data. Naturally, this needs to be easy to input and easy to analyze. On one hand, it may be easier for an athlete to record qualitative, textual data (as evidenced by the manner in which they do it currently), yet our study shows this can be difficult for coaches to read, parse, and understand.

2) Second, we see design opportunities for information sharing between athletes and coaches. Many coaches relied on face-to-face interactions to gather data. Yet some of the relevant information may come at times when the coach is not around.

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