

ATHLETE BEHAVIOUR CODING SYSTEM (ABCS)

Coding Manual (revised: March 2015)

Overview

The Athlete Behaviour Coding System (ABCS) is an observational coding system designed to continuously code athlete behaviour exclusively in a youth sport context. The ABCS is the result of the adaptation of numerous existing instruments from multiple areas of research including coach-athlete interactions (Erickson et al., 2011), athlete communication and performance (e.g., LeCouteur & Feo, 2011), and developmental psychology (e.g., Rusby, Estes, & Dishion, 1991).

The ABCS has been developed to apply to all youth team sports, but portions of this coding manual contains features that may be specific to basketball (e.g., practice context or examples of behaviour). This specific iteration of the coding manual has been designed for observation of athlete behaviour during basketball competitions.

Dimensions

1 – SUBJECT refers to which athlete is being coded at given point in time. Each member of a team will be a unique identifying code.

2 - CONTENT refers to the type of behaviours that athletes exhibit. These categories refer to interactive and non-interactive behaviours, and can be verbal, non-verbal, or physical.

2a - MODIFIER - TARGET refers to the teammates being interacted with in each instance. For each content code, coders specify who (if anyone) the athlete is interacting with (i.e., team, subset of athletes, or self).

2b - MODIFIER – DIRECTIONALITY applies to all active communicative codes and describes whether an athlete actively initiated an interaction, and also differentiates between one-way and two-way (i.e., mutual) interactions.

2c - MODIFIER – DIRECTIVE TYPE applies only to directive communication (content code 13) and differentiates between general (non-sport related) and sport-related communication.

3 - SOCIAL CONTEXT refers to the specific social setting in which interactions occur. This dimension is designed to differentiate between the major segments of an organized competition (e.g., pre-game, on court, etc.).

Coding Procedure

The ABCS has been designed to apply to any youth team sport practice setting, but for the present project will be limited to adolescent recreational basketball games. The ABCS is used in conjunction

with Observer XT software, which is a computer program that has been designed to code video data using the ABCS. Codes are entered in real-time while viewing the video using the keyboard and numerical pad. For each coded entry, coders specify the subject, content, and any applicable modifiers (e.g., athlete A [subject], prosocial [content], athlete B [target], initiator [directionality]).

Coding sessions will involve coding the continuous behaviour of all members of a team during a 20 minute video clip. It is recommended that coders focus on coding a particular athlete's behaviour for the duration of the entire segment, and then repeat this process for each subsequent athlete. The amount of time required to code each 20 minute segment in its entirety is high variable, and depends on the size of the team, experience of the coder, and content of the particular segment.

Rules

3 SECOND RULE

This rule applies to the 3 second wait before coding 'engaged' or 'uncodable' following an active communicative code. The two situations in which it is used are as follows:

- Wait three (3) seconds before coding engaged (content) when changing from any actively communicative code. Code for this behaviour **only** if it continues past the three (3) second waiting period, at which point you would rewind the video three seconds and begin coding it at its true initiation point. However, if within three (3) seconds another actively communicative behaviour occurs, do not wait to code that behaviour.
- Wait three (3) seconds before coding 'uncodable' (content) when changing from any other code. Code for this behaviour **only** if it continues past the three (3) second waiting period, at which point you would rewind the video three seconds and begin coding it at its true initiation point. However, if within three (3) seconds a different behaviour visibly or audibly occurs, do not wait to code that behaviour.

DEFAULT CODES

For athlete content, target, and directionality, specific behaviour codes are to coded by default if criteria for any other relevant category within the dimension are not met. In other words, use the default codes in the absence of any other codable behaviour:

- Content – 'general communication if interacting with coach and/or other athletes; 'engaged' if not interacting with coach or other athletes.
- Target – 'team'
- Directionality – 'mutual'
- Note: no default categories exist for subject or context dimensions as these must be directly observed

DIMENSION – SUBJECT

Since there are multiple participants in all videos (i.e., individual athletes and coaches), the coder must specify which athlete's behaviour is begin coded at each point in time. Once assigned a subject ID, athletes must be coded using this same ID for all videos. This will be determined for all athletes on all teams prior to the beginning of coding, and will be referenced by name and physical appearance (e.g., hair colour, clothing, etc.) for each video.

These subject codes are also used when specifying the target modifier, which is used to qualify who an individual athlete directs their behaviour toward. When an athlete is interacting with the entire team, 'team' is coded, but when an athlete is interacting with a subset of teammates (e.g., a group of three) each involved subject's code should be specified (e.g., athlete A with B and C).

- a – Athlete A
- b – Athlete B
- c – Athlete C
- d – Athlete D
- e – Athlete E
- f – Athlete F
- g – Athlete G
- h – Athlete H
- i – Athlete I
- j – Athlete J
- k – Athlete K
- l – Athlete L
- t – Team
- u – Uncodable
- y – Assistant Coach
- z - Coach

DIMENSION – CONTENT

11 - Prosocial Communication

Explicit behaviours, including helpful or supportive actions reflecting affection, concern, empathy, cooperation, and leadership.

Notes

- Also includes non-verbal physical behaviours (e.g., high fives)
- E.g., compliments, encouragement, positive reinforcement, helping an injured teammate off the floor
- Group huddles require additional physical (e.g., high five, pat on back) or verbal cues to be coded as prosocial communication
- Includes apologies (e.g., “sorry!”, “my fault!”, etc.), regardless of the context (sport vs. general)
- *Applicable modifiers – target, direction*

Examples

- Team huddles up and high fives in between plays
 - CODE: **athlete a – prosocial – team – mutual**
- The coach yells: “nice block athlete a!”
 - CODE: **athlete a – prosocial – coach – receiver**
- Athlete a walks up to b with her arm clearly outstretched for a high five
 - CODE: **athlete a – prosocial – athlete b – initiator; athlete b – prosocial – athlete a – receiver**

Non-Examples

- Team huddles up in between plays, but there are no high fives or physical cues, and the specific nature of their conversation cannot be discerned
 - CODE: **athlete a – tech/tact – athlete b, c, d, etc. - mutual**

12 - Technical/Tactical Communication

Discussing task, technique or strategy with coach and/or teammates. Can occur both during and in between play.

Notes

- Modeling is often best cue to distinguish tech/tact from general communication when can't hear content of interaction
- Can be non-verbal if obvious (e.g., giving teammates signals for the upcoming play)
- *Default code for communication during play*
- If audible and obvious, code calling for ball or signals to teammates during play as technical/tactical communication with team (e.g., calling out a play or defensive formation)
 - If unclear, ignore and code as engaged
 - High threshold – must be very clear/obvious to code short communications during play
- If coach is providing **individualized** technical/tactical instruction, code athlete as well. However, if coach's instruction is directed to **entire team**, code athlete as **engaged**.
- Includes organizational behaviour directly related to the sport
- *Applicable modifiers – target, direction*

Examples

- Athlete a and b are talking to each other during play
 - CODE: **athlete a – tech/tact – athlete b - mutual**

Non-Examples

- Athlete a and b are talking to each other while sitting on the bench
 - CODE: **athlete a – general – athlete b - mutual**

13 – Directive Communication

Commands for a behaviour change that could occur within the observation, or when command is to not repeat a previously performed behaviour. There must be additional detail signifying directive behaviour aside from pointing or gesturing alone (e.g., verbal cues, behaviour change, etc.)

Notes

- e.g., “Cover me”, “get to your position”, etc.
- Applies only to directive communication between athletes or initiated by athletes towards coach
- *Applicable modifiers – target, direction, directive type*

Examples

- Athlete a signals to b to move to another area on the court, and b complies and move to that spot
 - CODE: **athlete a – directive – athlete b – initiator; athlete b – directive – athlete a – receiver**

Non-examples

- Coach tells athlete a to assist athlete b blocking in a certain scenario
 - CODE: **athlete b – tech/tact – coach – receiver**
- Athlete a and b are discussing the previous play, during which athlete a motions to an area of the court, but they continue their discussion, the details of which cannot be discerned
 - CODE: **athlete a – tech/tact – athlete b – mutual (or initiator/receiver)**

15 - General Communication

Communication with other athletes or coach unrelated to sport activities. Also used when content of communication between persons is unclear or unknown.

Notes

- E.g., talking about school, etc.
- *Default actively communicative code if coder cannot hear content of interaction between athletes or coach.*
- Includes organizational behaviours not directly related to the game (e.g., putting garbage away, etc.)
- *Applicable modifiers – target, direction*

Examples

- Athlete a and b are chatting about school during halftime
 - CODE: **athlete a – general – athlete b – mutual (or initiator/receiver)**
- Athlete a and b are talking while sitting on the bench during play, details of conversation cannot be discerned
 - CODE: **athlete a – general – athlete b – mutual (or initiator/receiver)**

Non-Examples

- Athlete a and b are talking in between plays, details of conversation cannot be discerned
 - CODE: **athlete a – tech/tact – athlete b – mutual (or initiator/receiver)**

16 - Engaged

Engaged in practice activities and not directly communicating with peers or coach.

Notes

- E.g., participating in drills, resting during assigned rest or break times, moving to new location on direction from coach, etc.
- Default code for anytime athlete not actively interacting with coach or other athletes unless actively disrupting practice, ignoring coach instructions, etc. (e.g., code athlete as ‘engaged’ when coach talking to group, even if athlete may appear to not be looking at coach, unless actively not listening/being disruptive).
- Assumed to be engaged when out of view of camera for short amount of time but still involved in play (e.g., in corner out of view of camera during play)
- 3-second rule in effect before coding for ‘engaged’ from an actively communicative code

Applicable modifiers – target

- **Team** – default target for engaged. Applies in situations where team is participating in a drill/activity all together, or when **all players** are practicing independently.
 - Applies in situations (e.g., during play) where only a subset of the team is on the court, but ALL are paying attention to the same thing (e.g., the coach’s instruction)
- **Group** – code all athletes interacting in smaller sub-groups (e.g., players on bench)
 - **Differentiated from ‘team’** because used when sub-groups are existing/functioning independently from one another (i.e., engaged in their own activity – not paying attention to coach or other groups)
- **Self** – used in situations where an individual athlete is engaged in solitary behaviour away from rest of team
 - Must be obvious exclusionary/withdrawn behaviour (e.g., athlete having water break away from teammates, or athlete practicing alone while rest of team is in group)

Examples

- Entire team warming up together before the game, rotating through various positions
 - CODE: **athlete a – engaged – team**
- Athletes are participating in a warm-up drill in independent groups of three (i.e., each group working on their own)
 - CODE: **athlete a – engaged – athlete b, c, etc.**
- All athletes are sitting down/drinking water during half time
 - CODE: **athlete a – engaged – team**
- Athlete is sitting far away from their teammates during break period
 - CODE: **athlete a – engaged – self**
- Athlete is playing with cell phone by him/herself during break period
 - CODE: **athlete a – engaged - self**

17 - Non-cooperative/Disruptive

Not engaged in practice activities and not directly communicating with peers or coach. Behavior that is non-compliant of coach or athlete's directions and is disruptive to group activity. Shows disregard for rules and norms of the group.

Notes

- E.g., actively disrupting practice, ignoring coach instruction, etc.
- Requires athlete to be in opposition to current practice activity (e.g., code athlete resting during assigned rest period as 'engaged', code athlete sitting on deck after being told get in the pool by coach as 'disruptive').
- Must be very obvious.
- *Applicable modifiers – target*

Examples

- Athlete a is sitting down using cell phone while rest of team is on court warming-up
 - CODE: **athlete a – noncoop**

18 - Antisocial Communication

Blame, criticism, complaint, disapproval or negative emotion toward a person. May be physical (aggressive contact with others), verbal (vulgar language, threats), or non-verbal (body language) in nature.

Notes

- E.g., name calling, making threats toward others, pushing a teammate or opponent
- *Applicable modifiers – target, direction*

Examples

- Athlete a makes a rude comment about athlete b's performance in a previous game
 - CODE: **athlete a – antisoc – athlete b – initiator**

19 – Uncodable

Instances when an athlete is out of view for an extended period of time, and no assumption can be made about the athlete's behaviour

Notes

- If athlete is out of view of camera, but their behaviour can be reliably inferred (e.g., in the corner during play), code as 'engaged', NOT 'uncodable'
- E.g., an athlete leaves game early ('uncodable' for remainder of practice)
- 3-second rule in effect before coding 'uncodable' following an active communicative code

Example

- Athlete a leaves the gym area for five minutes
 - CODE: **athlete a – uncodable**

Non-Example

- Athlete a is out of view of the camera periodically during play
 - CODE: **athlete a – engaged – team (or with individual athletes)**

MODIFIER – TARGET

- Individual athletes (a, b, c, etc.), coach, or opponents
- Code multiple recipients when interacting with a group (a interacting with b, c, and d)
- **Team** – default code when coder can't determine which teammates an athlete's engaged with, or who an actively communicative code is directed toward
- **Groups** – code each individual member of a group (e.g., warm-ups in groups of 2), must be a distinct group activity that lasts a minimum of 30 seconds
- **Self** – when an athlete is practicing on his/her own while rest of team is in groups (must be obvious and for extended period of time, min. 30 seconds)

MODIFIER – DIRECTIONALITY

- Applies to all active communicative codes (i.e., prosocial, tech/tact, directive, general, and antisocial)
- **Initiator** refers to the individual that begins/initiates a given interaction (e.g., speaking)
 - *Initiates the behaviour/communication directed toward the target*
- **Receiver** refers to the individual(s) that are in receipt of the communication of the initiator (e.g., listening)
 - *Receives the behaviour communication from the target*
- **Mutual** refers to instances where all parties involved in a given interaction take turns as initiator and receiver (all parties both initiate and receive)
- In one-way interactions, there will always be an initiator and receiver(s)
 - E.g., a coach (the initiator) provides individualized technical feedback to an athlete (receiver) who does not respond to the coach.
- In two-way interactions, there will be an initiator and receiver(s) to begin, but as soon as the roles change, all involved individuals are coded as mutual for the remainder of the interaction
 - E.g., athlete A (initiator) tells a story about school to athlete B (receiver), at which point athlete B responds to athlete A's story (both mutual)
- If you code an initiator or receiver, make sure to always check that you have also coded the appropriate reciprocal code (e.g., A → B receiver; B → A initiator)
 - This is a good informal check of your work after coding a video segment.
 - UNLESS it is an athlete receiving communication from coach (don't code coach behaviour)
- It should be clear who the initiator/receiver of a given communication is when viewing the video in real time (i.e., without reviewing the clip in slow motion). If it is unclear or you are unsure who initiated a communication, code all involved athletes as **mutual** (e.g., a brief high-five during a drill)

MODIFIER – DIRECTIVE TYPE

- Applies to 13 - directive communication
- **Sport** refers to directive communication related to the sport being practiced (e.g., “you’re supposed to be in the other corner”)
- **General** refers to directive communication unrelated to sport (e.g., “get out of here, we don’t want you listening”)

DIMENSION – CONTEXT

- warm-up or cool-down
- structured drills/exercises
- instruction (if team is stationary/listening to coach)
- scrimmage
- free play
- break – e.g., water breaks

Athlete Behaviour Coding System

Summary

SUBJECT/TARGET

- a, b, c... – Athlete A, B, C... (subject and target)
- o – Opponent (TARGET)
- r – Referee
- y – Asst. Coach
- z – Coach (target only)
- t – Team (target only)

ATHLETE CONTENT

12 – Prosocial Communication

- Verbal (e.g., “good job!”, “sorry, my fault”)
- Non-verbal (e.g., high fives, etc.)
- MODS – target, directionality

13 – Technical/Tactical Communication

- Sport-related communication
- E.g., calling for ball, modelling technique for teammate
- MODS – target, directionality

14 – General Communication

- E.g., talking about school, etc.
- Default active communicative code if cannot hear or infer the content of interaction
- MODS – target, directionality

11 – Engaged

- Participating in expected activities
- Default code for anytime athlete not interacting with coach and/or peers
- MOD – target

15 – Non-cooperative/Disruptive

- In opposition to current activity, but not directly interacting with others
- E.g., ignoring instructions, etc.
- MOD – target

16 – Antisocial Communication

- Verbal (e.g., name calling, threats, etc.)
- Non-verbal (e.g., aggressive contact, body language, etc.)
- MODS – target, directionality

17 – Uncodable

- Athlete’s out of view for extended period of time, athlete’s behaviour cannot be inferred

DIRECTIONALITY

- Applies to all active communicative codes (i.e., 12, 13, 14, 16)

1i – Initiator

- Begins/initiates an interaction

1r – Receiver

- In receipt of initial interaction (e.g., listening)

1m – Mutual

- Two-way interaction where both parties act as initiator and receiver
- Default code for interactions when initiator/receiver are unclear

ATHLETE LOCATION

21 – On Court

- One of five players on court during play (even if out of view in near half)
- On court during halftime, pre/post game

22 – Off Court

- On bench or off court

23 – Out of View

- Out of view for extended period of time (e.g., in washroom, left early, etc.)

GAME CONTEXT

31 – During play

32 – Between play

33 – Halftime

34 – Pre or Post Game

TIME ON BALL

97 – On ball

98 – Off ball

99 – Off court